CANTON BIKE PED PLAN

A Comprehensive Plan for Bicyclists and Pedestrians

Adopted April 11, 2019

CANTON
NORTH CAROLINA

NC Transportation

Division of Bicycle & Pedestrian Transportation
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Canton Bicycle & Pedestrian Plan

Prepared for the Town of Canton, North Carolina
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MPO = Metropolitan Planning Organization

Canton Bicycle & Pedestrian Plan

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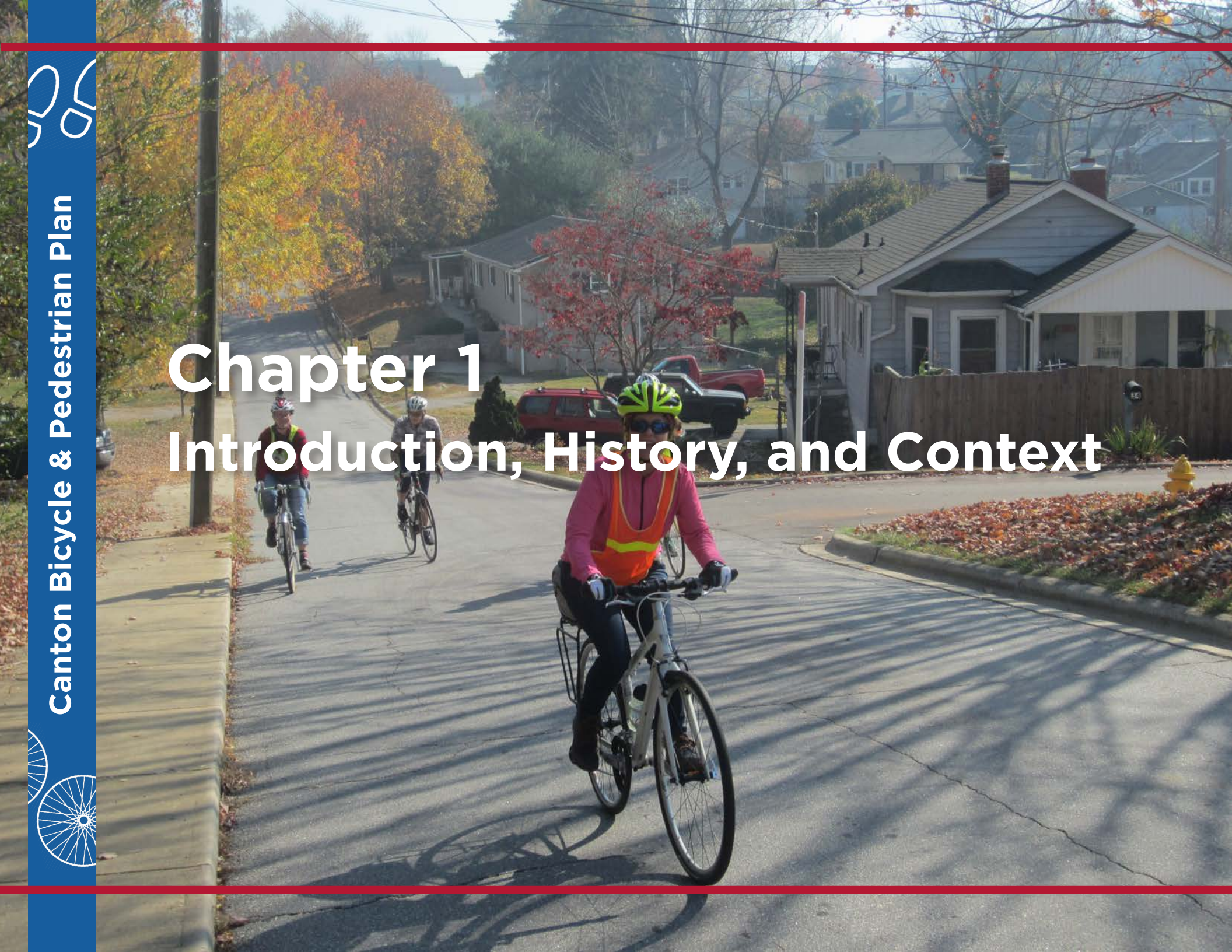


Chapter 1
Introduction, History, and Context

Chapter 1: Introduction, History, and Context

Introduction

The Town of Canton Comprehensive Bicycle & Pedestrian Plan is designed as a guide for Town staff and officials as they plan for improvements to their transportation system. The intent of this plan is to provide a blueprint for transforming Canton into a more bicycle- and pedestrian-friendly community, improving connectivity with a comprehensive toolbox of facility types that are appropriate for specific corridors and intersections.

This plan establishes priorities for facility improvements, highlights high-priority projects and those that provide unique opportunities, addresses bicycle and pedestrian safety, and provides policy recommendations to help sustain improvements in bicycle and pedestrian conditions.

This plan is a product of the North Carolina Department of Transportation's (NCDOT) Division of Bicycle and Pedestrian Transportation, in partnership with the Town of Canton, its elected officials, and the consultant team, with significant input and direction from the project steering committee, comprised of stakeholders and representatives from various jurisdictions and the public. The plan was funded to assist the community in making a stronger connection between the features that make Canton more walkable and bike-friendly, while supporting the health of its current and future residents and visitors.

The Canton Bicycle & Pedestrian Plan builds upon existing plans, data and analysis, policy direction from various partners, significant public input, surveys, and dedicated involvement by bicycle and pedestrian advocates who continue to work with the local government and NCDOT to make sound transportation decisions that are inclusive of all modes of transportation.

Bicycle and pedestrian facilities should be developed and implemented that give people a reasonable alternative to driving and that enhance recreational opportunities, protect the environment, and encourage healthy lifestyles.

It is expected that over time, this plan will be amended and updated to reflect changing needs and conditions and to replace completed projects with new ideas. Planning for bicycle and pedestrian facilities is similar to all planning initiatives in that it is an incremental and iterative process. It should be understood that the Canton Bike/Ped Plan constitutes a living document that will need to be amended periodically.

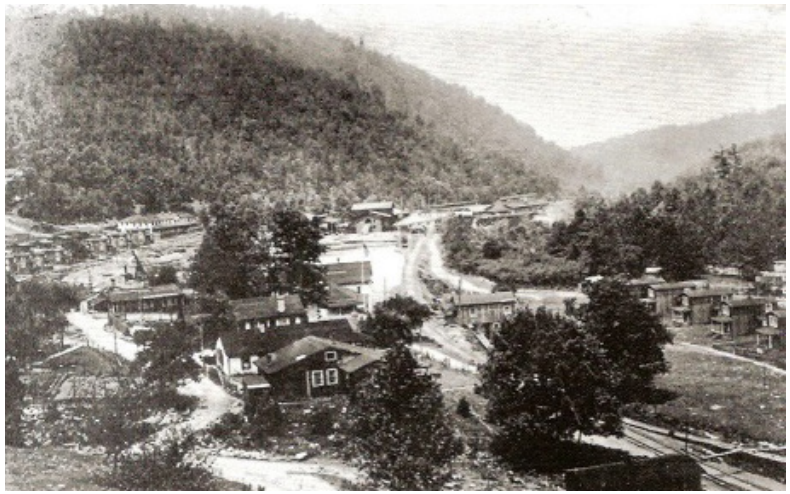
History

Haywood County is surrounded by scenic mountain ranges, with elevations as high as 6,621 feet. The area is steep and lush, with verdant green hills and golden sunsets. The temperature is mild throughout each season, though the downtown is at risk of flooding.

For thousands of years the Cherokee, and other tribes before them, enjoyed the beauty and richness of Haywood County. Their presence is still felt through legends and place names in the area, such as "Cataloochee". American settlers of European descent began arriving in the area during the mid-1700's and their descendants have stayed to build traditions of mountain life including a richness of crafts and mountain music, farming and a gentle southern style. Many of the old homes and structures remain in the Cataloochee, giving a glimpse of life when the area was isolated from much of the world. There are many trails in the area and also a very fine stand of old growth forest.

These days Haywood County is well connected to the rest of the world through an excellent highway system and a well-developed communications network, including plenty of options for Internet access. It wasn't always the case. For many years, the mountains made transport difficult

and the early settlers, many of Scotch/Irish descent, were dependent on themselves and the richness of the area for their livelihoods. A strong sense of independence developed, fostering great traditions that today are manifested by bluegrass music, clogging, and a wealth of arts and crafts. Opportunities abound for immersion in the mountain culture with many galleries, attractions and festivals celebrating mountain heritage and outdoor recreational opportunities.



Historic Canton, like most small towns across the state, was originally, and still is, a walkable community.

Main Street in Canton is home to restaurants, bakeries, banks, furniture stores, florists, and a brewery. State bike route #2 traverses North Carolina from east to west and passes through downtown Canton, which is located in one of the most idyllic settings in the Southeast and is one of the most desirable areas for hiking and bicycling in the United States.

Walking and horses were once the predominant modes of travel within small towns. The 1880s saw a bicycling craze sweep the United States as millions of Americans took to the streets. With bicyclists leading the way, Congress worked to improve dirt and gravel roads, which paved the way for the eventual dominance of cars on our roadways. Driving was exclusively expensive, but automobiles eventually became prevalent and people became more and more dependent on them for daily life.

Canton, like so many towns, changed in the latter half of the 20th century, unintentionally becoming physically and socially disconnected due to the prevalence and dominance of the automobile. Federal highway and housing policy lead to an ear of suburban sprawl, and communities were built for access by car, not by foot or bicycle. These influences caused traditionally neighborhood businesses to move to high vehicular volume corridors and lead to lifestyles that required ownership of a motor vehicle to reach destinations like school, grocery stores, work, and even church.

Those trends are beginning to reverse in communities all over the country, which are promoting what it means to be a healthy small town. This includes improving mobility for residents - giving people the opportunity to choose how they travel and choose to leave their car in the garage.

Town leaders want to see more people enjoying all of the quality of life benefits that walking and bicycling have to offer. Canton is no longer afraid to bill itself as a bedroom community, reliant on its neighbors. While the paper mill downtown has good, high-paying jobs that serve many in Haywood, Canton is home to many commuters. “We see a line of headlights headed out of Canton each morning around 6:30 a.m.,” said Jason Burrell, the town manager. “When they come back from working in Asheville, we don’t want them to have to change clothes and turn around to go back to Asheville to eat or for a date night. We want them to be able to come downtown and eat or have a beer, or play with the kids in the park.”

Important to both residents and visitors, people-powered transportation improves physical health through exercise and provides a stronger sense of community by letting

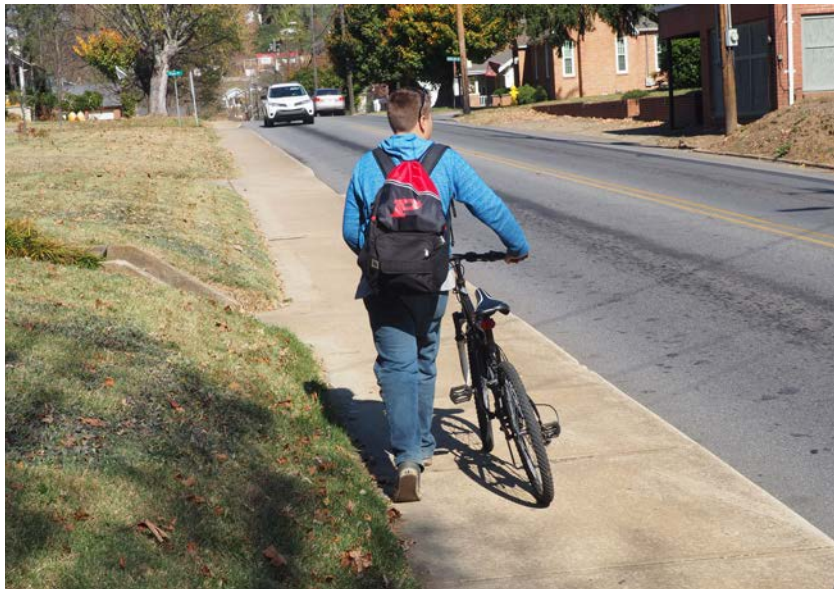
people be immersed in their surroundings as they travel. In 2016, the Town coordinated Main Street improvements with NCDOT repaving, adding parallel parking, bulbouts, and improvements to handicap accessibility. These investments in the downtown area infrastructure as well as more than a decade of progressive regional greenway planning and implementation leave Canton ready to become a small town success story for walking and bicycling.

Leaders seek a planning document to guide multimodal transportation infrastructure improvement in Canton. They have identified the disconnected nature of the existing pedestrian network through sidewalk mapping, and have pointed out the lack of bicycle facilities (bicycle lanes and marked shared lanes) anywhere in town. Public input shows that many residents perceive walking and bicycling in Canton to be hazardous, and many say they would walk and bike more often if it were safer and there were more sidewalks and bike lanes.

The quality of these connections directly affects the physical, economic and social health of the community. The Canton Bike/Ped Plan uses public, stakeholder, and official input to identify those destinations and corridors that people want to use for bicycling and walking, and makes recommendations for facility construction, incentive programs, and safety improvements, creating safe active transportation connections between those places.

Walking and Bicycling in Canton

The overarching goal of this plan is that the Town of Canton's transportation system will connect people to places through a complete system of greenway, bicycle, and pedestrian networks. By enabling more bicycle and foot traffic, residents and visitors will choose active transportation because it will be as convenient and practical as driving a car.



Kids want to ride bikes, but there is no designated place to do so. Bicycling can provide a major source of independence for youth under age 16, but they need to be raised with the experience to ride with safety and confidence.

Many people who grew up in small rural towns say that they walked everywhere - residents had reasons to go downtown, to destinations that served their daily needs. Today, Canton residents still say they often walk around town, and there are always people on foot and frequently bicyclists passing through. People have embraced the walking trail along the Pigeon River, which has become a popular facility for recreation and execise.

Canton is well-known to many bicyclists, serving as an ideal starting point for many popular scenic routes throughout the region. Nestled close to the Blue Ridge Parkway and Pisgah National Forest, Canton attracts many hikers and campers into town for services, where they are charmed by the downtown shops and general walkability of the area.

Children growing up in towns designed for automobiles often remain dependent on adults to drive them around, unable to exercise the autonomy necessary for true independence. Safe and comfortable walking and biking networks allow children to learn responsibility by providing for their own transportation needs.

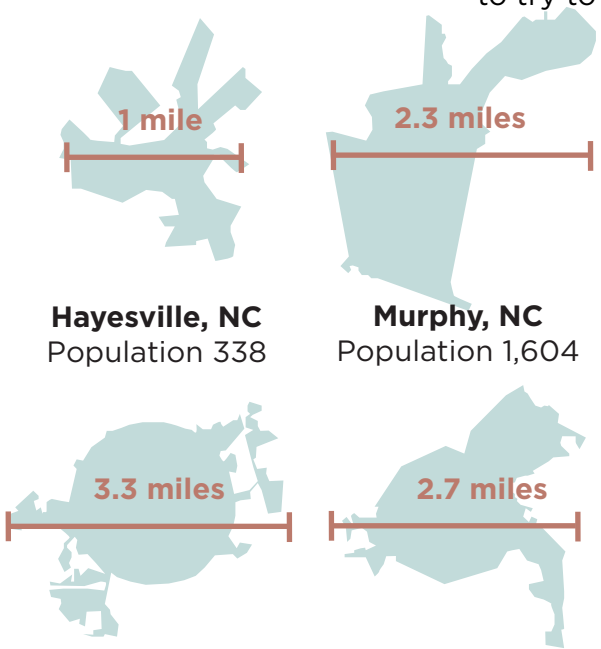
The elderly are another group of people who are marginalized by poor walking and bicycling environments. Often no longer able to drive a car themselves, older residents suffer from a lack of walkable connections, which only contributes to a decline in physical health. As noted in the 2001 book *Suburban Nation* by Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck:

> "Most elderly are neither infirm nor senile; they are healthy and able citizens who can no longer operate two tons of heavy machinery. Senior citizens can remain self-sufficient when their environment does not force them to drive."

It is important to look nationally, regionally, and locally to try to identify bicycling and walking trends. According to the 2009 American Community Survey (ACS), 3.4 percent of commuters nationwide are bicyclists (0.55%) or pedestrians (2.86%). According to the 2009 National Household Travel Survey (NHTS), 1 percent of all trips were by bicycle and 10.5 percent of all trips were by foot. However, there are challenges in counting walking and biking trips and distance. The Federal Department of Transportation notes that there is not a national mechanism in place for regular and consistent collection of non-motorized travel data. For this reason, locally collected data on walking and biking trips likely provides a more accurate picture of pedestrian and bicycle activity.

The Outdoor Foundation's annual Outdoor Participation Report for 2013 found that more than 91 million Americans participate in some form of bicycling. Bicycling is more popular

Though in many rural communities residents live long distances from services, most small towns provide a compact center well-suited for walking and bicycle trips.



1 mile walk = 20 minutes (3 mph)
1 mile bike ride = 6 minutes (10 mph)

among Americans than hiking, canoeing, kayaking, and golfing combined.

Pedestrian and bicycle counts also help indicate where the largest share of bicyclist traffic is located, and where adequate infrastructure might be lacking. This information helps decision makers prioritize infrastructure design improvements and investments to make walking and biking safer.

91.5 million

Americans rode a bicycle in 2013

(source: The Outdoor Foundation)

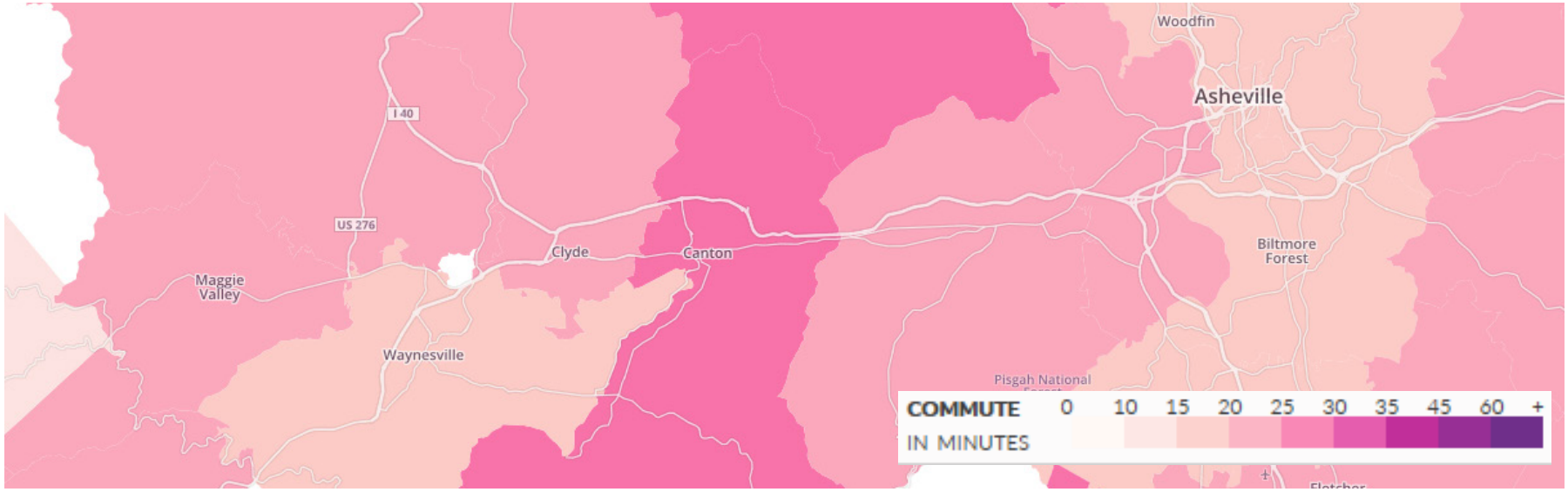
Influences

Emerging demographic, health, and economic trends suggest physical activity and having places for recreation is at the heart of making small towns economically competitive in contemporary society and the modern economy. The influences on walkability and bikability listed below reflect how a community can respond, in part, by becoming more walkable and bikable.

Changing Demographics: Communities like Canton find young adults continuing to move out of the area. Moreover, older adults tend to be moving in. All of this leads to declining birth rates and a rapidly aging population, ultimately affecting economic health.

Canton's age representation has remained fairly consistent, at least between the 2000 and 2010 census, with a median age hovering just above 40 years old.

Exhibit 1-1: Average Travel Time to Work by Zip Code



Source: MountainWise 2015

The average commute time in the 28716 zip code is 26.3 minutes, slightly more than surrounding zip codes. This could indicate that many people living in Canton commute to Asheville, Waynesville, Sylva, or Brevard for work (Asheville is a major employment area approximately a 26 minute drive from Canton).

Health Issues: Obesity rates tend to be higher than the national average among every age group in areas with demographic indicators similar to Canton. This results from an automobile-reliant population, lack of walking and biking networks for active transportation, and from neighborhoods lacking easy access to healthy foods and pulic recreational spaces.

MountainWise's 2015 health impact assessment results indicate those health issues, along with substance abuse, are priorities for the Haywood County area. Overall health is comparatively good, with higher physical activity levels and lower obesity rates than the state average. (see Exhibit 1-3).

Housing: Based upon trends, young professionals, trades people, minorities, and some seniors prefer smaller, multi-family housing versus conventional single-family homes, but little of this type of housing exists in Canton.

People in Canton want to walk to downtown, parks, restaurants, and events on safe and convenient facilities.

The share of renter-occupied housing for Canton (31.8%) is slightly lower than the North Carolina share (33.3%). By comparison, Clyde's share of renter-occupied housing is 38.8% and Waynesville's is 42.3%.

Transportation Costs: Canton remains an auto-dependent community, given the relatively low cost of fuel and the efficient, uncongested local highway network. Except when destinations are within close proximity to a person's residence, transportation options combined with travel distance to jobs and other resources cause transportation costs to rise because individuals must purchase fuel for automobile travel, spend more time traveling, and pay for vehicle maintenance and repairs.

While commuting to a job may be a trip that residents must make by car due to the realities of a small town market, we can replace automobile-based trips for recreation and shopping by promoting walkability. Fortunately, Canton has a high percentage of employees working within a ten minute drive of work, raising the potential to increase walking and bicycling mode share. Fully 20% of Canton workers travel less than 10 minutes to their job. Fifty percent have a commute under 20 minutes, which is the average travel time to work. While the average commute time is reflective of the entire state of North Carolina (24 minutes) and the United States as a whole (25.4 minutes), only about 13% of North Carolina workers' commute is under 10 minutes.

Creating a Pedestrian Network for All

In her article, "Sidewalks-A Smart Investment," Dr. Kathleen Beine of Kingsport, Tennessee notes:

> *"There are many approaches and solutions to the [health] crisis ... A significant part of the solution is to make it easy to be physically active--where you don't have to load up a car and drive someplace, or join a gym. Just make it easy by walking out your front door*

Exhibit 1-2: How Far Will People Walk?

Source: USDOT, FHWA 2009 National Household Travel Survey

Research has suggested that people are willing to walk longer distances to reach a destination if they have safe and convenient facilities. We cannot expect people to use their cars less often if the destinations they seek are neither nearby nor safely or comfortably accessible.

Exhibit 1-3: MountainElements HIA Info for Haywood County

Dashboard Results

- **Reported health:** Very good/Excellent
- **Physical activity levels:** 59.6% of residents reported meeting the physical activity standards
- **Household income:** Average median income is 91% of state average and 109% of the WNC mean
- **Prevalence of obesity:** 27.5% of residents report being obese

Health Priorities:

1. Substance abuse
2. Physical activity and nutrition
3. Chronic disease control and prevention

and lead[ing] your family on a neighborhood adventure outing, possibly to a small community park to play and visit with other neighbors."

Dr. Beine's research indicated that sidewalks are smart investments. Benefits of properly designed sidewalks and connectivity include improved:

- Pedestrian safety;
- Safety for motorists (not worrying about hitting a pedestrian, decreased risk of swerving head-on into another motorist when trying to avoid an unexpected pedestrian in the road);
- Sociability and neighborliness;
- Air quality from decreased usage of vehicles;
- Family budgets because of being able to safely walk on short trips rather than driving;
- Health, such as aerobic capacity, cardiovascular fitness, muscle strength and balance; decreased obesity, diabetes, heart disease, high blood pressure, asthma, cancers of various types; and
- Mental and emotional health, such as decreased depression, anxiety, and social isolation, and improved work performance - on the job and at school. It also leads to decreased medical costs for individuals and the companies that hire them. The cost of a mile of sidewalk is cheap compared to emergency room visits, operations, hospital stays, rehab, and permanent disability.

The 8-to-80 Vision

If every transportation decision we make is founded by a principal of inclusivity and concern for well-being, we inevitably design our cities and towns to enable the greatest amount of mobility for the widest variety of pedestrians.

A walkable and bikeable community is one in which active transportation trips are safe and comfortable for ***people of all ages and abilities.***

All ages *means that children as young as eight can walk and bike independently from their parents. It means that older adults can get around comfortably without a car. Facility needs vary by age, and infrastructure should focus on the most vulnerable populations.*

All abilities *means that people using mobility devices or people with limited vision are not faced with barriers.*

Exhibit 1-4: People for Bikes' "Build it for Isabella" Campaign

If our bicycle system meets the needs of young, entry-level riders, it automatically provides good service for cyclists of higher ability as well. The original People for Bikes campaign has expanded to "Build it for Isabella and her grandfather".

While many pedestrians are confident and able under most conditions, some have no choice but to attempt to traverse unsafe environments out of necessity and some are challenged by inadequate infrastructure.

People will walk if the option to do so is safe, comfortable, and practical. Walkability is more than just building sidewalks so that people can walk, it is also about creating spaces in which people want to walk.

If everything we do in our public spaces and transportation framework is designed with the broadest spectrum of ability and mobility in mind, we will ensure that everyone is given the opportunity to choose to walk - if we plan for both an 8-year-old and an 80-year-old, it will be definitely be great for all those in between.

Creating a Bicycling Network for All

A cornerstone of the approach employed to develop Canton's Bicycle & Pedestrian Plan is producing a plan for walkers and bicyclists *by* walkers and bicyclists.

Not all bicyclists are the same. They desire different routes, ride different types of bikes, and take to their bike for a variety of reasons. The Canton Bike/Ped Plan considers these different types of bicyclists through the lens of an emerging approach that categorizes bicyclists by their attitudes toward riding:

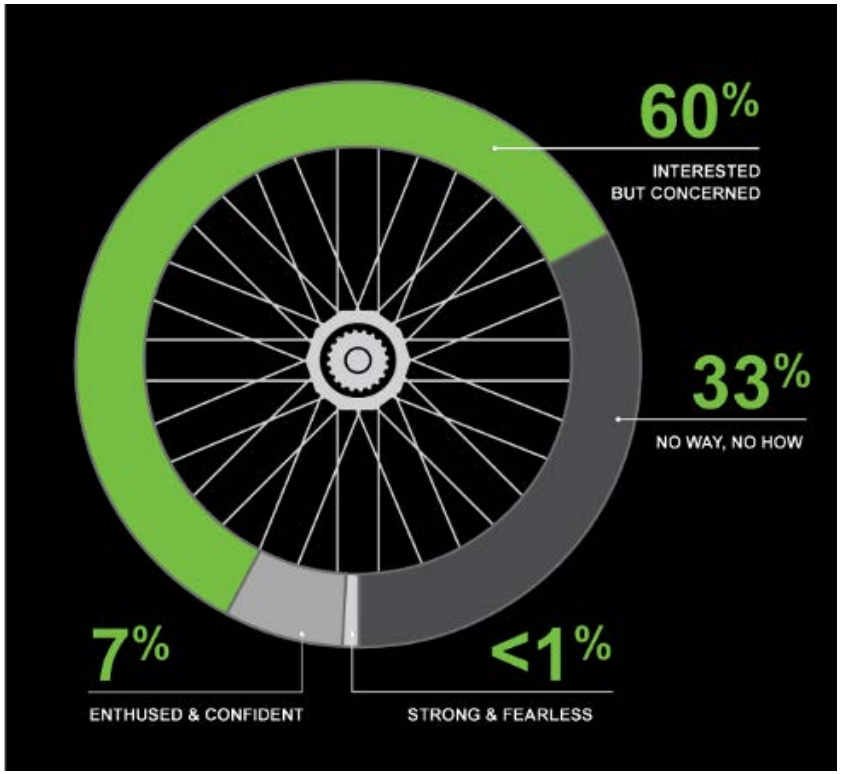
- Strong and Fearless Bicyclists: Those that are confident riding in almost all situations, including high volume and high speed traffic situations. Accommodating them safely on streets and highways is important, and their choice to ride a bicycle is not dependent on having dedicated facilities such as bike lanes or greenways.
- Enthused and Confident Bicyclists: Comfortable in many on-road situations but prefer to ride in dedicated facilities like bike lanes. Accommodating them along high speed and high volume roadways requires special considerations to buffer them from traffic. They may choose greenways over on-road routes if greenways offer a convenient alternative.
- Interested but Concerned Bicyclists: May be interested in riding a bicycle but are reluctant to ride where they do not feel safe. They may already ride a bike on mountain bike trails or exclusively on greenways and can be encouraged to ride in other situations when given dedicated, safe facilities such as buffered or protected bike lanes.
- No Way, No How: This group is not interested in bicycling due to lack of interest, inability to ride, or concerns about topography and safety. Communities should seek ways to introduce them to bicycling so they can become interested in riding.

In developing a Comprehensive Bicycle & Pedestrian Plan, as required by NCDOT, all of these rider types should be considered. However, the emphasis in developing project, program and policy recommendations lies in addressing the needs of the "Enthused and Confident" and especially the "Interested but Concerned" bicyclists. It can be assumed that the majority of Canton residents fall under these two categories and the theory goes that addressing their needs will also benefit the "Strong and Fearless" riders and help encourage the "No Way, No How" crowd to give bicycling a try.

Bicyclist attitudes toward riding can also fluctuate among these groups. A person who is strong and fearless when riding a road bike on long weekend rides may become interested but concerned when riding with a child. The enthused and confident rider may have a no way, no how attitude when it comes to performing certain tasks on a bike that necessitate travel along routes that are intimidating, such as high speed highways.

Therefore, Canton's Bike/Ped Plan recommends various on-street and off-street network investments and programs aimed to serve existing riders well and increase ridership by creating the safest and most convenient system possible.

Exhibit 1-5: Types of Bicyclists



Portland, Oregon Bicycle Coordinator Roger Geller divided the potential transportation bikers in his city into four distinct groups, rather than just dividing the world into "cyclists" and "non-cyclists." The many Americans who choose not to ride bicycles do so because of different reasons: safety and comfort, cultural attitudes, resources, and the quality and connectivity of their streets.

Completing a Reliable Multimodal Network

The NCDOT notes that bicycling and walking - often used as travel modes for short local trips - can provide access to the broader transportation network, including public transportation. The transportation network encompasses not just a person's immediate neighborhood or community, but also the entire region or metropolitan area. Connected bicycle and walking networks and designated pedestrian zones and amenities can provide safe, reliable, and equitable access to robust transit networks, providing viable and reliable travel options for all.

Canton's Future

The goal of Canton's Bicycle & Pedestrian Plan is to identify how the community can establish and enhance facilities within its boundaries to serve as physical activity and recreation hubs, create places where residents can access healthy food, and reconnect neighborhoods via multi-modal transportation infrastructure and additional programs.

While stating a desire or adopting a vision is a good starting place, a vision alone cannot create a connected and coordinated pedestrian network or realize new and improved bicycle infrastructure. A community needs good policies and implementation plans to transform its vision to on-the-ground bike paths, safe road crossings, and greenways.

The following chapters contain a variety of project, program and policy recommendations generated through the planning process. They emerged through various inputs such as the public open houses, surveys, the steering committee's perspective, and the consultant team's expertise in walking and pedaling around the community.

A successful bicycle and pedestrian network considers each of these factors:

COHESION
How connected is the network in terms of its concentration of destinations and routes?

DIRECTNESS
Does the network provide direct and convenient access to destinations?

ACCESSIBILITY
How well does the network accommodate travel for all users, regardless of age, income level, or ability?

ALTERNATIVES
Are there a number of different route choices available within the network?

SAFETY AND SECURITY
Does the network provide routes that minimize risk of injury, danger, and crime?

COMFORT
Does the network appeal to a broad range of age and ability levels and is consideration given to user amenities?

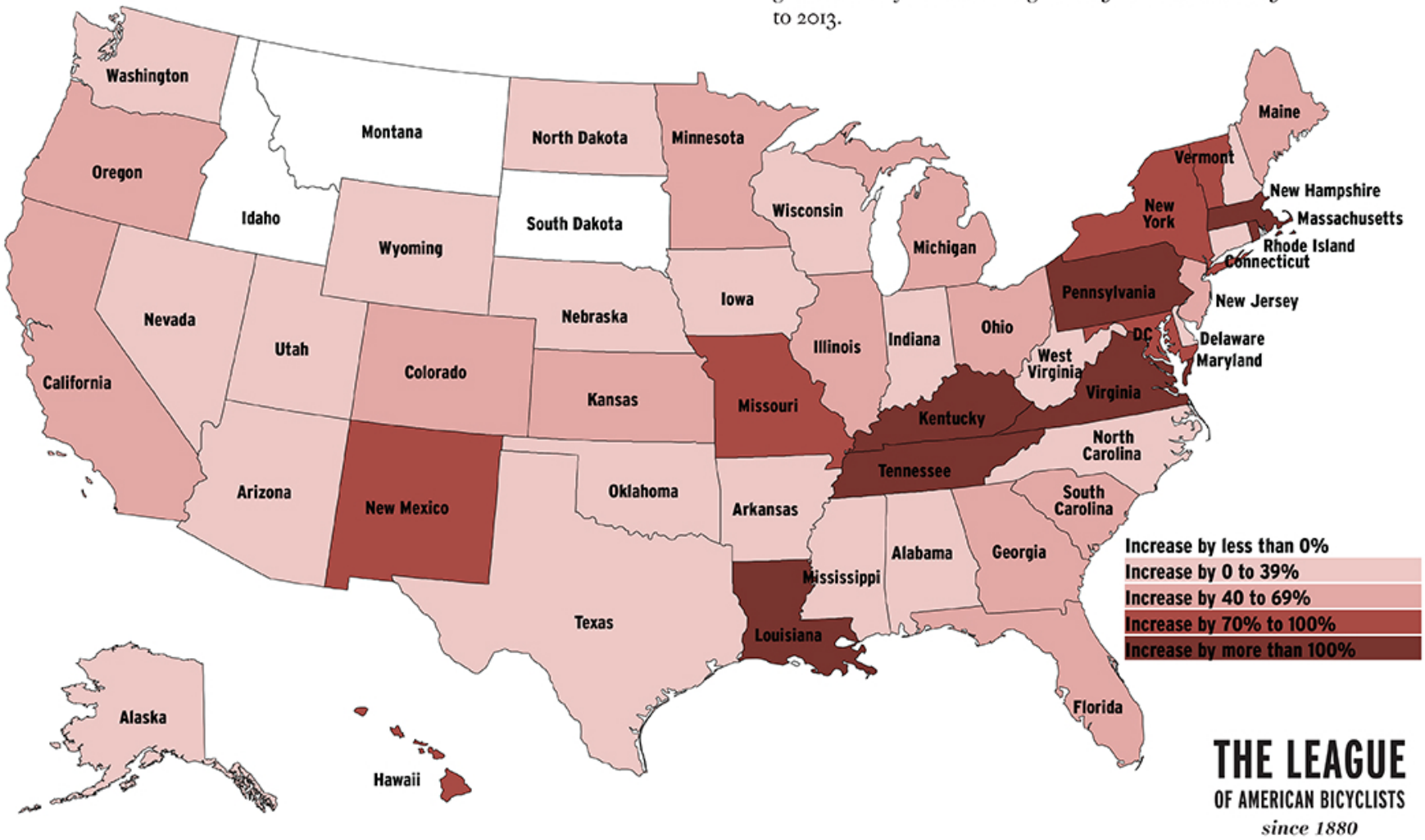
"Canton must accept the need for change, lean into its challenges, and embrace the journey of self-reinvention."

- Town of Canton Economic Development Initiative

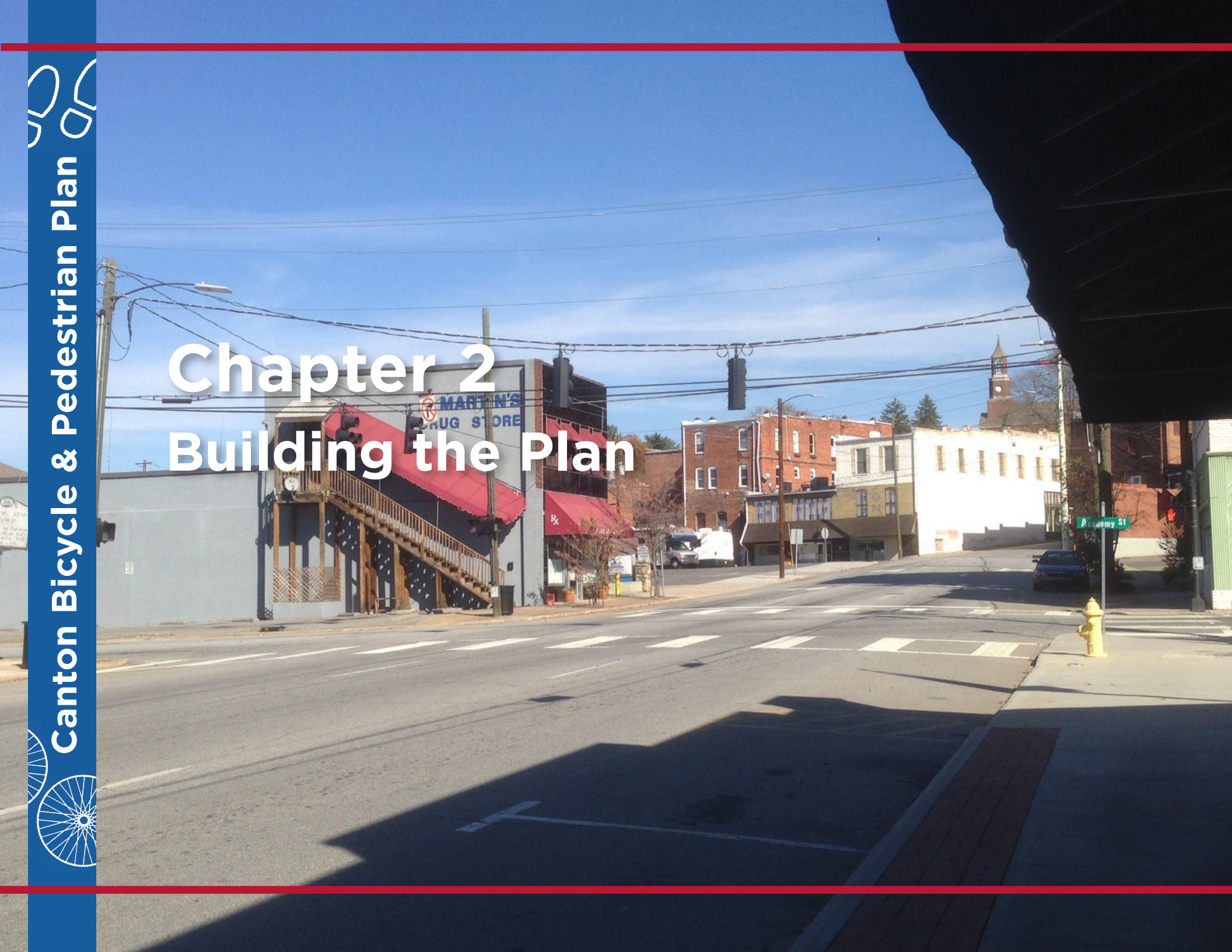
Exhibit 1-6: Bicycle Commuting Growth by State

BICYCLE COMMUTING GROWTH BY STATE

NATIONALLY, since 2005, states have seen, on average, a 46% increase in the share of people commuting by bike. But an average is just that – there are many states that have seen tremendous increases in cycling, including some that might not be expected. This map shows the growth in bicycle commuting for all 50 states from 2005 to 2013.



THE LEAGUE
OF AMERICAN BICYCLISTS
since 1880



Chapter 2
Building the Plan

Chapter 2: Building the Plan

Community Outreach

The challenges faced by those who wish to bike and walk must be solved by collectively addressing them through input from community members, business owners, planners, engineers, architects, law enforcement, and many others.

Those who walk or bicycle in Canton, manage its businesses, and administer the Town's affairs understand the community best. Any good plan is built from these and other key individuals and organizations. The cornerstone of Canton's Bicycle & Pedestrian Plan is the community input. The efforts to build the plan consisted of a multi-pronged approach to spread awareness of the planning process and to ensure that a variety of perspectives were incorporated. Residents, stakeholders, and Town Staff were engaged during the process through the following channels:

Steering Committee meetings
Community Workshop
Stakeholder Interviews
Community Walkabout
Community Bike Ride
Survey Development & Outreach
Newspaper and television reporting

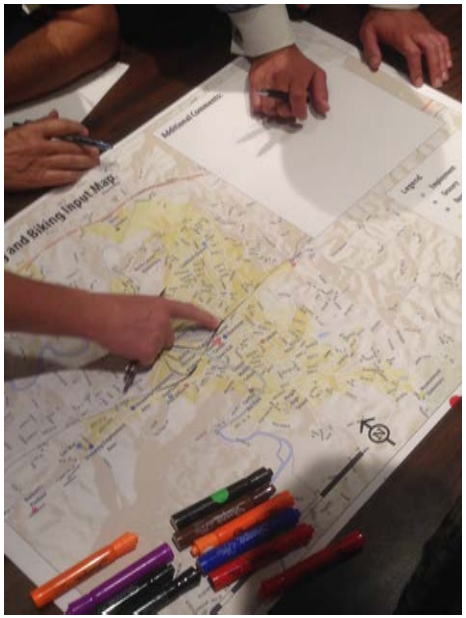
Steering Committee Meetings

The process for the Plan was overseen by a Steering Committee comprised of representatives from the Town, the French Broad River MPO, Active Routes to School, Bicycle Haywood NC (Blue Ridge Bicycle Club), Haywood County Parks & Recreation, the business and nonprofit community, and other pedestrian and bicycle advocates.

The Steering Committee convened on four occasions to provide input on pedestrian and bicycle issues and opportunities, to serve as a sounding board for elements of the planning process, and to review plan deliverables.

The first Steering Committee meeting was held at 6:00pm on Tuesday, November 1, 2016 at Canton's Town Hall. The consultant team introduced the committee to the planning process and gathered initial feedback about issues and opportunities facing the Town. The committee identified key destinations that residents would like to walk or bicycle to, and then identified some routes and highlighted gaps in the network. The meeting included an overview of the plan purpose and timeline, a review of basic bicycle and pedestrian planning concepts, and a commitment to help spread the word about the plan.

The Steering Committee identifying key destinations in Canton at the first meeting.



The second Steering Committee meeting was held at Town Hall on Monday, February 6, 2017, at 6:00pm. This meeting focused on a review of Working Paper #1 (the draft document in its early stages, without any project recommendations), included preliminary findings from field research in the Town and initial survey results, and identified public input strategies and future meeting dates. Flyers were handed out for the Community Bike Ride and Walkabout for distribution. At the end of the meeting, the Steering Committee identified specific ranking criteria for the project recommendations and scored them each. Each member of the committee had 100 points to assign, allocating up to 20 points for any one ranking criteria. The resulting criteria are listed here in order of allocated points (most points first):

- Proximity to Schools or Churches
- Ease of Implementation
- Proximity to Downtown
- Improves Safety
- Proximity to Parks or Natural Areas
- Fills Gap in System
- Affects a Population in Need
- Identified in Existing Plans
- Improves Access to Food

With this guidance, the project team was able to score each project recommendation and rank them according to how many criteria they feature and the extent to which those criteria are featured. For example, a project that is close to downtown, relatively cost-effective to implement, and adjacent a church would score very highly. *More information about the ranking criteria can be found in Chapter 4.*

The third Steering Committee meeting was held at Town Hall on Tuesday, August 15, 2017 at 6:00pm. The consultant team explained project recommendations spreadsheet and the correlating maps, and summarized the ranking criteria (to explain why certain projects were scored higher than others). The committee discussed funding options for various types of projects and helped to distill the list of projects down to the top ten (+/-) in each category - bicycle, pedestrian, and mixed use trail - before the public open house.

To avoid meeting fatigue, the consultant team agreed to allow the Steering Committee to review and submit comments about the draft plan via email, instead of gathering together one more time to approve the plan. The Committee was satisfied with the results of the plan and the final document.

Stakeholder Interviews

Chipley Consulting conducted numerous interviews with key stakeholders on April 3rd and 17th, 2017. Stakeholders included business owners, residents, teachers, a post office employee, and library staff.

While survey outreach is useful for aggregate data, direct one-on-one interviews are important for several reasons: they engage the community and help make sure people feel as though their input matters, they allow for follow-up questions to get at the heart of a discussion point, and they make sure to schedule time for feedback instead of hoping that people fill out a survey on their own.

Notes from the interviews included:

Many couples walk regularly downtown in the afternoons and evenings; increasingly, moms and dads pushing strollers.
Having a downtown location makes economic sense for businesses - being accessible by people on foot is good financially.
Downtown needs bike lanes to help create a more energetic, open, and welcoming place.
Beaverdam Street should be a priority; it's dangerous and connects to the school. (Understanding that there are constraints and widening the road would be necessay, but difficult).
Recommend widening the trail at the Rec Park to 10-12 feet to accommodate more users.
Sorrells Street Park should be more than a flat, open lawn; amenities for children would be an improvement.
We walk on the Pigeon River trail, but drive to get there because there aren't sidewalks in our neighborhood.
Newfound Road needs sidewalks.
The Sav-Mor shopping Plaza needs to be accessible on foot - this is a large employment and shopping area for disadvantaged populations who often don't have a car.
North Canton Elementary School needs a complete sidewalk connection; not a lot of kids walk to school because it is not safe.
Substation Road and Pigeon Street need sidewalks all the way up to Pisgah High School.
The Library is a popular destination, especially with the homeless population.
The Community Kitchen food box distribution center on Champion Drive needs to have better access for people they serve, who often don't have cars.
People in Canton often walk for health/recreation.
The Library has a strong community presence - supporting lifelong learning, children's programming, job training, entertainment, and seniors.
Sidewalks around the Library are disjointed and often in disrepair, which is not walkable for all ages and abilities.
People who live close to the Library often walk, but very few bikers.
Continuous sidewalks are vital - people shouldn't have to always cross the street to find the next segment of sidewalk.
Penland Street sidewalks need a buffer from the road (high speeds).
People want to be able to walk and bike up to Ingles grocery store.
Many people use Blackwell Drive on foot to get to their places of employment, but there are no sidewalks on either side.
High Street needs sidewalks - lots of walkers.
Rhoda Street/Meadowbrook Drive could certainly use bike lanes, sidewalks and/or traffic calming.
A lot of elementary students will ride bikes at Lake Junaluska.
There are more people than ever walking downtown for shopping/dining and walking for recreation/exercise in Canton.
4th graders want to ride their bikes in town, but parking lots are often the only safe places to do so.
It would be great to do a Bike Rodeo at the end of the plan

Community Walkabout

On Saturday, November 5 2016, about a dozen people gathered at Sorrells Park to take a community walk around Canton and assess the walkability of the town. The participants included a baby, a dog, and adults of all ages. The consultant team led the residents on a walk that included several stops over a span of about three miles. The residents were surprised at how different conditions could be within such a small study area.

Other observations included:

- Intersection pedestrian crossing on Park Street, coupled with good sidewalks, made this section feel like a complete street.
- The Park St.-Main St.-Reed St. intersection (Kobe Express) improvements create a much more comfortable crossing experience, although the WALK light at Reed Street was noticeably too short.
- Street trees already help the ambiance of the downtown streets (and will make a huge impact as they grow taller over the years.
- The intersection of Penland Street and Main Street (US 19/23) seems ripe for an overhaul (especially for ADA connectivity).
- The northern entrance to the Pigeon River greenway is not adequately marked (the trailhead and sign are relatively inconspicuous) and could be highlighted more to promote the amenity.
- The sidewalks on both sides of Penland Street near the middle school and rec park (and striped crosswalks) are welcome and important for safety.
- Pigeon Street and Substation Road were hard to traverse with a stroller (sidewalks, where present, need improvement - ADA compliant curb ramps).

Scenes from the Community Walkabout.

All entrances to Pisgah High School are designed for automobiles, which discourages walking in the vicinity and could be dangerous to students.

A Hayfields resident crossed Pisgah Drive (three lanes) with a stroller. It appeared to be very dangerous; there are no sidewalks or crossings.

The sidewalk on Pisgah Drive north of Substation Road is well-used (many residents on a Saturday afternoon), but would be ideal with additional sidewalk on the eastern side and pedestrian crossings at intersections.

The planned roundabout on NC 110 at Locust Street (prioritized by NCDOT Division 14 and the French Broad River MPO) would be a dramatic improvement for pedestrians. Crossing the road here was troublesome, with cars approaching from all directions.

The Locust Street sidewalk, while helpful and necessary, was extremely narrow and hard for a mom pushing a stroller uphill to traverse.

The Pennsylvania Avenue - Locust Street intersection was confusing and awkward for pedestrians to cross in any direction. A small roundabout here or visible pedestrian crosswalks could help.

Academy Street was very conducive to walking.

The new bulbouts on Main Street downtown help create a safe environment around crosswalks for pedestrians.

Park Street feels empty because of three one-directional lanes, on-street parking, and lack of striped crossings. This hurts the pedestrian experience and could be ameliorated with a road diet, street trees, bi-directional traffic, and other options.

The pedestrian alleyway on the block of Main Street between Adams Street and Academy Street is helpful in breaking up the length of the block and linking Main Street and Park Street.

Community Bike Ride

On Saturday, November 5, 2016, eight people participated in the community bike ride. Participants congregated in the parking lot of Sorrells Park, bringing their bicycles to ride on a clear, chilly day. The “strong and fearless” contingent was well represented, but some casual riders also attended.

Rider observations included:

Bridge Street may be a better alternative than Main Street to avoid crossing 8 railroad tracks at once.

The on-street parking on some residential streets made it necessary for cyclists to swerve left and right (making it hard for cars to pass).

The hills on Newfound Street and Trammell Avenue were not as hard to ride as anticipated.

Cars seemed unfazed by a group of bicyclists and slowed/passed appropriately - no honking or inappropriate behavior.

North Canton Elementary School seemed very car-centric (no immediate sidewalks; the only entry is a driveway and parking lot). However, the public gravel fitness trail is a nice idea.

Thompson Street south of the Elementary School had some dangerous potholes and could use some paved shoulders - relatively fast speeds on a narrow road could lead to crashes.

The intersection at Blackwell Drive and Champion Drive (with its two bridges) was confusing and potentially unsafe.

Blackwell Drive was percieved as intimidating, but having four travel lanes allowed cars to pass the cyclists easily and safely.

The traffic light at Blackwell Drive and US 19/23 was too short, forcing the group to split up because there wasn’t time for everyone to make the left turn together.

Most riders expressed a degree of comfort on some of the quieter streets, but pointed out that to bike anywhere in Canton, riding on or across the busy streets was necessary.
The bikeable shoulder along New Clyde Highway (US 19/23) makes ridin on a busy road relatively comfortable, until the shoulder abruptly disappears and bicyclists have no choice but to merge into the travel lane.
Dedicated bike lanes along Park Street and Reed Street would make those short stretches much more comfortable and safer.
Cycling along the Pigeon River greenway was pleasant and fun, but wish it was longer.
The lack of bicycle facilities on Penland Street makes the greenway a much more attractive alternative, but it would be nice to have the option of a safe bike lane on Penland Street (or at least a shoulder).
The paper plant contributes to a perception that Canton is not easily traversed by bike, but riders felt comfortable on most streets and quickly traversed about 6 miles.
The bike rack in the park on the west side of the river near the Main Street bridge was appreciated.
The Pathways Center *covered* bike rack on Park Street (US 19/23) was such a nice surprise!

Community Workshops

The first community workshop was held at the Historic Colonial Theater annex from 6:00pm-7:30pm on Tuesday, April 18, 2017. The meeting was successful, with 22 residents coming to voice their opinions about biking and walking in Canton. After a welcome from the Town Manager, the consultant team described the planning process and explained the goals of the plan and the vision of the steering committee. Everyone was asked to help indicate on printed maps where they wanted to see new or improved bicycle and pedestrian infrastructure. The con-

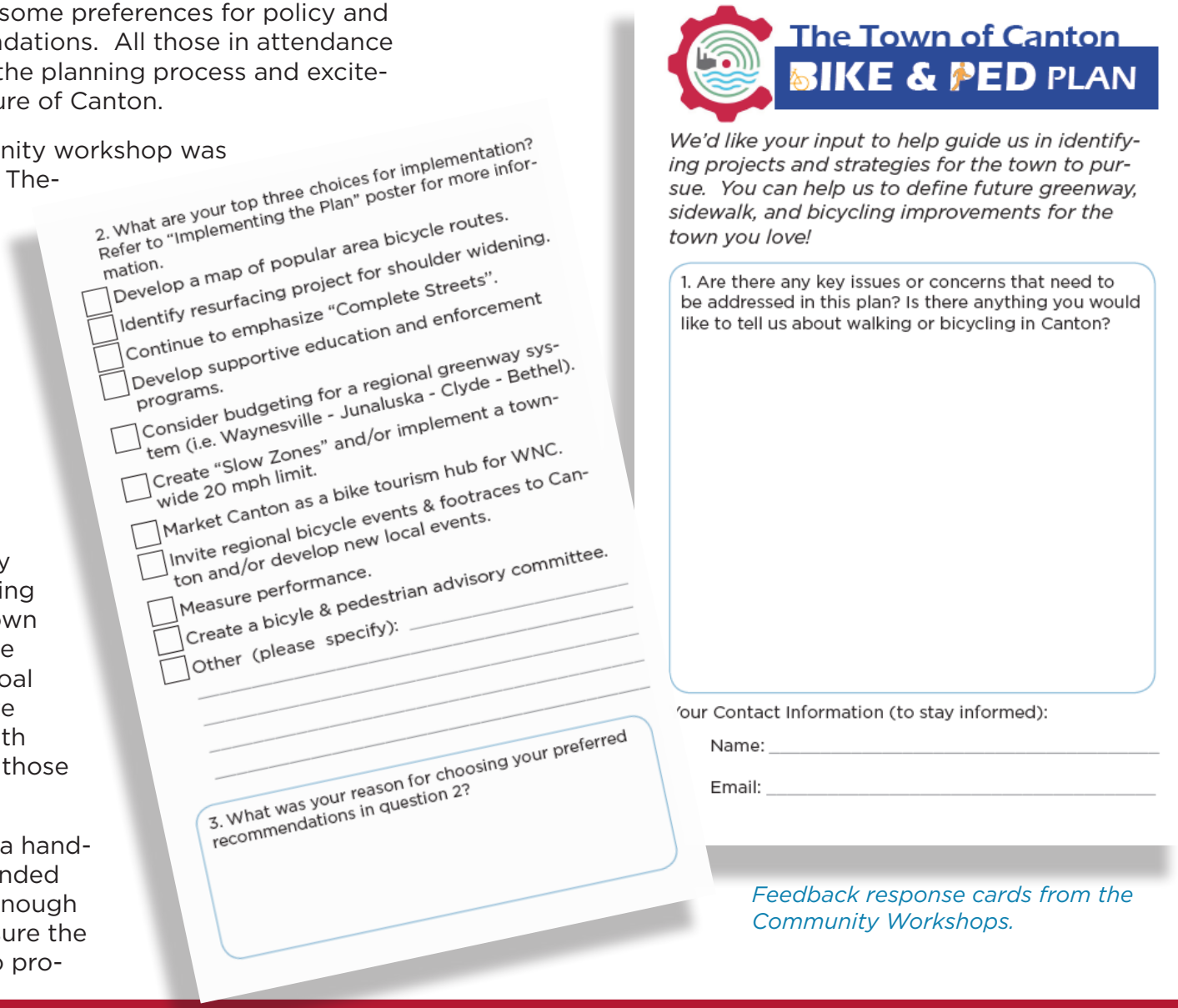
Scenes from the Community Bike Ride.

sultant team worked in groups to answer questions about cost and feasibility, helping the attendees understand the role that these improvements will have on enabling people in the community to have access to the destinations they seek and make full use of their town's services. Everyone filled out surveys and identified some preferences for policy and program recommendations. All those in attendance voiced support for the planning process and excitement about the future of Canton.

The second community workshop was held at the Colonial Theater annex from 6:00pm-7:30pm on Thursday, August 17, 2017. At this point in the planning process, the project team was finalizing the list of potential project recommendations and hoped to gain feedback from the community about that list, helping the team narrow down and further prioritize the projects. The goal was also to eliminate any projects met with disdain and modify those met with concerns.

Unfortunately, only a handful of residents attended this meeting - not enough to adequately measure the public's response to proposed projects for the town. It was decided by the project consultants and the Town Manager that an additional meeting was important and, at the invitation of Bearwaters Brewing, decided to host a drop-

Exhibit 2-1: Feedback Response Card (front & back)


2. What are your top three choices for implementation? Refer to "Implementing the Plan" poster for more information.

- ☐ Develop a map of popular area bicycle routes.
- ☐ Identify resurfacing project for shoulder widening.
- ☐ Continue to emphasize "Complete Streets".
- ☐ Develop supportive education and enforcement programs.
- ☐ Consider budgeting for a regional greenway system (i.e. Waynesville - Junaluska - Clyde - Bethel).
- ☐ Create "Slow Zones" and/or implement a town-wide 20 mph limit.
- ☐ Market Canton as a bike tourism hub for WNC.
- ☐ Invite regional bicycle events & footraces to Canton and/or develop new local events.
- ☐ Measure performance.
- ☐ Create a bicyle & pedestrian advisory committee.
- ☐ Other (please specify): _____

3. What was your reason for choosing your preferred recommendations in question 2?

The Town of Canton
BIKE & PED PLAN

We'd like your input to help guide us in identifying projects and strategies for the town to pursue. You can help us to define future greenway, sidewalk, and bicycling improvements for the town you love!

1. Are there any key issues or concerns that need to be addressed in this plan? Is there anything you would like to tell us about walking or bicycling in Canton?

'our Contact Information (to stay informed):

Name: _____

Email: _____

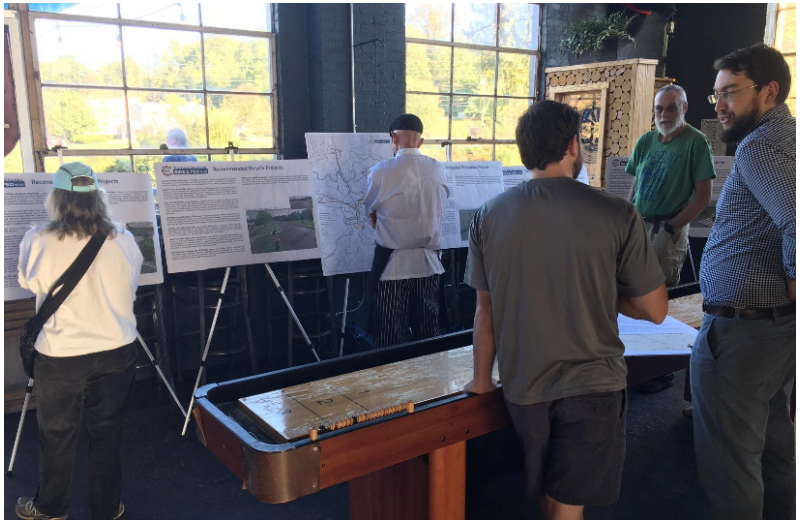
Feedback response cards from the Community Workshops.

The 2nd Community Workshop, held at the Historic Colonial Theater Annex, was poorly attended.

in open house at their facility in downtown Canton. This is a popular destination and it was predicted that the open house would be better attended and would attract passersby who may not have heard about the project. The consultant team committed to extending the timeframe of the event, setting up posters and comment cards for 5 hours. The local news media wrote about the project in the ensuing weeks, following the public events closely. Additional flyers were handed out to downtown businesses and posted in windows throughout town.

The 3rd community workshop, a drop-in open house at Bearwaters Brewing from 4:00pm-9:00pm on Thursday, October 19, 2017, was very successful. Feedback was garnered from a diverse group of people who never would have come to a government annex building specifically for this purpose, but were happy to pause and chat while enjoying a craft beer. Canton's Bicycle & Pedestrian Plan was featured on the WLOS evening news, with pre-taped interviews by the consultant team and a live recording at the open house event.

Bicycle parking outside Bearwaters Brewing downtown.



Hosting a drop-in open house forum for the Bike/Ped plan at the very popular downtown Bearwaters Brewing was helpful in accessing an otherwise unengaged portion of the populace and getting feedback from passersby. The consultant team had information and comment cards available from 4:00pm - 9:00pm and spoke with 20 people.

Survey Development and Outreach

A public input survey was deployed to collect input from local residents on their biking and walking habits, popular destinations, barriers to biking and walking, and needed improvements. The survey includes two sections, one focusing on pedestrian improvements and the other focusing on bicycling improvements. A broad overview of preliminary results for each section as well as a detailed summary of responses for each question are included in the following pages.

Flyers for the 3rd community workshop were posted throughout downtown, at the library and post office, on the greenway, and at the brewery itself. Downtown business owners were happy to disseminate the information.

Survey Outreach Events

Labor Day Festival: The consultant team attended the Town of Canton's Labor Day Festival on September 5, 2016, in an effort to reach residents during the early stages of this planning process.

Canton Christmas Parade: Surveys were also distributed during the annual Christmas parade in Canton.

Pedestrian Section Overview

Results indicate that improvements could increase safety and convenience for pedestrians, making them more likely to walk for both recreation and transportation purposes.

Where do they want to go?

The most popular purposes for which respondents currently walk are:

- Recreation/exercise (80%)
- Walk the dog (53.8%)
- Transportation (27%)
- Shopping/errands (23%)

The most popular destinations to which respondents currently walk are:

- The house of a friend or family member (58%)
- Downtown destinations (41.7%)
- Social events/entertainment (37.5%)

The following destinations were most frequently selected by respondents as places they would walk to more often if it were safer and more convenient to do so:

- Downtown destinations (60%)

- Social events/entertainment (60%)
- The library (50%)
- Restaurants/cafés (45.5%)

It should also be noted that many respondents indicated they would walk to school more often and walk to shops or the grocery store if they felt it was safer to do so. These are all important to regular daily life. Indeed, making walking part of a routine (buying weekly groceries or dropping kids off at school) can instill healthy habits.

What causes concerns?

Almost half of respondents cite the lack of sidewalks as a major factor that discourages them from walking in Canton. Forty percent of respondents noted that dangerous motorist behavior and the lack of destinations within walking distance where major deterrants in their transportation decisionmaking. Additionally, there was some concern about poor sidewalks, unsafe crossings, and heavy or high-speed traffic.

The primary factors that discourage respondents from walking in Canton are:

- Lack of sidewalks (47.8%)
- Lack of greenways/trails (47.8%)
- Few destinations within walking distance (39%)
- Dangerous motorist behavior (39%)

Some additional concerns include the need for more shade trees and street lighting.

How can the concerns be addressed?

More sidewalks to places I want to walk was most frequently identified (74%) as a major improvement that would encourage respondents to walk more often.

The majority of respondents would also walk more often if there were more greenways and trails (64%) and better maintenance of existing sidewalks (57%). Additionally, the need for additional sidewalks and improving existing sidewalks was a recurring theme in open-ended comments.

The improvements that would encourage the greatest number of respondents to walk more often are:

- More sidewalks to places I want to walk (60%)
- More greenways / trails (60%)
- Better maintenance of existing sidewalks (45%)

Additionally, survey respondents want to see planting strips between sidewalks and roads, traffic-calming street design elements, and pedestrian amenities like street trees, benches, and awnings.

When asked which roadway corridors in Canton are most in need of sidewalks or sidewalk improvements for pedestrians, respondents most frequently named

the following streets (with Newfound Street and Penland Street repeated by multiple respondents):

Newfound Street
Penland Street
19/23 (west of Blackwell Drive and Rite-Aid, towards Waynesville; i.e. New Clyde Highway)
Substation Road
Pisgah Drive / 110 (south of Substation Road)
the Ingles area of Champion Drive

Respondents most frequently identified the following intersections or street crossings as most in need of improvements for pedestrians:

Holtzclaw Street / Pisgah Drive
Penland Street / Park Street
Bridge Street / Church Street
Park Street / Main Street
Blackwell Drive / US 19/23
In front of the old Armory

Champion Drive is the only specific location noted by respondents as unsafe for walking due to pedestrian hazards.

The following additional comments were received:

"The Town needs finished sidewalks in other places than Main Street."

"If Sorrells Park continues to host events, there should be permanent restroom facilities there."

"All the schools need much better pedestrian entryways for those fortunate enough to walk - we need to encourage walking to school so driving is not the default option."

Bicycling Section Overview

Survey results indicate significant opportunity to increase bicycling in Canton by improving the safety of roadways and intersections and making key destinations more accessible by bicycle.

Twenty-three percent of respondents bicycle at least once per week, with the most popular reasons being for recreation/fitness and social opportunities and events. Although 64% of respondents bicycle rarely or never, a high percentage (40%) of respondents indicated they are interested in bicycling, but concerned. By developing new bicycle infrastructure and focusing attention on the bicycle tourism market, Canton could see many people begin to become more comfortable bicycling on a regular basis.

Where do they want to go?

The most popular current bicycling destinations are:

- Trails/Greenways (68.2%)
- Around my neighborhood (50%)
- Park (36.4%)
- Downtown (31.8%)

About 1/10 Canton residents also bike to stores, the library, and school, while 4.5% indicate they bike to work.

If it were safer and more convenient:

- The vast majority (86%) of respondents say they would bicycle for recreation/fitness more often, with an emphasis on trails and greenways.
- Over 1/3 of respondents would bicycle more often for social opportunities/events.
- Over 1/4 of respondents said they would commute to work by bicycle and ride their bike to shop and run errands.

Exhibit 2-2: Canton Bicycle & Pedestrian Plan Survey (front & back)

Town of Canton Bicyclist and Pedestrian Survey

The town of Canton is collecting input from residents to incorporate into planning for future bicycling and pedestrian improvements. Your input is very important to us. This short survey has 27 questions and usually takes less than 15 minutes. Thank you for making Canton a better place to walk and bike!

1. How frequently do you bicycle? *(check one)*

- ☐ 3 or more days per week
- ☐ Once or twice per week
- ☐ 1 to 3 times per month
- ☐ Rarely
- ☐ Never

2. Which statement best describes your comfort level on a bicycle? *(check one)*

- ☐ STRONG & FEARLESS – comfortable bicycling with automobiles in all or most situations
- ☐ ENTHUSED & CONFIDENT – comfortable bicycling with automobiles, but prefer to do so on roads with bicycle facilities (e.g. bike lane, paved shoulder)
- ☐ INTERESTED BUT CONCERNED – not comfortable sharing any roadway with cars, prefer bicycling on trail, greenway or residential roads with limited auto traffic
- ☐ NO WAY NO HOW – Little or no interest in bicycling

3. For what purposes do you CURRENTLY bicycle? *(check all that apply)*

- ☐ Recreation/Fitness
- ☐ Commute to work
- ☐ Social opportunity/event
- ☐ Limited automobile access
- ☐ Shopping/errands
- ☐ Commute to school
- ☐ Other *(please specify)* _____

4. For what purposes WOULD you bicycle IF it were safer and more convenient? *(check all that apply)*

- ☐ Recreation/Fitness
- ☐ Commute to work
- ☐ Social opportunity/event
- ☐ Limited automobile access
- ☐ Shopping/errands
- ☐ Commute to school
- ☐ Other *(please specify)* _____

5. What factors discourage you from bicycling more often? *(check all that apply)*

- ☐ Narrow roads
- ☐ Traffic volume
- ☐ Physical ability
- ☐ Travel time/distance
- ☐ Lack of bicycle parking
- ☐ High-speed traffic
- ☐ Unaware/inconsiderate motorists
- ☐ Lack of bicycle lanes or paved shoulders
- ☐ Lack of separated paths/greenways
- ☐ Busy intersections
- ☐ Indirect routes
- ☐ Hills/steep terrain
- ☐ Other *(please specify)* _____

6. Where do you go when bicycling? *(check all that apply)*

- ☐ School
- ☐ Store
- ☐ Park
- ☐ Work
- ☐ Downtown
- ☐ Library
- ☐ Trails /Greenways
- ☐ Around my neighborhood
- ☐ Restaurants
- ☐ Other *(please specify)* _____

7. Where would you go when bicycling if access were safer/more convenient? *(check all that apply)*

- ☐ School
- ☐ Store
- ☐ Park
- ☐ Work
- ☐ Downtown
- ☐ Library
- ☐ Trails /Greenways
- ☐ Around my neighborhood
- ☐ Restaurants
- ☐ Other *(please specify)* _____

8. Which roadways do you feel are currently safe and comfortable for bicycling in Canton? *(check all that apply)*

- ☐ None
- ☐ Old River Rd
- ☐ Locust St
- ☐ New Clyde Hwy
- ☐ Blackwell Dr.
- ☐ Asheville Hwy
- ☐ Pisgah Dr
- ☐ Main St
- ☐ Park St
- ☐ Residential streets
- ☐ Other *(please specify)* _____

9. Which roadways do you believe are most in need of improvements for bicycles (e.g. bike lane, paved shoulder)?

Roadway 1: _____

Roadway 2: _____

Roadway 3: _____

10. Which intersections do you believe are most in need of improvements for bicycles?

Intersection 1: _____

Intersection 2: _____

Intersection 3: _____

11. Which facility improvements would encourage you to bicycle more often? *(check all that apply)*

- ☐ More on-street facilities for bicycles (eg. Bike lanes)
- ☐ More off-road paths for bicycles (eg greenways)
- ☐ Traffic calming street designs (eg. Roundabouts)
- ☐ More sharrows or share the road signs
- ☐ Intersections with accommodations for bicyclists
- ☐ Other *(please specify)*: _____

12. Which program/policy actions would encourage you to bicycle more often? *(check all that apply)*

- ☐ Bicycle safety and education outreach
- ☐ Map of bicycling routes
- ☐ Increased enforcement of traffic laws
- ☐ Support for Safe Routes to School Events
- ☐ Intersections with accommodations for bicyclists
- ☐ Other *(please specify)* _____

13. Please share any additional comments, issues, or opportunities regarding bicycling in Canton.

_____

14. For what purposes do you currently walk? *(check all that apply)*

- ☐ Transportation
- ☐ Recreation/exercise
- ☐ Shopping/errands
- ☐ Walk the dog
- ☐ Other *(please specify)* _____

15. Which of the following destinations do you walk to from home or elsewhere in town? *(check all that apply)*

- ☐ Work
- ☐ House of friend/family
- ☐ School/school of child
- ☐ Church/civic meeting
- ☐ Grocery/shops/errands
- ☐ Library
- ☐ Restaurant/cafe
- ☐ Social event/entertainment
- ☐ Downtown destinations
- ☐ Other *(please specify)* _____

16. Where would you walk more often if it were safer/more convenient to do so? *(check all that apply)*

- ☐ Work
- ☐ House of friend/family
- ☐ School/school of child
- ☐ Church/civic meeting
- ☐ Grocery/shops/errands
- ☐ Library
- ☐ Restaurant/cafe
- ☐ Social event/entertainment
- ☐ Downtown destinations
- ☐ Other *(please specify)* _____

17. Which factors discourage you from walking in Canton? *(check all that apply)*

- ☐ Lack of sidewalks
- ☐ Unsafe street crossings
- ☐ Lack of greenways/trails
- ☐ Few destinations within walking distance
- ☐ Indirect route to destinations
- ☐ Poor sidewalk condition
- ☐ Lack of curb ramps or other ADA (ex. features for people in a wheelchair, elderly, etc) features
- ☐ Dangerous motorist behavior
- ☐ Heavy or high-speed traffic
- ☐ Lack of street lighting
- ☐ Lack of shade or street trees
- ☐ Personal safety
- ☐ Other factor *(please specify)* _____

18. Which of the following improvements would encourage you to walk more often? *(check all that apply)*

- ☐ More sidewalks to places I want to walk
- ☐ Better maintenance of existing sidewalks
- ☐ Planting strip between sidewalk and road
- ☐ Pedestrian improvements at crosswalks and intersections
- ☐ Traffic calming street designs
- ☐ Improved ADA access on sidewalks
- ☐ More greenways/trails
- ☐ Pedestrian amenities (e.g. street trees, benches, awnings)
- ☐ Convenient bus service
- ☐ Other improvements *(please specify)* _____

19. Which roadway corridors in Canton are most in need of sidewalks or sidewalk improvements?

Roadway 1: _____

Roadway 2: _____

Roadway 3: _____

20. Which intersections or crossings in Canton are most in need of improvements for pedestrians?

Intersection 1: _____

Intersection 2: _____

Intersection 3: _____

21. Are there specific locations in Canton with pedestrian hazards that make walking unsafe or inconvenient?

Location 1: _____

Location 2: _____

Location 3: _____

22. Please share any additional comments, issues, or opportunities regarding walking in Canton:

_____

23. Select the category that best describes your relationship to Canton. *(check one)*

- ☐ Full-time resident
- ☐ Seasonal resident
- ☐ Live within 10 miles of Canton
- ☐ Work in Canton
- ☐ Own business in Canton
- ☐ Visitor

24. Are you: ☐ Male ☐ Female ☐ Other

25. What is your age?

- ☐ 19 and under
- ☐ 20 – 29
- ☐ 30 – 49
- ☐ 50 – 69
- ☐ 70 and over

26. What is your zip code? _____

27. Please include the following information if you would like to receive project updates.

Name: _____

Address: _____

City: _____

Email: _____

Thank you!

What causes concerns?

Survey responses indicate that Canton residents are unhappy with the town's bicycling infrastructure. Forty-three percent of respondents feel that none of the main roads and streets in Canton are safe and comfortable for bicycling. No one thought Locust Street or US 19/23 were safe at all; less than 5% categorized Pisgah Drive as safe and comfortable, and less than 20% said that Main Street, Park Street, Blackwell Drive, or Old River Road were safe to ride.

Without addressing these fears, most bicylists will opt to leave their bike at home; only the fearless and experienced will dare ride on Canton's streets.

When asked about the factors that most discourage them from bicycling more often, respondents frequently identified the following:

- Traffic volume (75%)
- Narrow Roads (66.7%)
- High-speed traffic (55%)
- Unaware/inconsiderate motorists (55%)
- Lack of bicycle lanes or paved shoulders (55%)
- Lack of separated paths /greenways (45.8%)

43%

of Canton residents feel that *none* of the main roads are safe for bicycling.

Additionally, there was concern about busy intersections, hills and steep terrain, and indirect routes adding to travel time. While Canton's terrain can't be smoothed, this plan hopes to help build connections so that bicycling corridors are unified, pragmatic, and intuitive.

Making a general recommendation for lower speed limits or traffic calming in Town, despite some survey responses indicating high speed traffic as a cause for concern,

might not serve the desired purpose. Many of the roads in and around Canton are designed and intended for high speed traffic but slow down considerably in the residential areas and downtown. NCDOT plans on widening US 19/23 to accommodate greater capacity, but it is unlikely the speed limit will increase as that road traverses Main Street and Park Street, which have included some substantial traffic-calming improvements and feature on-street parking. Cars are forced to slow down through town.

One outlier is Penland Street, which is posted as 45mph all the way to the Main Street interchange - lowering the speed limit along that route as it passes the middle school and recreation park might solve some core safety issues in the community. Otherwise, current speed limits in town serve their intended purpose well and enforcement is a simpler option to mitigate outliers. The Town could issue a blanket 20mph speed limit within its border, but that is unlikely.

Instead, typical recommendations to alleviate concern for bicyclists would be re-routing cyclists to a low-speed con-

nected network and adding separated bike facilities on the high speed roads. For pedestrians, more emphasis could be given to well-designed walking facilities that have an adequate buffer from traffic or to wholly separate facilities, like greenways and multi-use trail recommendations.

How can the concerns be addressed?

Respondents were asked which facility improvements would encourage them or members of their household to bicycle more often, making broad determinations about the benefits of needed infrastructure at specific locations throughout town.

When asked to identify the roads and intersections most in need of improvement, respondents identified the following road and intersections most frequently:

Champion Drive / Blackwell Drive
Blackwell Drive / US 19/23
Greenberry Street / US 19/23
Pisgah Drive
North Main Street
Ratcliff Cove
Penland Street

When asked which facility improvements would encourage them to bicycle more, respondents overwhelmingly listed the need for more off-road paths (greenways). They also highly visualized bike lanes in town (on-street facilities), and even "sharrows". Other improvements that didn't get as good of a response were traffic calminig street designs (like roundabouts).

The following program/policy actions received the most support from respondents as methods to encourage them to bicycle more often:

- Map of bicycling routes
- Support for Safe Routes to School events
- Increased enforcement of traffic laws

Most of these survey responses (70%) came from full-time Canton residents or people who live within ten miles of Canton.

Demographics

In addition to surveys, it is important to examine a community's general demographics (in terms of age of its citizens and means of travel to work) because this information can provide clues about travel behavior and preferences. It can also help identify potential health concerns as they relate to the socioeconomic conditions in which someone is raised and/or lives.

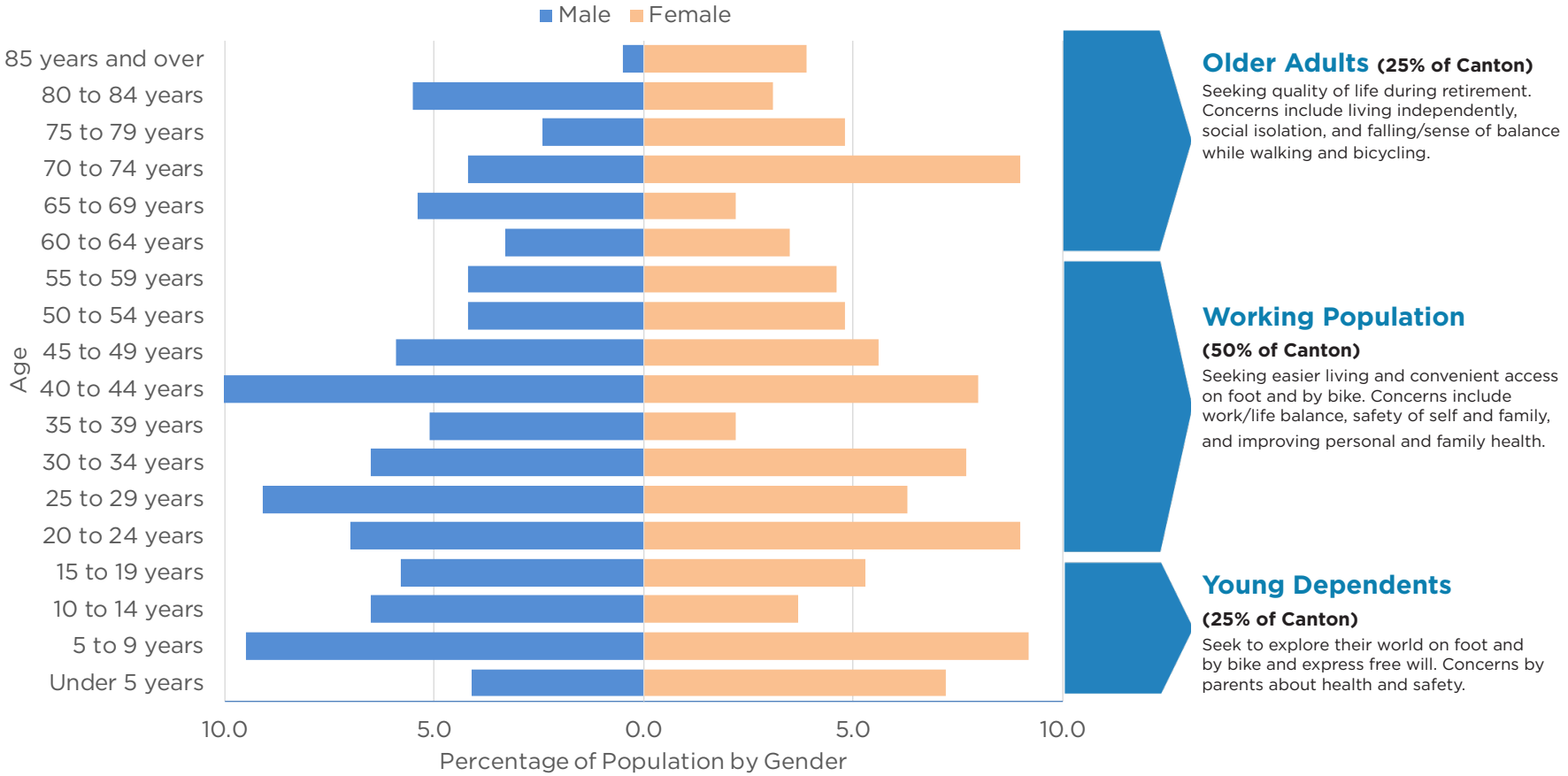
Characteristics such as age, income, vehicle ownership, and commute time can suggest a population's potential for walking and biking as modes of transportation. This section provides a summary of the demographic analysis for Canton. It also explains the implications of the analysis for the recommendations made in this plan. The Census data summarized in this section includes those considered most relevant. *Note: this plan should be updated to reflect data once the 2020 Census is complete.*

Canton Demographics (U.s. Census and 2015 American Community Survey)	
Population	4,272
Median Age	38
Education	79.6% with high school degree or higher
Housing	2,048 total housing units
Income	$36,792 median household income
Poverty	10.5% below poverty level

Using 2015 American Community Survey age characteristics data for Canton (Exhibit 2-3), we can identify the type of population needs for walking based on age groups of Older Adults, Working Population, and Youth.

The Older Adults population cohort (aged 60+) comprises roughly 25% of the town's overall population (compared to only 18.4% of the state's population in this age group). Older adults are seeking walkable communities because they want to lead an independent lifestyle as they approach retirement and ultimately retire. Older adults are concerned about their safety while walking, having to consider slower intersection crossing times and the risk of falling. The isolation that can come from living in single family homes on large rural estates (relatively far from neighbors and services) during retirement has been shown to have negative physical and mental health effects. Canton should consider orienting its investment programs to provide safe connections to access the greenway more directly from residential areas and between common destinations and residences for older adults.

Exhibit 2-3: Population Pyramid of Canton (2015 ACS)



The Working Population (20 to 60 years of age) of Canton is almost exactly 50%, only slightly lower than North Carolina's proportion at 54.8%. The life of a working adult is complicated. They are seeking greater work/recreation balance while also considering the needs of their family, both elders and offspring. They want to walk their kids to school and have the option of riding their bicycle safely to work. They seek recreational opportunities as time allows, which makes greenway and similar investments a popular choice.

The Youth percentage for Canton is 25%, compared to 26.8% of North Carolina's population that is age 19 years and younger. Youth seek to explore the world around them and express their free will in these years. With increasing demands on the family and most households having both parents in the workforce, youth are being asked to be more independent. Walkable communities allow for this to occur in a safe environment. Connections such as improved linkages between schools and greenways and sidewalks in residential neighborhoods give youth the necessary environment to be active, healthy, and safe.

The 2015 American Community Survey (ACS) is also used here to estimate mode of transportation to work and travel time to work for residents of Canton. The survey only measures commute modes of transportation and has no metric to indicate number of walking trips per day for recreation or other purposes.

The "mode of transportation taken to work" data for Canton indicates 2.6% of workers 16 years and older walk as a means of commuting (the margin of error is +/- 2.2%, so the actualy percentage could be between 0.4%-4.8%, a big difference). Approximately 92.4% drove or rode in a motor vehicle. The table also includes data for North Carolina.

Exhibit 2-4: Means of Transportation to Work

Means of Transportation to Work	Canton (%)	North Carolina (%)
Drove Alone	76	81.1
Carpooled	16.5	10.4
Worked at Home	0.5	4.4
Public Transportation	2.4	1.1
Walked	2.6	1.8
Bicycle	0.0	0.2
Other	1.2	1.0

The American Community Survey indicates about 40% of Canton residents have a commute time of less than 15 minutes. This is a significant number in terms of walking and bicycling potential - a lot of people might be able to bike to work. This is more than three times the rate of North Carolina's population, with only 13% reporting a travel time to work of less than 15 minutes. The average travel time to work for Canton residents is 21.4 minutes. Haywood County's average travel time to work for residents is 23 minutes and North Carolina's is 23.9 minutes.

Exhibit 2-5: Travel Time to Work

Travel Time to Work	Canton	North Carolina
Total Workers	**1,826**	**4,361,591**
Less than 10 minutes	20.5%	12.9%
10 to 14 minutes	19.4%	15.3%
15 to 19 minutes	10.3%	17.5%
20 to 24 minutes	11.0%	15.8%
25 to 29 minutes	7.3%	6.9%
30 to 34 minutes	18.2%	13.1%

Travel Time to Work	Canton	North Carolina
35 to 44 minutes	3.8%	6.1%
45 to 59 minutes	7.6%	6.7%
60 or more minutes	1.7%	5.6%

In terms of vehicle ownership, only 0.8% of Canton households (or approximately 15 households) report having no vehicle available. This rate is considerably less than North Carolina's rate of 2.5% of households and Haywood County's rate of 1.5% of households. Another 34.6% of Canton households (or approximately 630 households) report having only 1 vehicle available. About a third of households have one car available, another third have two cars, and the rest have three or more. This rate is notably higher than the NC rate of 20.7% and Haywood County's rate of 19% of households with one car. About 80% of workers in Haywood County and the state of North Carolina have two or more vehicles available to use getting to work.

80%

of workers in Haywood County have two or more vehicles available to use getting to work. *How many bicycles do they have?*

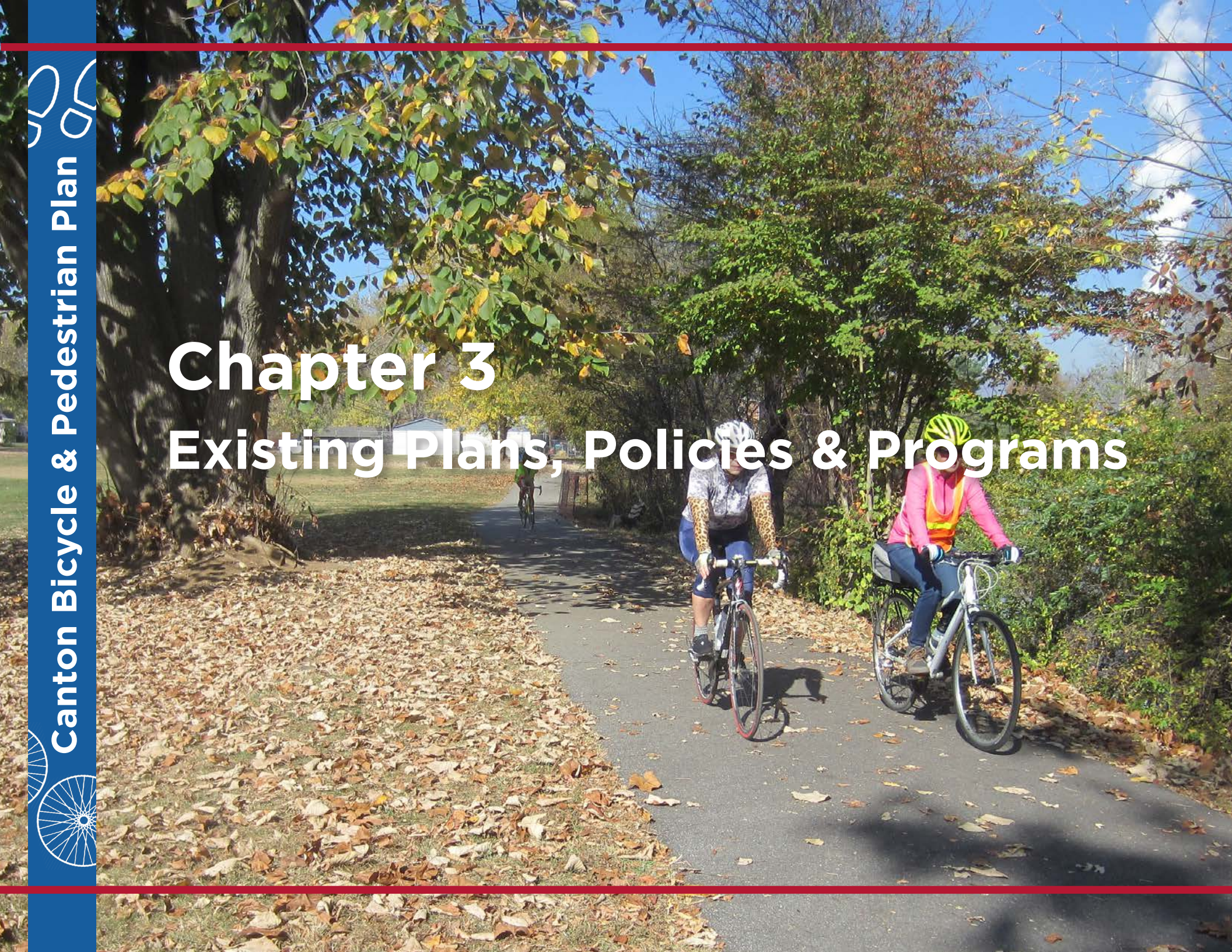
Seventy percent of workers in North Carolina work in their county of residence. Thirty-five percent of Canton workers work outside of Haywood County.

Demand for travel of all modes is closely linked to the population in an area. Typically, as population increases, so does the amount of travel, as persons make trips to fulfill the needs of their daily lives. Additionally, as the employment base within a region grows, these businesses will attract additional commercial trips, particularly in areas like Haywood County, where tourism plays a strong role in the economy.

The North Carolina Department of Transportation (NCDOT) Comprehensive Transportation Plan (CTP) for the county used 2005 data estimated using the North Carolina State Data Center, which tracks population and household information across the state. In 2005, the population for Haywood County was estimated to be 56,249. Future population models for 2030 were developed as part of the French Broad River MPO Travel Demand Model - estimates based on analysis of local and national population trends. For 2030, it is estimated that there will be 92,000 people living in Haywood County, almost 39% growth. Neighboring Buncombe County is projected to grow 34%.

As the baby boomer generation reaches retirement age, the demand for retirement and second homes in the mountains of Western North Carolina continues to grow. There are numerous planned and developing new residential communities in Haywood County that could add thousands of new homes. While it is difficult to estimate the number of new permanent residents versus those who will be seasonal, the development of these new communities will certainly impact the demographics of the county and affect its transportation infrastructure needs.

It is important to plan for anticipated local and regional growth and demographic changes because those efforts will enable forward-thinking action with considerations for success in the long-term and plans for the Canton of the future. The town must act swiftly and aggressively to take advantage of current economic and population growth trends in the region - establishing itself as a favorable alternative to the surrounding municipalities in WNC, for families, professionals, and businesses.



Chapter 3

Existing Plans, Policies & Programs

Chapter 3: Existing Plans, Policies & Programs

Existing Plans, Policies, and Programs

Recently, several regional planning efforts have identified the importance of the area's small town character to economic development. A crucial part of the character and a component of the attractiveness of the region's towns is the ability to bike and walk. The shift from planning for and encouraging automobile-oriented development can be clearly seen in the plans and policies of cities and towns in the region. Past plans are filled with goals, objectives, and action items intended to promote community connectivity and accessibility as well as convenient transportation choices for residents and visitors.

Canton's leaders are committed to productive growth that will offer families and residents the opportunity to choose to bike and walk to their destinations.

Local Plans

Canton Economic Development Initiative. This 2014 effort focused on growing a sustainable, vibrant, and thriving economy throughout Canton - a catalyst for renewal and transformation.

According to this initiative, fostering a strong, attractive local business climate includes enhancing the physical environment to "create a new quality of place that leaves a positive and lasting impression on visitors," with quality and sustainable business and residential development. Indeed, one of its six core focus areas is "Quality of Place."

Some ideas include:

- Addressing the issue of truck traffic on Main Street.
- Burying utility lines downtown.

Exhibit 3-1: Timeline of Plans and Policies

2002	Action Plan for the Pigeon River Watershed
2007	Haywood County Comprehensive Parks & Recreation Master Plan
2008	NCDOT CTP for the French Broad River MPO and Rural Areas of Buncombe and Haywood Counties
2009	Mountain Landscapes Initiative
2010	French Broad River MPO 2035 LRTP
2011	Haywood County Comprehensive Bike Plan
2012	Clyde Land Use Plan
	SWNC Economic Development Strategy
2013	Blue Ridge Bike Plan
	SWNC Regional Trails Plan
2014	Opt-In Regional Vision
	Canton Economic Development Initiative
2015	MountainElements Regional Health Impact Assessment (MountainWise)
	Bikes in Beds
2019	Canton Bike/Ped Plan

Major Theme #5 - Active Transportation

"The continued push toward improving infrastructure for active transportation, like walking trails and bike lanes, will incentivize biking and walking, thereby increasing physical activity rates and the associated health benefits."

- MountainElements Health Impact Assessment (2015)

- Widening and improving sidewalks.
- Replacing and/or adding street lighting (LEDs)
- Repairing/repaving streets.
- Investing in biking/walking trails.
- Replacing dying street trees.
- Encouraging pedestrian-friendly mixed-use development in the Central Business District (CBD) and along greenways/trails.
- Developing a Bike/Pedestrian Plan based on community needs and regional initiatives.
- Developing a Parks and Greenways Plan.

80%

of survey respondents in Haywood County support greenways that connect parks to schools.

Haywood County Comprehensive System-wide Parks and Recreation Master Plan (HCCPRMP). The Haywood County Comprehensive System-wide Parks and Recreation Master Plan was completed in March 2007. The plan noted the need for additional greenways, linear parks, and bike facilities throughout the County - survey respondents listed greenway trails as the second-most desired facility after neighborhood parks. 80.8% either strongly agreed or agreed that they would be in favor of greenway development to interconnect parks with school facilities.

The plan recommends developing a comprehensive greenways master plan for Haywood County for a connected greenway system across the county. One key segment would be a four-mile 8-foot-wide paved greenway along floodzone properties connecting Canton and Clyde. [NOTE: NCDOT standard for shared use paths is 10 feet wide]. It is recommended that the towns work jointly with Haywood County to capitalize on the availability of floodzone properties. The plan states that "given the length of the trail, it will likely have to be developed in two or three phases" and tie into the existing Canton Riverwalk greenway.

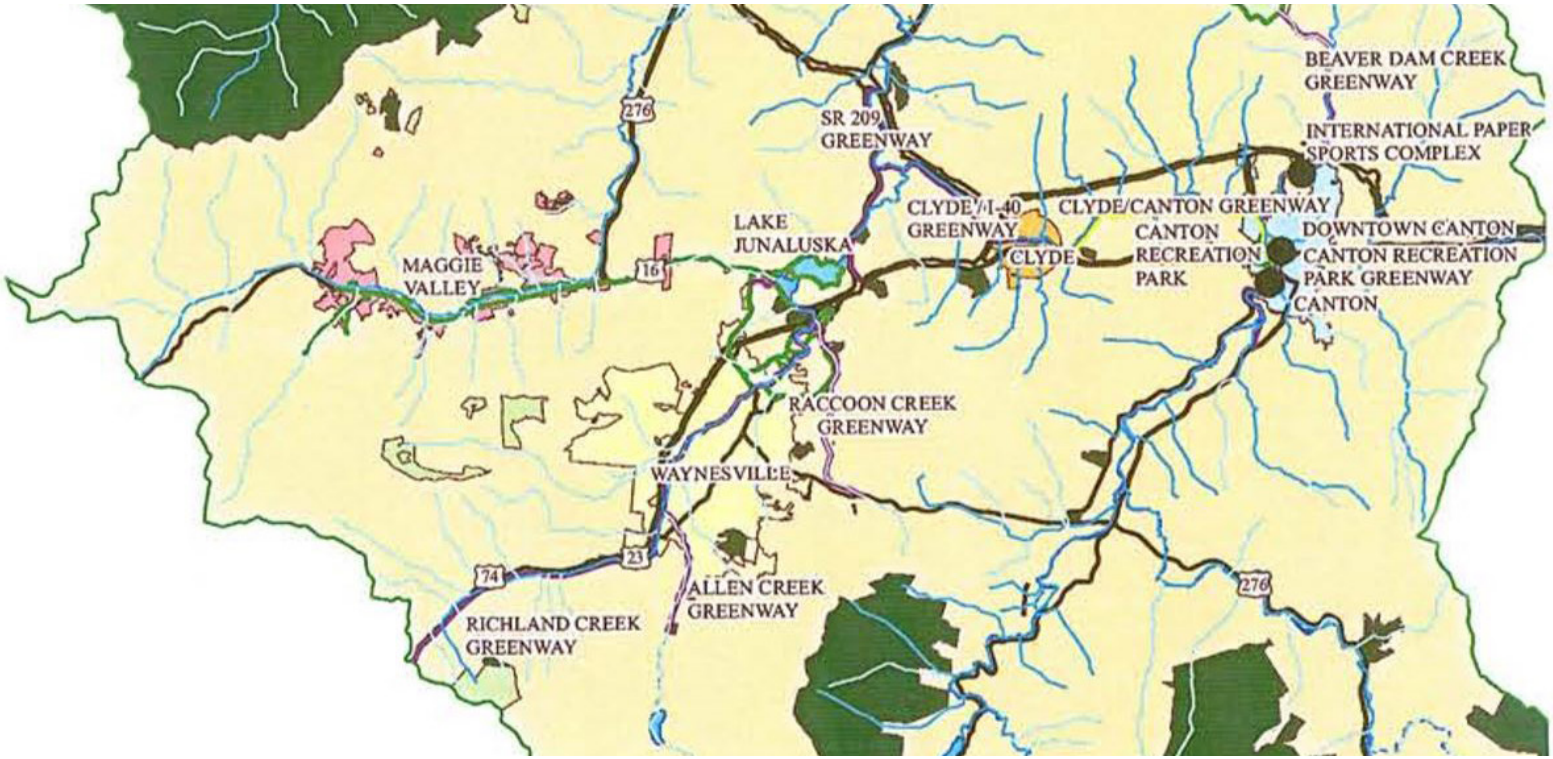
The plan estimates Canton's 1/3 share of the financial burden for this greenway section will cost approximately $800,000 (with an additional $10,000 for county-wide greenways master plan support and an ADA study) not including property acquisition, although the plan does not predict the need for any new land acquistions in Canton.

It also recommends planning a network of bike trails, bike lanes and shared roadways to enhance connectivity, provide a viable alternative means of transportation, and promote recreational opportunities. The plan states that "any future roadway construction project in the county should include provisions to accommodate pedestrian and bicycle travel . . . bike racks (sheltered ones at schools and other high potential use areas) should be installed at all publicly owned facilities across the county."

Importantly, survey respondents indicated a willingness to support increasing financial investment in parks and recreation facilities - about 60% support. Respondents stated that the county should consider grant money, participation fees, and bonds. Additionally, the plan recommends partnerships with private sector organizations and businesses to secure donations, joint-use agreements, access through private lands, and funding. Generally, "commitment of funding for maintenance of new facilities should be a priority."

https://www.haywoodnc.net/downloads/recreation/recplan.pdf

Exhibit 3-2: Haywood County Potential & Proposed Greenways (Comprehensive Parks & Recreation Master Plan)

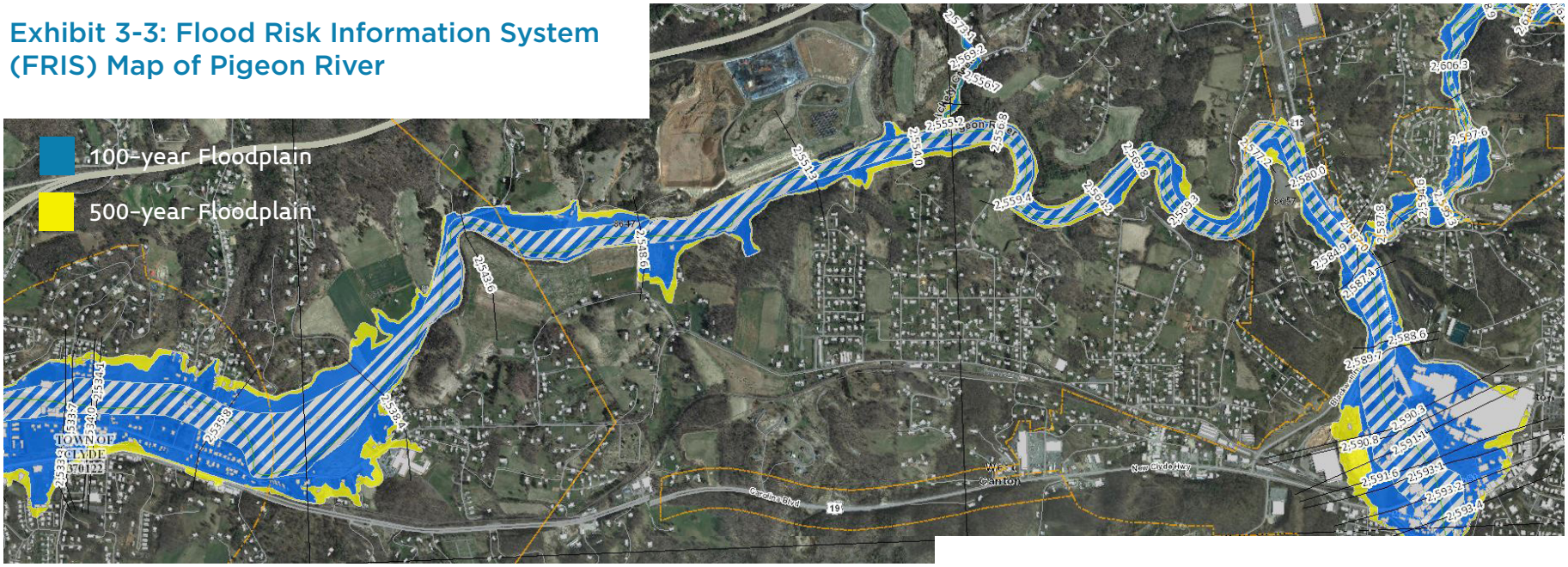


The Haywood County Parks & Recreation Master Plan highlights several possible locations for future greenways, including Allen Creek, Richland Creek, and Raccoon Creek in Waynesville, SR 209 and Clyde/I-40 in Clyde, and two focus areas in Canton: Beaverdam Creek and the Pigeon River.

Haywood County Comprehensive Bicycle Plan. Bicycle Haywood NC, a local bicycle advocacy group and ride leader, and the Haywood County Recreation and Parks Department conducted a Health Impact Assessment (HIA) to determine the impacts of the Haywood County Comprehensive Bike Plan. The HIA focused on key health outcomes that are strongly linked to bicycle activity: leading causes of death from heart, cancer and ischemic heart issues; heart diseases; obesity (and subsequent complications such as cancer, hypertension, type II diabetes, various heart issues, and stroke); and asthma and air quality.

Recommendations offered by the HIA included a series of feedback loops to inform bicycle route investment for placement in relation to areas with pockets of poor health, and a list of health-specific priorities for the community to pursue. The HIA informed the outcomes of the plan by identifying a set of health-based priorities that were incorporated into the overall plan findings and used to guide health-specific strategies and funding pursuits. Bicycle Haywood NC was instrumental in generating support and local match funding for the plan.

Exhibit 3-3: Flood Risk Information System (FRIS) Map of Pigeon River



The floodplain area adjacent to the Pigeon River offers helpful guidance for planning a greenway connecting Canton to Clyde, as well as numerous locations for new parks and trailheads along the way. There are 30+ parcels adjacent the southern side of the Pigeon River, with at least 20 different property owners, including International Paper Company, which owns about 20 acres of land along the southern side of the river. The northern side may prove easier to develop as a greenway - there are fewer property parcels (20) and only 14 different property owners to work with. Evergreen Packaging owns more than 40 acres of land on the north side of the Pigeon River and might prove to be a prominent collaborative partner on this endeavor.

Exhibit 3-4: Haywood County Bike Plan Recommendation "Haywood Hub"

Corridor Recommendations

*Cost estimates are planning level and may change dramatically due to right-of-way availability and actual design. Estimates with a (*) reflect FBRMPO estimates for full corridor improvements identified in the 2035 Long-Range Transportation Plan.*

Haywood Hub: A Central Route for Haywood County Communities

Short-term & Long-term investment
Estimated Cost: $3 - 7 million

Context: The Haywood Hub traverses the Towns of Waynesville, Clyde and Canton, as well as the Lake Junaluska community, to create a central route that serves the majority of the population of Haywood County.

Influences:

- Hazelwood Elementary School
- Hazelwood Community
- Waynesville Middle School
- Central Elementary School
- Downtown Waynesville
- Richland Creek
- Railroad tracks
- Frog Level Historic District
- Waynesville Recreation Center & Greenway
- Dutch Fisher Park & Vance St Park
- Junaluska Elementary School
- Lake Junaluska Walking Trail
- Tuscola High School
- Haywood Community College
- Haywood Regional Medical Center
- Clyde Elementary School
- Downtown Clyde & Parks
- Downtown Canton
- Canton Middle School & Recreation Park

Recommendations:

- **US 23 Business / S. Main Street:** Construct bicycle lanes as part of corridor improvements
- **Brown Avenue:** Road diet to three lanes plus bike lanes from South Main Street to Belle Meade Drive. Install Share the Road signs and / or shared lane markings from Belle Meade Drive to Richland Street.
- **Richland Street, Commerce Street & Boundary Street:** From Brown Avenue to Shackleford Street install Share the Road signs and / or shared lane markings through Frog Level Historic District (alternate route: US 276 to Walnut Street).
- **Vance Street Park / Waynesville Recreation Center:** Upgrade unpaved sections of greenway to paved sections. Connect greenway along Richland Creek or via Howell Mill Road to Industrial Park via Old Asheville Hwy.
- **Greenway to Lake Junaluska:** Upgrade, where feasible, to paved greenway, and construct improvements at US 19—Dellwood to facilitate crossing to Lake Junaluska and South Lakeshore Drive.
- **South Lakeshore Drive to NC 209—Crabtree Road:** Work with Lake Junaluska to gain approval for pavement markings, including shared lane markings or specialized signage.
- **NC 209—Crabtree Road**: Complete shoulders to Old Clyde Road.
- **Old Clyde Road/Broad St.:** Install shoulders for 7 miles from NC 209 to NC 215 in Canton. Re-stripe through downtown Clyde for travel lanes and bike lanes. Until then, sharrows or Share the Road signage should be installed.

Complete Streets: Several NCDOT Complete Streets Cross Sections could apply to this corridor due to diversity of land uses along it. The most applicable are the Rural Road and Rural Village Main Street cross sections (see Appendix).

Exhibit 3-5: Haywood County Bike Plan Recommendations for the Canton Area

NC 215—Old River Road / Penland Street

Short-/Long-term investment **Estimated Cost: $12 million ***

Context: The route is parallel to the Pigeon River and NC 110 but is a more suitable route to connect downtown Canton to Bethel and US 276. Land uses transition from neighborhoods in Canton to agriculture along the River.

Influences:

- Downtown Canton & Canton Recreation Park
- Canton Middle School & Pisgah High School
- Connections to Stamey Cove Road & Bethel
- Bethel Middle & Elementary Schools
- Blue Ridge Parkway connection

Rural Road

Length: 6.0 miles

Recommendations: Add shoulders where possible from bridge near Recreation Park to Bethel and designate as bicycle lanes. Corridor improvements shown in *FBRMPO long-range plan*. Shared lane markings may be used in constrained areas. Install shared lane markings from Main Street in Canton to the Pigeon River bridge.

Sections of NC 215 between Canton and Bethel are narrow but have lower volumes of traffic than NC 110. The corridor has scenic value as it parallels the Pigeon River and passes numerous farms.

Newfound St-Rd / Bridge St / Beaverdam Rd

Long-term investment **Estimated Cost: $1.1 million**

Context: Route transitions from historic neighborhoods in Canton to a rural route connecting to Buncombe County. Beaverdam Road provides access to mountain bike trails within the Rough Creek Watershed.

Influences:

- Downtown Canton & neighborhoods
- Rough Creek Watershed trails
- Recreational route connections to Buncombe County

Rural Avenue / Rural Road

Length: 8.1 miles

Recommendations: Designate as shared route in Canton town limits with shared lane markings. Add shoulders where feasible from town limits to Buncombe County line. Designate Beaverdam Road as bicycle route.

Shared lane markings are a new addition to the MUTCD and can be used on neighborhood streets to connect bicycle routes where pavement or right-of-way width does not allow for bicycle lanes, as on Newfound Street & Bridge Street in Canton.

Specific outcomes resulting from the HIA's recommendations included:

- A new bicycle purchase grant for Haywood County Schools.
- Discussions with the Community College to locate a "park-n-pedal" lot in a nearby park to encourage healthy commutes to the campus.
- The pursuit of implementation measures for the number one health priority identified in the plan.

The plan lists several goals:

1. Engineering-based infrastructure for bicycle routes and parking.
    - Prioritize bikeways that connect destinations (schools, parks, downtown, neighborhoods).
    - Create a county "backbone" loop (called the Haywood Hub) as a priority route to connect Waynesville and Canton *(see Exhibit 3-4)*.
    - Improve "pocket areas" in communities that can serve as ideal learn-to-ride areas.
    - Construct bike lanes along major arterial roadways and greenways along major rivers.
    - Construct bikeable shoulders when lanes are not feasible or practical.
    - Install signage and markings to delineate bike routes.
    - Install bicycle parking in downtown areas and at other major attractors and destinations.
2. Support programs and facilities.
    - Develop a location for a cycling sports complex (velodrome, BMX track, trails).
    - Develop and improve mountain bike trails in natural settings (Rough Creek Watershed).
    - Organize a multi-stage road race in Haywood County.
    - Develop natural trails above Lake Logan and near other water features.
    - Encourage a bicycle rental program through a public facility or bicycle shop.
    - Conduct non-race competitions.
3. Increase Educational Opportunities.
    - Conduct "how-to" sessions for beginner bicyclists.
    - Identify potential for bicycle rodeos and other teaching mechanisms for school-age children
    - Organize parents/kids rides.
    - Integrate bicycle-based education into drivers' education curricula.
    - Reach out to employers to promote policies and facilities for bicycle commuters.
    - Build on "Bike to Work" days to establish monthly Bike to Work rides.
    - Focus on older, senior bicyclists through a "Silver Wheels" program.
4. Provide Information to residents and visitors, promoting bicycling through a variety of media.
    - Design an interactive map (online) of bicycle-friendly locations.
    - Print maps of bicycle routes and trails.
    - Organize a "Share the Road" public service campaign to raise awareness of bicyclists.
    - Develop specialized guided routes of communities (such as a Cycling Cafe coffee shops tour, a Haywood County history tour, artists gallery/studio tour, or Cycle-to-Farm tour).
    - Promote fitness through education and guided community rides.

5. Support Policy Change and Economic Development
    - Foster intergovernmental collaboration to standardize bicycle-related policies.
    - Compile data on bicycling's economic impact.
    - Seek a ban on texting while driving at the municipal or state level.
    - Pursue easements or land dedication for greenways and other off-road bicycle facilites.

Most survey respondents (approximately 75%) stated that the two most desired improvements in Haywood County for bicyclists are developing off-road multi-use trails and marking road shoulders as bike lanes.

Additionally, survey responses indicate that most people wish there were more clearly-marked trails and there were wider roads for riding bicycles comfortably and safely.

Among the plan's recommendations were "hot spot" intersections that pose considerable risk to bicyclists. In Canton, that hot spot is Blackwell Drive and Old Clyde Road (US 19/23). Recommended improvements include bicycle lanes across the railroad tracks and up to the intersection itself.

http://fbrmpo.org/wp-content/uploads/2014/02/HaywoodBicyclePlan_FINAL_Web1.pdf

Clyde Land Use Plan. The Town of Clyde hopes to develop an efficient multi-modal system by increasing connectivity, sidewalks, greenways, and bicycle infrastructure. Goals of improving water quality, mitigating flood risk, and discouraging steep slope development involve preserving an open space buffer along river corridors, which would encompass the development of a greenway along the Pigeon River to Canton. The plan specifically seeks to treat the Pigeon River as a community asset.

http://datalibrary.nemac.org/swnc/sites/default/files/Clyde%20Land%20Use%20Plan%202012.pdf

NCDOT Comprehensive Transportation Plan (CTP) for French Broad River MPO and Rural Areas of Buncombe and Haywood Counties. The 2008 Final Report recommended projects based on 25-year growth and development forecasts, acknowledging that "bicycling is an integral component of a successful multi-modal transporation network." The CTP stresses that bicycle and pedestrian improvements be planned together with roadway and transit improvements on a systems level.

The recommended bicycle improvement projects in the CTP are thought to provide adequate, safe, and desirable bicycle facilities. It should be noted that the recommended improvements to on-road facilities can include a wide array of potential solutions. These improvements could range from minor projects (such as installing "Share the Road" signs) to major improvements (such as constructing bicycle lanes or wide shoulders). An improvement could involve the creation of a designated space for bicyclists, such as a bicycle lane, but it could also involve a measure that increases driver awareness of bicyclists.

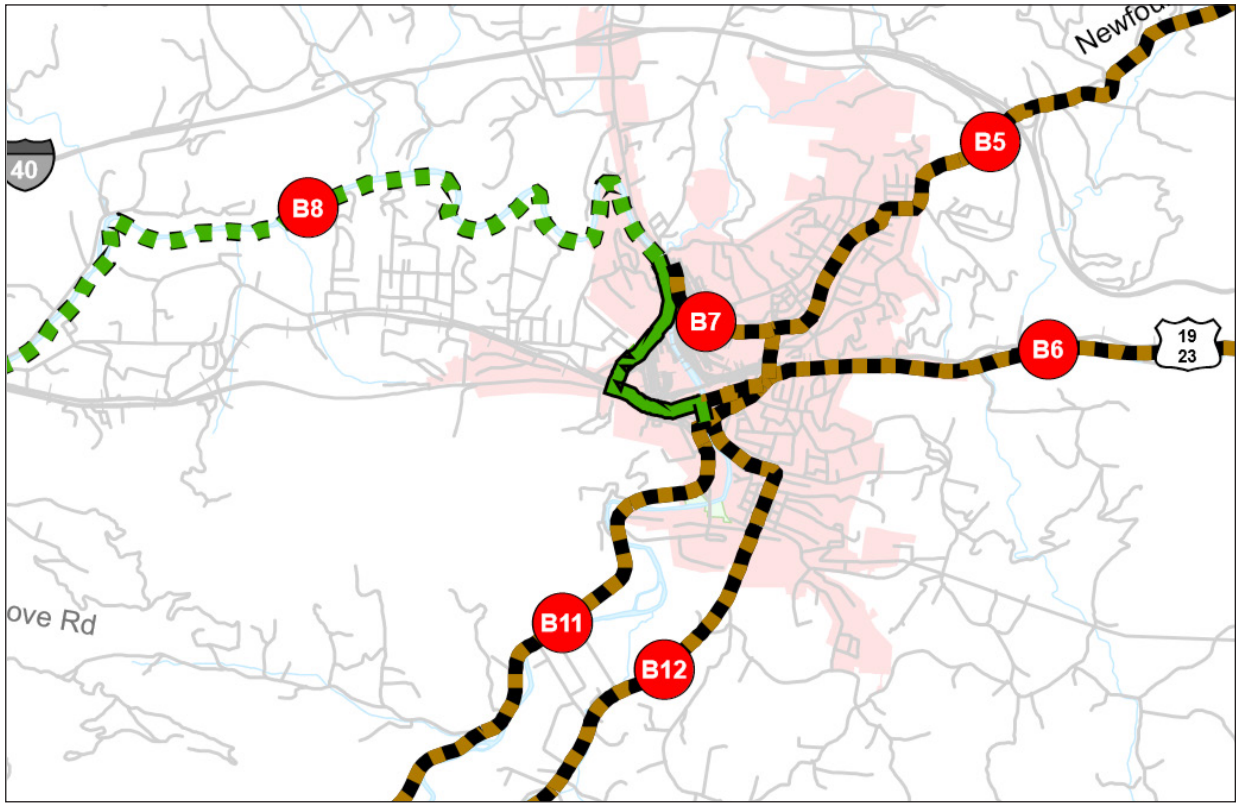
Haywood CTP Recommendations:

- Roadway Projects B3 and B8: Widen US-19 from Main St to NC 151 (east of Canton). These projects are identified in the TIP as a portion of project R-4406.
- Roadway Project B12: Upgrade the intersection on Champion Drive (NC 215) at the Pigeon River crossing (Blackwell Dr, Beaverdam St, and N Canton Rd) for safety and capacity - coordinate with proposed bicy-

cle improvements along the corridor and the greenway proposed in the Haywood County Parks and Recreation Master Plan.

- Roadway Project B13: Add turn lanes and improve intersection geometrics, widen lanes/shoulders, and improve alignment on NC 110 from US 19/23 to Henson Cove Rd (SR 1863). This project should be coordinated with bicycle project B12.
- Roadway Project B14: Add turn lanes and improve intersection geometrics, widen lanes/shoulders, and improve alignment on NC 215 from US 19/23 to Stamey Cove Rd (SR 1823). This project should be coordinated with bicycle project B11.
- Bicycle Project B5: Improve Newfound Road (SR 1004) from US 19/23 to the Buncombe County Line. The two-lane facility lacks adequate shoulders, has no dedicated bike facilities and lacks appropriate bike signage. Bike facilities along this road to downtown Canton are recommended.
- Bicycle Project B6: Improve US 19/23 from Buncombe County to NC 215. The two-lane facility lacks adequate shoulders, has poor geometrics, has no dedicated bike facilities, and lacks appropriate bike signage. There is a need to improve facilities along this corridor to provide a safer bicycling facility, as well as provide a needed connection between Canton and eastern Haywood County. This project should coordinate with roadway project B3.

Exhibit 3-6: Haywood County CTP Bicycle Recommendation Map



NCDOT has provided a plan for Canton's bicycle infrastructure, which heavily influence the recommendations in the Comprehensive Bike/Ped Plan.

Recommendations include bicycle facilities (either wide shoulders or marked bike lanes) along these core routes; Newfound Road, Penland Street, US 19/23 east of town, Champion Drive, and Pisgah Drive, and an extension of the Pigeon River Greenway to Clyde and beyond.

- Bicycle Project B7: Improve Champion Drive (SR 1643) from Main Street to NC 215 to provide a safer bicycling facility and provide a needed connection to the future Pigeon River Greenway (bicycle project B8). Currently, this two-lane road lacks adequate shoulders, has poor geometrics, has no dedicated bike facilities, and lacks appropriate bike signage. Bicycle travel is difficult and can be unsafe.
- Bicycle Project B8: Construct a greenway along the Pigeon River, per the Haywood County Comprehensive Parks and Recreation Master Plan. There is an identified need to provide off-street connectivity between Canton and Clyde, to promote bicycling in the area, and to promote a healthy lifestyle and recreational opportunities.
- Bicycle Project B11: In coordination with Roadway Project B14, upgrade NC 215 (from Main Street to US 276) to include wide shoulders or striped bike lanes and appropriate signage. This two-lane road currently lacks adequate shoulders, has poor geometrics, has no dedicated bike facilities, and lacks appropriate bike signage. Bicycle travel is difficult and unsafe.
- Bicycle Project B12: In coordination with Roadway Project B13, upgrade NC 110 (from Main Street to US 276) to include wide shoulders or striped bike lanes and appropriate signage. This two-lane road currently lacks adequate shoulders, has poor geometrics, has no dedicated bike facilities, and lacks appropriate bike signage. Bicycle travel is difficult and unsafe.

https://connect.ncdot.gov/projects/planning/Pages/CTP-Details.aspx?study_id=French+Broad+River

French Broad River MPO 2035 Long-Range Transportation Plan. The 2035 Long-Range Transportation Plan (LRTP) in effect for Haywood County includes a significant element related to pedestrian and bicycle transportation, including several references to policy initiatives at the state and federal level. It was adopted in 2010. Chapter 3 focuses on pedestrian and bicycle usage and crash statistics throughout Buncombe, Haywood and Henderson Counties and references to various funding programs. Project-related components of the LRTP include a streamlined list of corridors stemming from the Comprehensive Transportation Plan. Chapter 15 provides a detailed listing of specific bicycle projects as well as several projects that include bicycle facilities.

Tier II projects (2016-2025) include:

- $1 million for regionwide projects including signs, shared lane markings, and bicycle lane striping.
- $7 million for regionwide bicycle and pedestrian elements of highway projects.
- $1.8 million for regionwide infrastructure improvements to provide bicycle and pedestrian access to transit.

Tier III projects (2026-2035) include:

- US 19/23 widening to 4 lanes from Candler to Canton.
- NC 215 improvements from Pigeon Street in Canton to US 276 in Bethel.
- $10 million for implementation of municipal/county bicycle, pedestrian, and greenway plans.
- $6.5 million for repaving and widening of rural roads to accommodate bicyclists and pedestrians.
- $1 million for bicycle signage, sharrows, and bike lanes.

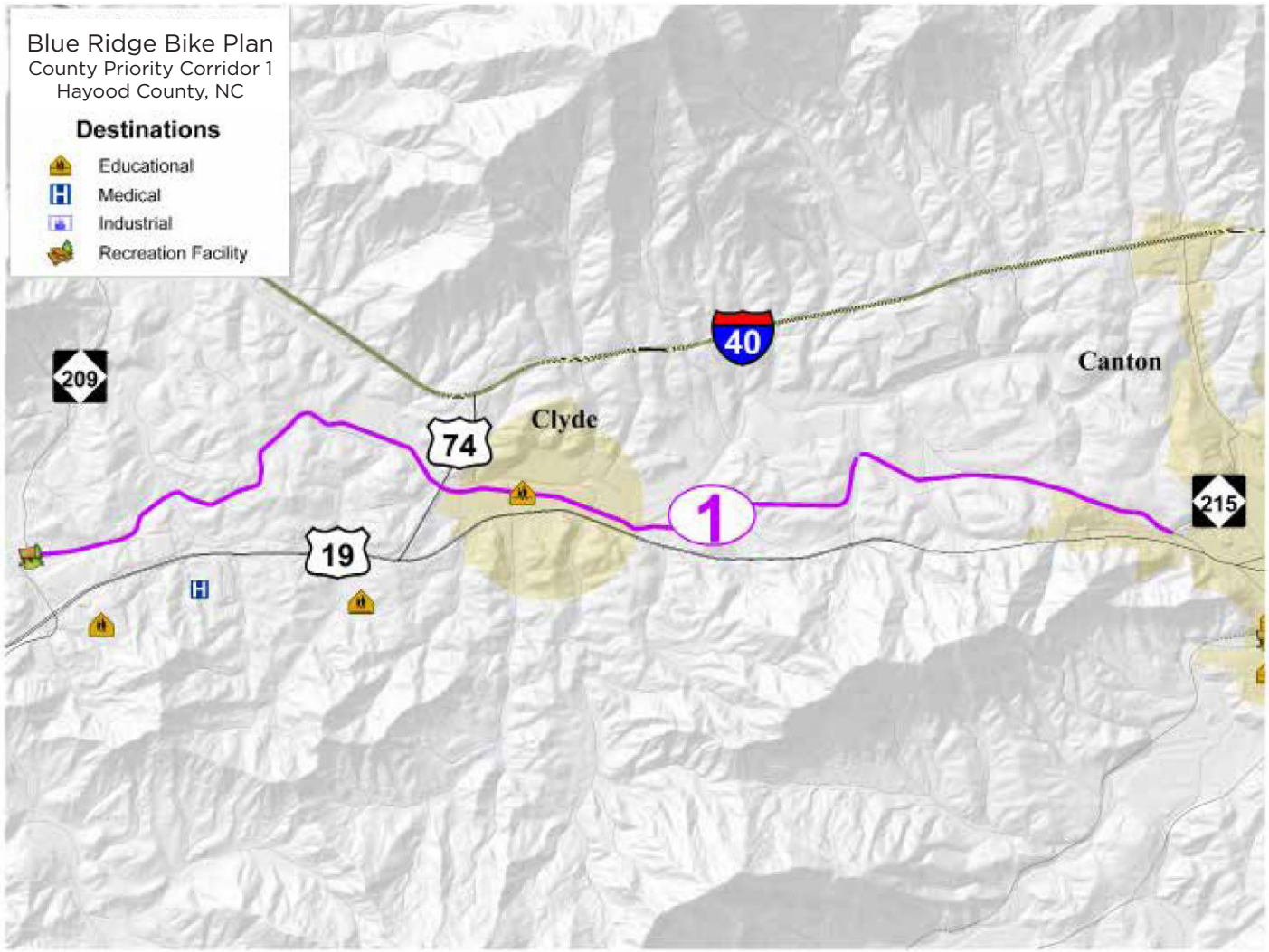
http://www.fbrmpo.org/metropolitan-transportation-plan-mtp/

Blue Ridge Bike Plan. This 2013 plan for Buncombe, Haywood, Henderson, Jackson, Madison, Swain, and Transylvania Counties is comprehensive in its identification of strategies to bolster the bicycling community in the region. It recommends numerous adjustments to state bike route NC 2 - Mountain to Sea - that highlight the priorities of connecting to downtown areas, improving safety conditions, and making sure the routes are accessible.

The plan also identifies parameters by which scenic bikeways could be established in North Carolina. One such scenic bikeway would be the Pigeon River Valley Loop, a potential 45-mile loop that connects Bethel (and its bicycle friendly outpost Bethel Grocery) to the Blue Ridge Parkway or a flat 11-mile loop to Canton and back.

Additionally, priority bicycle corridors were identified for each county, including two in Haywood County that involve Canton directly:

Exhibit 3-7: Blue Ridge Bike Plan Priority Corridor 1



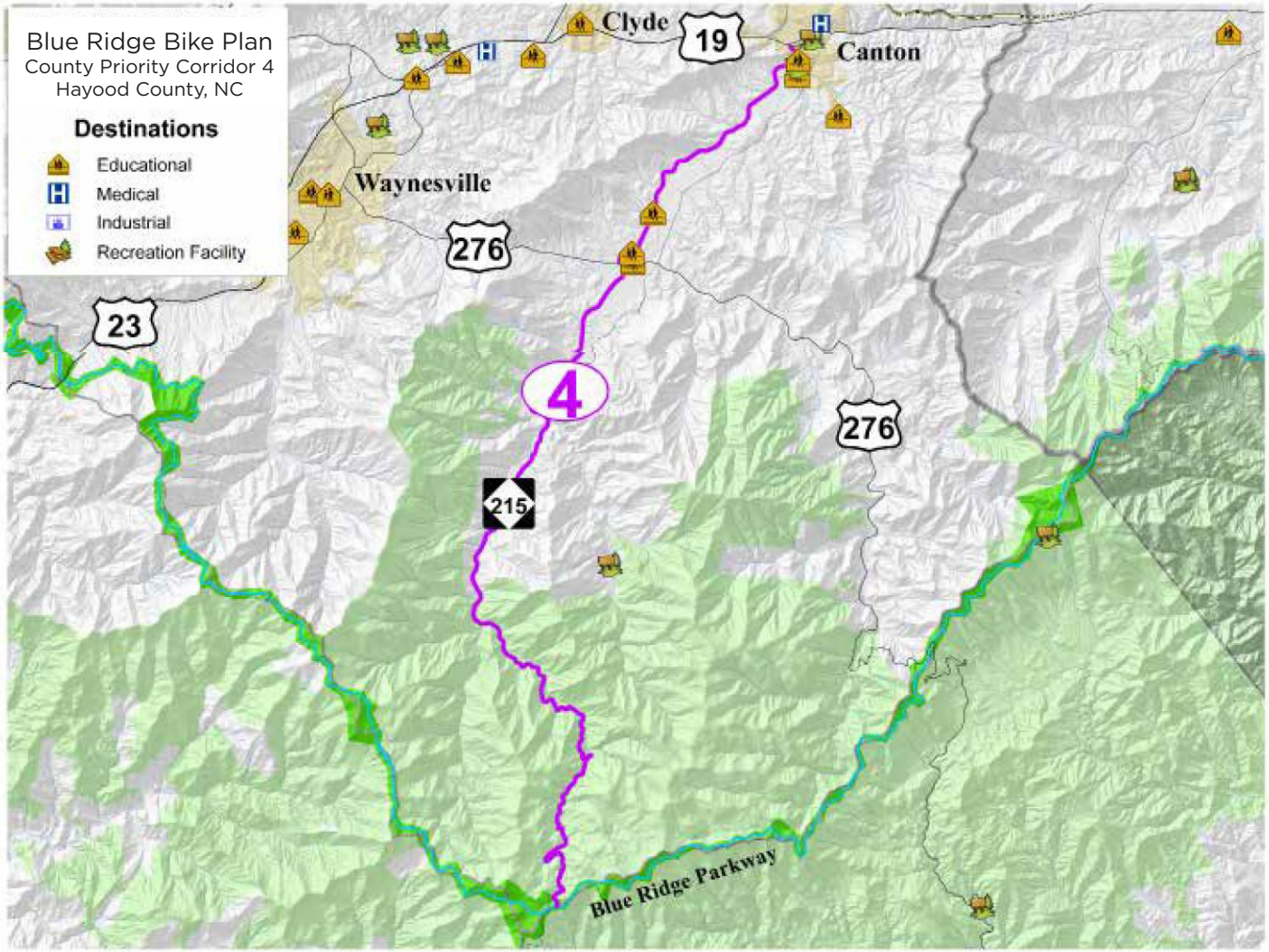
- Haywood County Priority Corridor 1: Old Clyde Road to NC 209. The 7-mile route is parallel to US 19/23 and connects the Town of Canton to the Lake Junaluska area. Bikeable shoulder and signage is recommended along the route. The estimated cost is approx. $2.1 million.

- Haywood County Priority Corridor 4: NC 215 to Blue Ridge Parkway. Bike lanes are recommended from downtown Canton to the Bethel community (6 miles). The remainder of the 23-mile route from Canton to the Blue Ridge Parkway (17 miles) is recommended for bikeable shoulders, possible climbing lanes, and pull offs. This project is estimated to cost $7 million.

Other high priority recommendations include:

- Develop, implement and maintain a core network of safe and well-connected bicycle facilities (bike lanes and greenways). This was the highest priority recommendation overall from both the public input and the Steering Committee.
- Adopt city, county, and region-wide "complete streets" policies, so streets and roads are built to accommodate all users.
- Work towards having a comprehensive bicycle plan for each town/city and county.
- Provide up-to-date bicycle maps (regional and local) to the public, that include safety- and skill level-appropriate recommendations. The Buncombe County Bicycle Map is a good example/model – the routes are color coded according to skill level and it provides safety-related information.

Exhibit 3-8: Blue Ridge Bike Plan Priority Corridor 4



- Incorporate bicycle safety elements into Driver's Education to ensure drivers know the rules, rights and responsibilities of both drivers and cyclists. This recommendation also includes educating bicyclists about their rights and responsibilities as road users.
- Provide additional training opportunities for bicyclists on rules, rights and responsibilities of sharing the road.
- Provide additional training for law enforcement officers on rights and responsibilities of all road users.

http://www.landofsky.org/brbp.html

Bikes In Beds: How to Maximize Bicycle Tourism in Haywood County and WNC. The Haywood County Tourism Development Authority (TDA) and Southwestern Commission developed this report in 2015, in an effort to capitalize on the rapidly changing and growing bicycle tourism industry. The report states that "While there are no greenways in Western North Carolina that have the same draw as the Virginia Creeper Trail in Virginia or Swamp Rabbit Trail in South Carolina, there is some potential to attract low stress riders. Each community should work toward developing facilities and strategies to attract all types while capitalizing on their unique attributes for specific bicyclists." The report lists the economic benefits of bicycle tourism and lists several recommendations:

- A greenway connecting Waynesville to Canton, which it estimates could attract thousands of visitors to Haywood County each year and generate up to $1 million in annual tourism expenditures, serving as a regional attraction for visitors. Families and other groups looking for low-stress cycling excursions without strenuous climbs or vehicle traffic would enjoy the trail. The construction of a greenway across Haywood County could also result in a one-time increase in property values within a quarter mile of the facility. The cost of constructing the proposed Haywood County greenway is estimated at $9 million.
- Mountain bike trails. The mountainous terrain and large amount of public land in Haywood County provide potential for the development of additional high quality trails that can attract visiting mountain bikers. There is a large network of Forest Service roads in the region that could be promoted to attract the growing number of cyclists looking for gravel road rides and gravel grinder events. Canton should develop the Rough Creek Watershed trails.
- A Scenic Bikeways program to fuse recreation, transportation, and the economic benefits of bicycle tourism. The program can be modeled after similar programs in Vermont and Oregon, which have been successful in bringing new life to small towns and promoting economic development. *A Scenic Bikeway is defined as "a signed bike route on existing roads and paths that provide access to national, state, or regional resources of superlative quality and scenic splendor. The route is on public lands, rights-of-way, or on existing easements on private property. The route is open to the public."*

http://www.isothermalbikeplan.com/pdf/2015_bikes-in-beds_wncbiketourism.pdf

Regional Plans

Mountain Landscapes Initiative. The 2009 Region A guide to development and planning calls for encouraging development around downtown cores and offers specific recommendations for bicycle, pedestrian, and pathway construction in the region.

http://www.cfwnc.org/OurInitiatives/MountainLandscapesInitiative/tabid/280/Default.aspx

Southwestern NC Economic Development Strategy. As highlighted in this 2012 regional strategy, the region's small town quality of life, including walkability and bicycling, plays a big role in attracting and retaining businesses in the area.

http://www.landofsky.org/pdf/LGS/CEDS_2015_web.pdf

Land of Sky Regional Trails Plan. The 2008 plan gives recommendations for trail improvements in areas around Canton. The plan developed a regional trails map and recommendations that encourage NCDOT to include trails, sidewalks, and bicycle lanes to new projects or modified roadways. Trail-related recommendations include on-street and off-street sidewalk and greenways in parts of Haywood County as well as local trails.

https://files.nc.gov/dncr-trails/documents/files/land-of-sky-regional-trail-plan-compressed.pdf

Watershed Action Plan for the Pigeon River Watershed. This water quality report was created in 2002 by the Haywood Waterways Association Technical Advisory Committee (and updated in 2014). One of its key strategies to improve surface water quality in the watershed (343,077-acres completely contained within Haywood County) is to encourage development of greenways along riparian cooridors.

The plan states that "greenways can serve as multi-use corridors along streams that protect riparian values while providing recreation and wildlife corridors. In many cases, they can be coordinated with corridor planning to provide sites for certain types of linear land uses that do not conflict with riparian protection objectives. There are several ongoing efforts in Haywood County focused on greenways; examples include efforts at Canton Recreation Park, Maggie Valley, and Richland Creek Greenway between Lake Junaluska and Vance Street Park. These efforts often need support and specific resources to succeed, including grant writing, trail planning and design, easemen drafting services, negotiating skills, and other assistance."

http://haywoodwaterways.org/wp-content/uploads/2018/02/PigeonRiverWatershedActionPlan.pdf

MountainElements: A MountainWise Health Impact Assessment for Western North Carolina. This 2015 eight-county health impact assessment (HIA) is designed to help the region share success stories and evaluate proposed planning and policy actions around the built environment, with recommendations based on the region's context and heritage. The goal of the project is to merge planning with health , focusing on economic growth, job creation, mobility, access to nature, creating healthy conditions for citizens of all ages and abilities, and making sure future generations have a place to grow and prosper.

One of the HIA's seven major themes is that "active transportation can improve physical activity rates . . . [and] making walking, bicycling, and transit use accessible increases physical activity and participation."

MOUNTAIN elements

A MOUNTAINWISE HEALTH IMPACT ASSESSMENT

Priority recommendations include:

- Linking recreational opportunities to communities via active transportation networks - connecting parks, rivers, and greenways.
- Ensuring new development constructs adequate active transportation infrastructure.
- Collecting baseline count information for pedestrians and bicyclists around key areas for future comparison.

Secondary recommendations include:

- Educating children about active transportation benefits and laws.
- Ensure NCDOT follows ADA and AASHTO guidelines with all roadway projects.

http://mountainwise.org/mountainelements/

GroWNC. This plan highlights the goal of increasing transportation choices and providing for non-motorized transportation as a means to accelerating the economic potential of the region.

- Support watershed protection efforts that preserve the integrity of the region's critical watersheds (i.e. sustain and enhance water quality) by establishing, restoring, and promoting streamside protection areas.
- Direct growth to areas where transportation infrastructure exists, preserving key ecological corridors that could accommodate greenways, which serve as recreational and transportation corridors.
- Identify areas throughout the region for targeted infrastructure investments.
- Ensure the region remains a premier destination for recreation and tourism.
- Coordinate with NCDOT and FBRMPO to improve pre-NEPA environmental screening of transportation projects.

GroWNC states that "bicyclists can coexist with other modes on the road, and additional facilities are not always necessary or appropriate. However, adding facilities can improve safety and increase bicycle use throughout the region," and that "the presence of sidewalks is less likely in areas further from downtowns, and rural areas often lack any pedestrian facilities. Even in areas with pedestrian infrastructure, gaps in the network, connectivity and access issues, substandard design, and poor maintenance is often a problem."

Key transportation recommendations include:

- Improve pedestrian and bicycle connectivity between neighborhoods and community destinations. This was the second-most important outcome of GroWNC overall, an "ingredient critical to achieving a number of other desired outcomes, including many not directly associated with transportation."
- Use the MPO/RPO process to advance pedestrian and bike priorities and increase funding levels for pedestrian and bike projects in the TIP.

GROWNC

TOGETHER WE CREATE OUR FUTURE

- Expand pedestrian and bicycle data collection. Assess current gaps, barriers, safety hazards, and usage.
- Retrofit existing neighborhoods and commercial centers to include safe pedestrian facilities. Include these facilities in new developments as well.
- Preserve and improve existing pedestrian and bicycle facilities to create safe routes to transit centers, bus stops, schools, and other ker community destinations. Identify and eliminate gaps, barriers, and safety hazards.
- Enhance coordination of ongoing greenway planning and implementation.
- Improve communications between NCDOT and local communities on greenway and bicycle plans as well as planned road improvements.
- Identify local funding sources to support bicycle and pedestrian needs.
- Work with NCDOT on better pedestrian/bicycle integration through implementation of state and local complete street policies.
- Increase the amount of secure bicycle parking in commercial centers.
- Include a public health component in local comprehensive, land use, and transportation plans.

http://www.gro-wnc.org/regionalplan.html

Opt-In Regional Vision. The Southwestern Commission, in partnership with the Appalachian Regional Commission and the NCDOT, produced a regional vision for seven WNC counties. Opt-In was predicated on evaluating the regional utility of a major highway corridor and calls for the development of compact downtowns with a variety of transportation choices including biking and walking.

The Vision states that "existing roads should be made more pedestrian friendly through the addition of sidewalks, bicycle lanes, crosswalks, good lighting, and other amenities. Traffic calming, tree planting, and landscaping intitiatives can also create a safer and more pleasant experience for pedestrians and bicyclists. On-street parking, reduced building setbacks, and sidewalk shops can also improve the pedestrian experience."

For the region, there exists a strong consensus that it is important to increase walking, biking, and public transportation choices within existing towns. This is seen not only as a quality-of-life issue but also as a way to increase the towns' vitality and their ability to attract younger talent to the region, thus linking transportation with land use and economic priorities.

The Opt-In Vision also supports incorporating NCDOT Complete Streets Design Guidelines in town transportation plans, ensuring streets enable convenient, comfortable, and safe travel and access by those walking, bicycling, driving automobiles, riding public transportation, or delivering goods.

Ongoing implementation of trails and greenways "should be a priority to position the region as a leader in recreation and wellness." Towns should prioritize pedestrian and bikeway projects for funding through the FBRMPO.

The Southwestern Regional Commission, in partnership with the Appalachian Regional Commission, is offering small grants for follow-up projects that implement components of the Opt-In Vision.

https://regiona.org/wp-content/uploads/Opt-In-Regional-Vision-Volume-1-1.pdf

Statewide Plans

2018-2027 NCDOT State Transportation Improvement Program (STIP). The North Carolina Department of Transportation's STIP is NCDOT's data-driven, multi-year schedule for its transportation projects. A community's project(s) may be included in the STIP after the community scores projects against NCDOT goals. Projects in the STIP include highway, bridge, public transit, bike, pedestrian, railroad, and other improvements.

The NCDOT projects for Haywood County mostly include bridge replacements, I-40 maintenance, and a few roadway improvements in Waynesville (Russ Avenue, South Main Street).

Project U-6048 might affect Canton and will surely affect commuters and anyone who travels along the route regularly. The project calls for improvements along 3.9 miles of US 19/23 from SR 1836 (Chestnut Mountain Road) to SR 1200 (Wiggins Road). Right-of-way ($135,000) and Utilities work ($100,000) will begin in 2022, while construction ($4.3 million) will begin in 2024. There is a regional trail intiative that is hoping to link many of the communities in WNC with multiuse trails, with a core length running along the Smokey Park Highway. Advocates are urging NCDOT to allocate funding for a 10'-12' sidepath along Project U-6048's length, which would require a local match from the Town of Canton and Haywood County.

Canton should allocate funding to match NCDOT's project scope and demonstrate support for this initiative as a local and regional connection - good for economic development, tourism, commuting, and overall safety.

Project EB-5945 is an important project for Canton. The engineering (2019) and right-of-way acquistion (2020) are moving forward and include sidewalks along Champion Drive from North Canton Road to Thickety Road. This is a crucial 0.7 mile stretch of roadway, with great potential to serve as a vital pedestrian corridor for the community. It wil enable safe access to many businesses along Champion Drive and encourage residents who live in the northern section of town to walk to their destination. It may also help facilitate safer access to North Canton Elementary School.

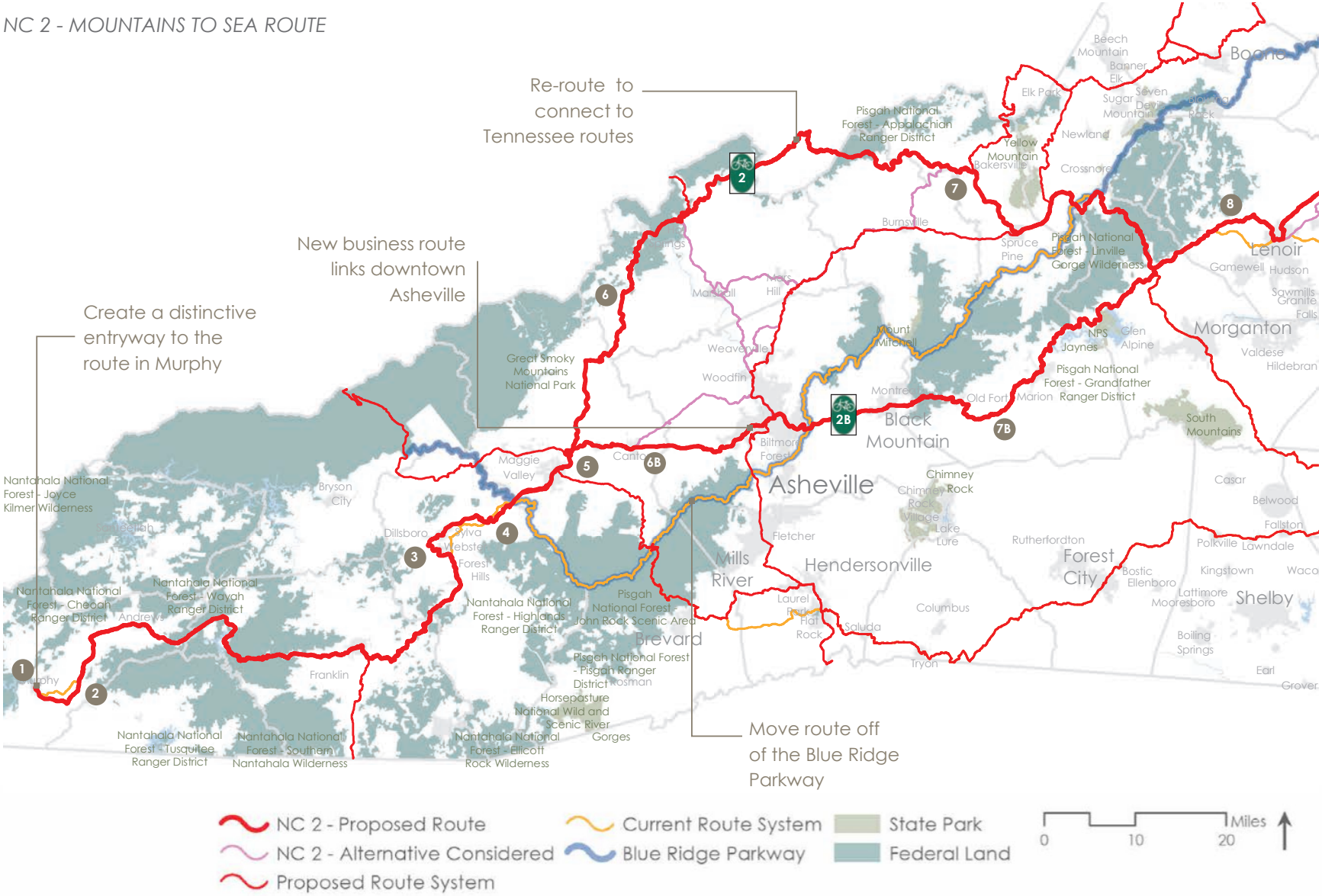
With sidewalks on Champion Drive, there is an opportunity to connect directly to the proposed Pigeon River Greenway. Canton should make sure that NCDOT adheres to its Complete Streets policy and designs this project with safety, comfort, and accessibility in mind.

The Town of Canton and Haywood County should make sure to coordinate any planned bicycle or pedestrian facilites along these corridor with NCDOT and the FBRRPO.

https://connect.ncdot.gov/projects/planning/Pages/STIP-Final.aspx

WalkBike NC. This is the state of North Carolina's bicycle and pedestrian plan, adopted by the NCDOT Board of Transportation in December 2013. The adoption concluded an 18-month planning process that included comprehensive stakeholder and public engagement across the entire State. The Plan lays out a framework for improving bicycle and pedestrian transportation as a means to enhance mobility, safety, personal health, the economy, and the environment.

Exhibit 3-9: WalkBikeNC Mountains-to-Sea Re-Route Map



WalkBikeNC proposes a re-route of NC 2 (Mountains to Sea), which would take it through Canton instead of along the Blue Ridge Parkway.

The WalkBikeNC website serves as a gateway to access the many bicycle and pedestrian resources across the State. The website is organized by the five pillars of safety, health, economy, mobility, and environment, with a summary of existing conditions, recommendations, action steps, and other resources. The website also includes a link to the new state bike route map application site (**ncbikeways.com**) along with a listing of bicycle/pedestrian advocacy groups.

WalkBikeNC details the re-routing of NC 2 - Mountain-to-Sea Route (a state bicycle route). Route 2B would pass through Canton. (see Exhibit 3-6). System goals include integrating the state bicycle route system into regional and local route networks, providing detailed online information, providing signage, connecting major urban centers, and providing suitable roadway conditions: traffic volumes, speed limits, surface, land width, shoulder width, grade, and curvature.

www.walkbikenc.com

NCDOT's Complete Streets Planning and Design Guidelines. The adoption of the state's Complete Streets policy in 2009 began the process for NCDOT to develop a set of guidelines for implementation of the policy. While NCDOT has adopted the Complete Streets policy, they also encourage individual towns to adopt their own policy via resolution. As new projects come on-line, developments are considered and improved, and parks and other public facilities are constructed, Canton should ensure their design and street connections comply with Complete Streets goals.

The Town of Canton should also consider whether to adopt a local Complete Streets policy of its own. This will help ensure new development is focused on accessibility and equity.

In its state-level Complete Streets Policy Statement, NCDOT says "Transportation, quality of life, and economic development are all undeniably connected through well-planned, well-designed, and context sensitive transportation solutions."

Further, in its role as steward over the transportation infrastructure, it states NCDOT is committed to:

- Providing an efficient multi-modal transportation network in North Carolina such that the access, mobility, and safety needs of motorists, transit users, bicyclists, and pedestrians of all ages and abilities are safely accommodated;
- Caring for the built and natural environments by promoting sustainable development practices that minimize impacts on natural resources, historic, businesses, residents, scenic and other community values, while also recognizing that transportation improvements have significant potential to contribute to local, regional, and statewide quality of life and economic development objectives;

Complete Streets is North Carolina's approach to interdependent, multi-modal transportation networks that safely accommodate access and travel for all users.

"Complete streets are designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists, and individuals of all ages and capabilities."

- North Carolina Department of Transportation Complete Streets Guidelines

- Working in partnership with local government agencies, interest groups, and the public to plan, fund, design, construct, and manage complete street networks that sustain mobility while accommodating walking, biking, and transit opportunities safely.

This policy requires that NCDOT's planners and designers consider and incorporate multi-modal alternatives in the design and improvement of all appropriate transportation projects.

The adoption of Complete Streets policies at the local government level should go beyond design standards like those in the NCDOT Complete Streets guidance and should consider how subdivision, zoning, storm water management and other ordinances consider the needs of all modes of travel.

Streets should not be deemed "complete" unless the design of the land uses adjacent to those streets is also complete in its consideration of bicycle and pedestrian modes, as it does little to promote use of non-motorized modes to have a bicycle lane or a sidewalk if those users cannot safely reach the front door of a store or business, or find somewhere to park their bicycle, once they leave the street environment. The Town of Canton should also pursue policies and design guidance for non-DOT streets and greenways that help connect complete streets to a variety of land use types.

With the passage of the Strategic Transportation Investments law in 2013, NCDOT is prohibited from using state funds for standalone pedestrian and bicycle projects.

NCDOT's Complete Streets Planning & Design Guidelines include several illustrations on how to build a community for people who walk. The guidelines also contain conceptual cross-sections that serve as the starting point for project discussions. These guidelines and associated documents can be accessed via the following Web site:

http://www.completestreetsnc.org/

Exhibit 3-10: NCDOT's Complete Streets Elements

Promoting Bicycle and Pedestrian Infrastructure through Canton's Zoning Ordinance and other Land Development Policies

The Town of Canton has a solid foundation to promote bicycling and pedestrian infrastructure through the land development process. But like all communities, more can be done to ensure that the needs of pedestrians and bicyclists and the infrastructure that serves them are incorporated in land development policies. Polices most fitting for the Town of Canton are highlighted below:

- Complete and adopt an updated Comprehensive or Land Use Plan to further define Canton's future vision for land development.
- Develop street standards and specifications as a standalone policy document or incorporated with the Town's subdivision ordinance to provide road development guidelines, giving developers the tools to design sidewalks and roads that are bicyclist and pedestrian friendly. Give special consideration to road and parking lot connectivity to reduce the high number of curb cuts in Canton's commercial areas. Develop illustrations to better communicate these concepts.
- Increase the minimum sidewalk width from 4 feet to at least 5 feet. Wider sidewalks and buffers should be required in the Downtown area and other developing commercial areas.
- Require an easement for greenway development during the land subdivision and land development processes when a greenway or multi-use path through the property is depicted in an adopted plan. This standard should apply to residential and non-residential projects. For examples, refer to standards developed by **Harrisbrug, NC** or Cramerton, NC.
- Canton can also add parking standards to require all new multi-family residential and non-residential developments to install bicycle parking. The Town should also consider a matching funds program to place bike racks at existing businesses. The Town should also continue to install its own bike racks throughout town.

Association of Pedestrian and Bicycle Professionals - Essentials of Bike Parking Guide:

http://c.ymcdn.com/sites/www.apbp.org/resource/resmgr/Bicycle_Parking/EssentialsofBikeParking_FINA.pdf

Waynesville, NC, has branded bike racks.

6.5.3.2.1. If a subdivision occurs along a corridor that has been identified by the adopted Bicycle, Pedestrian, and Greenway Plan as having a future greenway, the subdivider shall be responsible for developing the greenway as part of the subdivision process. The greenway shall, at a minimum, meet the standards set forth in Section 6.5.3.7.4 of this Ordinance. The acreage associated with the 25' easement may count toward the acreage required for Public Open Space in Section 6.5.5.

Harrisburg, NC, incorporated standards into their land development code that require developers to incorporate greenway construction into site plans if the property has been identified as ideally situated for greenway connection. This helps new construction align with the town's Comprehensive Bicycle, Pedestrian, & Greenway Master Plan and ensures accomodations for future proposed connections along the Carolina Thread Trail in accordance with the Master Plan for Cabarrus County Communities. This helps the Carolina Thread Trail meet its goals while including secondary routes and connectors to the town's bicycle and pedestrian infrastructure.

OTHER NCDOT POLICIES FOR REFERENCE

NCDOT Bridge Policy:

https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Bridge%20Policy.pdf

NCDOT Pedestrian Policy Guidelines:

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

NCDOT Greenway Policy:

http://www.ncdot.gov/_templates/download/external.html?pdf=http%3A// www.ncdot.gov/bikeped/download/bikeped_laws_Greenway_Admin_Action.pdf

NCDOT Greenway Accommodations Guidelines:

https://www.ncdot.gov/divisions/bike-ped/Documents/GuidelinesForGreenwayAccommodations.pdf

NCDOT Board of Transportation Resolution for Bicycling and Walking:

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

NCDOT Bicycle Policy:

https://www.ncdot.gov/bikeped/download/bikeped_laws_Bicycle_Policy.pdf

NCDOT homepage for policies and guidelines:

https://connect.ncdot.gov/projects/BikePed/Pages/Policies-Guidelines.aspx

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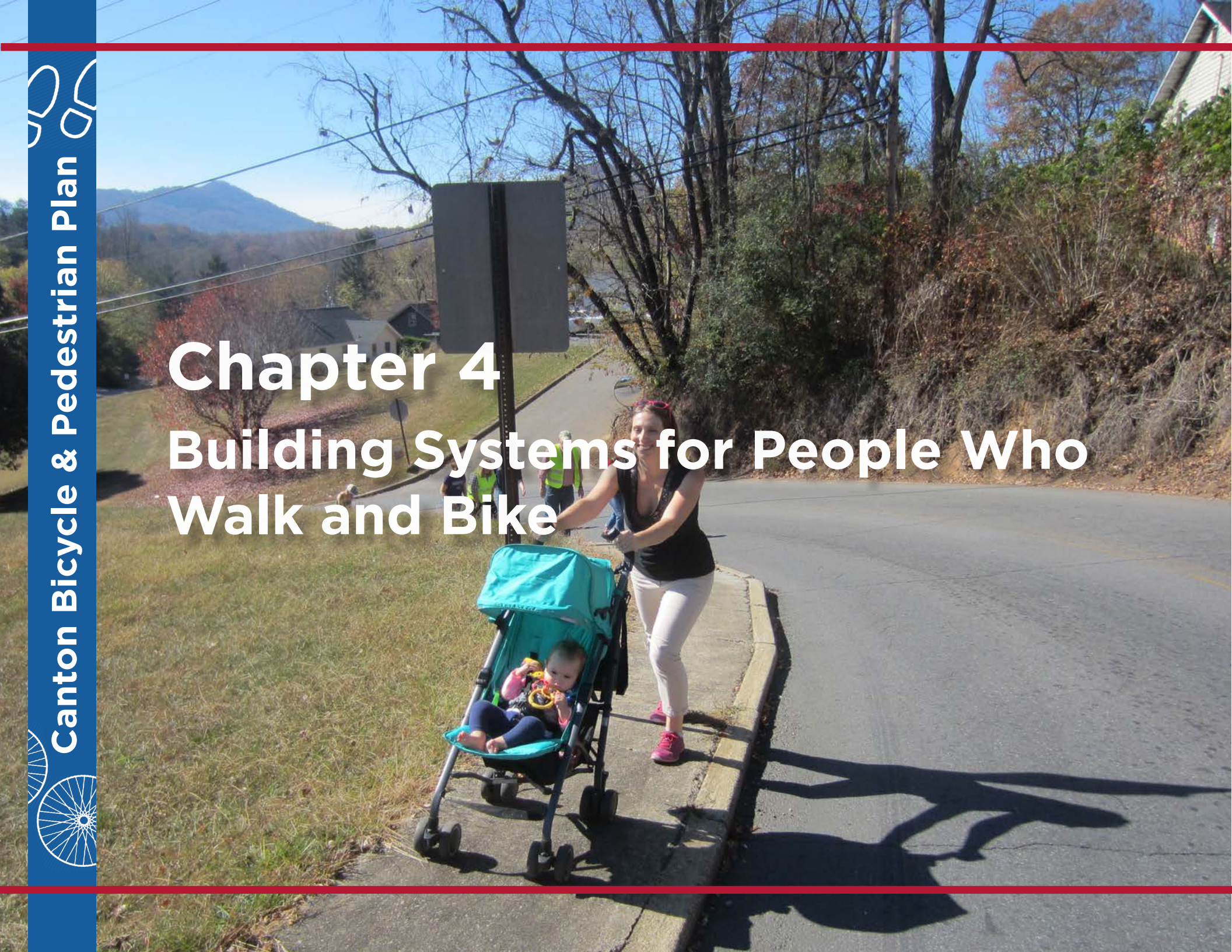


Chapter 4

Building Systems for People Who Walk and Bike

Chapter 4: Building Systems for People Who Walk and Bike

An important component of any transportation plan is an analysis of the existing transportation system and its ability to satisfy the transportation needs of the area. It is important to understand not only the location and severity of deficiencies, but also the root causes of the deficiencies. Otherwise, it is difficult to develop an efficient, effective plan for addressing them. Problems can be very local in nature, such as lack of turn lanes, or inadequate lane widths, or substandard geometrics. Alternatively, there may be more generalized system deficiencies in network connectivity or redundancy.

An analysis of the roadway network must account for both existing and anticipated future deficiencies. Analysis of the existing facilities includes both a vehicle collision analysis and a roadway deficiency analysis. Future deficiencies are estimated based on a combination of known deficiencies, and on forecasts of socio-economic trends, such as population and land use, and how changes over time will likely affect the transportation system.

What attracts Pedestrians and Bicyclists?

Pedestrians and bicyclists are often lumped together in many planning and design considerations. When considering how likely a destination is to attract people who walk or bike, it is important to recognize that there are differences in the two modes, just as there are differences between cars and trucks—both use the same transportation network but the type and length of trips they take varies greatly because their function is different.

The most effective investments for people who walk and bike are those that link residential areas and employment centers to other attractions, such as schools, parks, cultural and historic sites, downtowns, and greenways.

The difference in whether or not someone chooses to walk versus ride a bike or even decide to make a trip via an active mode depends on their level of comfort walking there or their level of comfort combined with level of skill in riding a bike there.

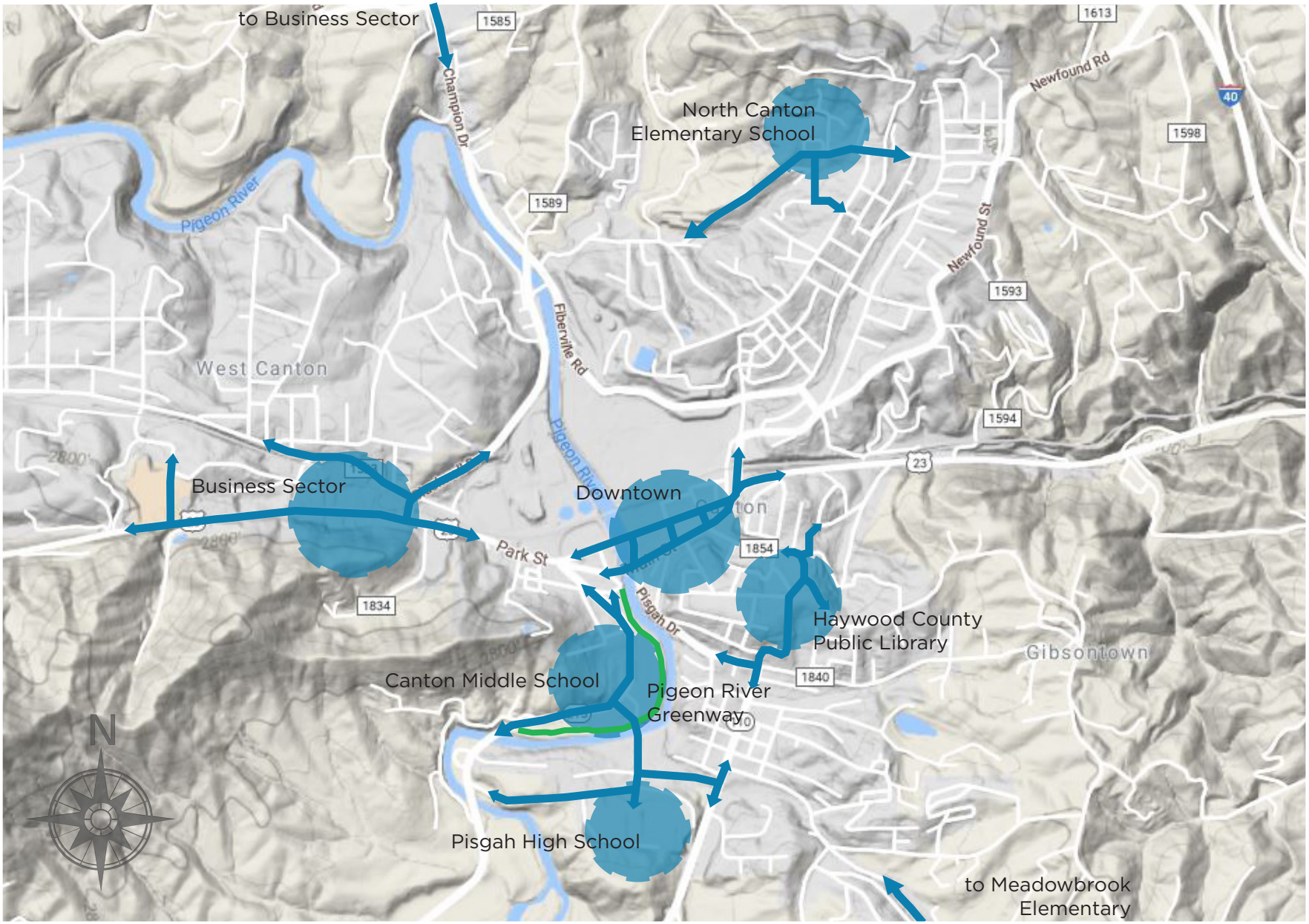
The downtown area of Canton and the corridors leading in each direction along US 19/23, Pisgah Drive, and Champion Drive contain the majority of the destinations and most are linked to existing residential neighborhoods with sidewalks. The areas of Canton that are most walkable and bikeable today are the same locations that were walkable and bikeable when those were the only modes of choices other than a horse and buggy.

Exhibit 4-1 is a map that highlights the important destinations in Canton that were identified by survey respondents, steering committee remarks, and consultant team expertise. The main streets and roads leading to and from these destinations are also highlighted. There are no bicycle lanes and the sidewalk connections are varied.

Existing Bicycle Infrastructure

Roadways are narrow in Haywood County today in part because the NC Legislature decreed in the mid-1850's that most roads built in Western North Carolina should not be more than 12 feet wide where side-cutting (cut slopes) was needed and just 8 feet wide in instances where rock blasting was necessary. Convenience was sacrificed at the expense of cost where road building was concerned. While the ribbon pavement roads in place today are seldom

Exhibit 4-1: Destinations and Connections



12 feet wide, many are not more than 18 or 20 feet wide because of these policies. As a result, there are no bike lanes in Haywood County today and few roads have shoulders to accommodate bicyclists.

As previously mentioned, there are no existing exclusive bicycle facilities in Canton, but there are active riding groups who travel the rural roads in Haywood County and through its town centers and neighborhoods. Many of the two-lane town and rural state roads are acceptable to existing riders as evidenced by their use of these roads. There are infrequent "Share the Road" signs as well as numbered bike route signs (NC 2 follows the Blue Ridge Parkway and the western part of the county), but no shared lane markings or "Bikes May Use Full Lane" signs.

Bicycling is also a popular activity on the Pigeon River Greenway which connects Canton Rec Park and Canton Middle School, and almost reaches Pisgah High School. The greenway connects to Main Street in downtown Canton.

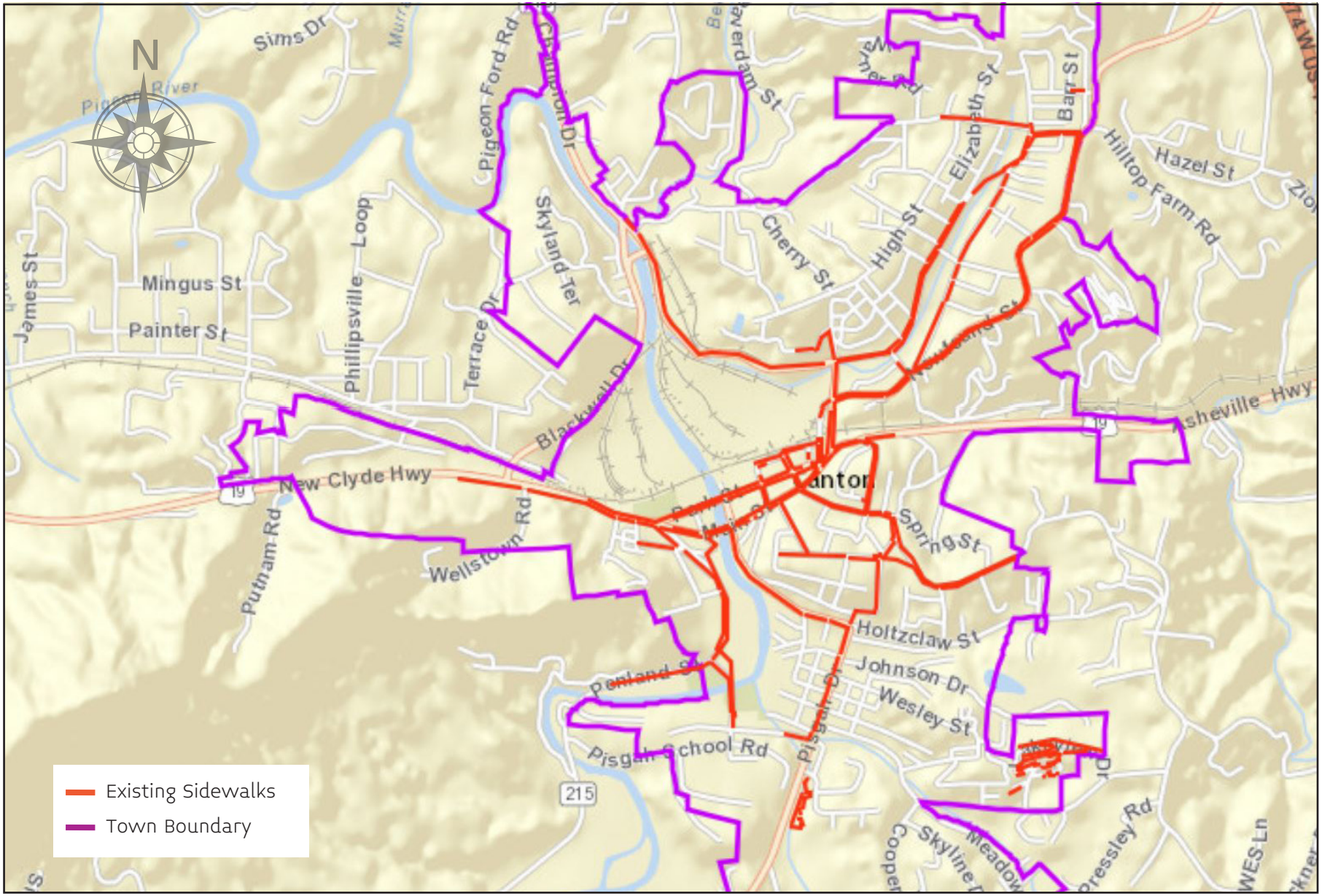
Existing Pedestrian Infrastructure

Generally, more sidewalks are present in the older parts of town. Improvements may be desired in ramp design, crossing signals, or width, but the downtown provides a pleasant walking experience - new improvements to midblock crossings, street tree plantings, bulbouts, and other pedestrian features have made a visible improvement to an already adequate infrastructure downtown.

However, one doesn't have to walk far from downtown before the walking environment deteriorates. Traffic speeds typically increase where there is no parking or pedestrian activity (which require drivers to use more caution), and most sidewalks are flush with the curb, without any buffers, creating some discomfort and safety concerns for pedestrians. In some places sidewalks are extremely narrow, or have dangerous drop-offs, and utility poles block the use of some sidewalks. Whether through driveway construction, utility work, or deterioration, many gaps in sidewalks exist.

Over the years of Canton's post-World War II growth, much of the infrastructure was modified to benefit the automobile at the expense of the pedestrian. An example of this is seen at the intersection of Pisgah Drive, Locust Street, and Holtzclaw Street, where the relative ease of flow for automobile traffic along NC-110 limits pedestrian safety (this area is scheduled to accommodate a small roundabout which will enable traffic to move from all directions without much delay and with dramatically more safety and comfort for bicyclists and pedestrians).

Exhibit 4-2: Canton Sidewalk Infrastructure



Existing sidewalks are more common closer to downtown. However, Canton's core network has a preponderance of sidewalk infrastructure. Elevation changes are a major hindrance to expanding that network.

Exhibit 4-3: Downtown Canton Sidewalks

Canton's downtown sidewalk infrastructure is nearly complete. Most streets have sidewalks on both sides, but some do not connect, causing ADA concerns, safety issues, and inconveniences .

Other sidewalks reflect the construction standards at the time. While some sidewalks have buffers from vehicular travel lanes, they are often insufficiently wide. More recent sidewalk construction reflects the current standard of five feet or six feet if flush with the back of the curb, allowing for greater comfort for pedestrians. Sidewalk construction crews still sometimes fail to build ramps and landings to every ADA standard, sometimes due to lack of knowledge/training, other times due to physical or financial constraints. Many of Canton's recent upgrades downtown are ADA compliant, which include:

- Accessible curb ramps with detectable warnings;
- Smooth transitions;
- Running slopes of under 12.5%;
- The pedestrian countdown signals allow time for a safe crossing and are at a height of 42".

Many of the streets that lack sidewalks were once rural roads, but many have become principal routes through town. For most of the decades focused on the successful proliferation of the automobile, constructing sidewalk was not considered necessary.

The Town was recently able to collaborate with NCDOT's Division 14 to make improvements to the downtown pedestrian framework. The Town had made plans for streetscape improvements to the Main Street corridor in downtown Canton. Division 14 was set to start a road resurfacing along the same corridor and agreed to coordinate schedules so that the Town of Canton could develop and implement its sidewalks and streetscape project in parallel with resurfacing. The Town of Canton finished its planned sidewalk work and some needed stormwater and streetscape improvements, while NCDOT was able to upgrade the curb ramps as part of resurfacing.

A map of existing walking infrastructure is shown on Exhibits 4-2 and 4-3.

Project Prioritization (Ranking Projects)

The Steering Committee identified specific ranking criteria for the project recommendations in this plan and scored them each. Each member of the committee had 100 points to assign, allocating up to 20 points for any one ranking criteria.

With this guidance, the project team was able to score each project recommendation and rank them according to how many criteria they feature and the extent to which those criteria are featured. For example, a project that is close to downtown, relatively cost-effective to implement, and adjacent to a church would score very highly.

The consultant team scored each project up to 100 points, using the following available number of points for each ranking criteria:

- Proximity to Schools or Churches (up to 20 points)
- Ease of Implementation (up to 15 points)
- Proximity to Downtown/Jobs (up to 15 points)
- Improves Safety (up to 15 points)
- Proximity to Parks or Natural Areas (up to 10 points)
- Fills Gap in System (up to 10 points)
- Affects a Population in Need (up to 10 points)
- Improves Access to Food (up to 5 points)

Projects that have been identified in previous plans were also given special prioritization, though this did not affect their ranking.

See Exhibit 10-1 and 10-2 in the Appendix for a more in-depth understanding of how points were assigned to projects (the ranking metrics and the total points for each project divided by criteria).

Exhibit 4-4: Project Ranking, Type, & Points

Rank	Project	Type of Improvement	Points	Page #
1	Reed Street Bike Lanes	Bicyle	84	76
2	Sorrells Street Sidewalk	Pedestrian	81	78
3	Sorrells Street Sidepath	Bicycle & Pedestrian	81	80
4	Pisgah High School Pedestrian Improvements	Pedestrian	80	84
5	Penland Street Bike Lanes	Bicycle	78	86
6	Park Street Bike Lane	Bicycle	77	88
7	Main Street/Bridge Street Sharrows	Bicycle	76	92
8	Penland Street Sidewalk	Pedestrian	76	94
9	Old Clyde Road (SR 1523) Sidewalk	Pedestrian	75	96
10	Old Clyde Road (SR 1523) Sharrows	Bicycle	74	98
11	Church Street (US 19/23) Crosswalk	Pedestrian	72	100
12	Church St/Bridge St Intersection Improvement	Pedestrian	72	102
13	Old Pisgah Drive Crosswalk	Pedestrian	71	106
14	Substation Road Sidewalk	Pedestrian	70	108
15	Champion Drive Sidewalks	Pedestrian	68	110
16	Academy Street Crosswalks	Pedestrian	68	112
17	Pisgah Drive (110) Pedestrian Improvements	Pedestrian	67	114
18	Asheville Highway (US 19/23) Sidewalks & Bike Lanes	Bicycle & Pedestrian	66	116
19	Pisgah School Road Sidewalk	Pedestrian	66	120
20	Old River Road (215) Sidewalk	Pedestrian	66	122
21	Pigeon River Greenway	Bicycle & Pedestrian	65	124
22	Champion Drive Bike Lanes	Bicycle	65	126
23	Locust Street Sharrows	Bicycle	65	130
24	Blackwell Drive Sidewalks	Pedestrian	64	132

Rank	Project	Type of Improvement	Points	Page #
25	Blackwell Drive Bike Lanes	Bicycle	63	134
26	New Clyde Highway (US 19/23) Sidewalk [North Side]	Pedestrian	63	136
27	Old Clyde Road (SR 1523) Paved Shoulders	Bicycle	62	138
28	Main/Park/Reed Roundabout	Bicycle & Pedestrian	62	140
29	Academy Street Sharrows	Bicycle	62	144
30	Pisgah Drive Sharrows	Bicycle	61	146
31	Pigeon Street Path	Bicycle & Pedestrian	61	148
32	Pisgah Drive (110) Sidewalks	Pedestrian	60	150
33	New Clyde Highway (US 19/23) Bike Lanes	Bicycle	60	154
34	Newfound Street Crosswalk	Pedestrian	59	156
35	Greenberry Street Sidewalks & Bike Lanes	Bicycle & Pedestrian	58	158
36	Park Street Sidewalks	Pedestrian	58	160
37	Park Street Mid-block Crossing	Pedestrian	58	162
38	Library Intersection Improvements	Pedestrian	58	166
39	Pigeon River Bridge	Bicycle & Pedestrian	57	168
40	Crossroad Hill Road SIdewalk	Pedestrian	57	170
41	Williams St/Smathers St Intersection Improvement	Pedestrian	56	172
42	England Road Walking Trail	Pedestrian	55	174
43	Academy Street Sidewalk	Pedestrian	55	176
44	Rhoda Street (SR 1844) Sidewalk	Pedestrian	55	176
45	Pisgah Drive Crosswalk	Pedestrian	54	176
46	Beaverdam Road & Thompson Street Sidewalk	Pedestrian	54	176
47	Allen Farm Road & Meadowbrook Drive Sidewalk	Pedestrian	53	176
48	Beaverdam Greenway Phase I	Bicycle & Pedestrian	51	177

Rank	Project	Type of Improvement	Points	Page #
49	North Main & Trammel Intersection Improvements	Pedestrian	51	177
50	Pigeon River Walking Trail Improvements	Bicycle & Pedestrian	50	177
51	Old River Road (NC 215) Bike Lanes	Bicycle	50	177
52	Pisgah Drive (NC 110) Bike Lanes	Bicycle	50	178
53	Nyal Drive Connection	Bicycle & Pedestrian	50	178
54	New Clyde Highway (US 19/23) Sidewalk (South Side)	Pedestrian	49	178
55	North Canton Road Sidwalk	Pedestrian	49	178
56	Newfound Sharrows	Bicycle	48	178
57	Williams & Smathers Sidewalk	Pedestrian	47	178
58	Hillcrest Street Connection	Bicycle & Pedestrian	45	178
59	North Canton Elementary School Parking Lot	Pedestrian	45	178
60	Holtzclaw Sidewalk	Pedestrian	44	178
61	Beaverdam Greenway Phase II	Bicycle & Pedestrian	44	178
62	Newfound Sidewalk & Sidepath	Bicycle & Pedestrian	44	180
63	Beaverdam Greenway Phase III	Bicycle & Pedestrian	41	180
64	Locust Street Sidewalk	Pedestrian	41	180
65	Rough Creek Watershed Trail Improvements	Bicycle & Pedestrian	40	180
66	Medford Street Sidewalk	Pedestrian	39	181
67	Dutch Cove Creek Walking Trail	Pedestrian	38	181
68	Sports Complex Mountain Bike Track	Bicycle	30	181

System Plan

Developing a list of projects to improve bicycle conditions and walkability in Canton is not as simple as identifying where sidewalks and bike lanes exist and where they are missing.

Identifying projects that promote multimodal transportation is an exercise in identifying destinations or land uses that are most likely to generate pedestrian and cyclist trips if linked through a comprehensive network of quality facilities. Overall, Canton does have a network for walking and biking where the main roads between major destinations have a sidewalk on at least one side. The downtown area has an extensive sidewalk network, but there are a few places where people who walk are exposed to poor walking conditions along increasingly high speed, high volume traffic routes.

The process of identifying projects for Canton's Bicycle & Pedestrian Plan consisted of:

- Reviewing project recommendations from past planning efforts;
- Gathering feedback at the Steering Committee meetings and public involvement efforts;
- Conducting field evaluation of walking and biking conditions along streets and evaluating likely greenway routes where property access was available *(see Appendix Exhibit 10-3: Facility Characteristics Table).*
- Identifying popular destinations and walking/biking routes.

From this input, the project recommendations contained in this chapter are developed at what is referred to as "planning level," meaning that they were examined for their relative value and evaluated based on field observations. Detailed right-of-way or design processes were not conducted as part of this Plan. Rather, those steps will follow as the Town, NCDOT, and others work toward implementation.

The cost estimates are based on planning level evaluation and prevailing costs per mile of similar facilities at the time of Plan development; they are reflective of the entire project. Costs will change, as they always do. It is best for Canton to work through NCDOT Division 14 at the time a project grant is being pursued so these estimates can be updated. Most projects will require funding and grant pursuits from the town.

Project Development

Project Development. To become reality, projects may go through up to four phases depending on level of complexity.

1. Feasibility studies may occur on projects like greenways or streetscape plans to gather more information. This could include a field review by Town staff or with the help of consultants;
2. Most projects begin with design, which is the surveying, measuring, and scoping of the project to produce a set of drawings to define the exact parameters of the project and the manner in which it can be constructed;
3. Acquisition of land may then occur if the project design process indicates additional land is needed; in some cases there may be existing right-of-way to accommodate the project;
4. Construction proceeds once a project is designed and land has been acquired and funding is available.

A majority of the projects identified in this Plan will be at a point they can move into either a design phase or a joint feasibility study/design phase. Depending on the

implementing agency, design may be done by in-house staff or can be contracted through a design consultant.

All pedestrian and bicycle facility recommendations along NCDOT-maintained routes require review by NCDOT Highway Division 14 prior to implementation. Some of the projects depicted in this plan will require easements or rights-of-way that do not currently exist. Any private property shown in these depictions would not be acquired without the process of negotiation and compensation as required by law.

Cost Estimation

Cost estimates for projects in this plan were derived from planning level approximations. Due to the scope of this plan, planning level estimates are used to generalize costs for projects due to the high variability and unknown factors involved. They are based on prevailing construction costs on a per unit (per mile or per linear foot) estimate of general project features, using 2018 dollar values. The estimates are averaged from historical cost data from NCDOT bid prices, construction minimum/average/maximum analyses, similar planning document estimates, and the project team's experience and judgement.

Costs shown reflect only the cost associated with construction of the particular bicycle or pedestrian facility, and do not reflect other costs that may be associated with a larger project such as signal timing assessment and design. They do include associated cost estimates for pavement markings, standard signage for the facility type, pavement, curb and gutter (if present), limited grading, and the per mile cost of the facility type. Landscaping, grading remediation, drainage improvements, and utility adjustments were considered as percentages of the calculated project cost, as appropriate, and added to the total. The goal was to provide a conservative (high) estimate. Surveying, engineering design, right-of-way acquisition, addition of closed drainage systems, mobilization, traffic control, and future maintenance are not included in any cost estimates. These costs are general, and for planning purposes only.

Any greater level of specificity on estimates would imply a level of known detail or level of field work that is not commensurate with a planning document of this type. A feasibility study and detailed design is needed to make sure estimates for each project are on target with actual construction costs. Design costs are typically 15% of construction costs. The topography, existing cross-section, and drainage requirements could slightly lessen or greatly increase these values.

Type of Improvement	Unit	Cost per Unit
PEDESTRIAN		
New Sidewalk (5' wide, concrete, curb and gutter)	per mile	$600,000
New Sidewalk (5' wide, concrete, no curb and gutter)	per mile	$200,000
Major Intersection Upgrades (ped signals, audible buttons, ADA curb ramps, and crosswalk striping	each	$25,000
ADA curb ramp	each	$1,400
Crosswalk striping (24")	per linear foot	$6.00
Natural Surface Trail (2')	per mile	$8,000

Type of Improvement	Unit	Cost per Unit
BICYCLE		
Bike Lanes; New Facility (incl. lane markings)	per mile	$450,000
Bike Lanes; Lane Reconfiguration (incl. lane markings, removal of existing traffic lanes)	per mile	$18,000
Buffered Bike Lanes (incl. lane markings, removal of existing traffic lanes, and flexible delineators)	per mile	$24,000
Paved Shoulder (new construction)	per mile	$350,000
Shared Lane Marking/Sharrow (thermoplastic, 250' spacing)	each	$250
Shared Lane Sign (500' spacing)	each	$250
Bike rack	each	
BIKE & PED		
Paved Multi-Use Trail (10' wide, asphalt), existing railbed or sidewalk conversion	per mile	$800,000
Paved Multi-Use Trail (10' wide, asphalt), new construction	per mile	$1,200,000
Boardwalk (10' wide, wood)	per mile	$2,000,000
Bicycle/Pedestrian Bridge	per linear foot	$1,800
Roadway Sign & Pole (Stop, Pedestrian, Bicycle, Parking, etc.)	each	$350
Roundabout (1 lane)	each	$1,800,000

Project Recommendations

Exhibits 4-5 and 4-6 are maps of recommended bicycle projects, including greenways and trails.

Exhibits 4-7 and 4-8 are maps of recommended pedestrian projects, including greenways and trails.

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Exhibit 4-5: Map of Proposed Bicycle Projects, including Greenways (North Canton)

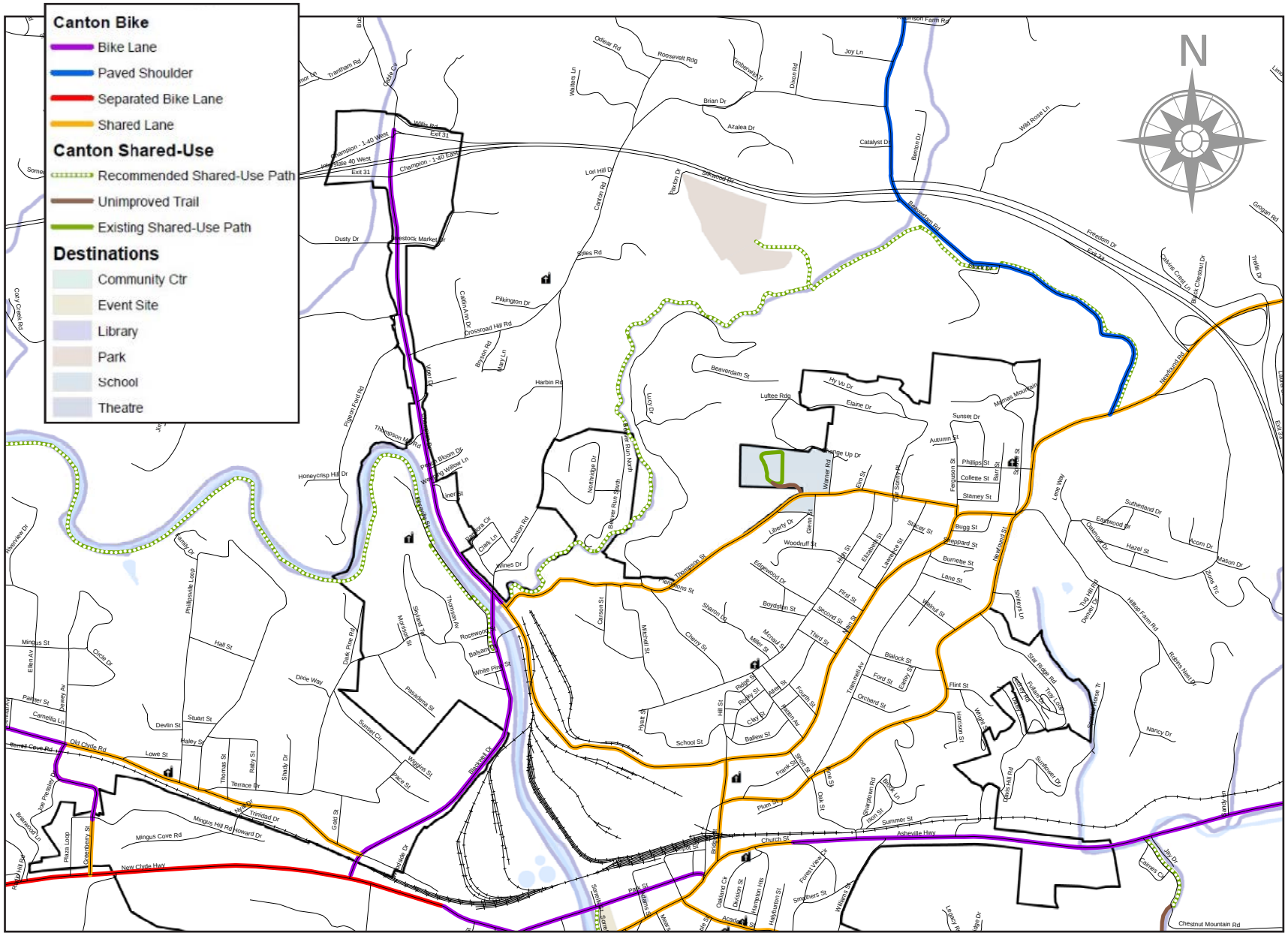


Exhibit 4-6: Map of Proposed Bicycle Projects, including Greenways (South Canton)

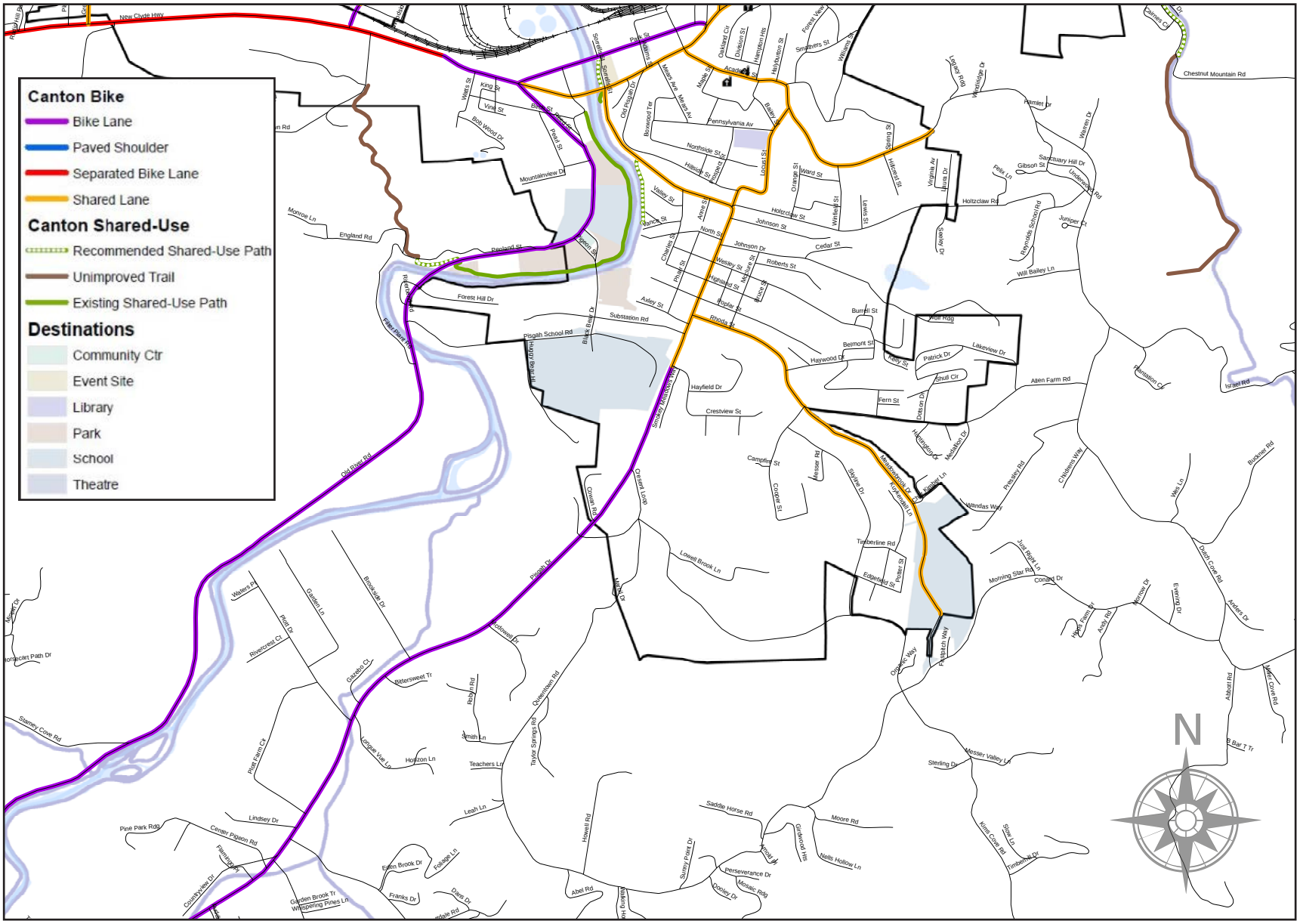


Exhibit 4-7: Map of Proposed & Existing Pedestrian Projects, including Greenways (North Canton)

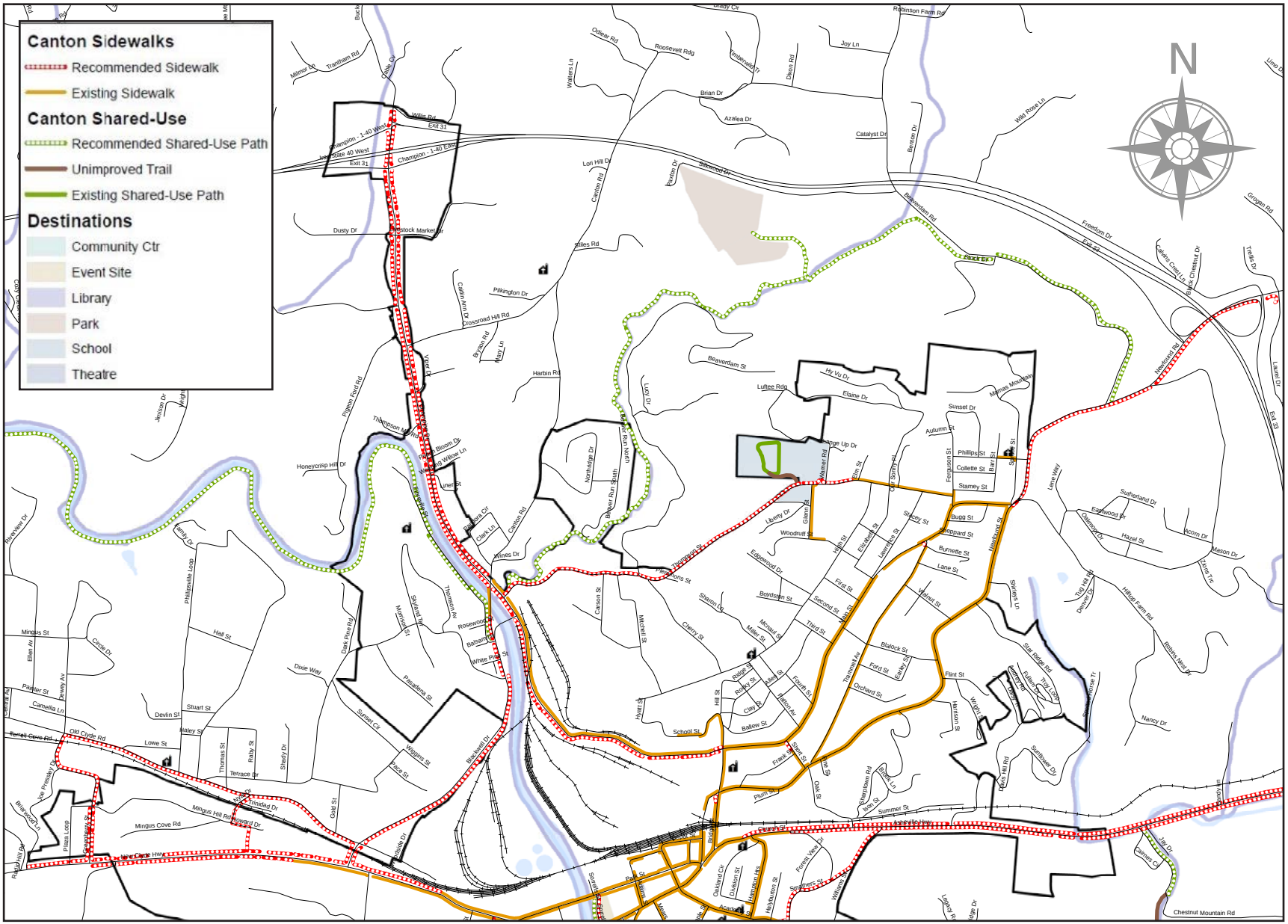
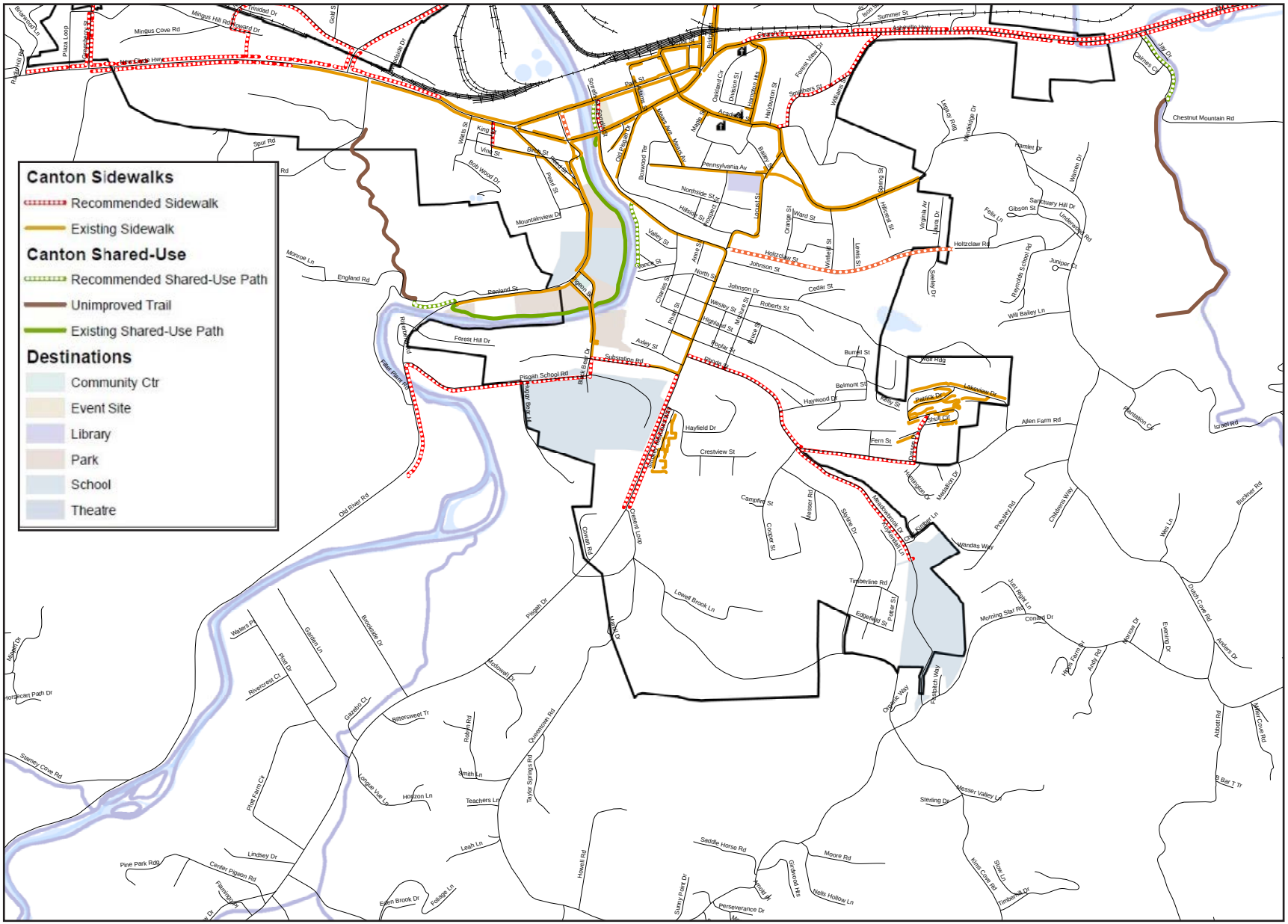


Exhibit 4-8: Map of Proposed & Existing Pedestrian Projects, including Greenways (South Canton)



1 Reed Street Bike Lanes

COST ESTIMATE

$200,000

LENGTH

0.2 miles

PROJECT DESCRIPTION

Use existing ROW to widen Reed Street and construct 5' bike lanes with 2' painted buffers on both sides from the Park/Main St intersection to Penland St.

[approximately 2,200 linear feet of bike lane]

Dedicated bicycle facilities would make this street more comfortable as a vital bicycling access corridor, connecting the Middle School to downtown and facilitating a more complete network for cyclists of all ages and abilities (providing a crucial link in the overall proposed bicycle system).

NOTE: An alternative project option is to dedicate Murphy Boulevard as a multiuse trail. This street is parallel to Reed Street and not frequently used.

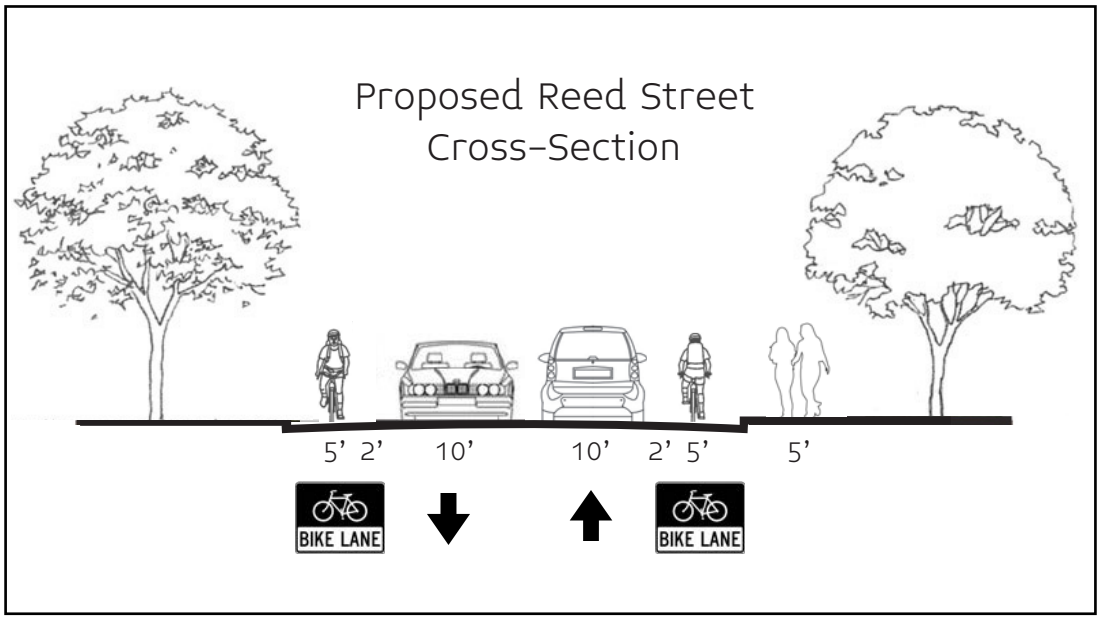
OPPORTUNITIES

- The existing sidewalk could be widened during bike lane construction; similarly, a new sidewalk could be constructed on the east side of Reed Street (northbound) if landscaping is replaced.

1 Reed Street Bike Lanes

CHALLENGES

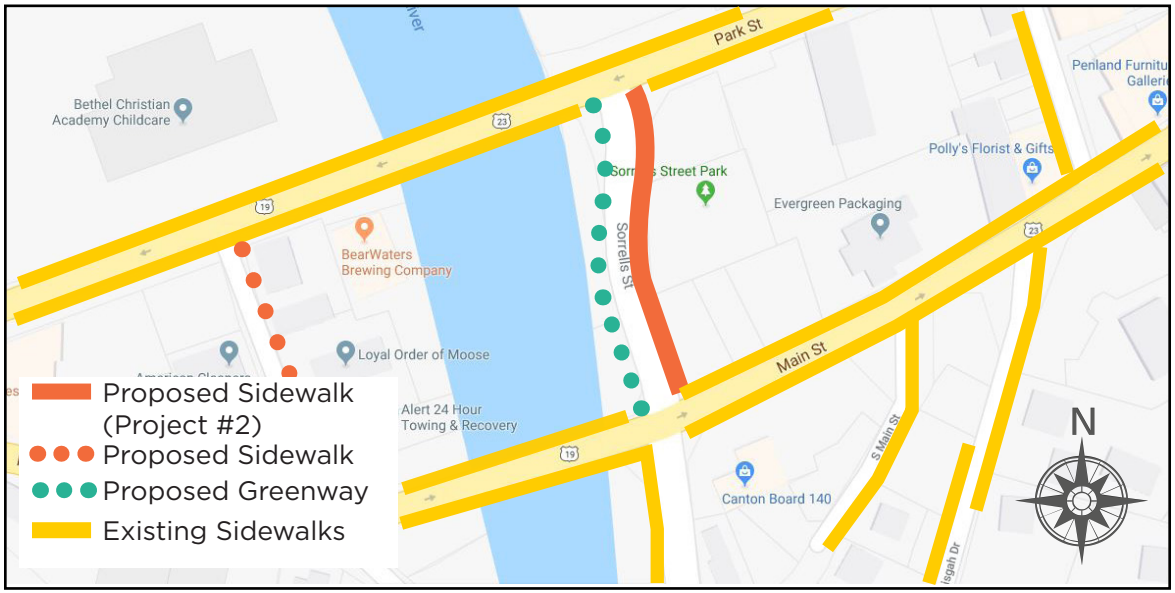
- Murphy Boulevard runs parallel to Reed Street and limits construction options for half of the length of this project.
- Any landscaping lost during construction should be replaced (and factored into the cost of the overall project).



Canton should consider reallocating the ROW between Reed St & Murphy Blvd to include stormwater remediation and additional protection for the bike lane.

Source: Alta Planning, Rural Design Guide

2 Sorrells Street Sidewalk



COST ESTIMATE

$12,000

LENGTH

0.06 miles

PROJECT DESCRIPTION

Construct a 6' minimum sidewalk along the east side (northbound) of Sorrells Street, with a 6' buffer and street trees.

[approximately 335 linear feet of sidewalk]

A sidewalk here will help connect businesses, downtown, and nearby residences, while improving safety. It is a critical link in the pedestrian network, making downtown Canton much more walkable.

NOTE: The west side of Sorrells Street is recommended as a 10'-12' multiuse sidepath in Project #3. Consider constructing a 6' sidewalk initially if financial constraints arise). Plant shade trees along both sides of Sorrells Street for pedestrian comfort.

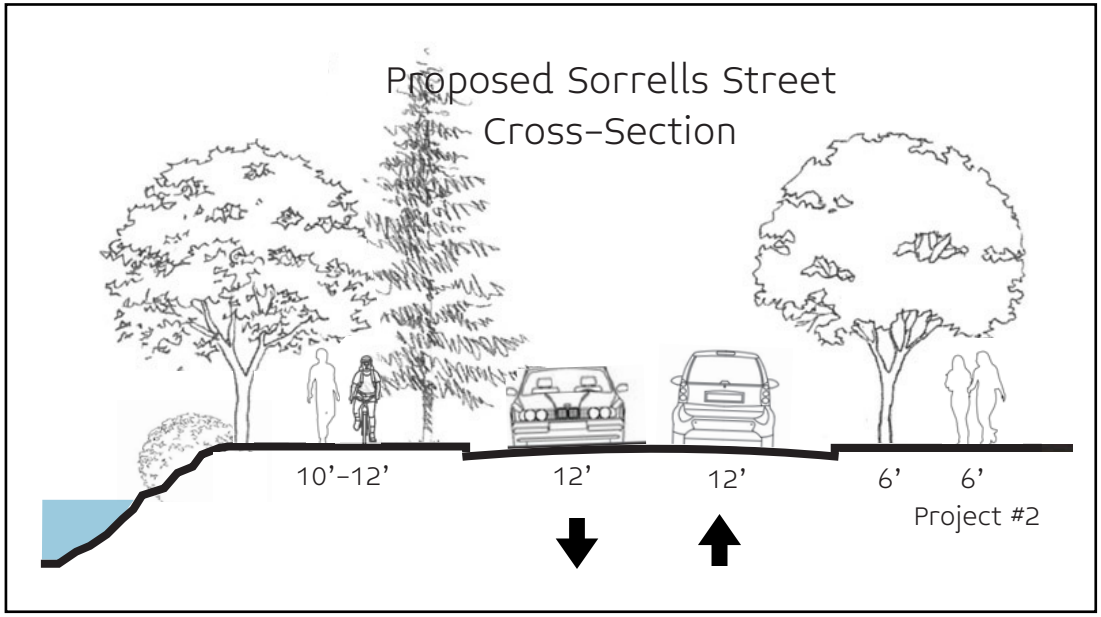
OPPORTUNITIES

- For wheelchair users, this short segment will create vast improvements in accessibility, without having to pave a path straight through Sorrells Street Park.
- Developing the Town-owned parcel across Park St from Sorrell's Street Park, currently a surface parking lot, into a playground or dog park, could fill a need for usable downtown public park space.

2 Sorrells Street Sidewalk

CHALLENGES

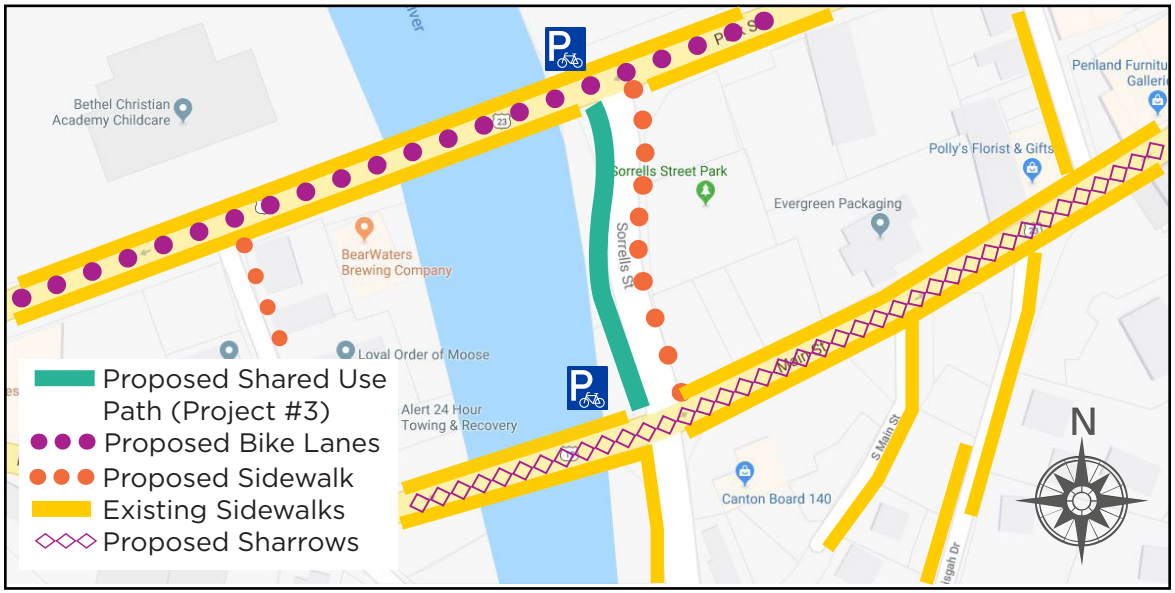
- Paving a sidewalk along the edge of the beloved Sorrells Street Park may face some opposition.
- Some existing utilities may require additional sidewalk square footage, if a vegetated buffer is not included in the final project.



Flowering trees (pear, cherry, magnolia, dogwood, etc.) would establish a more pleasant walking and driving route along Sorrells Street.

Source: 2016 Adam Fenster

3 Sorrells Street Shared Use Path



COST ESTIMATE

$20,000

LENGTH

0.06 miles

PROJECT DESCRIPTION

Construct a 10'-12' paved side path along west side of Sorrells Street from Main St to Park St, with trail crossing standards (crosswalk stripes and pedestrian signal across both Park St and Main St) and signs.

[approximately 400 linear feet of shared use path]

NOTE: The east side (northbound) of Sorrells Street is recommended as a 6' sidewalk in Project #2. Consider seeking funding for both projects at once, to expedite grantwriting and prioritizationg, while saving on construction overhead costs. Plant shade trees along both sides of Sorrells Street for pedestrian comfort.

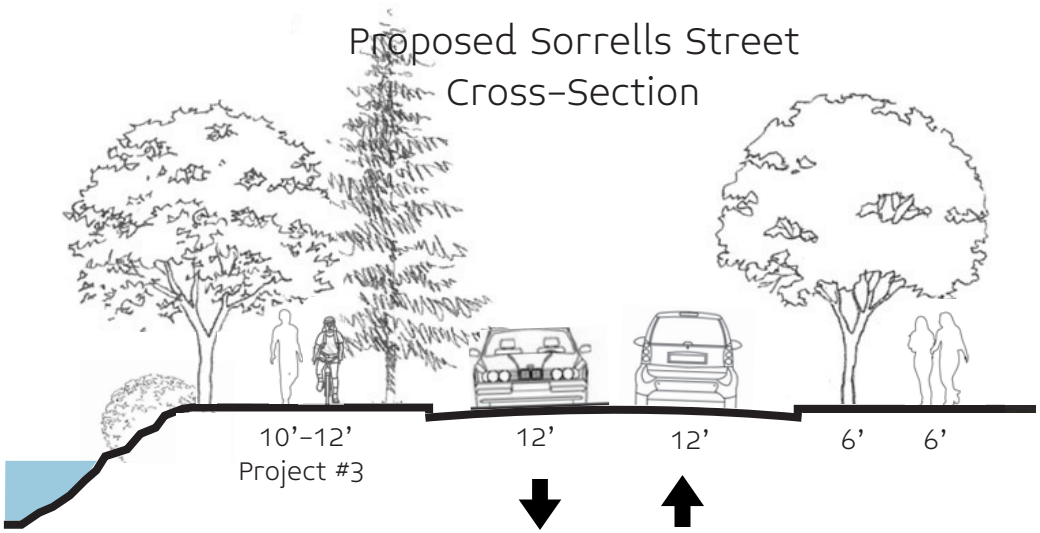
OPPORTUNITIES

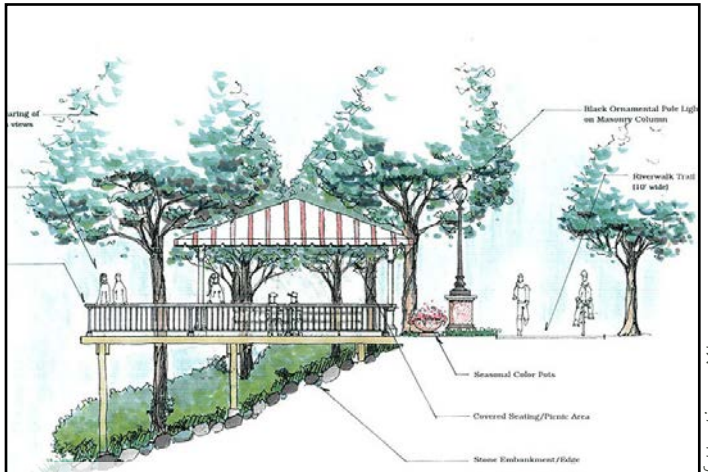
- A shared use path along Sorrells Street will complement the existing park, encouraging people to sit and enjoy the Pigeon River.
- Extend the trail/greenway to the Town-owned parcel across Park Street. That vacant lot (currently surface parking) could be improved to usable public park space, including a playground or dog park.

3 Sorrells Street Shared Use Path

CHALLENGES

- Limited width in the project area may constrict options for placement and width of final design.
- Some existing utilities may require added expense for relocation or adjustment of the final path orientation.





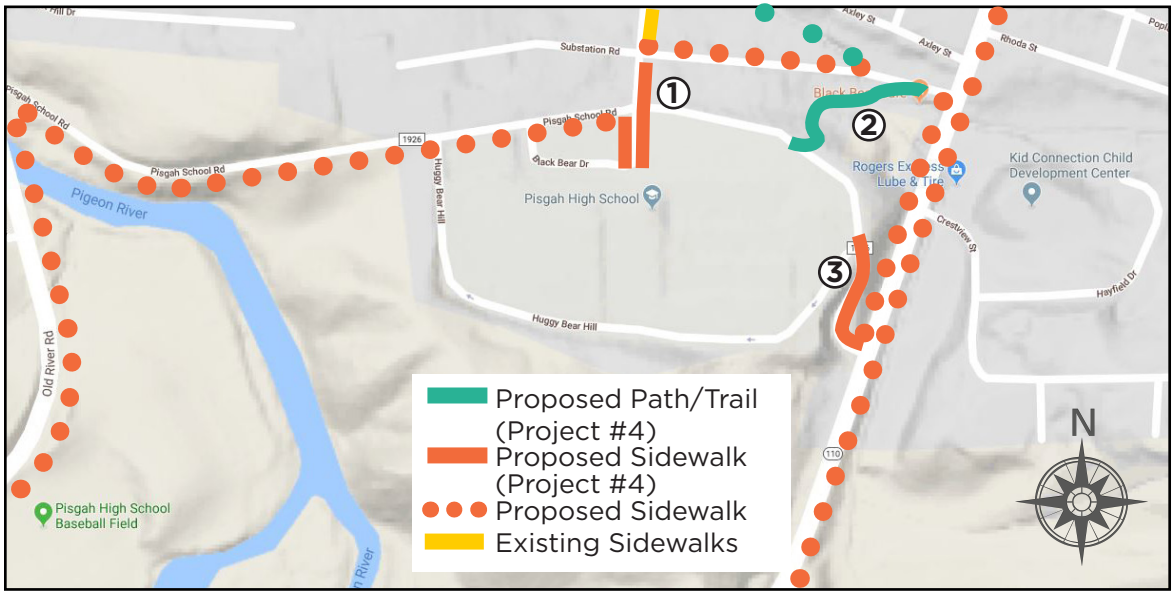
Pigeon River overlooks could help enliven the path and create mini destination areas along the trail (encouraging visits).

Source: City of Hastings, MI

PROJECT #2 - Sorrells Street Sidewalk

PROJECT #3 - Sorrells Street Shared Use Path

4 Pisgah High Pedestrian Improvements



COST ESTIMATE

$48,000

$26,000 for trail;

$22,000 for sidewalks

PROJECT DESCRIPTION

1. Construct a sidewalk on the east side of Pigeon Street (to connect to existing sidewalk, which should be replaced with ADA curb ramps), with pedestrian lane striping through the school's parking lot.
2. Develop a 4'-6' natural surface trail from campus to Substation Road, with a marked crosswalk connecting to the Pigeon Street Path (Project 30).
3. Make a pedestrian connection from the east side of the school campus down to Pisgah Drive. Construct stairs down to the intersection of Pisgah Drive and Crestview and/or a sidewalk down the access road to Pisgah Drive.

Projects 18 (Pisgah School Road Sidewalk) and 19 (Old River Road Sidewalk) will help connect the school to the ballfields.

OPPORTUNITIES

- The community wants to ensure that students, teachers, parents, and staff have the ability to safely walk to and from school. The current environment prioritizes automobiles and makes walking an uncomfortable option.
- These improvements will help connect the High School to the Rec Park and Middle School, with options for other helpful direct connections.

4 Pisgah High Pedestrian Improvements

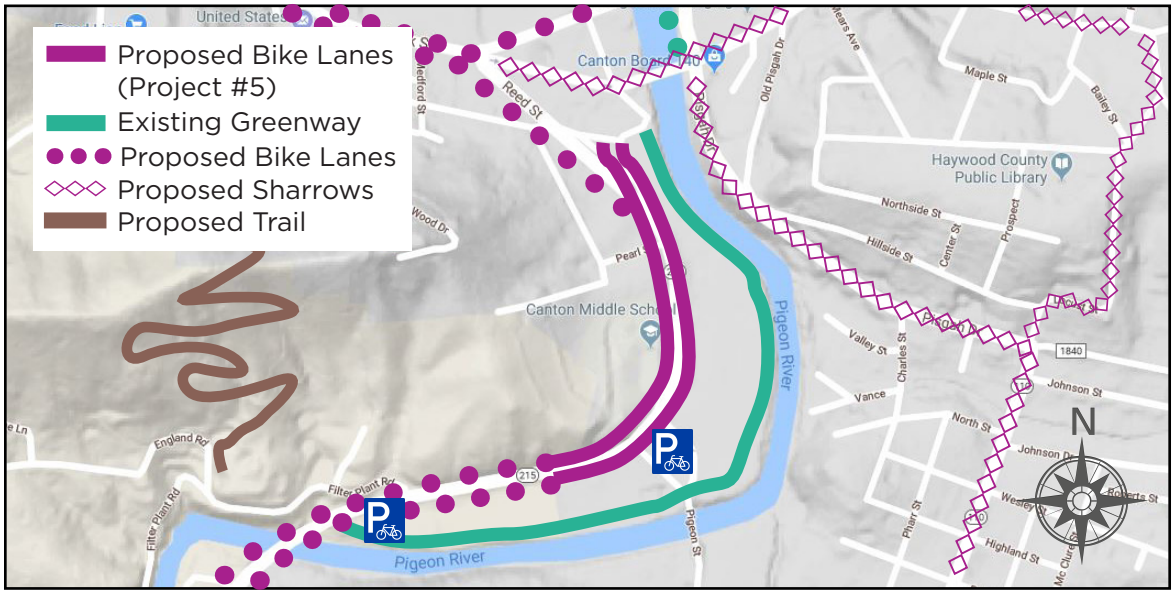
CHALLENGES

- Some ROW constraints on Pigeon Street might limit width of sidewalk.
- Topography might make a trail cost-prohibitive.
- Unsafe street crossing behavior is common among teens and distracted walking is on the rise, so new crosswalks should be well-marked and sidewalks should follow intuitive paths.

Haywood County Schools should encourage student groups to add color to campus intersections to enhance visibility for people crossing.

Source: Los Angeles Eco-Village

5 Penland Street Bike Lanes



COST ESTIMATE

$32,000

LENGTH

0.4 miles

PROJECT DESCRIPTION

Use the existing roadway geometry to accommodate 5' minimum bike lanes in both directions from Murphy Blvd. to the basketball court parking lot. Remove on-street parking and clearly delineate the bike lane (e.g. with different pavement coloration or bollards) to prevent cars from parking in the bike lane.

[approximately 4,400 linear feet of bike lane]

While many opt to use the Pigeon River Walking Trail as an alternative route for bicycling, it is important to enable users of all types to access their destinations. This project would connect main Parks & Rec facilities and Canton Middle School more directly and safely to downtown, without the need for paving or other intensive, expensive treatments.

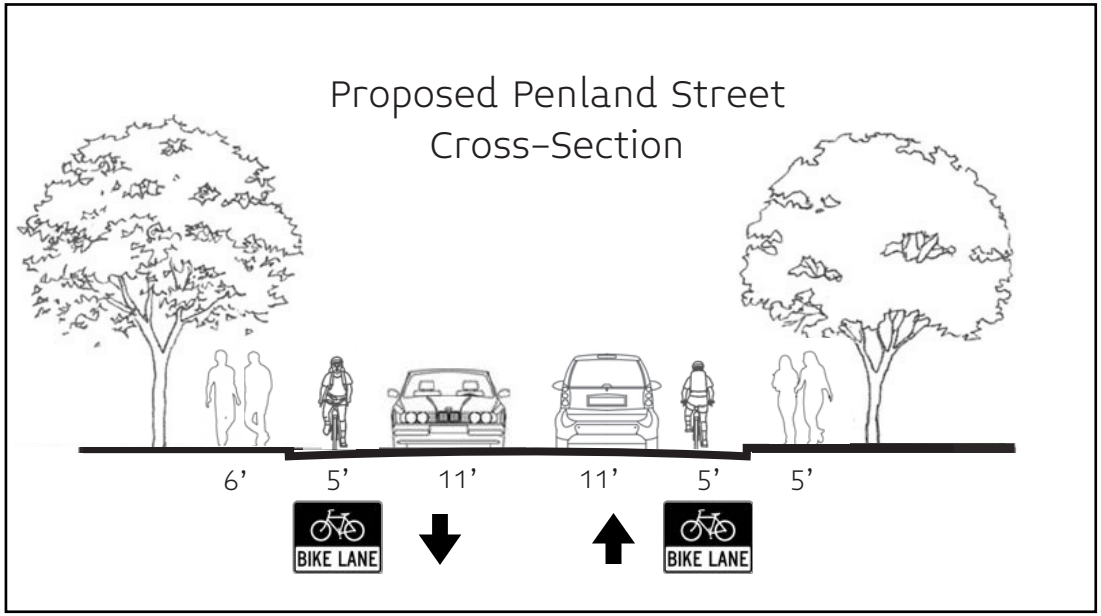
OPPORTUNITIES

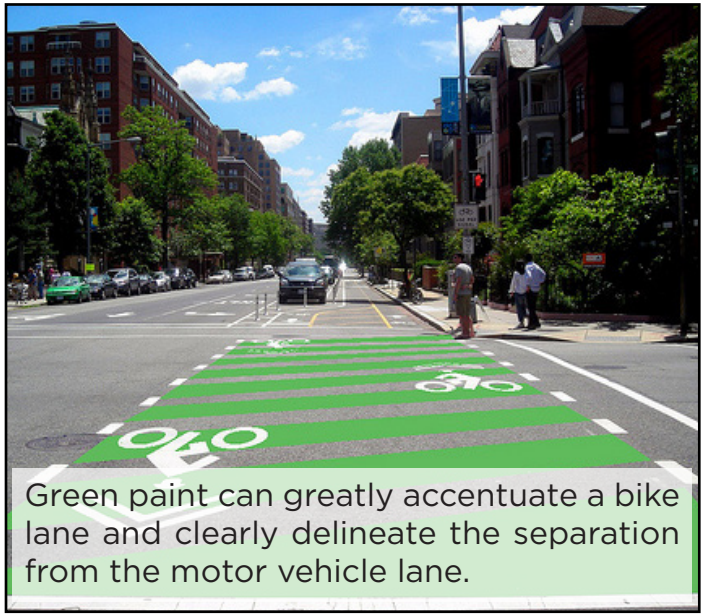
- The Haywood County Bike Plan also recommends bike lanes along Penland Street, which helps in the pursuit of funding and general acceptance.
- This would be a good pilot project for the Town to begin a comprehensive bicycle infrastructure implementation plan, directly affecting safety for young children (and the users of the Rec Center).

5 Penland Street Bike Lanes

CHALLENGES

- People park their cars on Penland Street, which may cause confusion when bike lanes are installed (and people may park in the bike lanes). Green paint and additional signs may help prevent this.
- Connecting the on-street bike lane directly to the Pigeon River Walking Trail will require some additional construction - pavement widening, crossings, curb ramps, and signs.

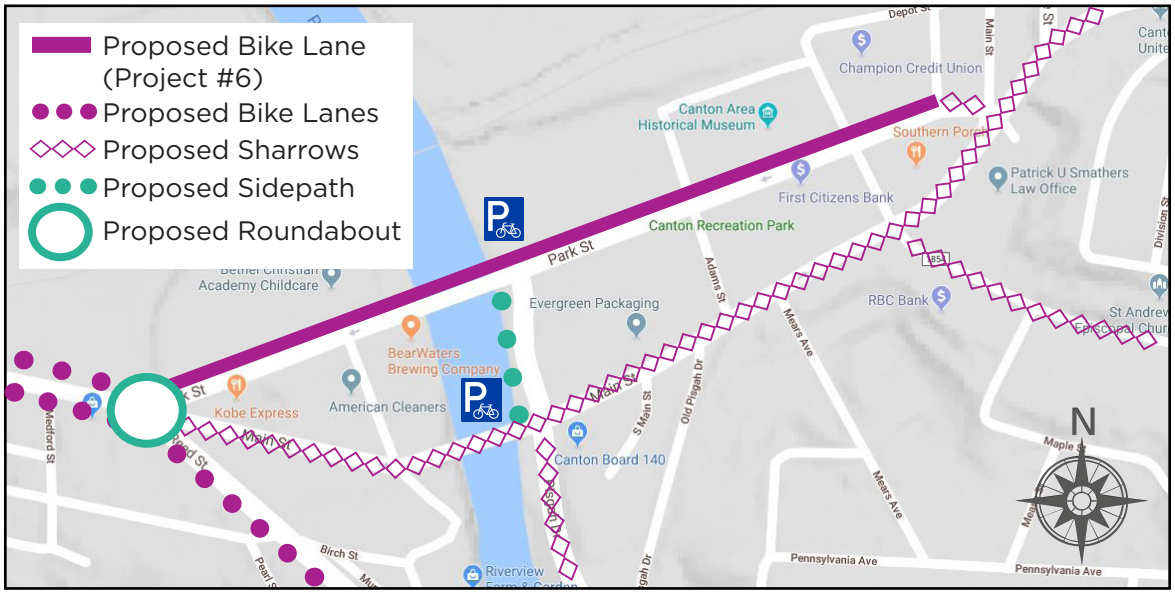




Green paint can greatly accentuate a bike lane and clearly delineate the separation from the motor vehicle lane.

Source: 2011 Dan Malouff

6 Park Street Bike Lane



COST ESTIMATE

$100,000

LENGTH

0.4 miles

PROJECT DESCRIPTION

Restripe to replace the outermost vehicular traffic lane with a 6' buffered and/or protected bike lane on Park Street from Academy Street to the Main Street/Reed Street intersection. Keep existing on-street parking, but shift so the bike lane is adjacent to the sidewalk. West of Penland Street, some roadway widening will be necessary and the on-street parking will be lost.

[approximately 2,100 linear feet of bike lane]

There is room to create a safe corridor for bicyclists by including striped buffer zones between traffic lane/parking area and bike lane; narrowing the road from 3 to 2 lanes of traffic will also help the pedestrian experience. This bike lane will directly link the Pigeon River Walking Trail to the covered bike parking area near the Colonial Theater.

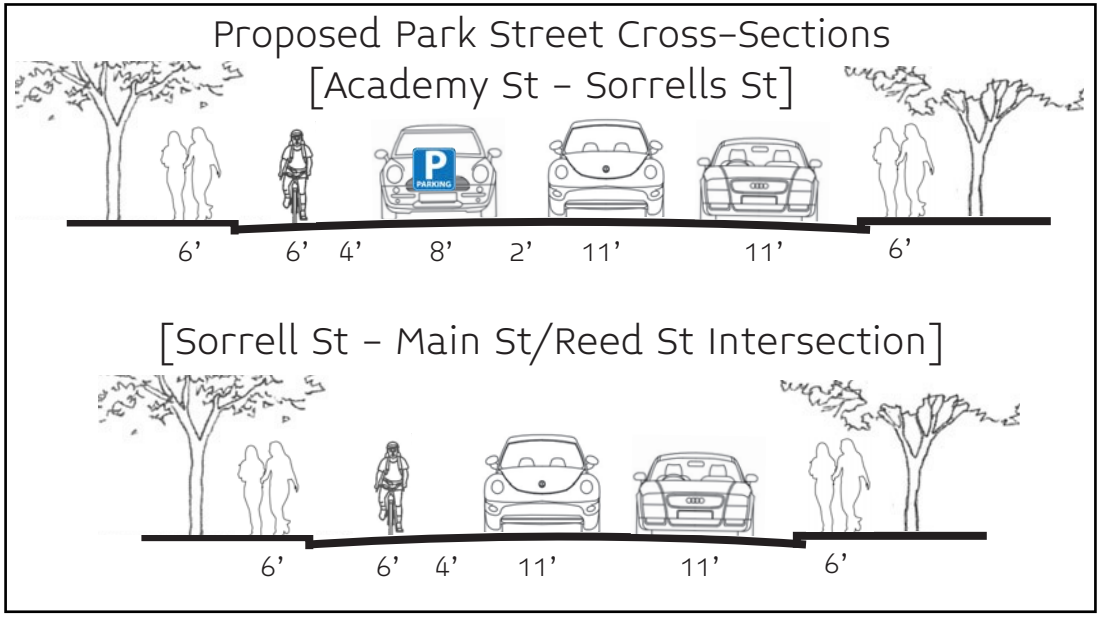
OPPORTUNITIES

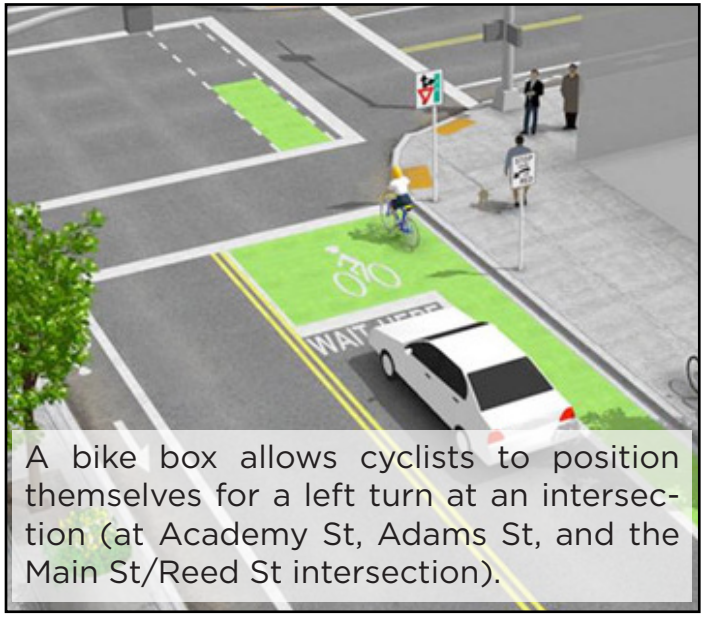
- Use excess width from lane removal for a painted buffer, bolstering existing sidewalk width (6' min), and/or installing curb extensions and landscaping (incl. street trees).
- This is an ideal pilot project for the Town, since the impact to vehicular traffic is minimal. Consider a temporary installation to gauge resident interest and ascertain unforeseen impacts.

6 Park Street Bike Lane

CHALLENGES

- "Road diets" may see some resistance, even though 2 lanes will accommodate traffic volumes through downtown. The Town should be prepared for some opposition initially.





A bike box allows cyclists to position themselves for a left turn at an intersection (at Academy St, Adams St, and the Main St/Reed St intersection).

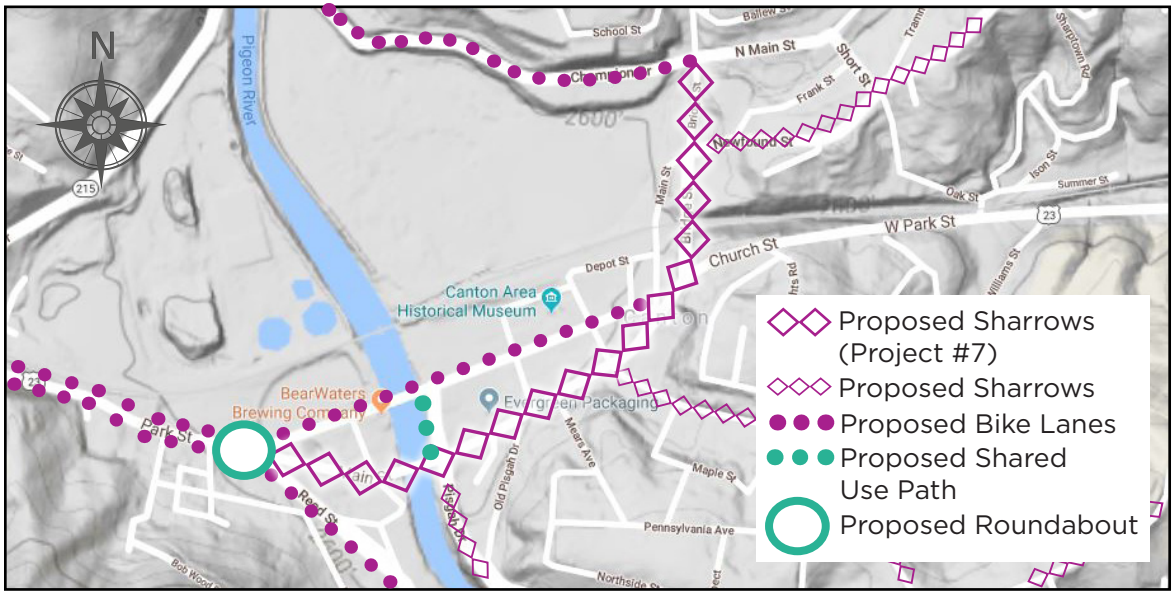
Source: BikeSide LA

PROJECT #5 - Penland Street Bike Lanes

PROJECT RENDERING

PROJECT #6 - Park Street Bike Lane

7 Main Street/Bridge Street Sharrows



COST ESTIMATE

$8,000

LENGTH

0.75 miles

PROJECT DESCRIPTION

Paint sharrows (shared lane markings) on Main Street from the Park/Main/Reed St intersection eastbound to the Bridge St intersection.

10 sharrows along Main Street (1 every 250ft)

Paint sharrows on Bridge Street in both directions from Church St to Champion Dr/Fiberville Rd.

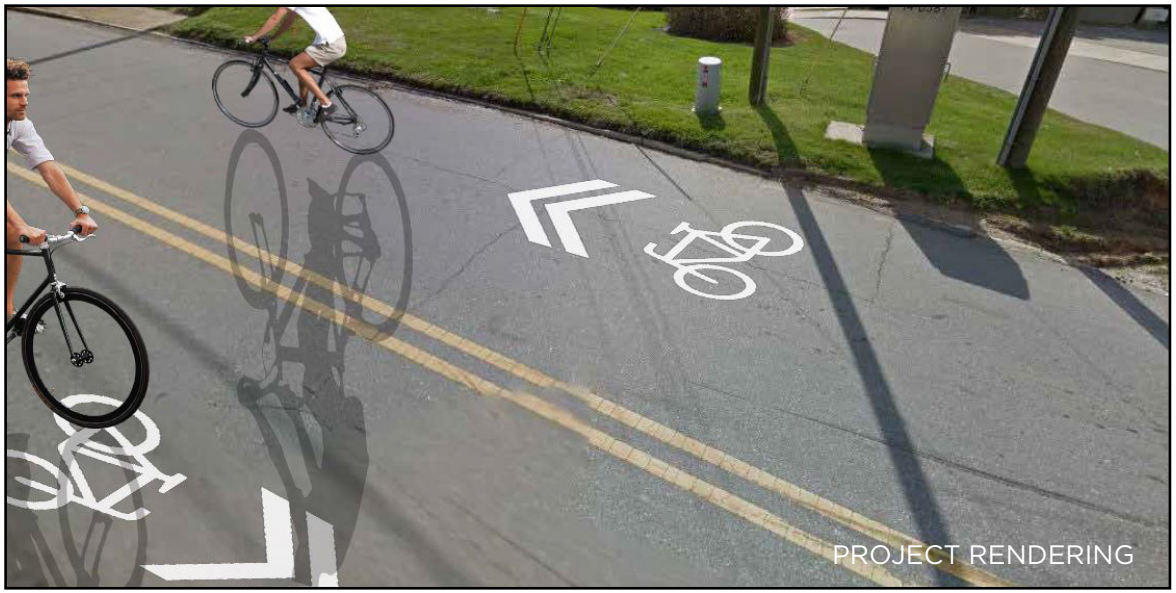
10 sharrows along Bridge Street (5 in each direction every 250ft)

Sharrows help convey to motorists and bicyclists that they must share the roads on which they are operating. The purpose of the markings is to create improved conditions for bicyclists by clarifying where they are expected to ride and to remind motorists to expect bicyclists on the road.

OPPORTUNITIES

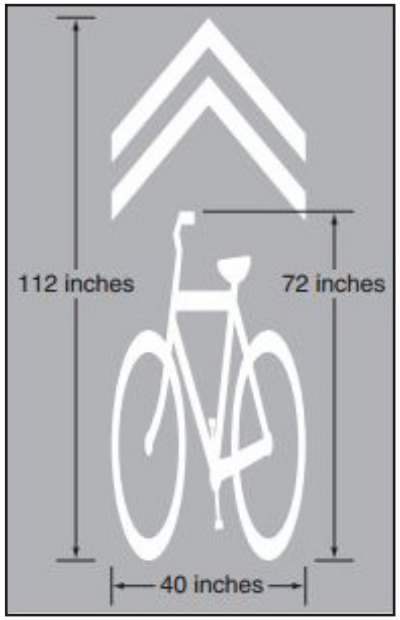
- In the absence of bicycle lanes, motorists often neglect to safely share travel lanes with bicyclists, which can compel bicyclists to ride closer to parked motor vehicles and the gutter, which can result in a crash if someone opens a vehicle door.
- Full bike lanes are not necessary on Main Street, since it is quite a comfortable street for bicycling, with low speeds and two lanes.

7 Main Street/Bridge Street Sharrows



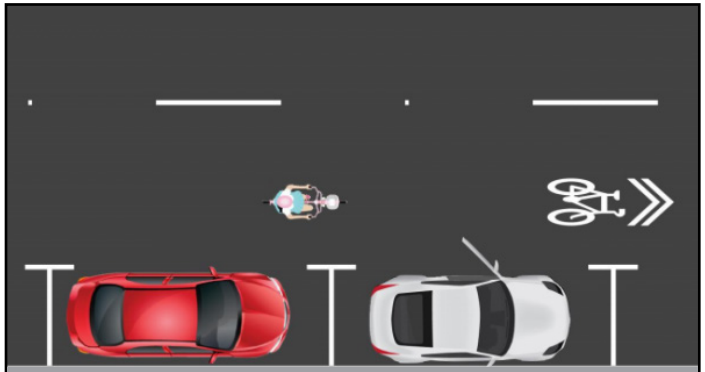
CHALLENGES

- MUTCD recommends an 11-foot distance from the center of the marking to the curb face when on-street parking is present. However, sharrows along Main Street in Canton may need to be in the middle of the travel lane.
- Though no major roadwork will be involved in this project, a traffic control plan will be necessary to divert motor vehicles during installation.



WHERE DO SHARROWS GET PLACED AND WHY?

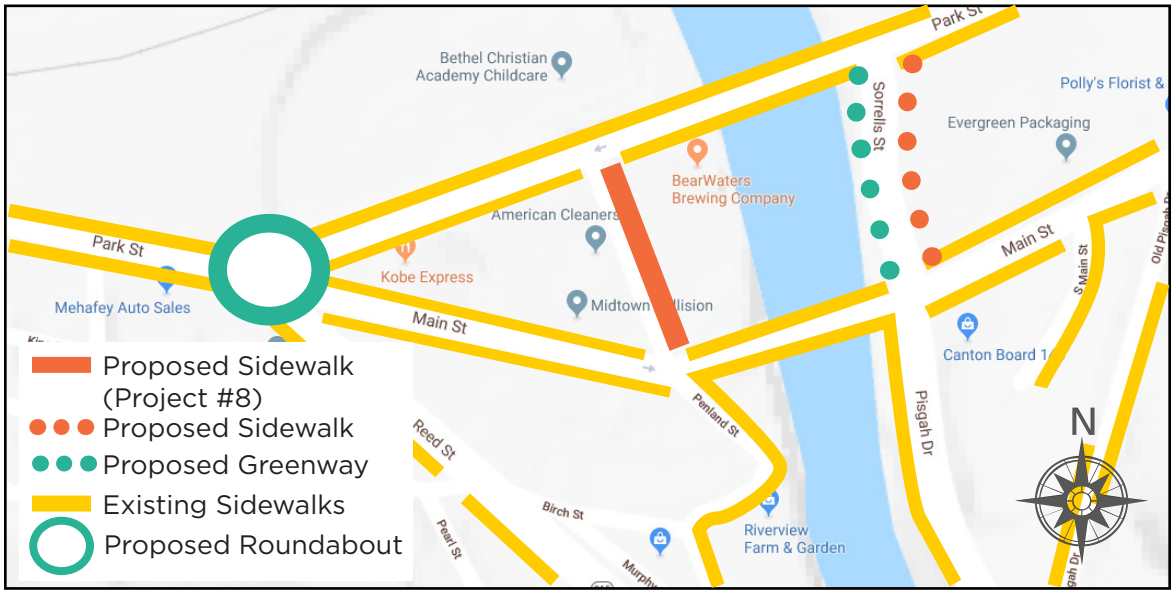
- Encourage specific streets (with fewer conflicts and safety issues) for bicycle use
- Guide bicyclists along a bike route
- Fill gaps in the network between two bike lanes
- Provide continuity where it is not feasible to include a bike lane



Canton's Main Street sharrow placement should encourage cyclists to use more of the lane where there is potential danger (e.g. from parked cars), since there is not enough room for a dedicated cycle lane.

Source: Alta Planning, Rural Design Guide

8 Penland Street Sidewalk



COST ESTIMATE

$40,000

LENGTH

0.06 miles

PROJECT DESCRIPTION

Construct a 5' minimum sidewalk along the east side (northbound) of Penland Street from Park Street to Main Street.

[approximately 325 linear feet of sidewalk]

A sidewalk here will help connect businesses, downtown, and nearby residences, while improving safety. It is a critical link in the pedestrian network, making downtown Canton much more walkable.

NOTE: Long-term action items include constructing sidewalk along the other side of the street as well, but this will include demolishing one building and eliminating the parking area for another.

OPPORTUNITIES

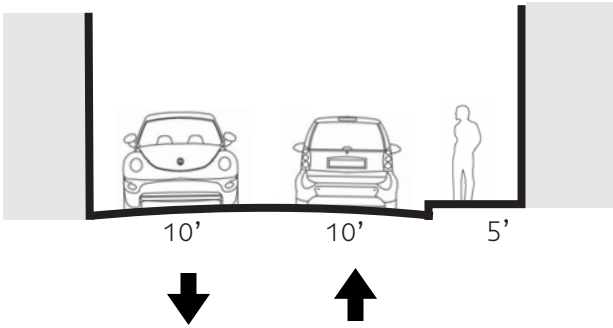
- For people walking downtown, this short segment will create vast improvements in accessibility, enabling safe movement throughout and connecting the two primary streets in the central business district.

8 Penland Street Sidewalk

CHALLENGES

- Adjacent properties appear to encroach in the right-of-way and are currently very close to the roadway, making sidewalk construction challenging and possibly more expensive that anticipated. Some existing utilities may require burying or relocation, and there are large, mature trees blocking the anticipated path.

Proposed Penland St Cross-Section
(Park Street to Main Street)



Textured asphalt or cobblestone would create the illusion of a buffer.

Source: Liveable City

Proximity to existing buildings limits the width available for sidewalk construction.

Source: Hardaker Concrete

9 Old Clyde Road (SR 7133) Sidewalk

COST ESTIMATE

$420,000

LENGTH

0.7 miles

PROJECT DESCRIPTION

Construct a 5' minimum sidewalk, with curb and gutter, on the southern (eastbound) side of Old Clyde Road (SR 7133) from Blackwell Dr to Greenberry St; include a marked crosswalk at Nyal Dr.

[approximately 3,800 linear feet of sidewalk]

Though outside the Town limit, this segment of Old Clyde Road is close enough to Canton to merit a pedestrian connection, for the residents, churches, and businesses nearby. It is also a good opportunity to demonstrate that the Town of Canton is pedestrian-friendly. Completing this sidewalk will help the western part of Canton feel connected and make sure that people walking to town (or to the businesses along the US 19/23 corridor) have a safe place to walk.

OPPORTUNITIES

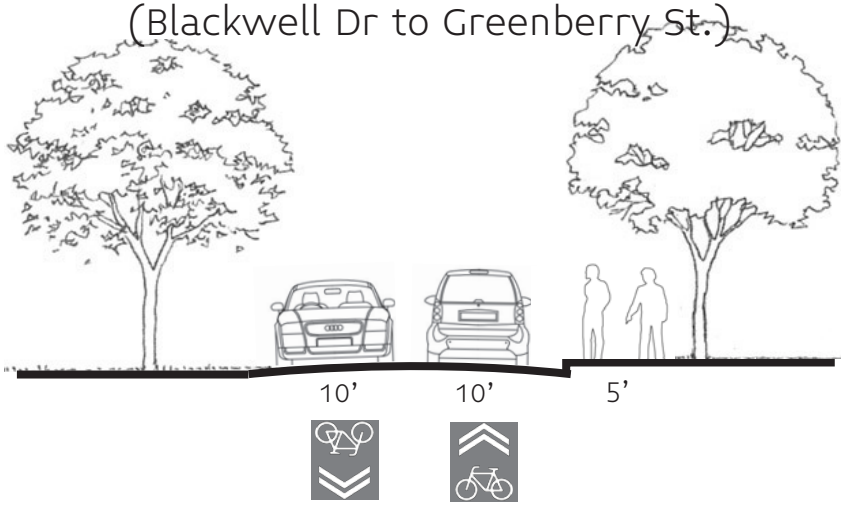
- Nyal Drive could serve as a connection to US 19/23, if existing unopened ROW is utilized and the roadway is extended. Having another direct connection between Old Clyde Road and US 19/23 should prove valuable to the northwest Canton community and the business sector along US 19/23.

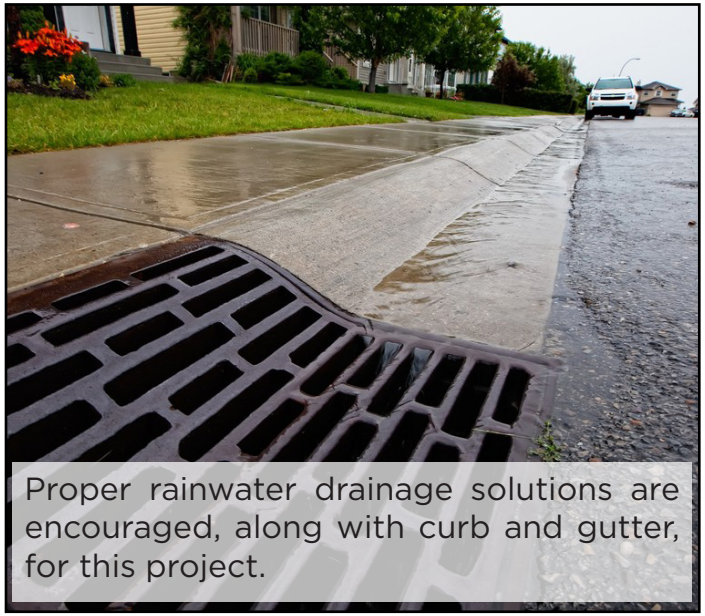
9 Old Clyde Road (SR 7133) Sidewalk

CHALLENGES

- There is a large driveway for a storage facility on Old Clyde Road near Blackwell Drive. The Town should determine the feasibility of shifting which side of the road the sidewalk is on, and/or encourage the property owner to consolidate vehicular access to this facility.
- Some houses are very close to the road, so there may be some opposition from residents.

Proposed Old Clyde Road Cross-Section
(Blackwell Dr to Greenberry St.)





Proper rainwater drainage solutions are encouraged, along with curb and gutter, for this project.

10 Old Clyde Road (SR 7133) Sharrows

COST ESTIMATE

$16,000

LENGTH

0.7 miles

PROJECT DESCRIPTION

Paint sharrows on both sides of Old Clyde Road from Blackwell Drive to Greenberry Street.

30 sharrows along Main Street (15 in each direction every 250ft)

Many bicyclists travel along Old Clyde Rd as an option to head west from Canton, so offering some amenities here is important. Bike lanes are recommended along this road, but the existing right-of-way would not accommodate 5' lanes along with the Project 8 sidewalk recommendation.

Signs along this route are also recommended (and factored into the cost estimate). Accompanying signs such as "Bikes May Use Full Lane" or "Share the Road" are recommended.

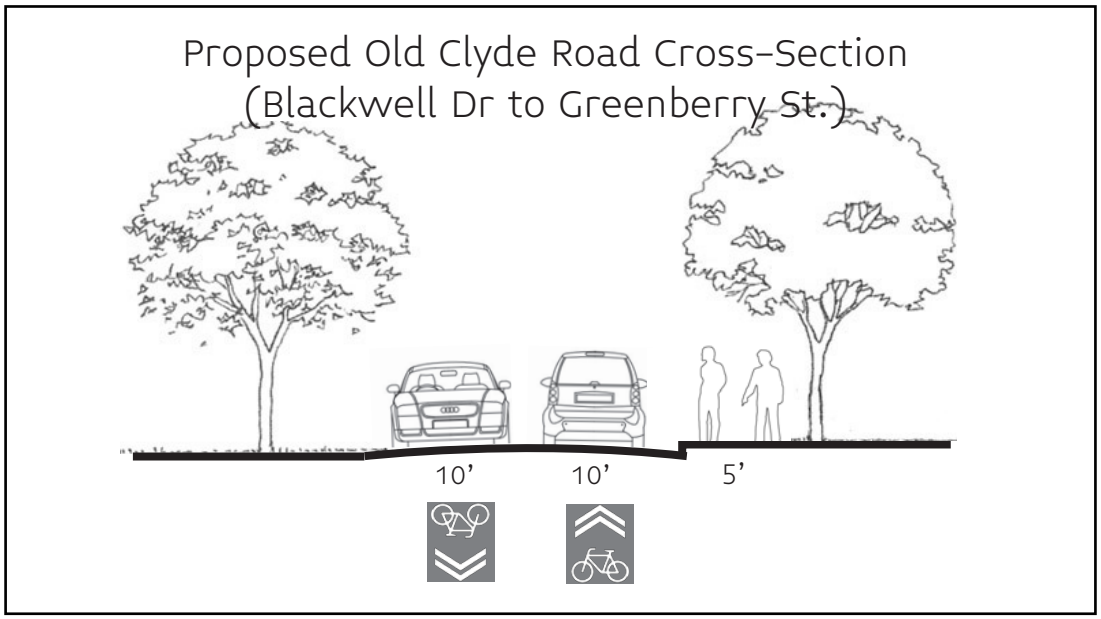
OPPORTUNITIES

- If Old Clyde Road becomes safer and more comfortable to use on a bicycle, the community could see more commuting between Canton, Clyde, Lake Junaluska, and Waynesville; its location (and the number of residents nearby) make it an ideal regional route.

10 Old Clyde Road (SR 7133) Sharrows

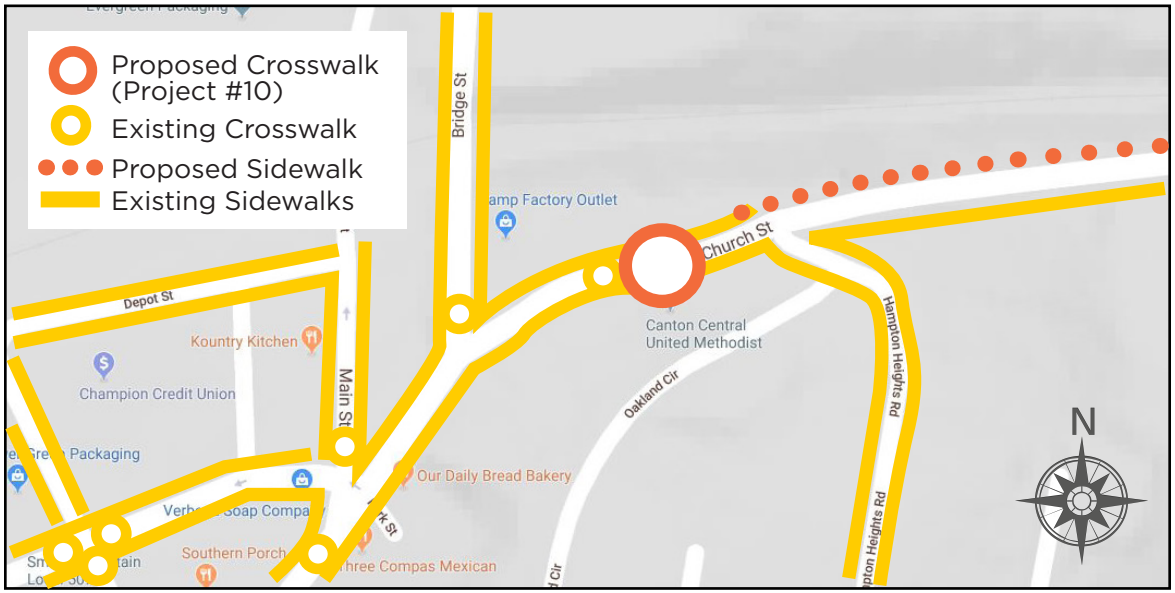
CHALLENGES

- Some houses are very close to the road, so there may be some opposition from residents if lanes are temporarily closed for installation of sharrows.



MUTCD's R4-11 sign is preferable to "Share the Road" signs because it states that bicyclists have legal precedent for using the entire travel lane.

11 Church Street (US 19/23) Crosswalk



COST ESTIMATE

$6,000
(including signs, poles, and ADA ramps)

$12,000
(for optional RRFB)

PROJECT DESCRIPTION

Paint a new crosswalk in front of Central United Methodist Church on Church Street (near the Bridge Street intersection) for higher visibility. Improvements should include:

- Restripe to include crossbars;
- Move the crosswalk over approximately 80 ft to the east, allowing vehicles enough time to stop (adequate sight distance);
- Add signs ("Ped Crossing" and "Stop for Pedestrians");
- Add ADA curb ramps.

This is the end of the existing sidewalk on the north side of the road, so enabling a safer crossing for all pedestrians is important.

OPTIONAL: Add a Rectangular Rapid-Flash Beacon (RRFB).

OPPORTUNITIES

- These improvements will help residents of east Canton feel safer navigating the neighborhood, dissuading people from making unsafe crossing decisions.
- This is an eastern gateway into Canton and could be an opportunity for the Town to demonstrate a focus on safety, reminding motorists that downtown Canton is a low-speed, high pedestrian traffic area.

11 Church Street (US 19/23) Crosswalk

EXISTING CONDITIONS

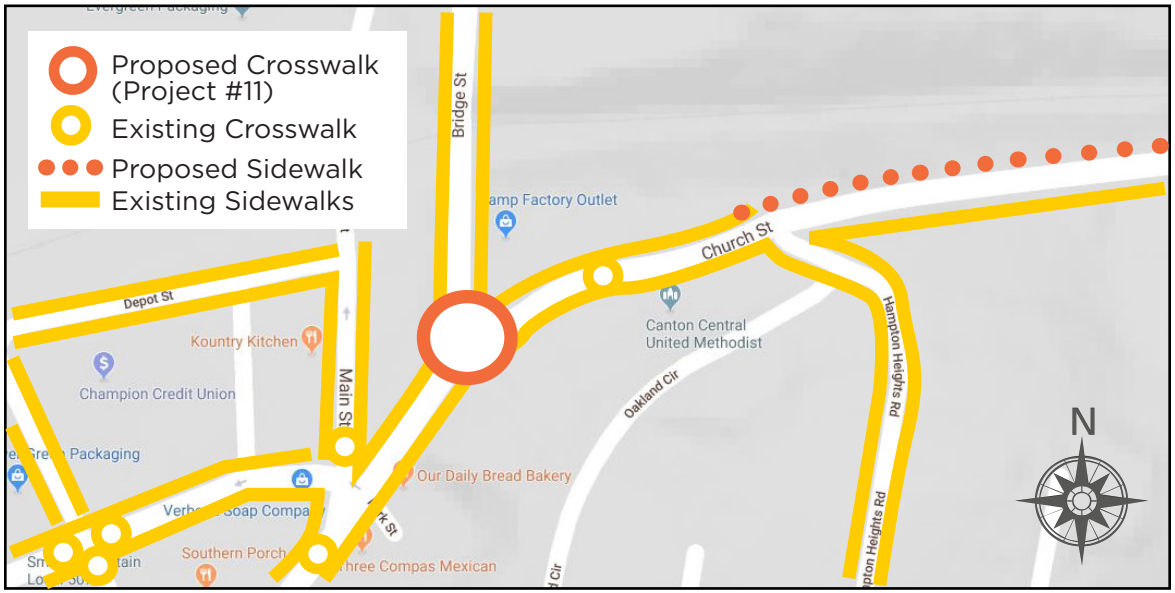
CHALLENGES

- This project may be funded through the NCDOT STIP prioritization process, but will nonetheless require extenisve cooperation amongst different agencies.
- Existing sidewalk configuration leaves little room for ADA ramp installation. However, a parallel curb ramp should be effective.

PROJECT RENDERING

As a gateway, this crosswalk could feature local branding, incorporating the new Canton logo (contingent upon NCDOT approval).

12 Church/Bridge St Intersection Improvement



COST ESTIMATE

$20,000

PROJECT DESCRIPTION

Improve the intersection of Church Street and Bridge Street for higher visibility. Improvements should include:

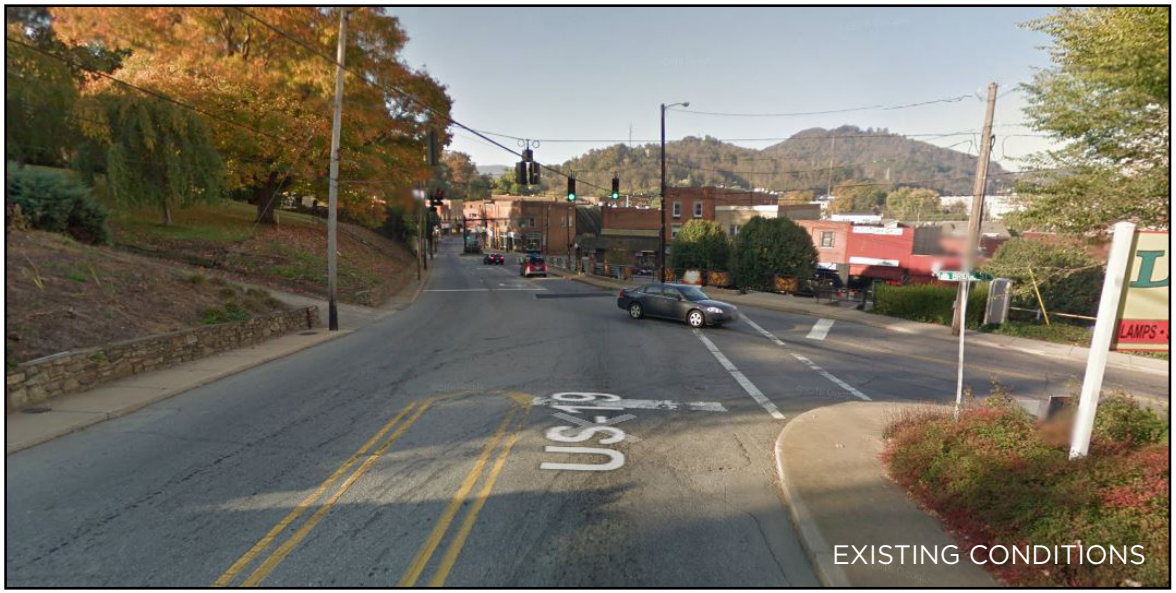
- Add two signalized crosswalks across Church Street at the intersection with Bridge Street;
- Add a pedestrian signal to the existing crosswalk across Bridge Street at the intersection with Church Street;
- Include ADA curb ramps.

This intersection is already signalized and should have pedestrian countdown signals for added safety. Getting from Church St to Bridge St is currently dangerous enough to deter able-bodied people from crossing here, but this is the most logical crossing point.

OPPORTUNITIES

- These improvements will help residents of Canton feel safer navigating this vital area of Town, mitigating the need for unsafe and inconvenient crossings.
- This is an eastern gateway into Canton and could be an opportunity for the Town to demonstrate a focus on safety, reminding motorists that downtown Canton is a low-speed, high pedestrian traffic area.

12 Church/Bridge St Intersection Improvement



EXISTING CONDITIONS

CHALLENGES

- This project will require extenisve cooperation amongst different agencies, plus local funding.
- Existing sidewalk configuration leaves little room for ADA ramp installation. However, parallel curb ramps should be effective.
- The pedestrian countdown should be greatest across Bridge Street, due to the distance required to cross.

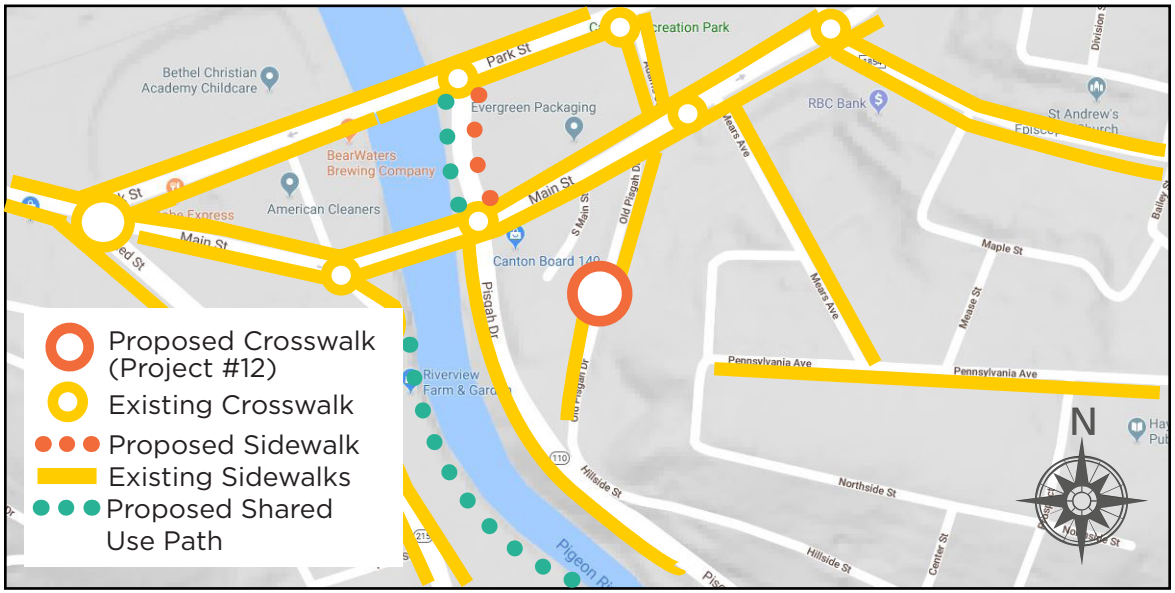
PROJECT RENDERING

As a gateway, this intersection could offer space for creative local art-work and/or Town branding (contingent upon NCDOT approval).

PROJECT # & 10 - Old Clyde Road Sidewalk & Sharrows

PROJECT #12 - Church Street/ Bridge Street Intersection Improvements

13 Old Pisgah Drive Crosswalk



COST ESTIMATE

$4,000

(including signs, poles, and ADA ramps)

PROJECT DESCRIPTION

Construct a midblock crossing to connect existing sidewalks (which are on either side). This improvement should include:

- Construct ADA curb ramps on both sides;
- Add signs ("Ped Crossing" signs for each direction).

Sidewalks are important, but equity concerns arise when appropriate connections are not feasible. A wheelchair user would only benefit from either sidewalk along Old Pisgah Drive if they are able to get from one to the other.

A cost-effective solution here is to install a highly visible crosswalk with ADA compliant ramps, rather than paving additional linear feet of sidewalk.

OPPORTUNITIES

- A more costly alternative improvement would be to remove the sidewalk along one side of Old Pisgah Drive and create a wider sidewalk on the other side, using the existing right-of-way. Consolidating pedestrian facilities is generally not recommended, but this street is low density and the demand does not necessitate sidewalks on both sides.

13 Old Pisgah Drive Crosswalk

EXISTING CONDITIONS

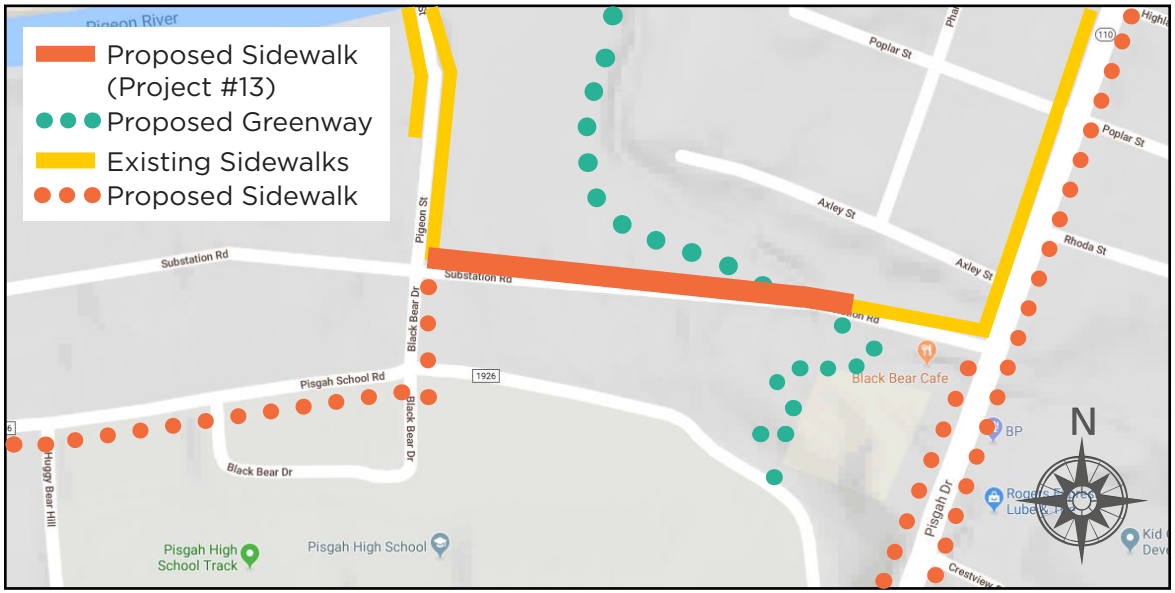
CHALLENGES

- Topographical challenges may arise during construction, as one sidewalk has a severe drop-off.
- The sidewalk along the western side of Old Pisgah Dr has several utility poles that minimize accessibility for users (especially strollers and wheelchairs). This project should assess the best configuration to avoid these poles or include funding to complete the sidewalk on the eastern side.

PROJECT RENDERING

A raised crosswalk here could also be a speed table, improving pedestrian access and traffic calming.

14 Substation Road Sidewalk



COST ESTIMATE

$20,000+

LENGTH

0.13 miles

PROJECT DESCRIPTION

Construct a 5' sidewalk on the north side (westbound) of Substation Road from Pigeon Street to the existing sidewalk at the small bridge.

[approximately 700 linear feet of sidewalk]

If feasible, widen the existing bridge's sidewalk. This could be a separate project, but is important for accessibility.

A sidewalk here is a critical link in the pedestrian network and will establish a safe route to school for both Pisgah High School and Canton Middle School. Completing this segment will create a complete circuit in the pedestrian network for the southern part of town.

OPPORTUNITIES

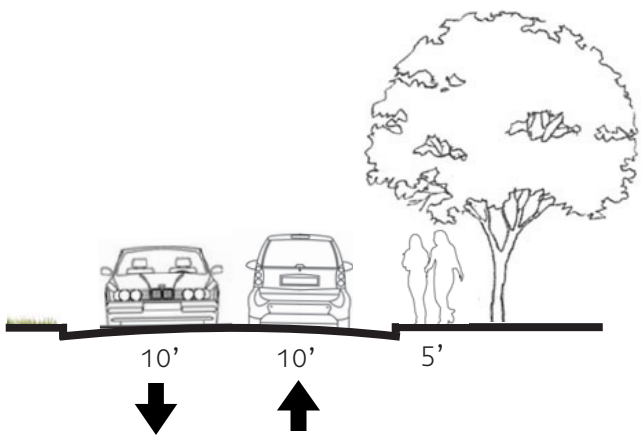
- This project should support the desire for traffic calming along Substation Road.
- Developing the Town-owned parcels near the bridge into a public park, with a greenway connection, could influence the use of this street as a pedestrian corridor.

14 Substation Road Sidewalk

CHALLENGES

- Paving a sidewalk in front of houses along a narrow street may face some opposition.
- Some utility poles may need to be moved and/or the sidewalk may need to extend around the poles to enable full, equitable access.
- To avoid complications from busy school hours, this project should be programmed for the summer.

Proposed Substation Road Cross-Section

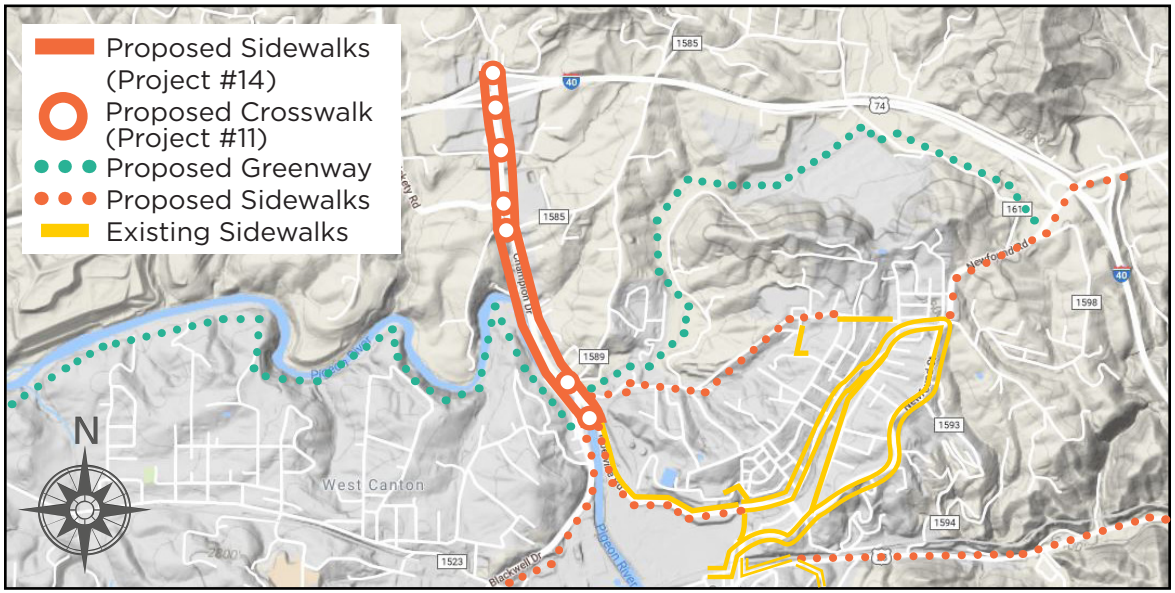


Using different surface materials can be more visually appealing and cost effective when widening the bridge.

Well-placed trees can shade the footpath to provide a comfortable walking environment.

Source: 2016 City of Richmond, VA

15 Champion Drive Sidewalks



COST ESTIMATE

$850,000+

LENGTH

1.1 miles

PROJECT DESCRIPTION

Within the existing ROW, construct 6' minimum sidewalks on both sides of Champion Drive from Willis Road to Blackwell Drive, with a 2' minimum buffer. Include high visibility pedestrian crossings (with pedestrian signals) at the following intersections:

- North Canton Rd
- Peach Bloom Dr
- Crossroad Hill Road
- Thickety Rd
- Dusty Dr/Livestock Market Dr
- All I-40 access roads

[approximately 11,600 linear feet of sidewalk]

This corridor features numerous businesses and should be accessible to people without motor vehicles.

NOTE: Coordinate with Project #22: Champion Drive Bike Lanes and NCDOT STIP #EB-5945 (sidewalks from Thickety to North Canton Rd).

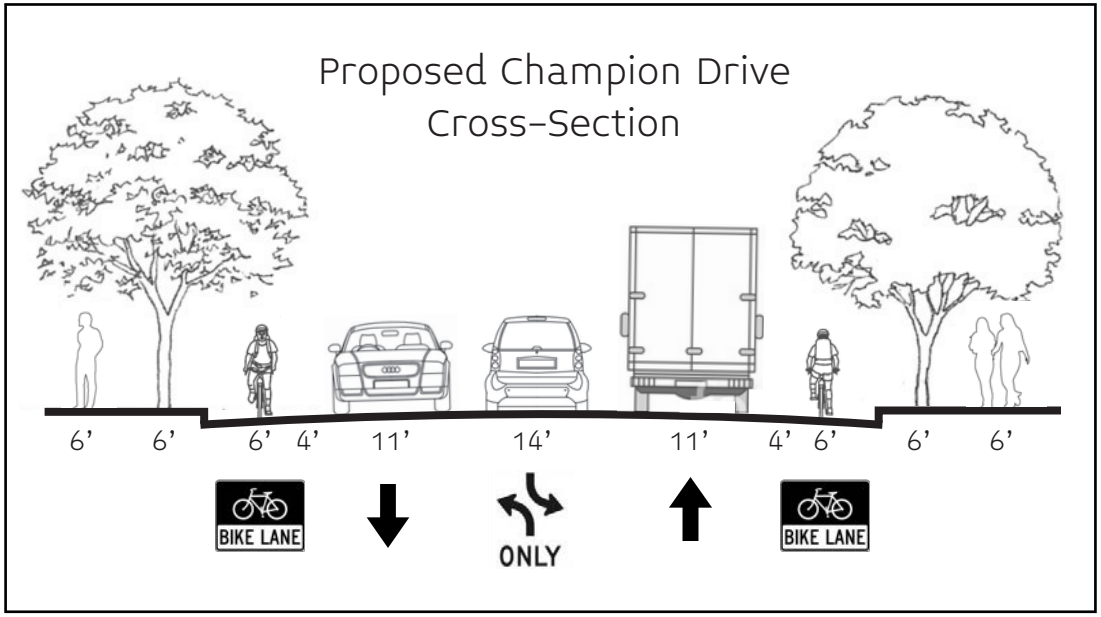
OPPORTUNITIES

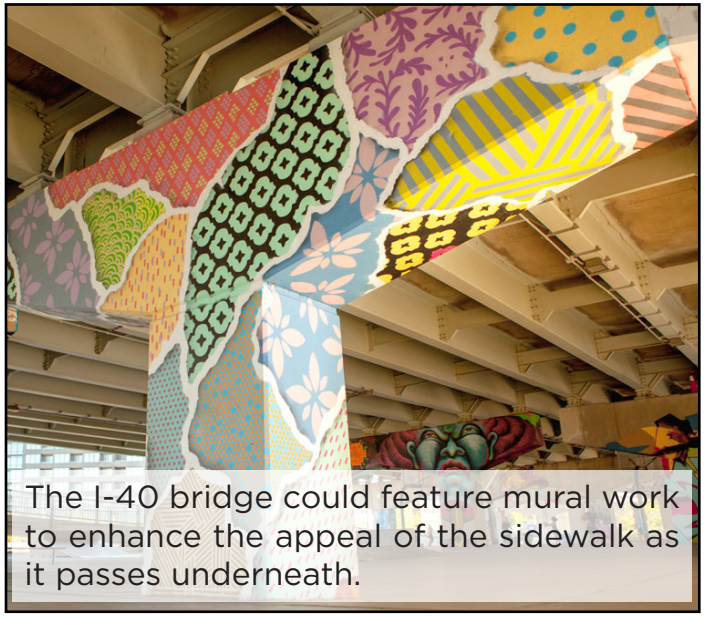
- The existing businesses (NC Tag office, grocery store, hotels, restaurants, pediatric office) will benefit from customer access. The corridor may see expanded commercial investment.
- Make sure that existing and future Haywood County transit fixed routes have adequate seating and shelter at stops along this road.

15 Champion Drive Sidewalks

CHALLENGES

- Numerous curb cuts (opportunity for access management).
- Large scale project may require phasing and extensive NCDOT coordination.
- Constructing sidewalk under the I-40 overpass may be prohibitive.

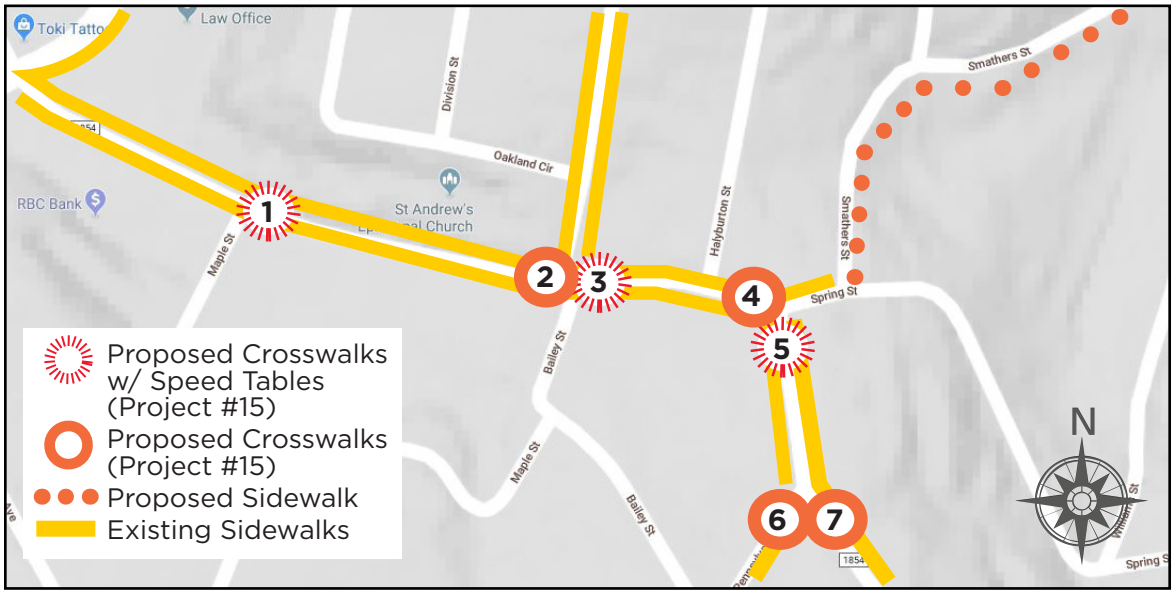




The I-40 bridge could feature mural work to enhance the appeal of the sidewalk as it passes underneath.

Source: Kristen McCrea

16 Academy Street Crosswalks



COST ESTIMATE

$20,000

PROJECT DESCRIPTION

Paint new crosswalks on Academy Street at the east side of Maple St (1), west end of Hampton Heights Rd (2), east end of Bailey St (3), and near the Spring Street intersection (4,5). Crosswalks 1, 3, and 5 should be raised speed tables, as there is frequent high-speed traffic coming from Spring St and Dutch Cove Rd.

Providing safer crossings at this juncture will enable more fluid pedestrian connections and north/south movement. Existing speed limit (25mph) and "Slow - Children at Play" signs help convey a safety message, but should be bolstered by highly visible crossings. The sidewalk network is fairly comprehensive in this area, but people need additional visibility to make a safe connection here.

Change Spring St entry to Academy St to a STOP instead of a YIELD.

OPPORTUNITIES

- Raised crosswalks in residential areas can help ensure that vehicles slow down and that pedestrians are visible at key crossing points. Academy Street is residential, with destinations nearby (downtown, churches, the library) that offer opportunities to walk. Bolstering the sidewalk network with safe crossings helps prioritize pedestrians.

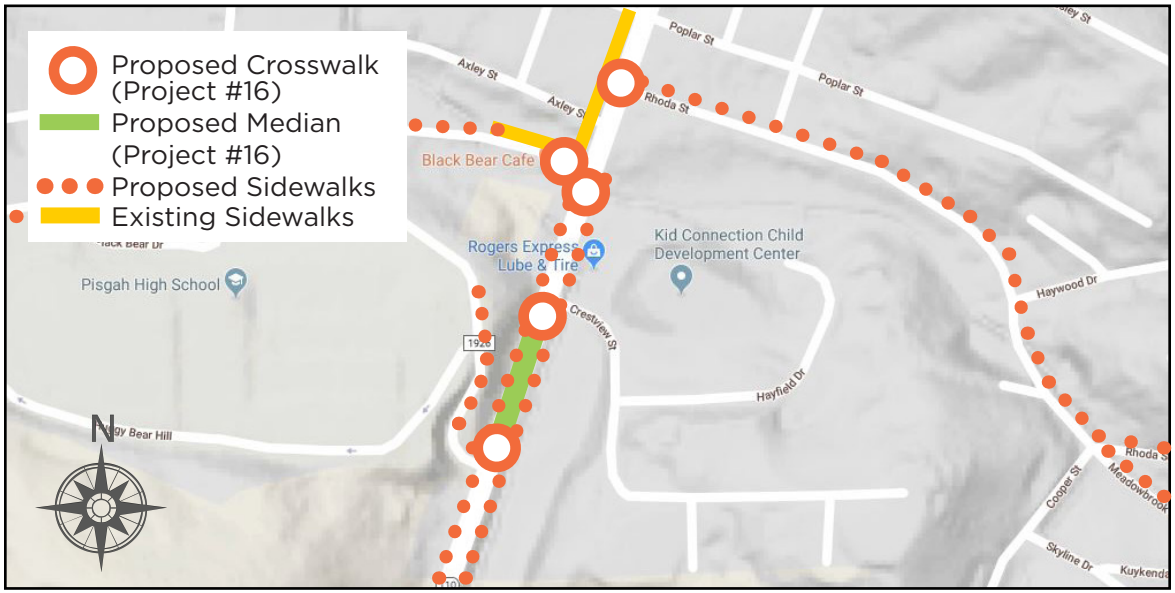
16 Academy Street Crosswalks

CHALLENGES

- Traffic calming measures are sometimes met with consternation, so consider phasing the project (i.e. paint regular crosswalks first, then determine if speed tables are still a viable option).
- Consider installing speed "cushions" to enable the tires of larger emergency response vehicles to pass through swiftly.

Crosswalks can be further defined by using contrasting materials, like brick or cobblestone.

17 Pisgah Drive Pedestrian Improvements



COST ESTIMATE

$36,000+

PROJECT DESCRIPTION

Install pedestrian safety improvements on Pisgah Drive, including:

- High visibility crosswalk & refuge island across Pisgah Drive at the north side of the access road to Pisgah High School (see Project 4);
- High visibility crosswalk & refuge island across Pisgah Drive at the south side intersection with Crestview Street;
- High visibility crosswalk across Pisgah Drive at the south side of Substation Road with pedestrian signal;
- High visibility crosswalk across Pisgah Drive at Rhoda Street;
- Crosswalk across Substation Rd along the west side of Pisgah Dr.

NOTE: the refuge islands are continous as one landscaped median.

NCDOT approval will be required (NCDOT customarily adheres to the MUTCD for guidance on crossing treatments).

OPPORTUNITIES

- People are crossing Pisgah Drive, which is inherently unsafe. These improvements are necessary to facilitate mobility for all users and should encourage more walking in the neighborhood, including the nearby schools.
- This is a southern gateway into Canton and could be an opportunity for the Town to welcome people and demonstrate a focus on safety and walkability. Additional gateway elements should be considered for the median and this area in general.

17 Pisgah Drive Pedestrian Improvements

EXISTING CONDITIONS

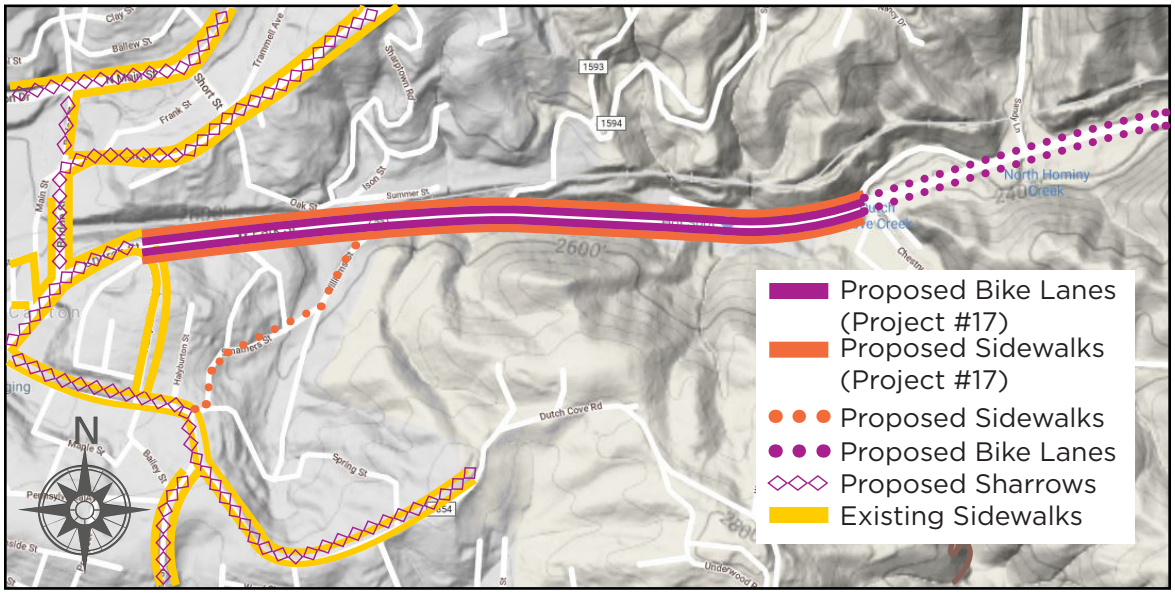
CHALLENGES

- Coordination required with **Project #32: Pisgah Drive Sidewalks from Crescent Loop to Substation Rd.** and **Project 52: Pisgah Drive Bike Lanes.** Replacing the center turn lane with a landscaped median on Pisgah Dr can be planned for construction simultaneously with this project's crosswalks and refuge islands. There is no need for the lane, with current development patterns.

PROJECT RENDERING

A bright, highly visible pedestrian crossing can make a big difference in establishing a safe, connected sidewalk network (contingent upon NCDOT approval).

18 Asheville Highway Sidewalks & Bike Lanes



COST ESTIMATE

$2 million +

LENGTH

0.9 miles

PROJECT DESCRIPTION

Use existing right-of-way to widen the roadway to construct 5' minimum buffered bike lanes and 5' minimum sidewalks on both sides of Asheville Highway (US 19/23) from Hampton Heights Rd to Chestnut Mountain Rd. Install pedestrian crosswalks with refuge islands at the intersections Williams Street and Hampton Heights Road.

[9,500 linear feet of sidewalk and 9,500 linear feet of bike lane]

There is a need to improve facilities (i.e. construct nonexistent facilities) for pedestrians and bicyclists along this corridor and help connect Canton and eastern Haywood County.

Coordinate with Haywood County CTP roadway projects B3 and B8, Bicycle Project B6, and NCDOT STIP Project R-4406A (SPOT ID H090274-A) and U-6048 (SPOT ID H090274-B).

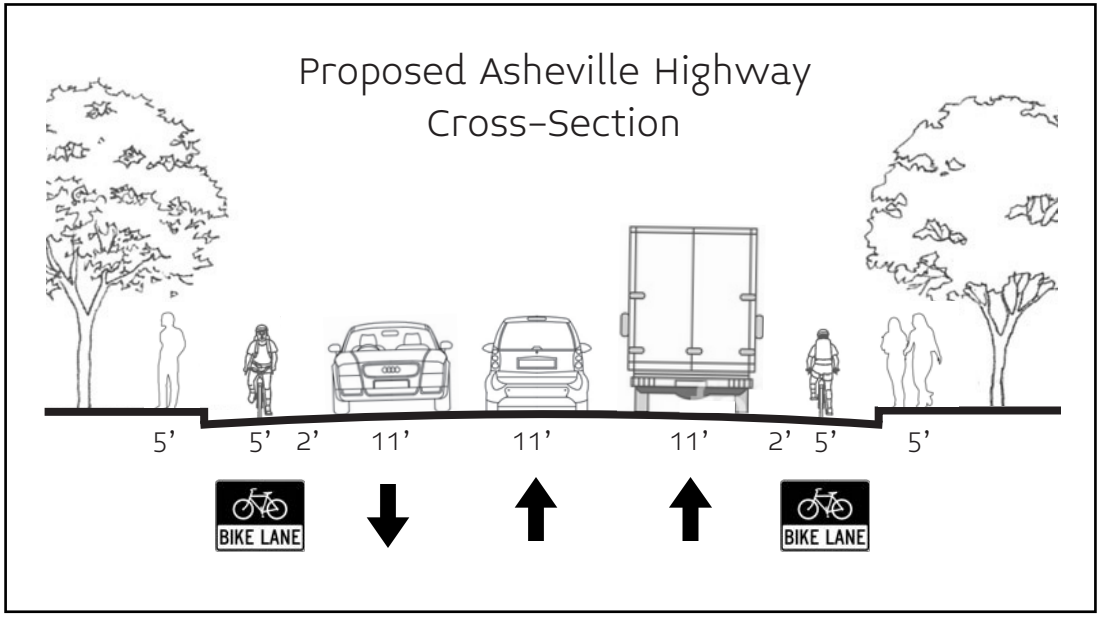
OPPORTUNITIES

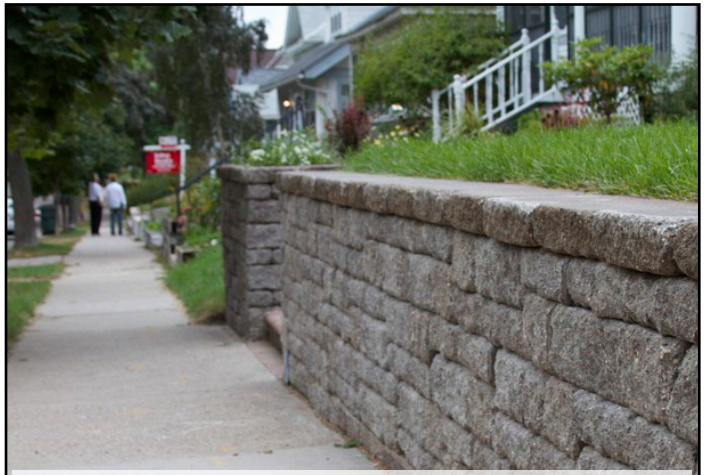
- Pedestrian refuge islands can dramatically improve the safety of crossings; the existing center lane can be repurposed at each primary intersection along this corridor.
- Make sure that future Haywood County transit fixed routes have adequate bicycle and pedestrian accommodations at stops along this road (i.e. seating, shelter, and bike racks).

18 Asheville Highway Sidewalks & Bike Lanes

CHALLENGES

- Some topography changes will require grading, guard rails, and/or retaining walls, which will add cost to the project.
- This is a large-scale project that will require extensive NCDOT coordination and funding. Canton should indicate the Town's desire for multimodal accessibility along this road (including a multiuse trail option), but this will all be contingent upon NCDOT approval.





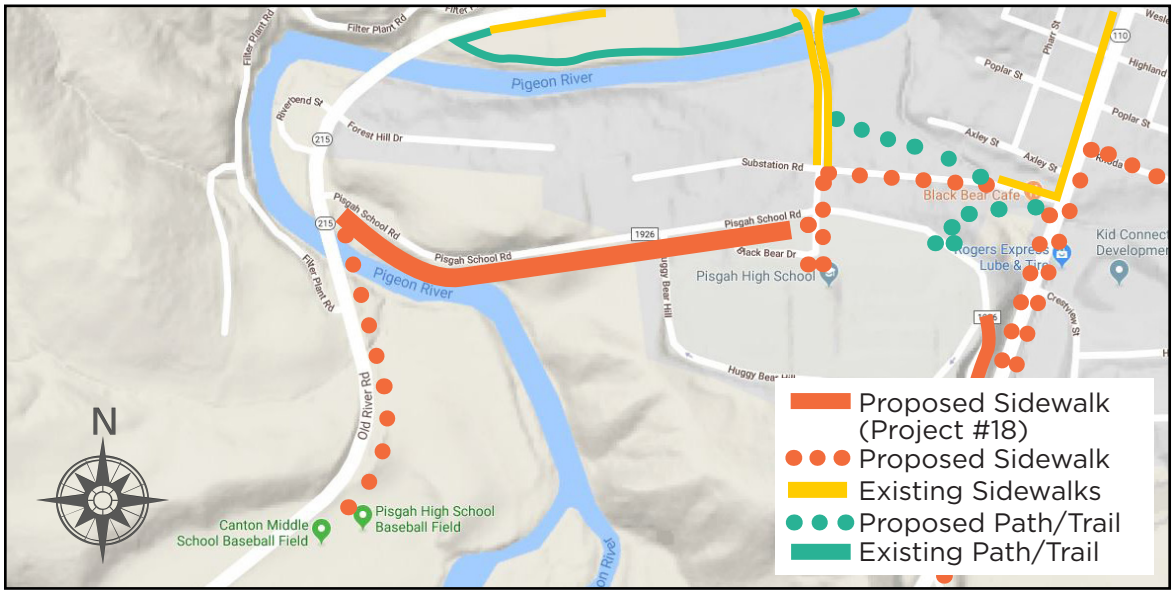
This project would likely require some grading work and the use of retaining walls due to the slope of the terrain.

Source: Cedar Creek Landscaping

PROJECT #17 - Pisgah Drive Pedestrian Improvements

PROJECT #18 - Asheville Highway Sidewalks & Bike Lanes

19 Pisgah School Road Sidewalk



COST ESTIMATE

$60,000+

LENGTH

0.4 miles

PROJECT DESCRIPTION

Construct a 6' minimum sidewalk on the south side (eastbound) of Pisgah School Road from Penland St/Old River Rd (215) to Pigeon Street Pisgah High School entrance) with a 6' minimum vegetated buffer.

[2,200 linear feet of sidewalk]

It is important to enable students, teachers, parents, and staff to walk as often as possible to and from school. Having a safe path encourages that behavior, while facilitating a complete connection to the middle school, Pigeon River Walking Trail, and rec park.

Lower the speed limit on this road from 35mph to 20mph, adding warning and regulatory signs. It is important to maintain vehicular travel speeds that are safer for pedestrians, who are frequently present along Pisgah School Road, especially before and after school hours.

OPPORTUNITIES

- The community wants to ensure that students, teachers, parents, and staff have the ability to safely walk to and from school. The current environment prioritizes automobiles and makes walking an uncomfortable option.
- These improvements will help connect the High School to the Rec Park and Middle School, with options for other helpful direct connections.

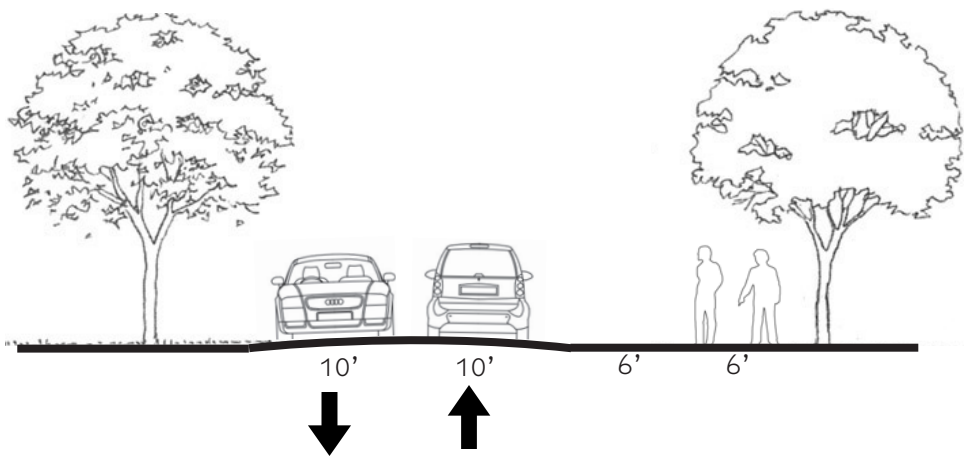
19 Pisgah School Road Sidewalk

PROJECT RENDERING

CHALLENGES

- The Town and school district should consider whether a shared use path is a more forward-thinking recommendation.
- Unsafe conditions lead to unsafe behavior; separating people from the motor vehicle traffic is a consistently effective way to improve safety for all users.
- Greater buffer width may be required by NCDOT, limiting the feasibility of the project.

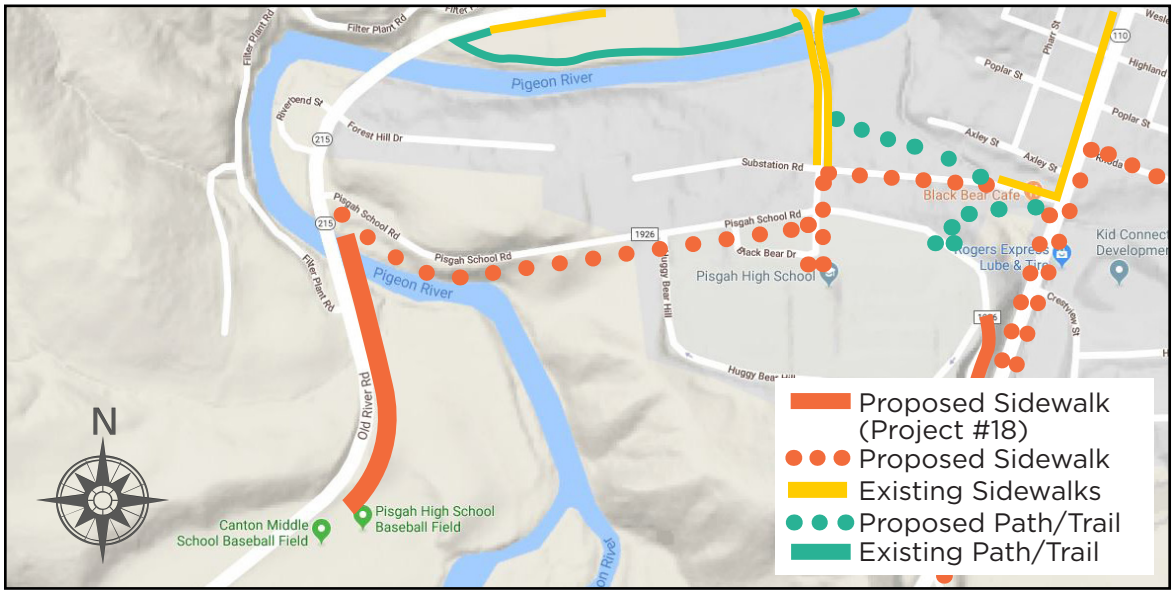
Proposed Pisgah School Road Cross-Section



The buffer between sidewalks and streets can be utilized as a rain garden / bioswale to help control storm water runoff and pollution.

Source: The Partnership for Water Sustainability in BC

20 Old River Road Sidewalk



COST ESTIMATE

$40,000+

(not including bridge construction)

LENGTH

0.35 miles

PROJECT DESCRIPTION

Construct a 6' sidewalk on the east side (northbound) of Old River Road (215) from Pisgah School Road to the Pisgah High School ballpark. Include a 6' minimum vegetated buffer.

[1,800 linear feet of sidewalk]

It is important to enable students, teachers, parents, and staff to walk as often as possible to and from school events. Having a safe path encourages that behavior, while facilitating a complete connection to the middle school, Pigeon River Walking Trail, and rec park.

Coordinate with NCDOT to widen the bridge over the Pigeon River or explore funding options for a separate pedestrian facility. Greater buffer width may be required by NCDOT, limiting the feasibility of the project.

OPPORTUNITIES

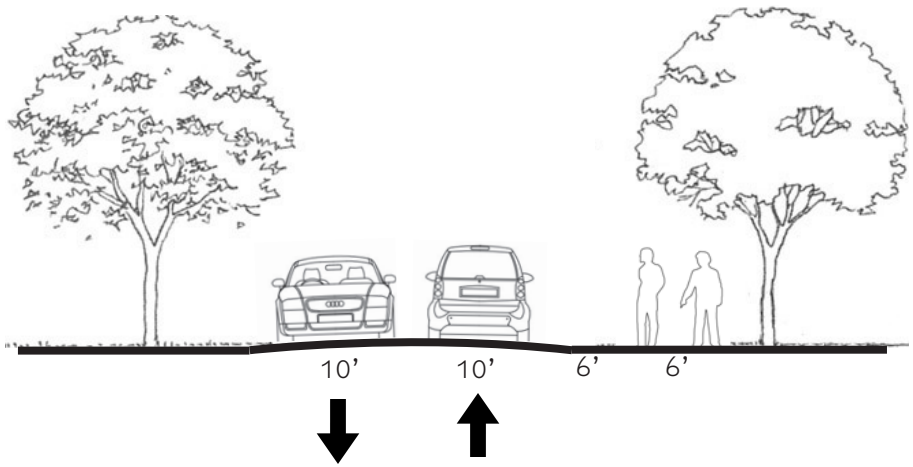
- The community wants to ensure that students, teachers, parents, and staff have the ability to safely walk to and from school. The current environment prioritizes automobiles and makes walking an uncomfortable option.
- These improvements will help connect the High School to the ball fields and enable more walking to/from school.

20 Old River Road Sidewalk

CHALLENGES

- The existing bridge over the Pigeon River is not wide enough to accommodate pedestrian facilities; options include a separate pedestrian bridge built adjacent to the existing bridge, widening the existing bridge. Converting to a one-lane bridge is not recommended due to school drop-off/pick-up traffic needs and safety concerns.

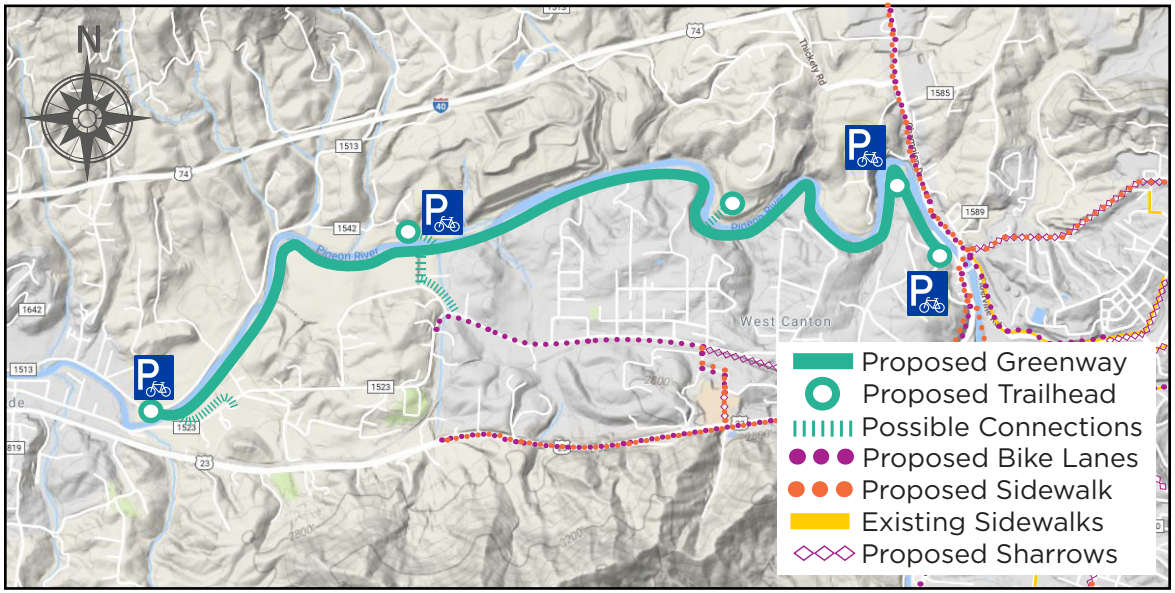
Proposed Old River Road Cross-Section



A pedestrian bridge across the Pigeon River here would serve as a necessary safety element and would provide a recreational use.

Source: Great West Engineering

21 Pigeon River Greenway



COST ESTIMATE

$3.5 million + (not including ROW acquisition, easement costs)

LENGTH

4 miles

PROJECT DESCRIPTION

Construct a 10'-12' paved shared use path along the Pigeon River (south side) from Fiberville Street to the Town of Clyde (River's Edge Park). Pedestrian bridges and other connections should be planned to ensure maximum usefulness of this trail.

[22,000 linear feet of shared use trail]

Use Town of Canton parcels along Fiberville Street as the primary trailhead and parking area. Other trailheads and access points should be planned along the 4-mile trail, linking to Champion Drive, Old Clyde Road, Thickety Road, River's Edge Park, and Clyde Elementary School.

Consider phasing the project to align with necessary budget and grant cycles. Establish a fundraising agency for the project.

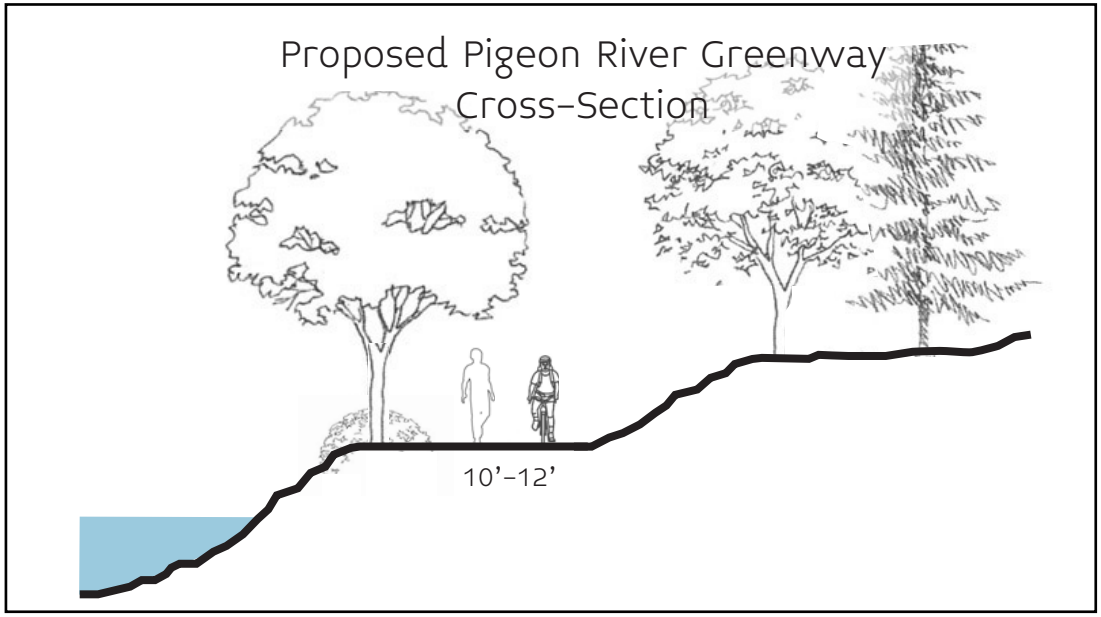
OPPORTUNITIES

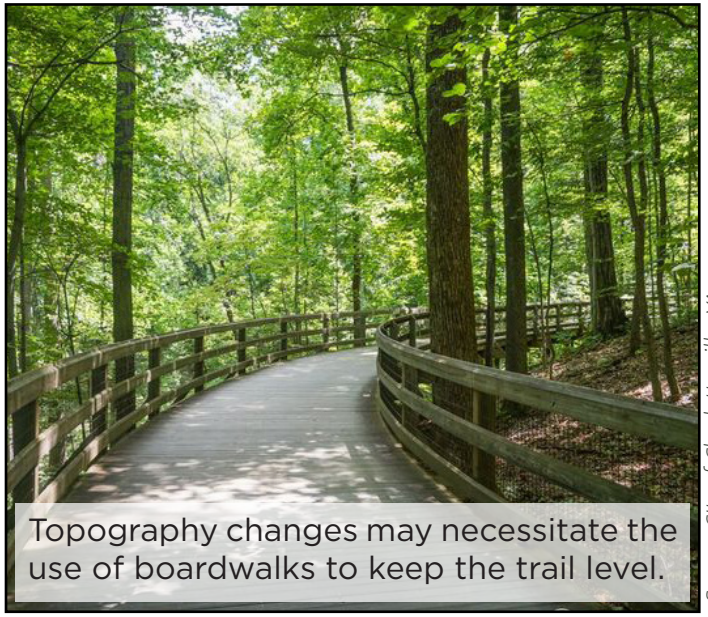
- There is an opportunity to share the costs of this project with the Town of Clyde and Haywood County, since the benefits reach beyond Canton's town limits, demonstrating support for a regional greenway network.
- Large landowners may be able to offer access for trail connections through easements and donations of land.

21 Pigeon River Greenway

CHALLENGES

- Topography may necessitate the use of retaining walls, elevated platforms, and/or a narrower trail. Consider initially constructing a natural surface trail if phasing is more cost-effective.
- The feasibility of this project relies on interagency cooperation and fundraising, with success aided by strong leadership and vocal champions.
- Steps should be taken to sustain the riparian buffer along the Pigeon River.

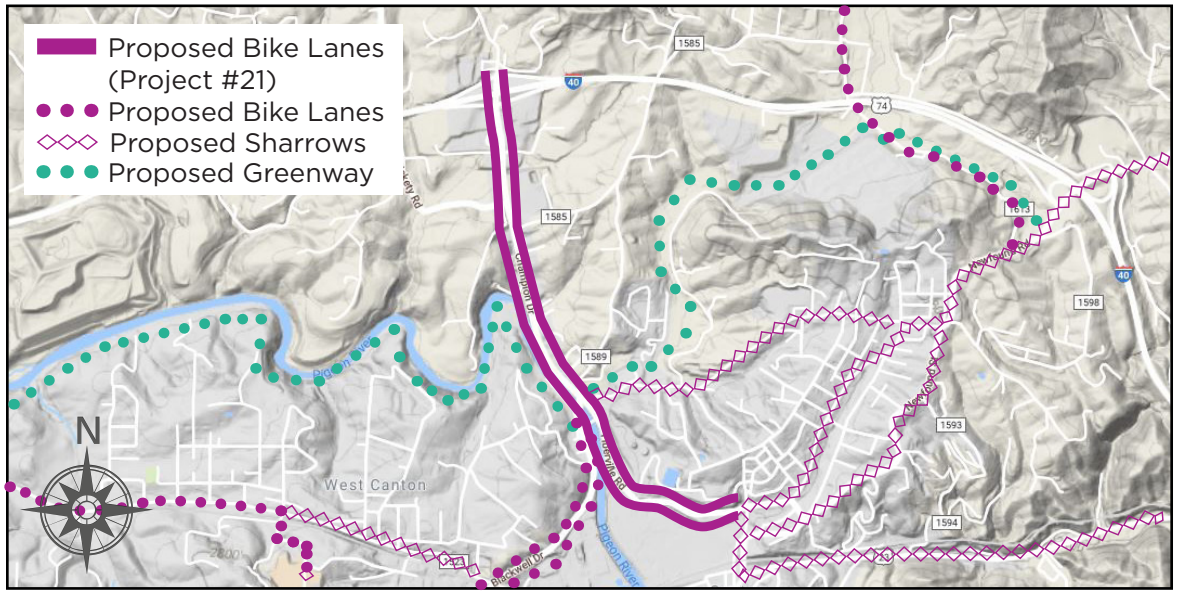




Topography changes may necessitate the use of boardwalks to keep the trail level.

Source: City of Charlottesville, VA

22 Champion Drive Bike Lanes



COST ESTIMATE

$600,000+

LENGTH

1.9 miles

PROJECT DESCRIPTION

Within the existing ROW, restripe Champion Drive to include buffered bike lanes on both sides from Willis Road to Crossroad Hill Road and regular bike lanes from Crossroad Hill Road to Bridge Street. The preferred option is to narrow the existing roadway from 4-5 vehicular lanes to 3 vehicular lanes, freeing up existing ROW for a 2'-4' painted buffer where feasible and 6' minimum bicycle lanes.

[approximately 20,000 linear feet of bike lanes]

This corridor features numerous businesses and should be accessible to people without motor vehicles. Champion Drive has only approximately 16,000 vehicles per day on average, so the lanes can be reduced without significantly affecting travel time.

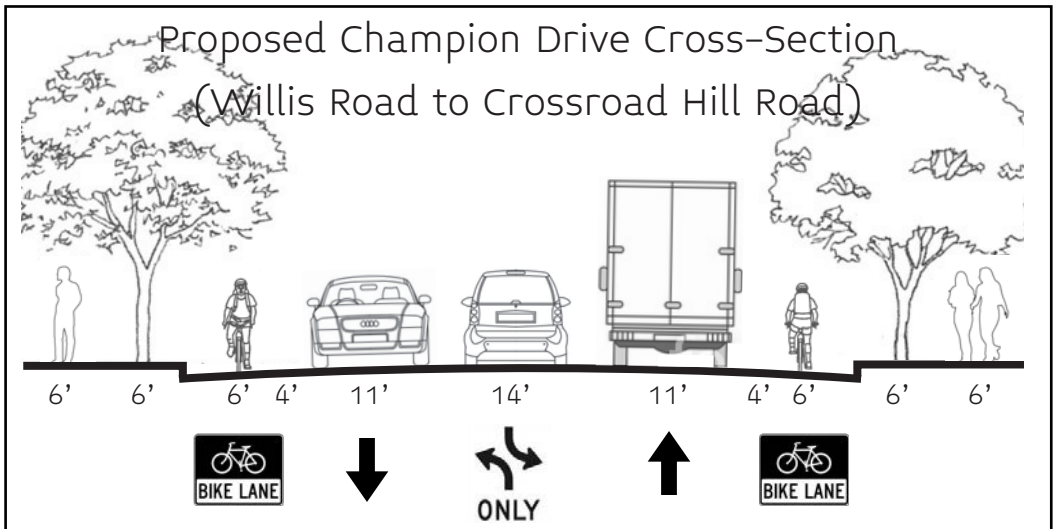
OPPORTUNITIES

- This corridor should enable transportation by all users. Extending bicycle infrastructure to the I-40 interchange would clearly establish Canton as bicycle-friendly and encourage more tourism and local commuting.
- Make sure that any existing or future Haywood County transit fixed routes have adequate bicycle accommodations at stops along this road.

22 Champion Drive Bike Lanes

CHALLENGES

- Numerous curb cuts pose a danger to bicyclists (opportunity for access management).
- Large scale project may require phasing and extensive NCDOT coordination.
- Road diets can generate local opposition. A traffic impact study is recommended to determine feasibility and to address any local concerns.



NOTE: the section from Crossroad Hill Rd to Bridge St will most likely not have a buffer (due to a narrower existing road width).

A concrete buffer offers extra comfort for cyclists, but is costly and poses challenges for access management, street maintenance, and snow removal.

Source: Bike Silicon valley

PROJECT #21 - Pigeon River Greenway

PROJECT #15 & 22 - Champion Drive Sidewalks & Bike Lanes

23 Locust Street Sharrows

COST ESTIMATE

$6,000

LENGTH

0.25 miles

PROJECT DESCRIPTION

Paint sharrows on both sides of Locust Street from Pisgah Drive to Academy Street. Install bicycle parking at the library.

10 sharrows along Locust Street (5 in each direction every 250ft)

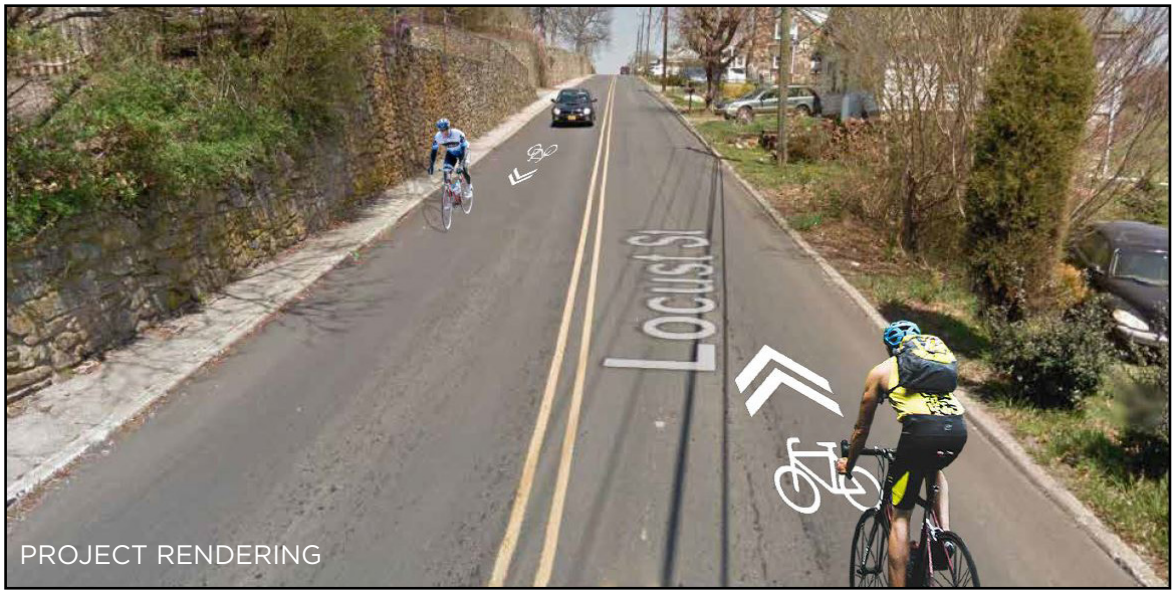
Connecting Academy Street and Pisgah Drive completes a primary network in town, so offering some bicycle amenities here is important. A bicycle climbing lane is recommended along this street, but the existing right-of-way does not accommodate 5' lanes, so sharrows are proposed as a way of reminding motorists to share the lane.

Signs along this route are also recommended (and factored into the cost estimate). Accompanying signs such as "Bikes May Use Full Lane" or "Share the Road" are recommended.

OPPORTUNITIES

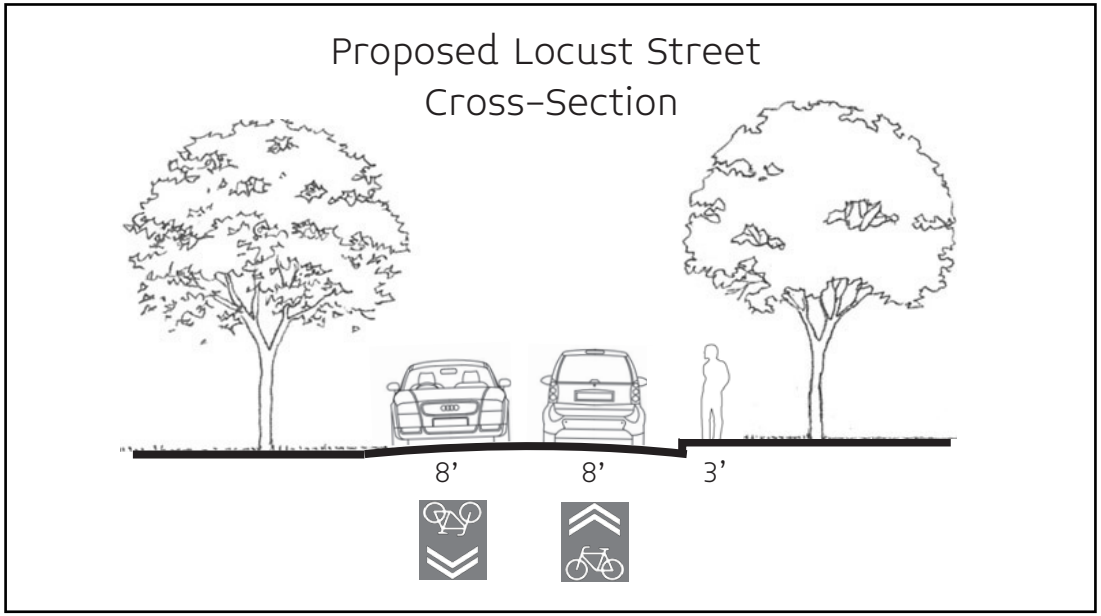
- If Locust Street is ever widened, a bicycle climbing lane should be included in planning for the new right-of-way.

23 Locust Street Sharrows



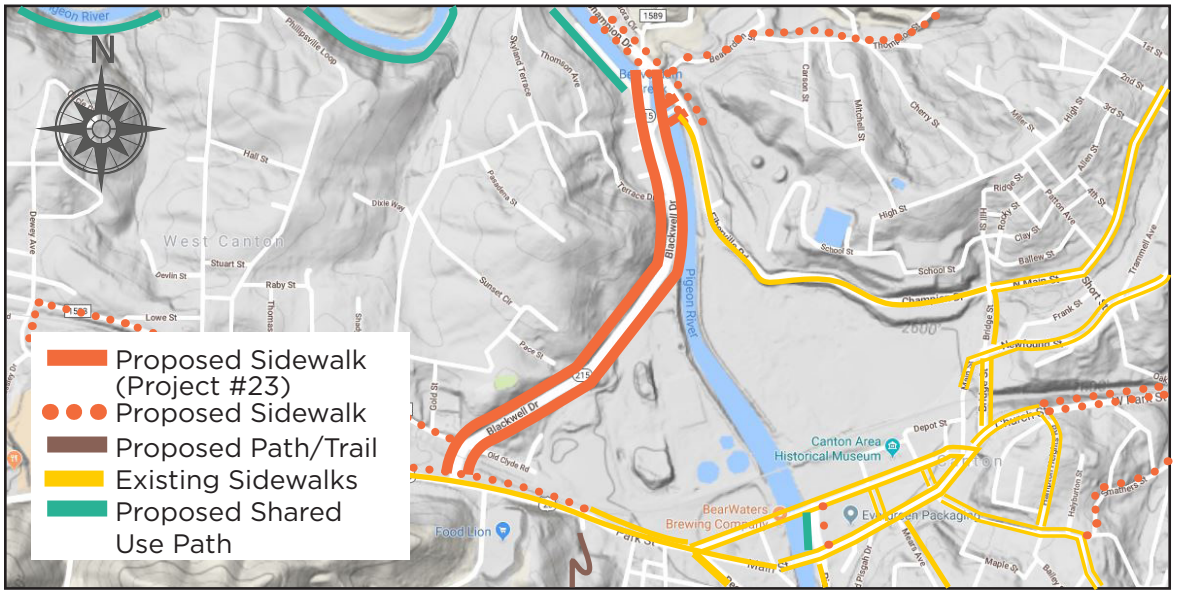
CHALLENGES

- Some houses are very close to the road, so there may be some opposition from residents if lanes are temporarily closed for installation of sharrows.



MUTCD's R4-11 sign is preferable to "Share the Road" signs because it states that bicyclists have legal precedent for using the entire travel lane.

24 Blackwell Drive Sidewalks



COST ESTIMATE

$200,000 for new sidewalks

$900,000 for both sidewalks and bike lanes

$1.5 million for the proposed cross-section in its entirety

LENGTH

0.8 miles

PROJECT DESCRIPTION

Construct 6' sidewalks on both sides of Blackwell Drive from Champion Drive to 19/23 (New Clyde Highway), connecting to the existing sidewalks on the northern bridge to connect to Champion Drive. Install pedestrian signals at Champion Drive and New Clyde Highway.

[approximately 8,400 linear feet of sidewalk]

Consider intersection improvements (crosswalk pavement markings) at Old Clyde Road and installing additional warning signs at the railroad crossing.

People already walk this primary route out of necessity, as one of the only north/south roads in Canton. Blackwell Drive could be a desirable place to walk, especially with a center landscaped median, large buffer from traffic (a bike lane), and street trees along the length.

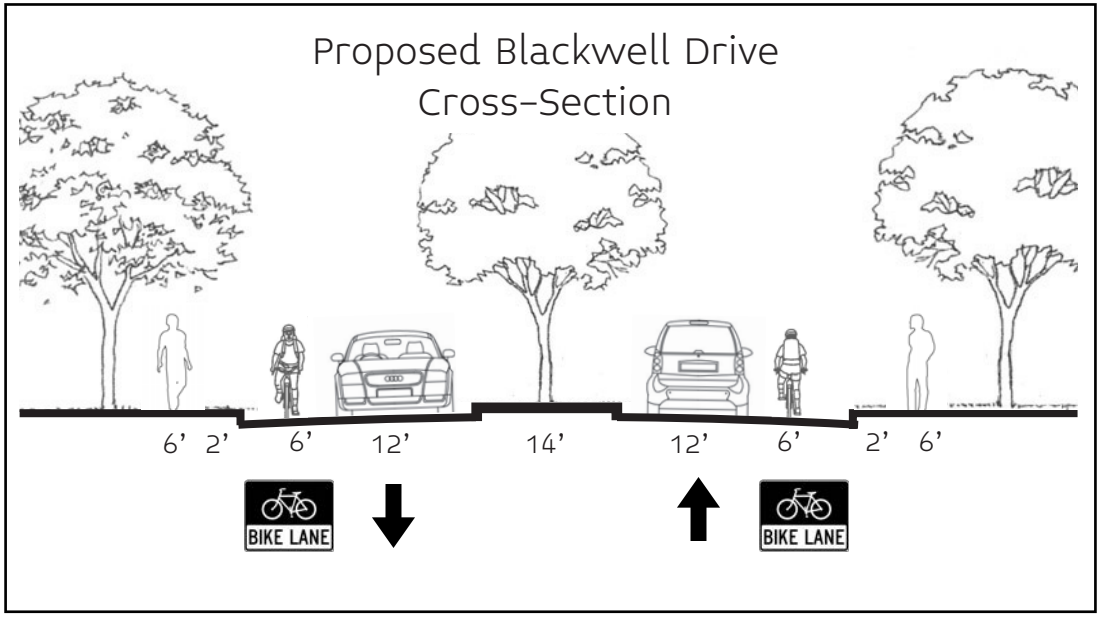
OPPORTUNITIES

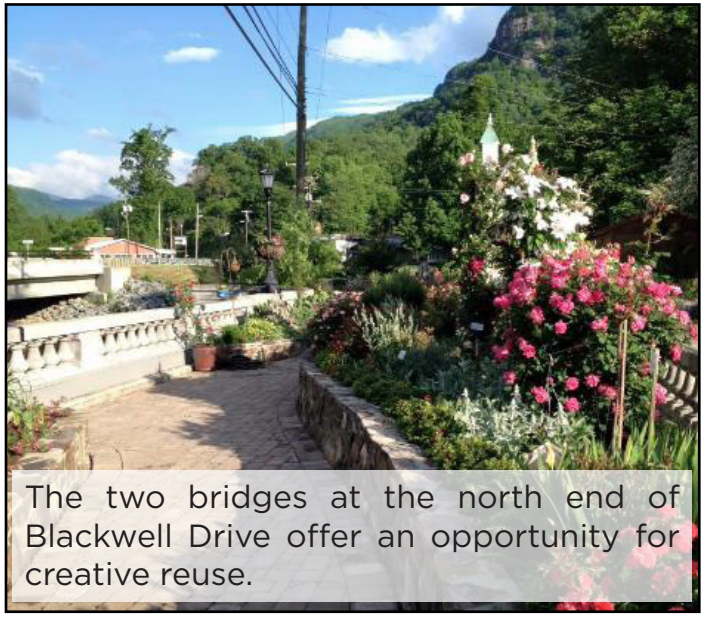
- Consider converting one of the existing bridges at the Champion Drive intersection into a pedestrian destination (like the flowering bridge in Lake Lure) by limiting the lanes dedicated to motor vehicles.

24 Blackwell Drive Sidewalks

CHALLENGES

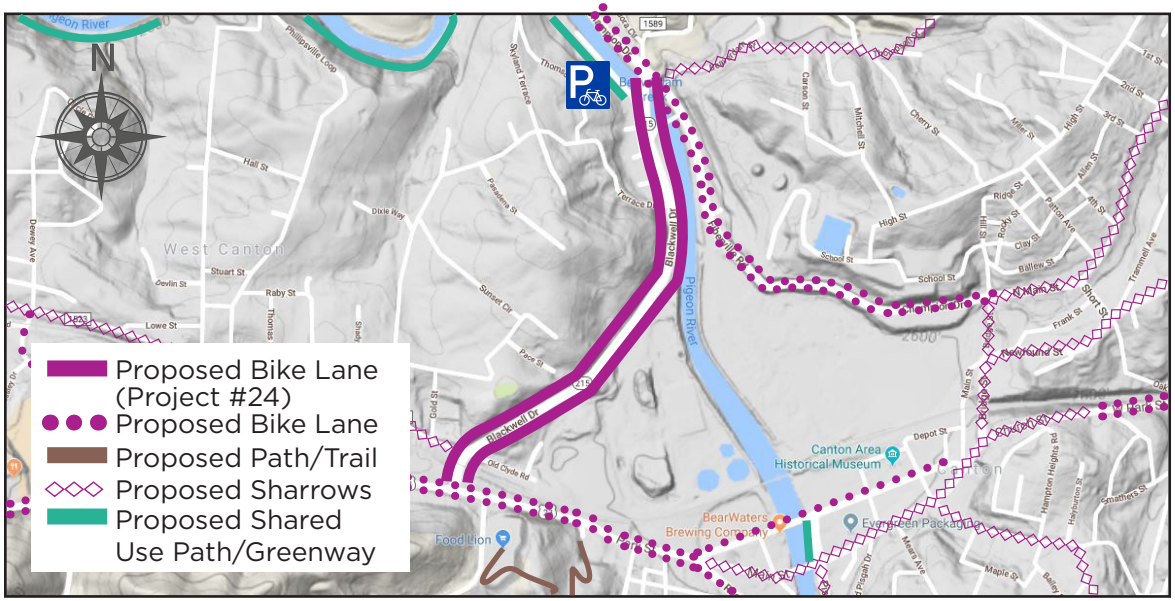
- The high cost justifies looking for ways to offset the Town's burden. Canton should advocate for bike/ped infrastructure on Blackwell Drive through the NCDOT STIP prioritization process.
- There is no room to add sidewalk along the southern bridge at Champion Drive, so the northern bridge is preferred for pedestrian use.





The two bridges at the north end of Blackwell Drive offer an opportunity for creative reuse.

25 Blackwell Drive Bike Lanes



COST ESTIMATE

$700,000 for new bike lanes

$900,000 for both sidewalks and bike lanes

$1.5 million for the proposed cross-section in its entirety

LENGTH

0.8 miles

PROJECT DESCRIPTION

Construct 6' bike lanes on both sides of Blackwell Drive from Champion Drive to US 19/23 (New Clyde Highway) by reconfiguring lane widths (4 lanes to 3) within the existing right-of-way.

[approximately 8,400 linear ft of bike lanes]

An average of 9,000 vehicles per day does not necessitate multiple lanes, especially along a short stretch of road. Consider making Blackwell Drive a 2-lane road (see proposed cross-section) with a landscaped center median. There are no turning movements necessary along most of Blackwell Drive, and this would create a more comfortable environment for all users.

Consider installing additional warning signs at the RR crossing.

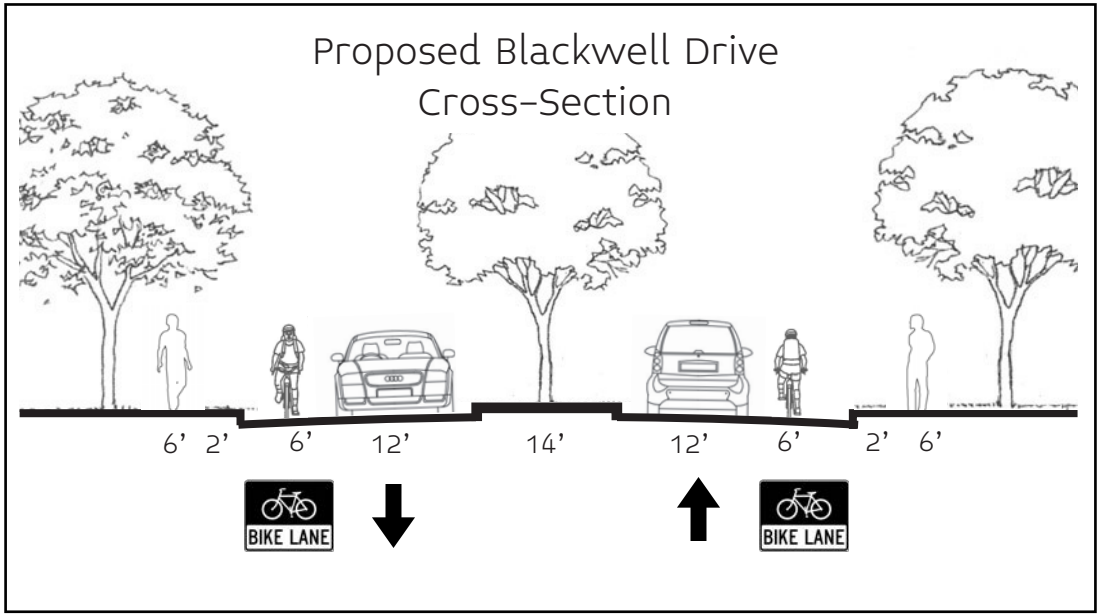
OPPORTUNITIES

- Tying the proposed Pigeon River Greenway to a more complete bike lane system opens up the recreational trail to more users.
- Blackwell Drive is a necessary multimodal corridor and can facilitate commuter bicyclists.

25 Blackwell Drive Bike Lanes

CHALLENGES

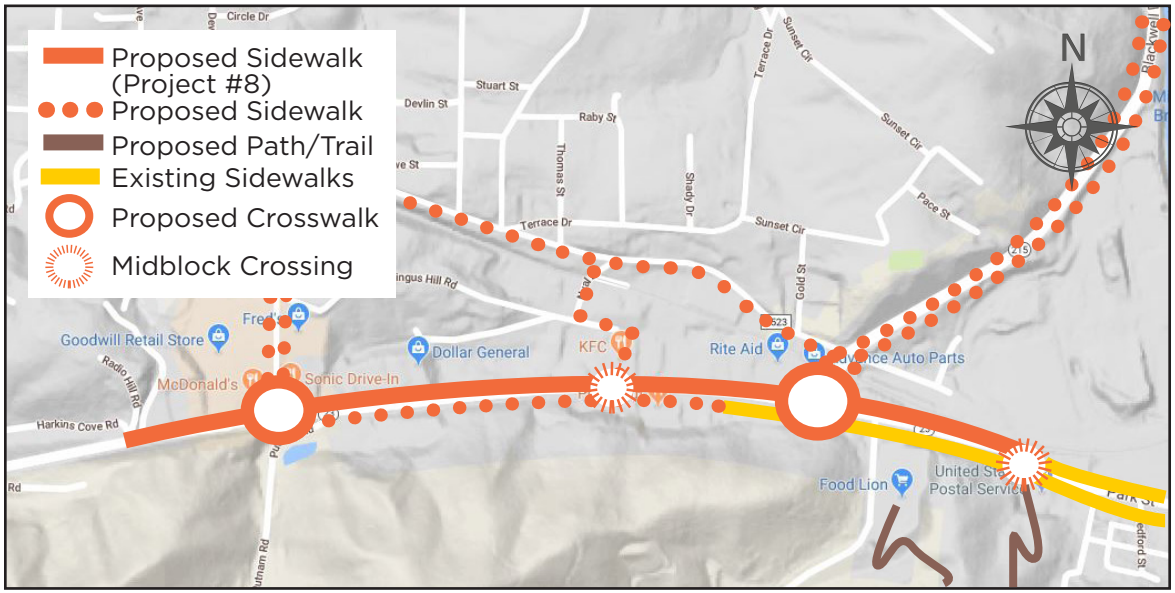
- The high cost justifies looking for ways to offset the Town's burden. Canton should advocate for bike/ped infrastructure on Blackwell Drive through the NCDOT STIP prioritization process.
- Road diets can generate local opposition; thus, suitable educational and public involvement methods should be considered.



MUTCD W10-1

There is a railroad crossing on Blackwell Drive that is not clearly marked. Some additional signs would help make everyone aware of the possible danger.

26 New Clyde Highway Sidewalk (NORTH)



COST ESTIMATE

$350,000

LENGTH

1 mile

PROJECT DESCRIPTION

Construct a 6' minimum sidewalk on the north side of New Clyde Highway (US 19/23) from Harkins Cove Rd (SR1657) to the existing sidewalk across from the US Post Office. Install signalized pedestrian crosswalks across Greenberry St and at the Blackwell Dr intersection.

[approximately 5,300 linear feet of sidewalk]

Identify locations for midblock crossings (high visibility crosswalks with pedestrian refuge islands) to allow people to safely cross at places other than Blackwell Drive or Greenberry. People already attempt to cross the road at various locations, but doing so is currently dangerous.

This project will connect this busy commercial sector to the heart of downtown Canton and will allow people to park once and visit multiple businesses on foot instead of having to drive to nearby destinations.

OPPORTUNITIES

- The Town of Canton should work with Haywood County, the Town of Clyde, and NCDOT to extend sidewalks even further to Ducketts Produce, Midway Medical Center, and downtown Clyde.
- Infrastructure investments can demonstrate a commitment to equity and could spur economic development along the corridor.

26 New Clyde Highway Sidewalk (NORTH)

EXISTING CONDITIONS

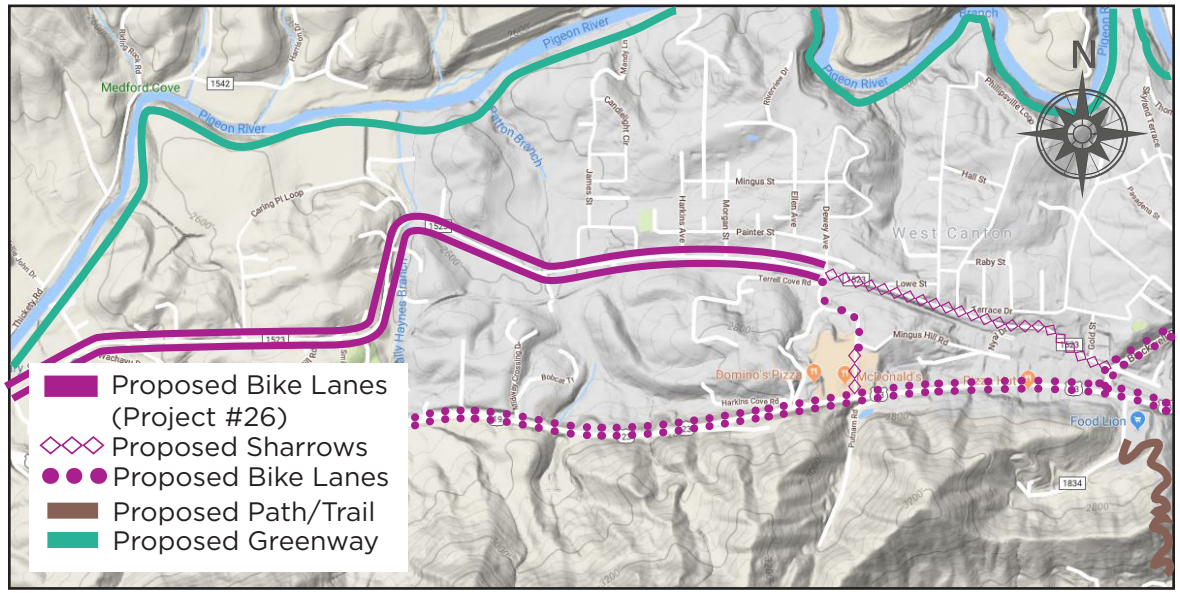
CHALLENGES

- Numerous curb cuts to businesses should be consolidated through access management.
- Some major topography changes will pose additional design and construction challenges with this project.
- Offset costs by coordinating with tentative NCDOT STIP prioritization project B141062, which proposes sidewalks from Greenberry Street to Blackwell Drive.

PROJECT RENDERING

Pedestrian refuge islands can dramatically improve comfort, safety, and accessibility for all users.

27 Old Clyde Road (SR 7133) Paved Shoulders



COST ESTIMATE

$1 million +

LENGTH

2.4 miles

PROJECT DESCRIPTION

Widen Old Clyde Road for 5' minimum bikeable shoulders on both sides from Greenberry Street to the Clyde town limit.

[approximately 25,500 linear feet of bike lanes]

Many bicyclists travel along Old Clyde Rd as an option to head west from Canton, so offering some amenities here is important. This is a popular scenic route for locals and tourists alike, and a viable alternative to US 19/23. Connecting downtown Clyde to downtown Canton via a scenic country road with bikeable shoulders in both directions could really influence commuting decisions and tourism.

OPPORTUNITIES

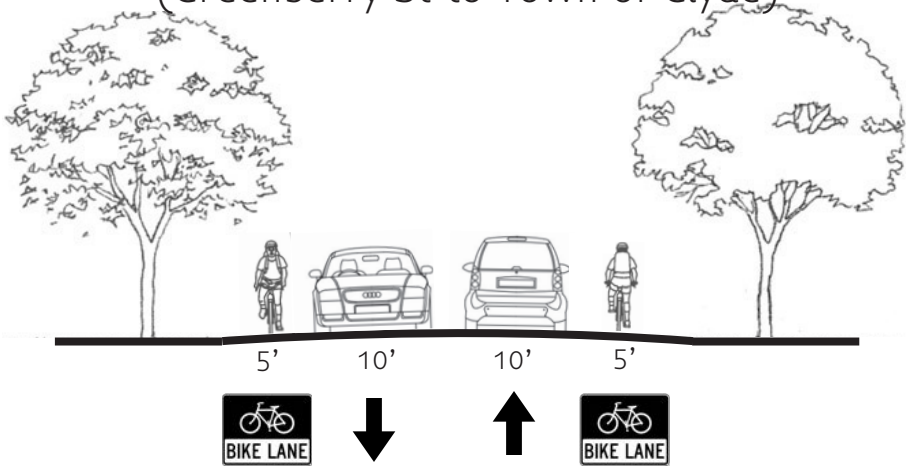
- If Old Clyde Road becomes safer and more comfortable to use on a bicycle, the community could see more commuting between Canton, Clyde, Lake Junaluska, and Waynesville; its location (and the number of residents nearby) make it an ideal regional route.

27 Old Clyde Road (SR 7133) Paved Shoulders

CHALLENGES

- Some changes in topography may necessitate minor roadway realignments.
- This project falls entirely outside municipal jurisdiction, but the Town of Canton should work to support this endeavor as the primary bicyclist connection between Canton and Clyde.

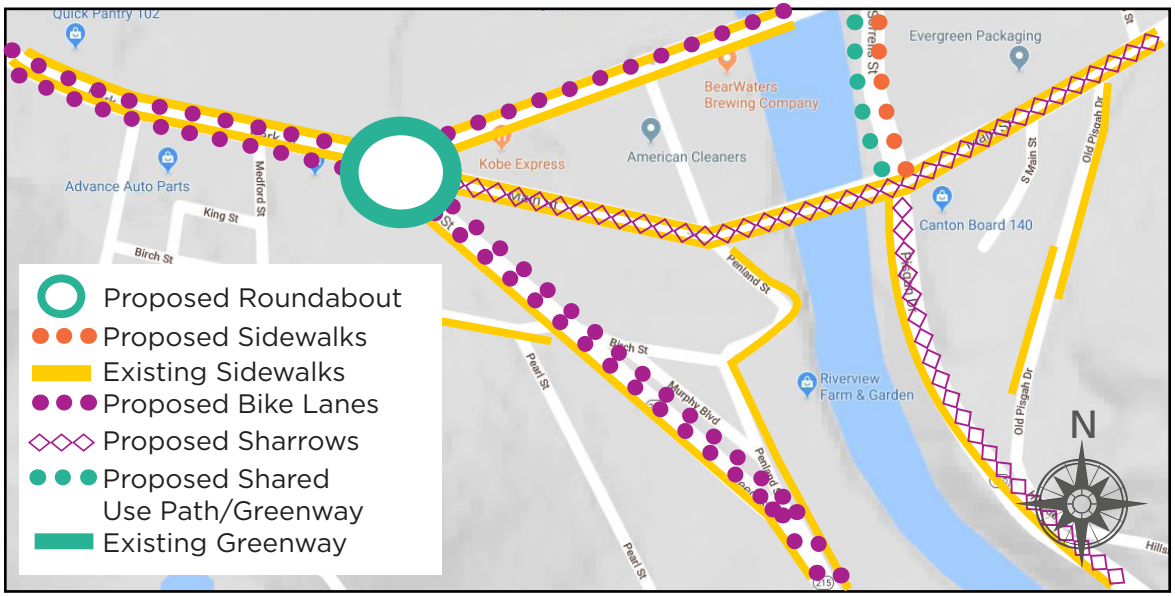
Proposed Old Clyde Road Cross-Section
(Greenberry St to Town of Clyde)



Make sure construction crews do not limit shoulder width with rumble strips (consider rumbles strips along the edge line).

Source: 1st State BIKES

28 Main/Park/Reed Roundabout



COST ESTIMATE

$600,000

PROJECT DESCRIPTION

Work with adjacent property owners and NCDOT to construct a one-lane roundabout at the intersection of Park St, Main St, and Reed St.

This intersection should more effectively slow traffic down as they enter downtown Canton - roundabouts usually require motorists to slow down, yield, and travel through at 15mph - because current conditions do not adequately prepare motorists for the shift in speed limit.

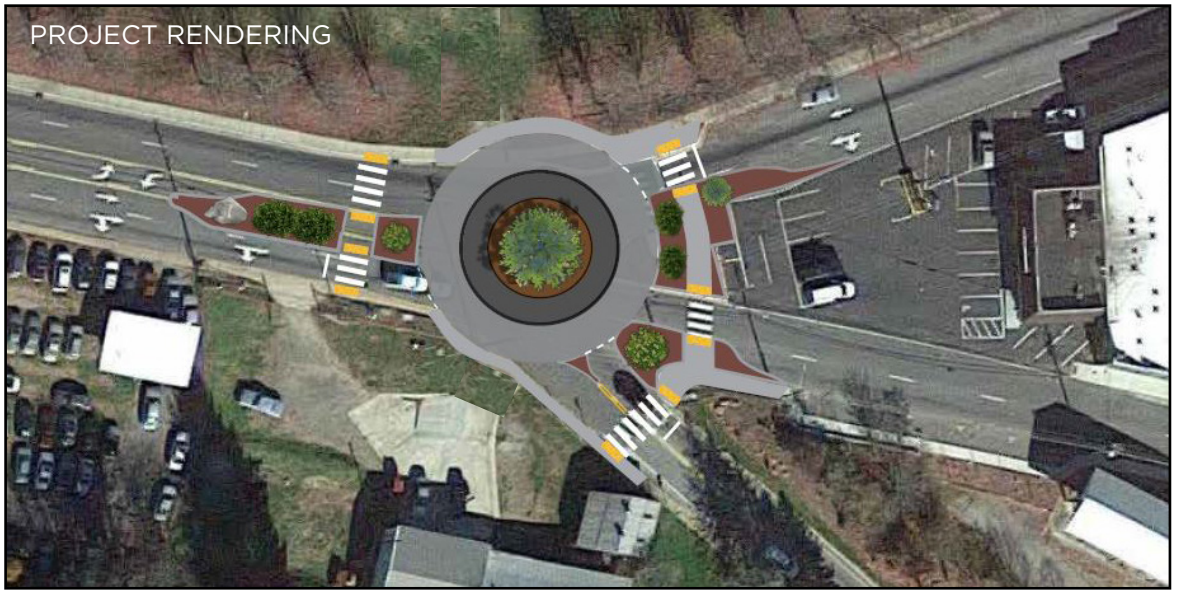
A roundabout would simplify the traffic pattern for every user by negating the need for inefficient traffic signals and turn movements.

Roundabouts provide an overall safer environment for pedestrians, because every user has slowed down and is more aware of surroundings. Consider a gateway element to announce “Welcome to Downtown Canton”

OPPORTUNITIES

- A roundabout would simplify this intersection, enabling every turn movement at once and transitioning traffic to the desired low speeds of downtown and Main Street.
- There is potential for public art, attractive landscaping, and gateway elements as the primary western entrance to Canton.

28 Main/Park/Reed Roundabout



CHALLENGES

- Roundabouts can engender confusion and pushback from people who are concerned about traffic flow and congestion.
- This project would require some right-of-way acquisition, but none affecting residential properties.
- Considerable construction costs and temporary rerouting of traffic makes this an expensive project.

As an entry to downtown Canton, this roundabout could display artwork, landscaping, and other gateway features.

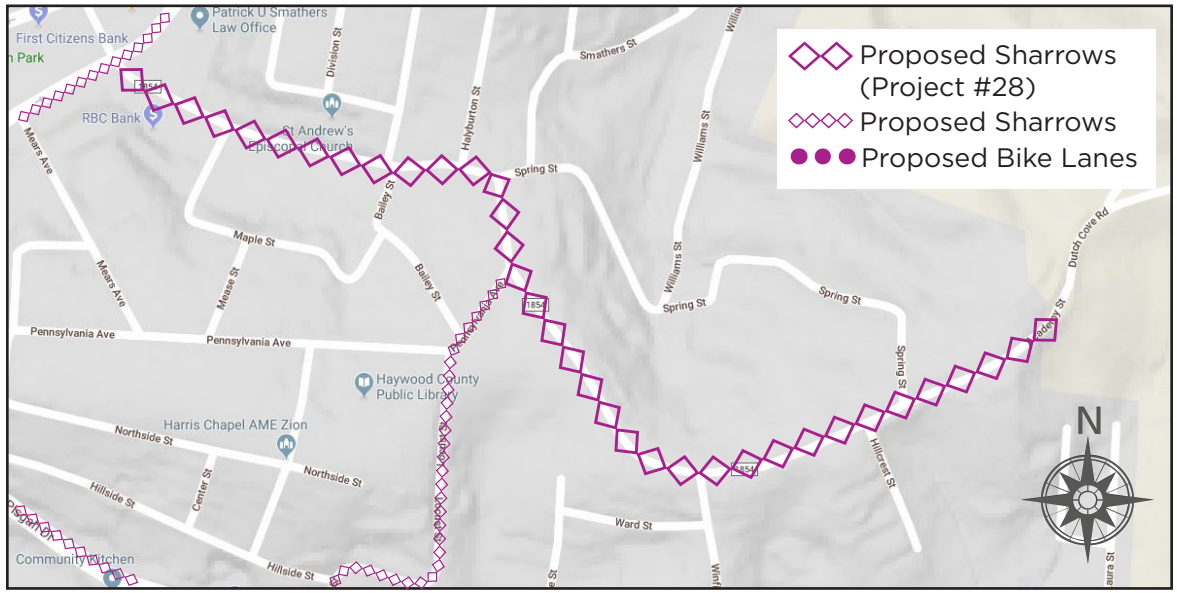
Proposed bike lanes should give bicyclists the option to merge into traffic and circle the roundabout or exit onto the sidewalk to utilize the crosswalks.

Source: City of Lafayette, CA

PROJECT #24 & 25 - Blackwell Drive Sidewalks & Bike Lanes

PROJECT #28 - Main/Park/Reed Roundabout

29 Academy Street Sharrows



COST ESTIMATE

$16,000

LENGTH

0.7 miles

PROJECT DESCRIPTION

Paint sharrows on both sides of Academy Street from Main Street to the Canton town limit.

30 sharrows along Academy Street (15 in each direction every 250ft)

There is not room to add full bike lanes along Academy Street, but it is an important thoroughfare, so reminding motorists that bicyclists may be present is helpful in balancing traffic flow and safety.

Signs along this route are also recommended (and factored into the cost estimate). Accompanying signs such as “Bikes May Use Full Lane” or “Share the Road” are recommended.

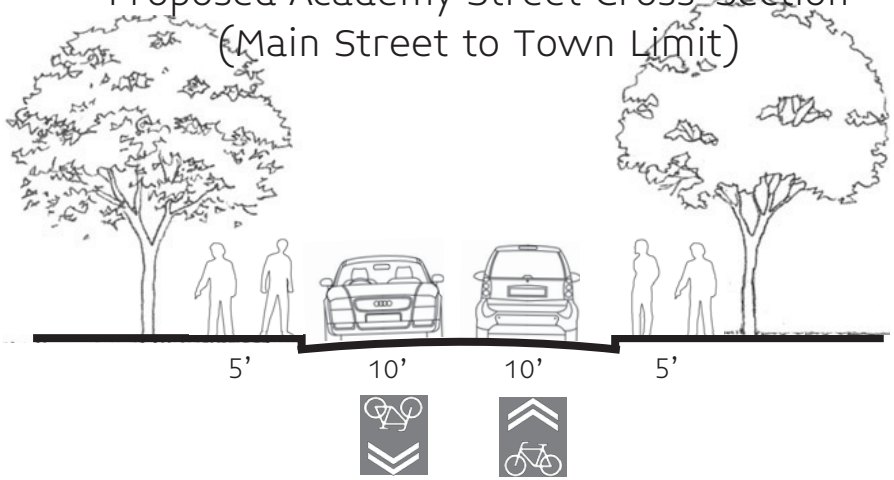
OPPORTUNITIES

- Canton can demonstrate its awareness of cycling by using sharrows along Academy Street. The markings will help convey that traffic should slow down upon entering the town limit and be vigilant for cyclists.

29 Academy Street Sharrows

CHALLENGES

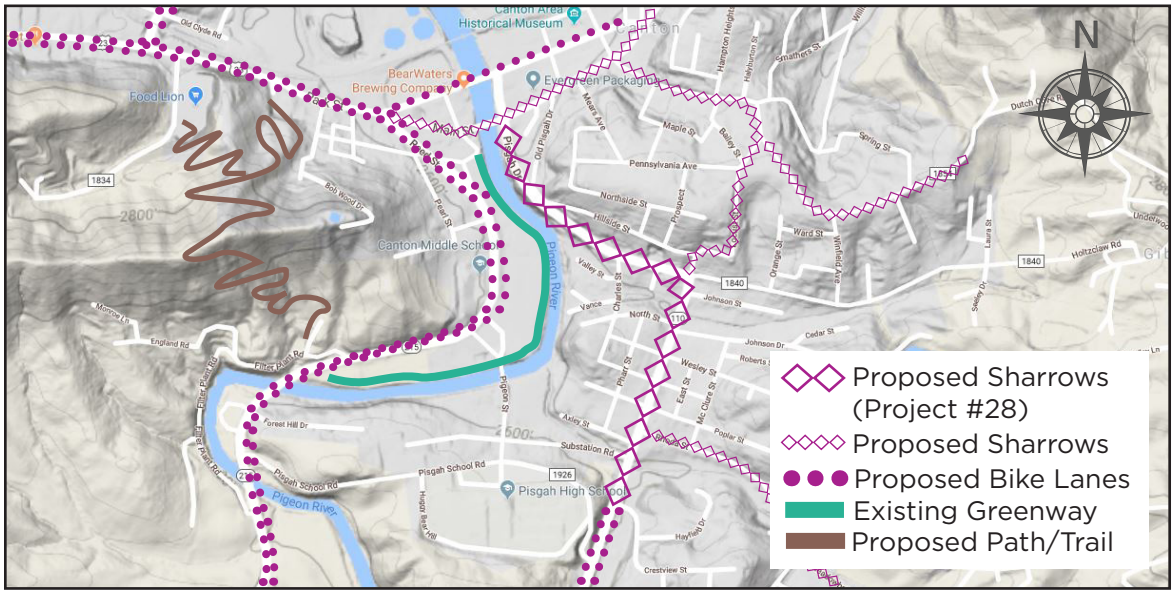
- Some houses are close to the road, so there may be some opposition from residents if lanes are temporarily closed for installation of sharrows.



Sidewalk should be constructed along the cemetery property (see rendering above) to make the cross-section applicable to the entire study area, without gaps in the system.

MUTCD's R4-11 sign is preferable to "Share the Road" signs because it states that bicyclists have legal precedent for using the entire travel lane.

30 Pisgah Drive Sharrows



COST ESTIMATE

$16,500

LENGTH

0.8 miles

PROJECT DESCRIPTION

Paint sharrows on both sides of Pisgah Drive from Main Street to Crestview Street.

32 sharrows along Pisgah Drive (16 in each direction every 250ft)

Full bicycle lanes are recommended for Pisgah Drive, but will not fit within the existing roadway. Reminding motorists that bicyclists can use the full lane is important along such an important thoroughfare.

Signs along this route are also recommended (and factored into the cost estimate). Accompanying signs such as “Bikes May Use Full Lane” or “Share the Road” are recommended.

Coordinate with the NCDOT’s construction of a roundabout at the Locust Street intersection (scheduled for construction in 2019).

OPPORTUNITIES

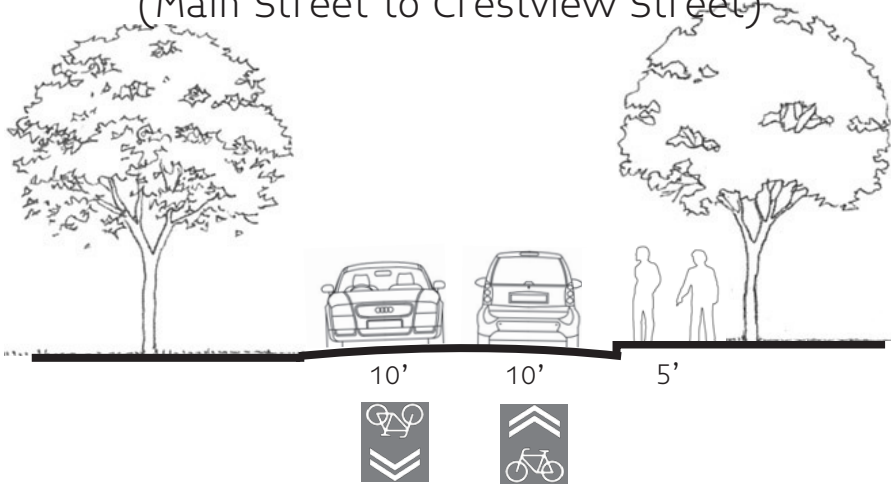
- NCDOT is building a roundabout at the Pisgah Drive intersection with Locust and Holtzclaw. This could be an opportunity to utilize any road closings and detours for that project to concurrently paint sharrows on Pisgah Drive.

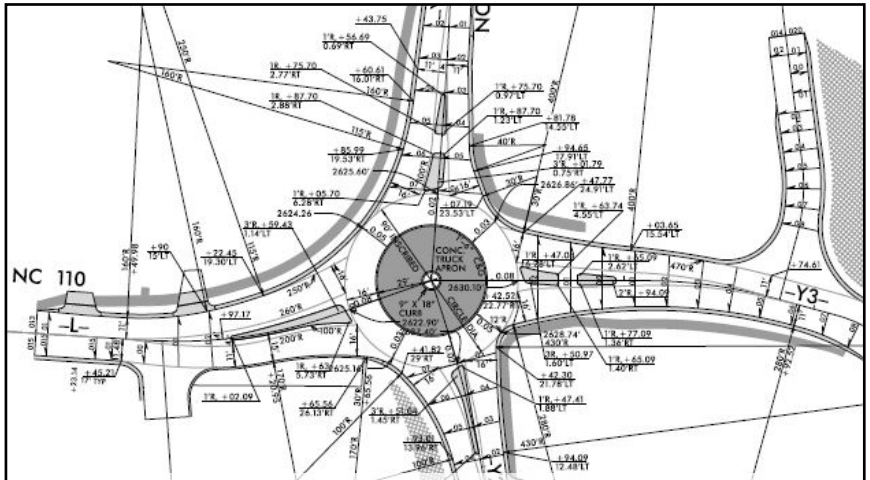
30 Pisgah Drive Sharrows

CHALLENGES

- Some houses and businesses are close to the road, so there may be some opposition from residents if lanes are temporarily closed for installation of sharrows. The project should be implemented when school is not in session.
- Major traffic patterns will shift if Pisgah Drive is temporary closed for installation. An effective traffic control plan is necessary.

Proposed Pisgah Drive Cross-Section
(Main Street to Crestview Street)

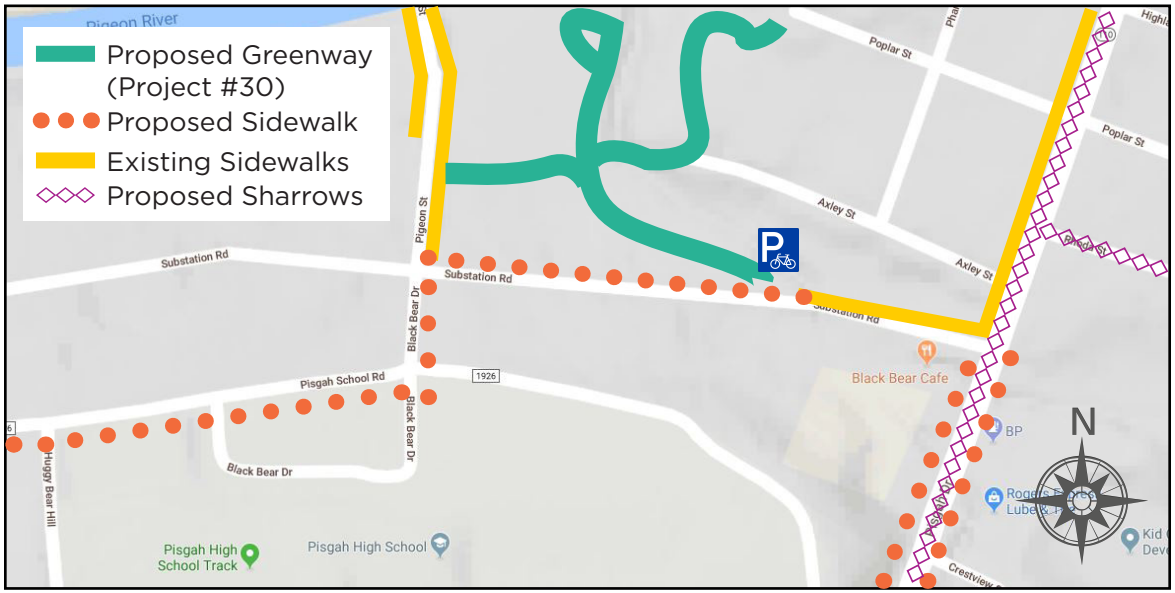




The roundabout at Holtzclaw and Locust will include pedestrian crossings, while its simplified turning movements will be safer for cyclists.

Source: NCDOT

31 Pigeon Street Path



COST ESTIMATE

$100,000

LENGTH

0.13 miles

PROJECT DESCRIPTION

Construct a 10'-12' paved shared use path along the west side of the creek behind the baseball field on Pigeon Street, connecting to Pigeon St, Axley Street, and Poplar Street via existing ROW, and the small bridge on Substation Road (connecting to the existing sidewalk).

[approximately 1,100 linear feet of sidewalk]

This project uses existing right-of-way, Town of Canton properties, and an existing bridge over the creek to provide convenient pedestrian and bicyclist connections from residential neighborhoods to recreation facilities, and a safe route between Pisgah Drive and Pigeon Street (and an alternative to Substation Road, which has limited sidewalks).

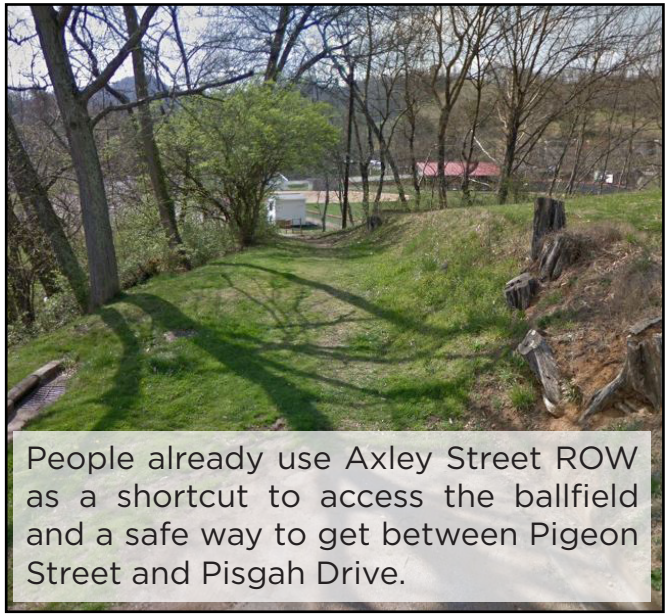
OPPORTUNITIES

- Developing the Town-owned parcels near the bridge into a public park could influence the use of this pathway as a bicycle and pedestrian corridor.
- This project could be coupled with improvements to the creek to ameliorate stormwater flooding damage and slow the distribution of sediment into the river, with water quality benefits and native plant landscaping.

31 Pigeon Street Path

CHALLENGES

- To avoid complications from busy school hours, this project should be programmed for the summer.
- Funding would most likely be a local effort, as this project has no regional impact and minimal overall transportation impact.

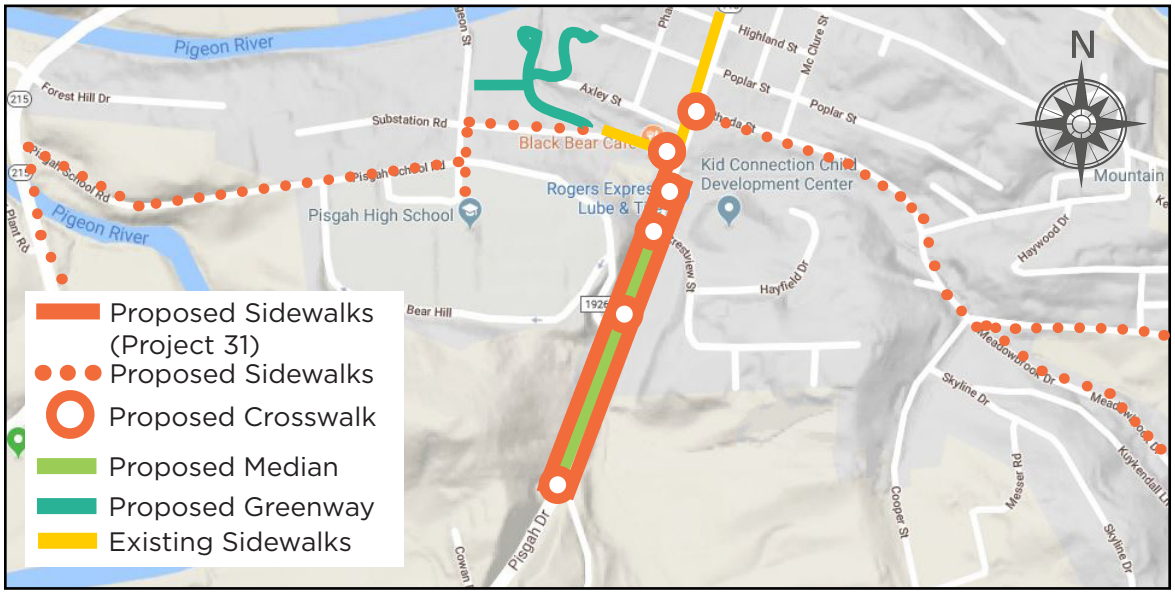


People already use Axley Street ROW as a shortcut to access the ballfield and a safe way to get between Pigeon Street and Pisgah Drive.

Poplar Street also sees pedestrian traffic. The area surrounding the ballfield below could be improved for recreational uses as parkland with connections to the Pigeon River (an overlook, a pedestrian bridge, a boat launch) and other park amenities.

Source: 2016 City of Richmond, VA

32 Pisgah Drive Sidewalks



COST ESTIMATE

$100,000

LENGTH

0.3 miles

PROJECT DESCRIPTION

Construct 5' minimum sidewalks with 2' minimum buffer on both sides of Pisgah Drive from Crescent Loop to Substation Road.

[approximately 3,400 linear feet of sidewalks]

Construct a landscaped median along the center turn lane, with gaps as necessary for certain intersections and crosswalks; construct a high visibility crosswalk at Crescent Loop (see rendering). This may be a challenge because there is no sidewalk on Crescent Loop to connect to.

NCDOT approval will be required (NCDOT customarily adheres to the MUTCD for guidance on crossing treatments).

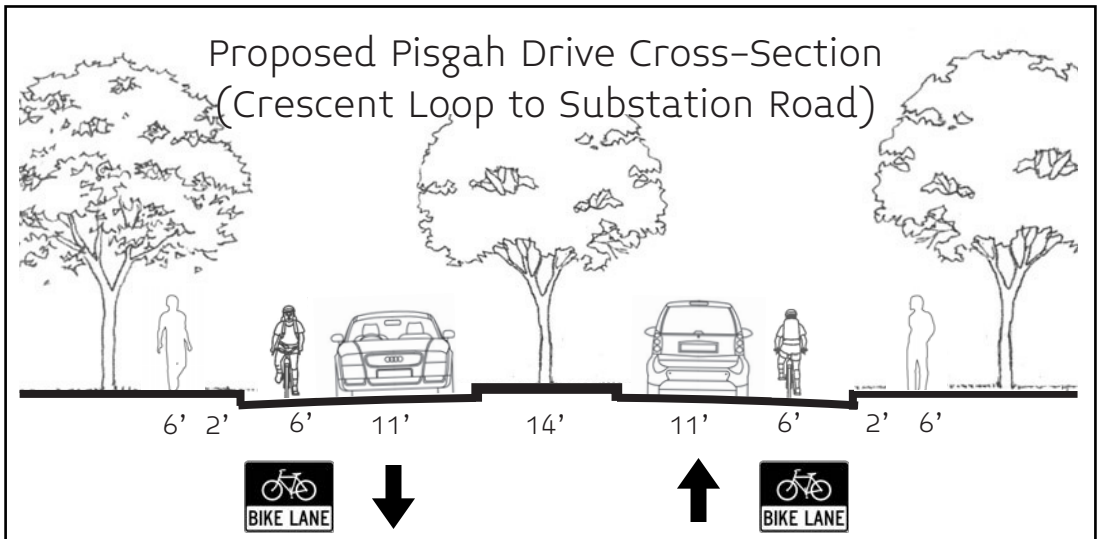
OPPORTUNITIES

- People are already walking along and crossing Pisgah Drive, which is inherently unsafe. Improvements are urgent and necessary for residents.
- This is a southern gateway into Canton and could be an opportunity for the Town to welcome people and demonstrate a focus on safety and walkability. Additional gateway elements should be considered.

32 Pisgah Drive Sidewalks

CHALLENGES

- Coordination required with **Project #16: Pisgah Drive Pedestrian Improvements and Project #51: Pisgah Drive Bike Lanes.** The projects should be planned for construction simultaneously.
- There may be concerns about losing the center turn lane.
- Driveway access near Substation Road may need to be consolidated.



Note: This cross-section shows bicycle lanes, which would require widening the road, which is not proposed as part of this project but as a long-term goal for PIsgah Drive.

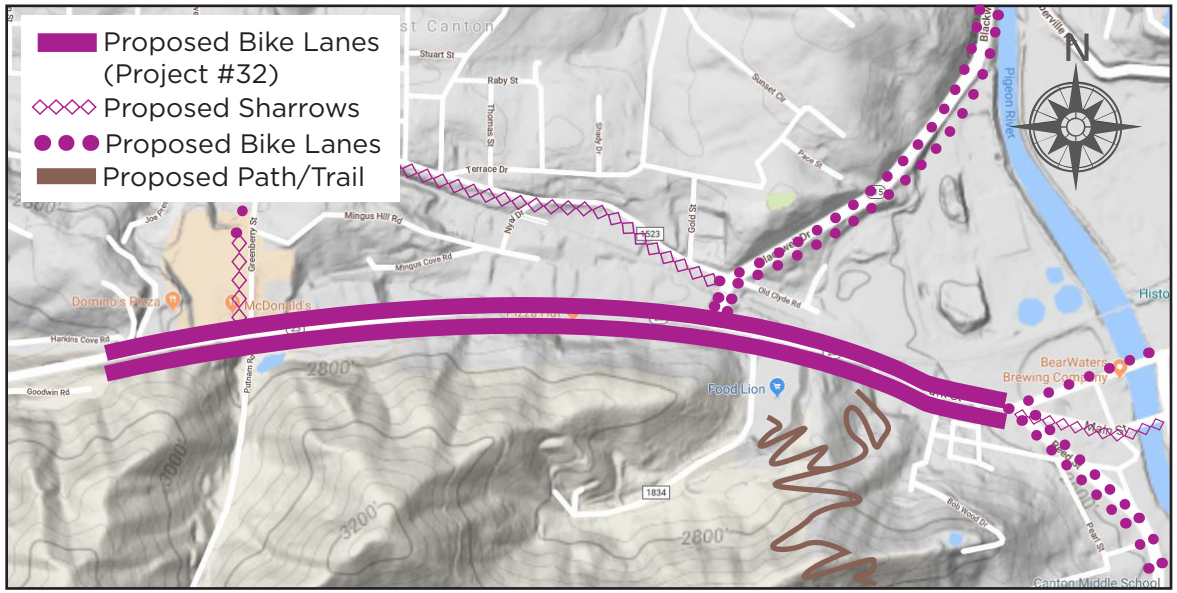
Canton can explore the idea of using landscaped medians as opportunities for gateway elements.

Source: Los Angeles Neighborhood Alliance

PROJECT #14 & 31 - Substation Road Sidewalk & Pigeon Street Path

PROJECT #32 - Pisgah Drive Sidewalks

33 New Clyde Highway Bike Lanes



COST ESTIMATE

$800,000

LENGTH

1 mile

PROJECT DESCRIPTION

Restripe to replace the two outside vehicular travel lanes for 6' protected bike lanes (using striping and flexible delineators) along both sides of New Clyde Highway (US 19/23) from Harkins Cove Road to the Main Street/Reed Street/Park Street intersection.

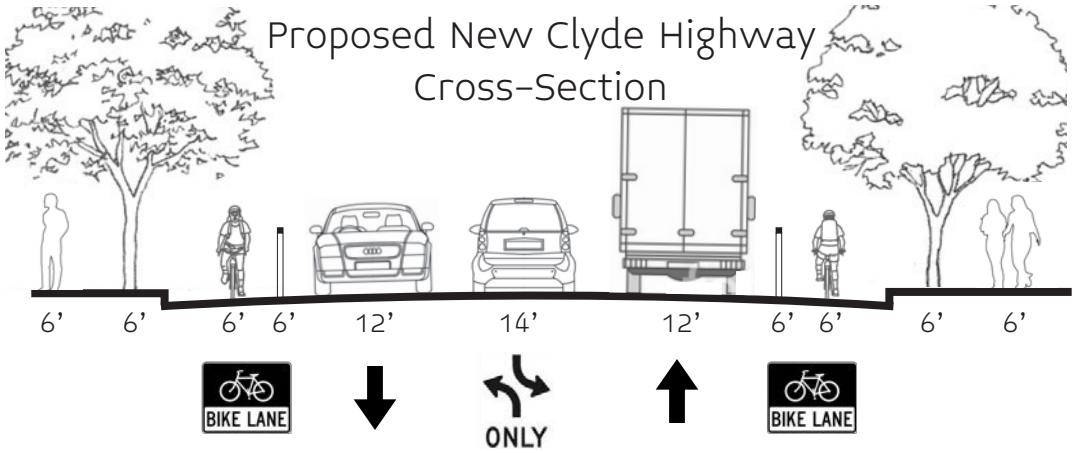
[approximately 10,500 linear feet of bike lane]

This project will connect this busy commercial sector to the heart to downtown Canton and will allow people to ride a bicycle to their job and to businesses. Current conditions are hazardous for bicycling - lanes enable cars to pass, but shoulder widths vary (forcing cyclists to merge suddenly) and high speed traffic make biking unsafe. A sidepath is an acceptable alternative design, considering the limited development on the south side of New Clyde Highway.

OPPORTUNITIES

- The Town of Canton should work with Haywood County, the Town of Clyde, and NCDOT to extend bike lanes even further to Midway Medical Center and downtown Clyde.
- Multimodal transportation infrastructure investments demonstrate a commitment to equity, connecting workers to employment centers.

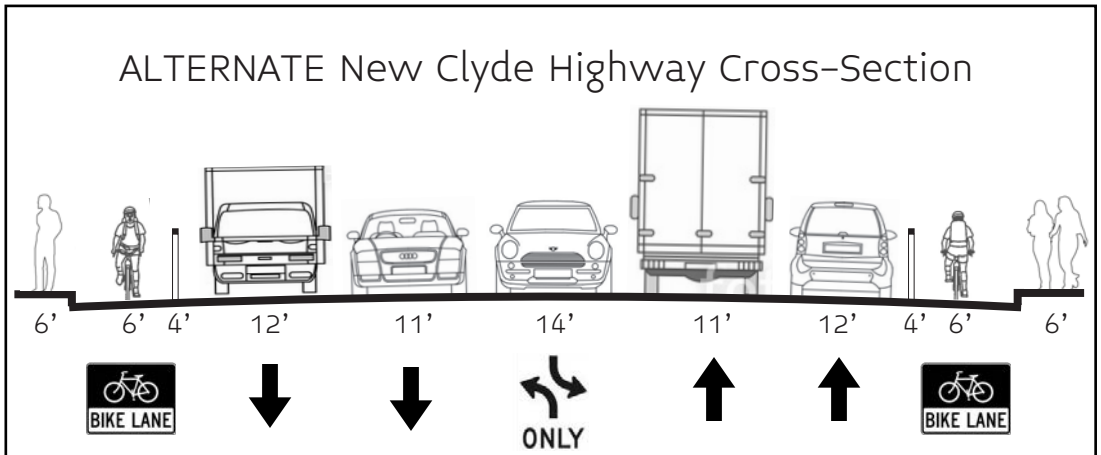
33 New Clyde Highway Bike Lanes



The existing 68' of roadway width can accommodate protected bike lanes. Coupled with sidewalks and trees, New Clyde Highway could be transformed. The daily volume along this road is low enough to consider a road "diet", but public perceptions of traffic delays and NCDOT predictions for growth make this unlikely.

CHALLENGES

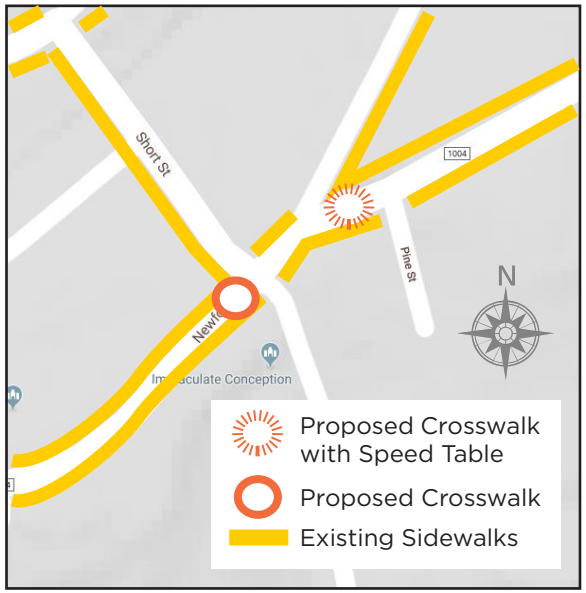
- Numerous curb cuts to businesses should be consolidated through access management.
- Some major topography changes will pose additional design and construction challenges with this project.
- Offset costs by coordinating with tentative NCDOT STIP prioritization projects along this road and advocating for the inclusion of multimodal infrastructure.



The more expensive option is to widen the roadway to accommodate bike lanes while keeping the existing 5-lane configuration. While less comfortable for bicyclists and pedestrians, NCDOT should be willing to add multimodal infrastructure to future roadway improvements.

A bike box enables cyclists to turn left safely at a signalized intersection, maneuvering in front of cars at a red light.

34 Newfound Street Crosswalks



COST ESTIMATE

$20,000

PROJECT DESCRIPTION

- Install a crosswalk and pedestrian signal on Newfound Street at the North Main Street intersection (moving the existing stop bar back to accommodate pedestrian crossing area);
- Install a crosswalk across Hilltop Farm Road;
- Install a crosswalk at the west side of Short Street;
- Install a high visibilty crosswalk with a speed table at the east side of Trammell Ave.

Identify locations for midblock crossings (high visibility crosswalks with pedestrian crossing signs).

OPPORTUNITIES

- Newfound Street is very walkable, with sidewalks along both sides. Creating safe designated places to cross helps strengthen that walkability.
- There should be good locations between these two intersections for additional crosswalks (mid-block crossings with or without speed tables), but the intersections are a higher priority.

34 Newfound Street Crosswalks

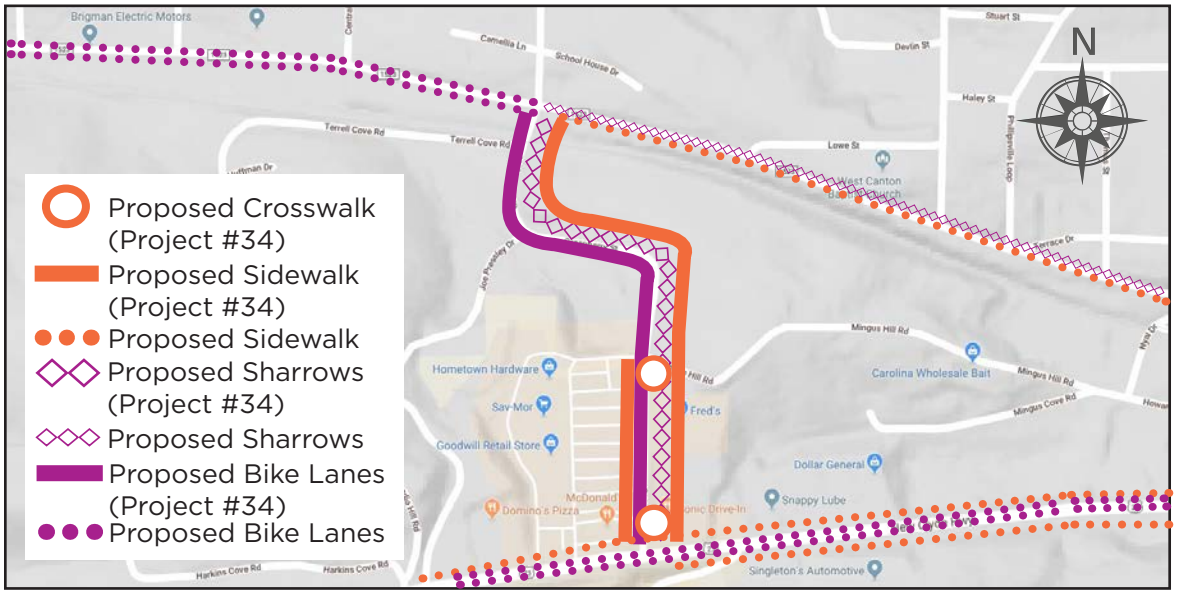
CHALLENGES

- The gas station at Hilltop Farm Road does not have sidewalks along the street, so improvements will be necessary to connect the new crosswalk. This should be coordinated with **Project #62: Newfound Sidewalk & Sidepath** for a direct connection.
- There is often public pushback when speed tables are discussed or introduced, but the downhill vehicular speeds warrant some type of traffic calming measure.

Speed tables are a good way to both slow traffic down and provide safe crossing for pedestrians.

Source: NACTO

35 Greenberry Street Sidewalks & Bike Lanes



COST ESTIMATE

$80,000 for sidewalks
$150,000 for bike lanes and sharrows

LENGTH

0.35 miles

PROJECT DESCRIPTION

Construct 5' minimum sidewalks from New Clyde Highway (US-19/23) to Old Clyde Road (SR-1523). [Both sides from New Clyde Hwy to Mingus Hill Rd; East side only from Mingus Hill Rd to Old Clyde Rd.];

[approximately 2,500 linear feet of sidewalk]

Other pedestrian amenities include:

- Crosswalk at the south side of Mingus Hill Rd;
- Signalized crosswalk at north side of New Clyde Hwy;

Widen roadway to construct 5' bike lanes on the west side (southbound) of Greenberry Street from New Clyde Hwy (US-19/23) to Old Clyde Rd (SR1523). Paint sharrows along the east side (northbound).

[approximately 1,800 linear ft of bike lane; 8 sharrows (1 every 250ft)]

OPPORTUNITIES

- This project could be phased - sharrows, then sidewalks, then crosswalks, then bike lane. It may, however, be more prudent to pursue a wholesale widening of Greenberry Street to accommodate all elements at once.
- Some business parking lot entries could be reconfigured to benefit comfort and accessibility of pedestrians.

35 Greenberry Street Sidewalks & Bike Lanes

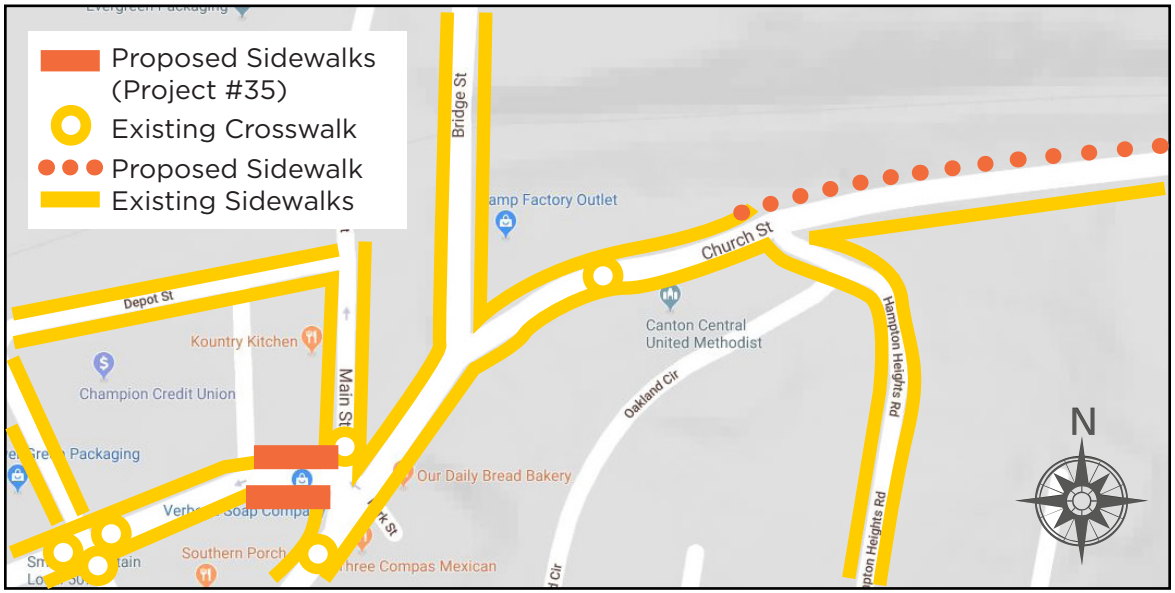
CHALLENGES

- Constructing both a sidewalk and a bike lane will cause disruption and concerns from residents along Greenberry - consider implementing the sidewalk first, then advocating for a bike lane. Existing ROW could accommodate sidewalks on both sides.
- Railroad crossing near Old Clyde Road intersection.

Greenberry has some steep uphills, so a climbing lane will allow cars to safely pass slower bicyclists.

Source: Cycling Weekly

36 Park Street Sidewalks



COST ESTIMATE

$10,000

LENGTH

120 feet

PROJECT DESCRIPTION

Restripe Park Street between Cabe Street and Main Street to replace two lanes of westbound traffic with one lane of westbound traffic.

Widen the existing sidewalks on both sides to 6' minimum.

[approximately 250 linear feet of sidewalks]

There is only one lane of westbound vehicular traffic coming from US-19/23 (Asheville Highway/Church Street), so keeping that configuration for an additional 120 feet does not delay travel time. However, the existing sidewalks are approximately 2 feet wide, which is not wide enough for most users. As a Main Street connection, this short corridor should be much more pedestrian friendly and accessible.

OPPORTUNITIES

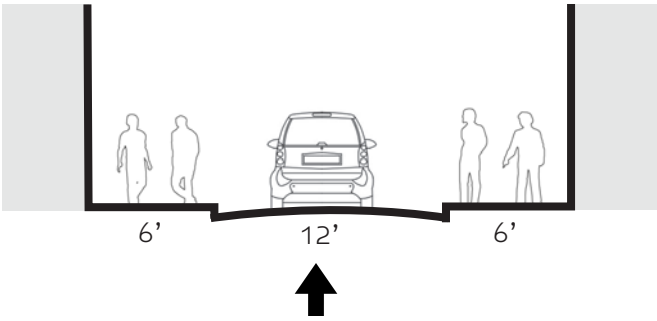
- Accessibility should be prioritized here, with ADA-compliant curb ramps, utility pole relocation, and consistent sidewalk width.
- Consider other pedestrian amenities, like artwork on building facades (murals) and overhead lighting. Street trees are not recommended, due to limited right-of-way, but hanging flower baskets and town branding are appropriate.

36 Park Street Sidewalks

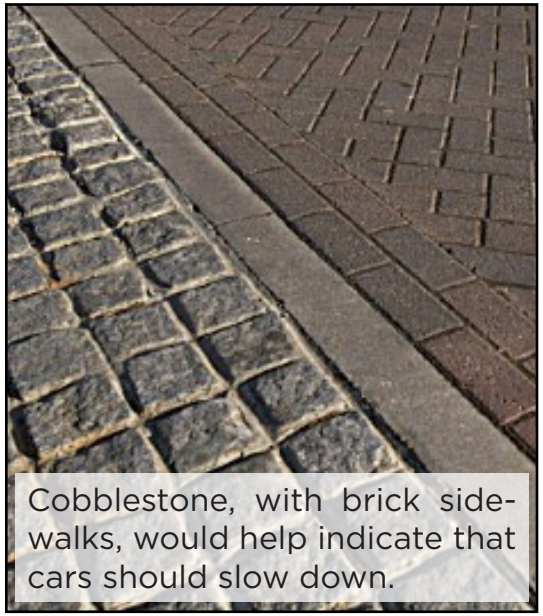
CHALLENGES

- Because this is US-19, coordination with NCDOT is necessary.
- There may be pushback from commuters about narrowing the roadway, but arguments in favor can remind people that this is a very short segment, and no more of a bottleneck than existing configurations.

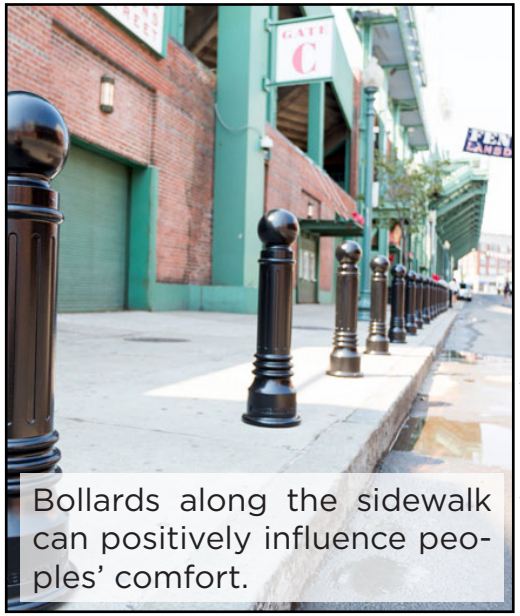
Proposed Park Street Cross-Section (Cabe Street to Main Street)



Note: The most important element of this cross-section is to have sidewalks wide enough for all users.



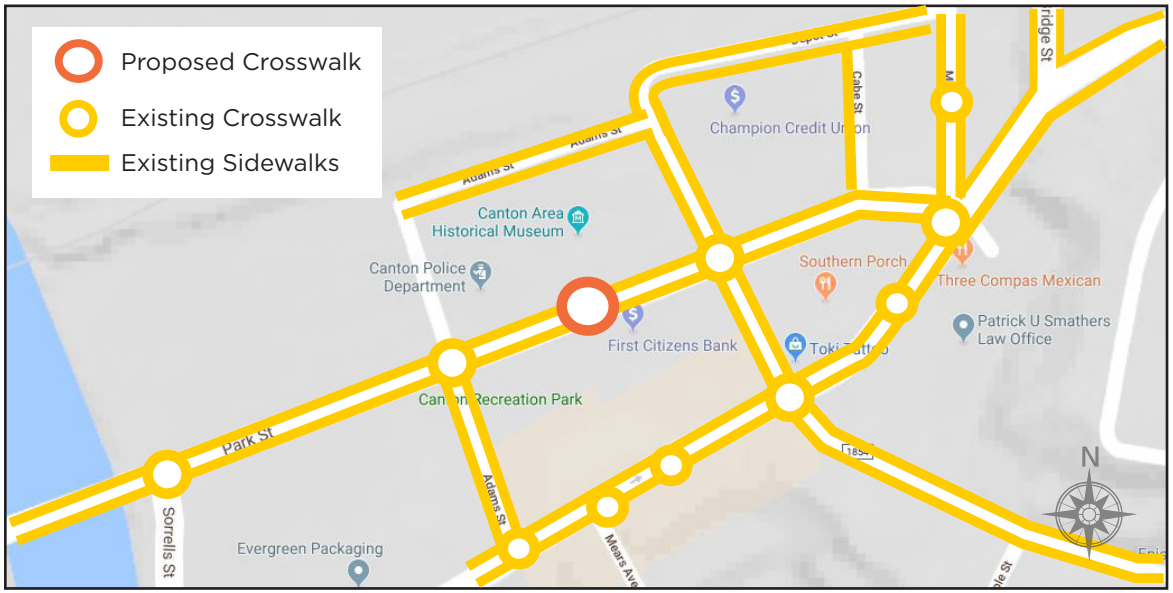
Cobblestone, with brick sidewalks, would help indicate that cars should slow down.



Bollards along the sidewalk can positively influence peoples' comfort.

Source: Reliance Foundry

37 Park Street Midblock Crossing



COST ESTIMATE

$5,000

PROJECT DESCRIPTION

Paint a mid-block pedestrian crosswalk in front of the Canton Area Historical Museum, with bulbouts.

People already cross the street mid-block, so adding a designated crossing would improve safety and liability. Main Street has numerous midblock crossings. Continuing the "downtown" feel on Park Street would support people on foot.

Coordinate with Project #6: Park Street Bike Lane. A midblock crossing would work better with Project 6's cross-section (two vehicular lanes and a bike lane, rather than three vehicular lanes).

OPPORTUNITIES

- Accessibility should be prioritized here, with ADA-compliant curb ramps.
- Bulbouts significantly shorten the length of time pedestrians need to cross the street, improving peoples' comfort and safety.
- Coordinate with the Canton Area History Museum to include cultural markers, sculpture, and other unique elements.

37 Park Street Midblock Crossing

PROJECT RENDERING

CHALLENGES

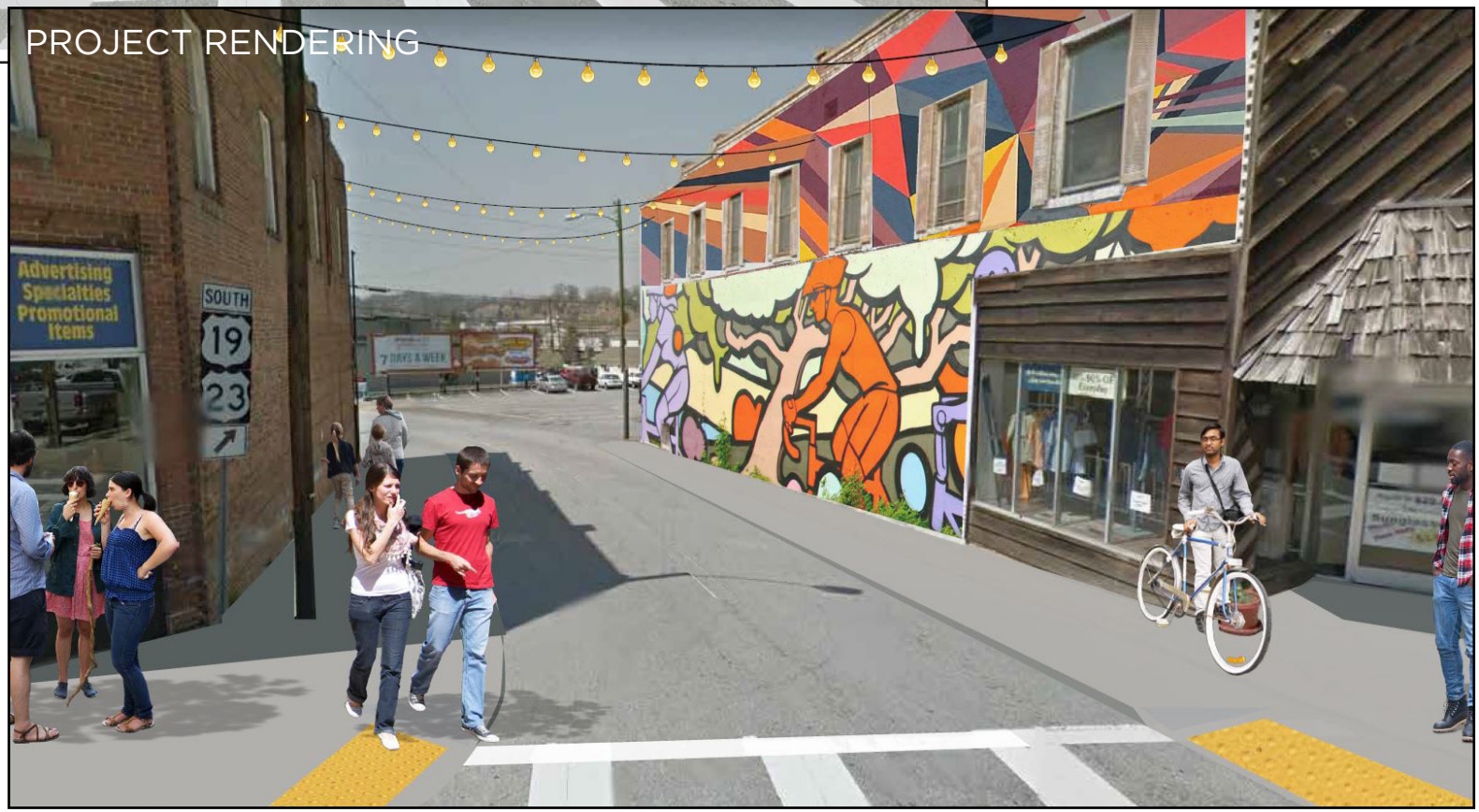
- Because this is US-19, coordination with NCDOT is necessary.
- Access to the First Citizens Bank parking lot may have to be reconfigured to accommodate a crosswalk here.

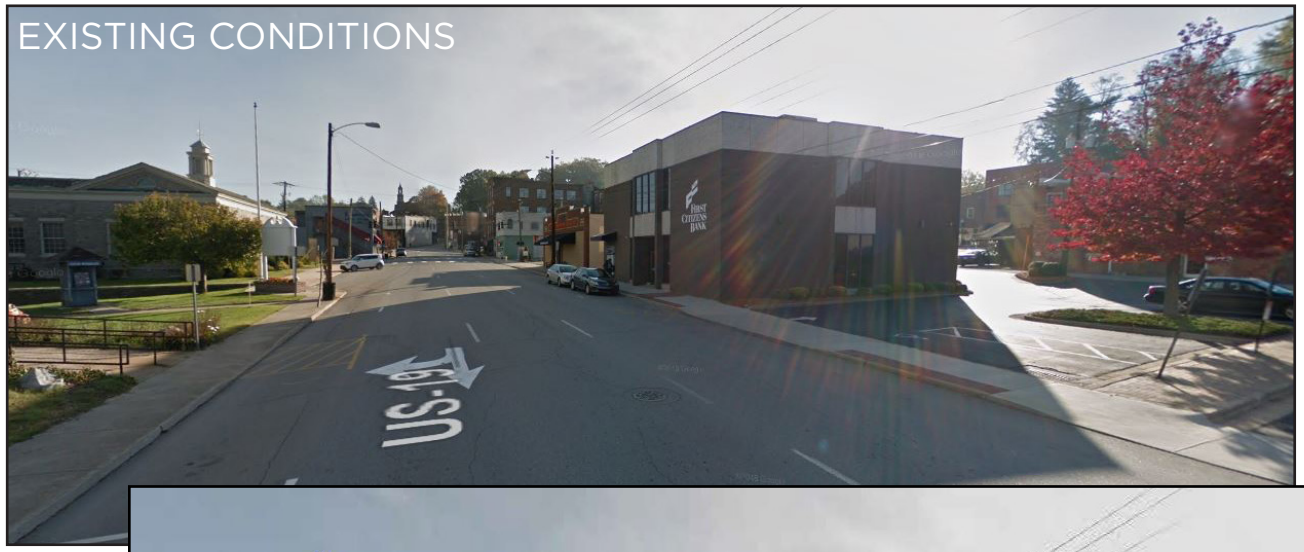
PROJECT RENDERING with BIKE LANE (PROJECT 6)

Temporary bulbouts can be a more affordable solution, while providing safety and comfort.

Source: City of Seattle Right-of-Way Improvement Manual

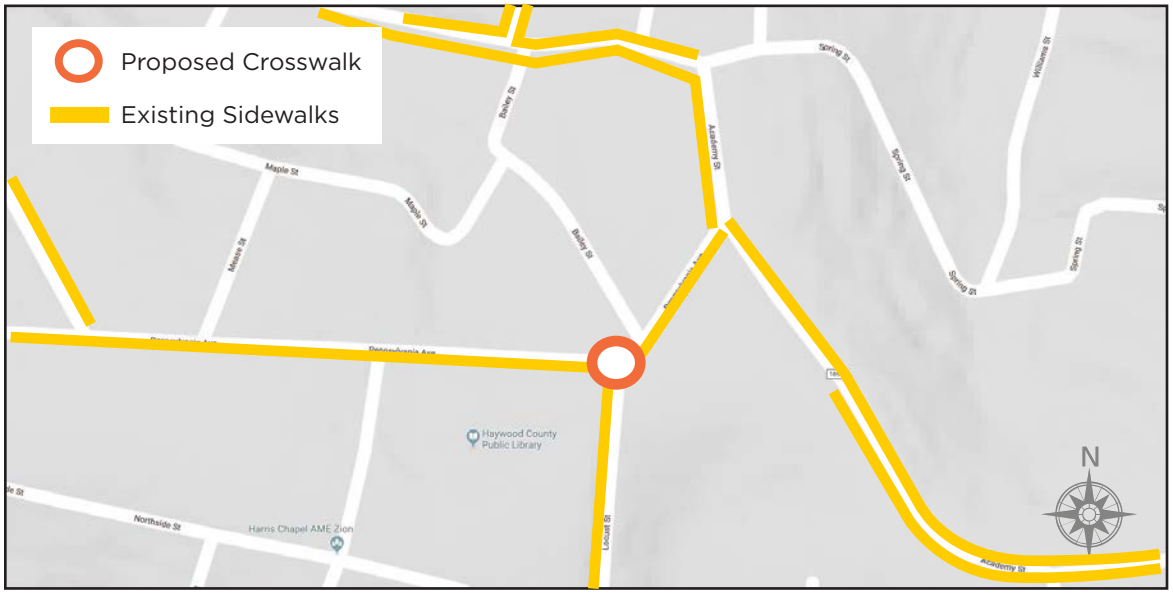
PROJECT #36 - Park Street Sidewalks





PROJECT #37 - Park Street Midblock Crossing

38 Library Intersection Improvements



COST ESTIMATE

$12,000

PROJECT DESCRIPTION

Improve the intersection of Pennsylvania Avenue and Locust Street by painting crosswalks across each roadway and extending the corners of Pennsylvania Ave with bulbouts to restrict high-speed turning movements and shorten the crossing distance for people walking. This project provides a direct link between the library and cemetery, ensuring that all sidewalks connect.

There is no designated crossing area at this intersection, which is aligned in a way that leads to confusion - drivers and pedestrians are unsure who has the right-of-way. Adding clearly marked croswalks would improve safety and limit the confusion. The library should be easily accessed by all users.

An alternative is to construct a roundabout here.

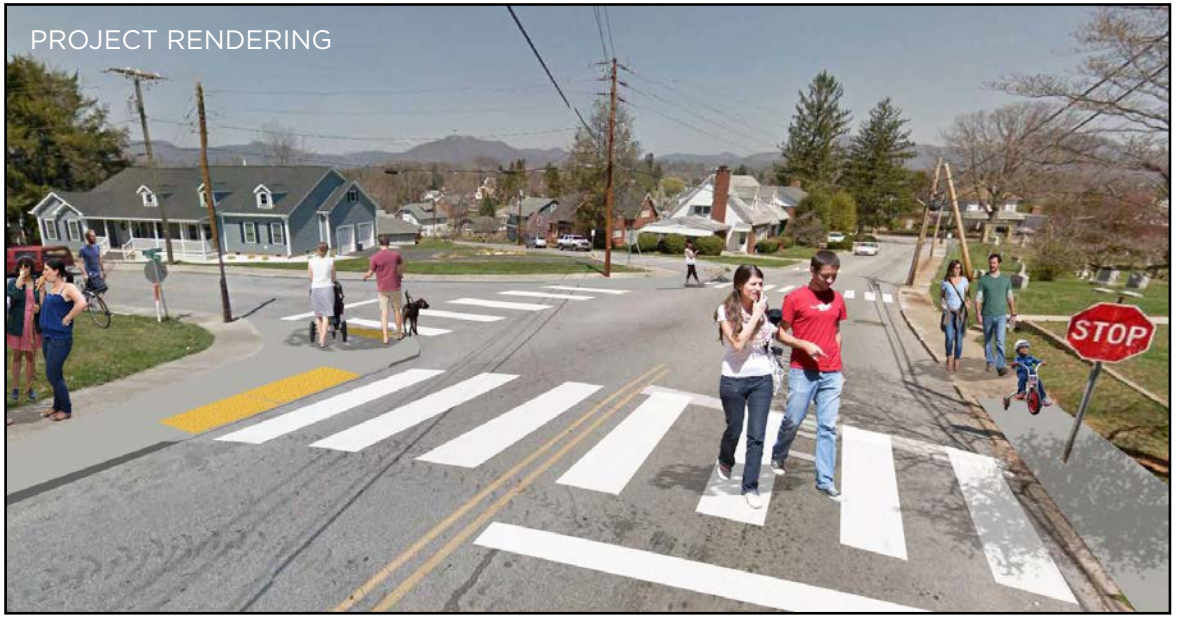
OPPORTUNITIES

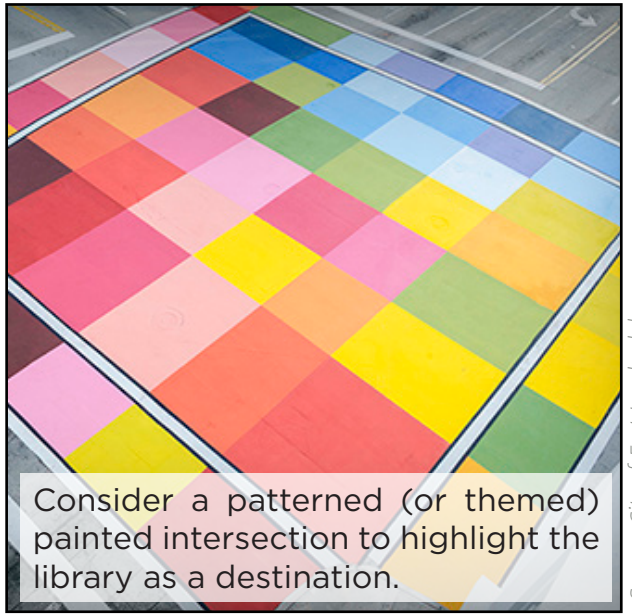
- There is potential to repurpose part of the libary's property to accommodate a roundabout at this intersection.
- Bulbouts significantly shorten the length of time pedestrians need to cross the street, making a safer intersection overall.
- The library should sponsor public art installations and innovative crosswalks at this intersection.
- Though sight distance is not an issue, it may be prudent to convert this intersection to an All-Way Stop.

38 Library Intersection Improvements

CHALLENGES

- Some topography changes may necessitate additional grading work to accommodate ADA-compliant curb ramps.
- Design should only use existing ROW and Haywood County property, without affecting adjacent property owners, including Locustfield Cemetery.
- Redesign may affect library vehicular access from Locust St.

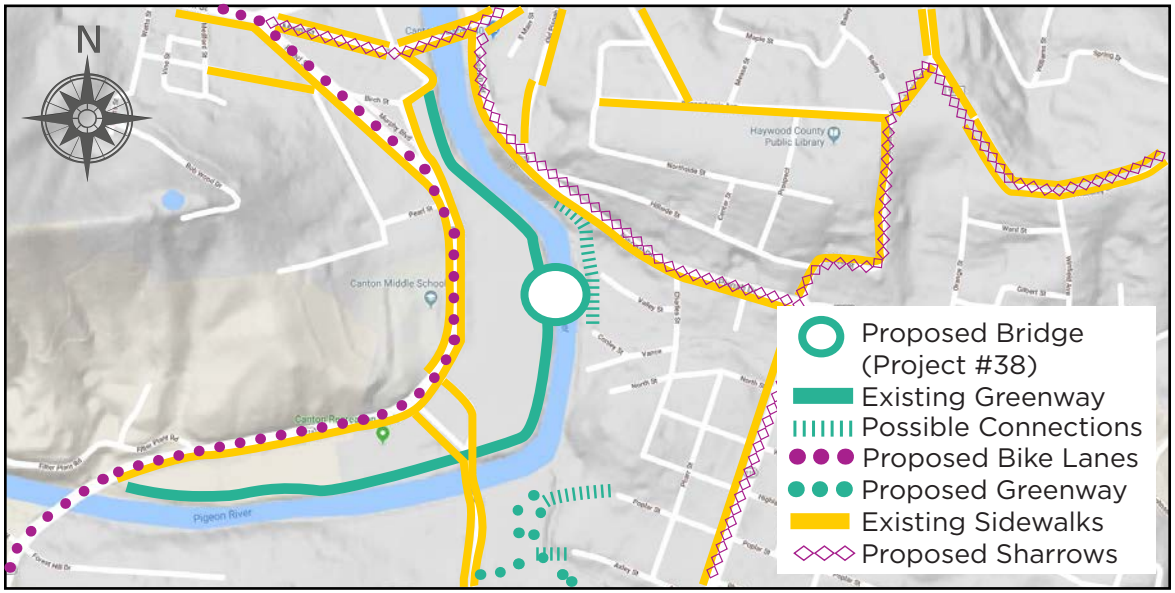




Consider a patterned (or themed) painted intersection to highlight the library as a destination.

Source: City of Fort Lauderdale

39 Pigeon River Bridge



COST ESTIMATE

$600,000+

LENGTH

Approx. 220 ft span

PROJECT DESCRIPTION

Use Town of Canton properties between Valley Street and Conley Street to build a pedestrian/bicyclist bridge over the Pigeon River to connect to the existing Pigeon River Walking Trail.

Use NCDOT-owned property (parcel #8656-79-4642) and work with property owner (parcel #8656-79-8218) to construct a bike/ped access route connecting users directly from Pisgah Drive to the proposed pedestrian bridge.

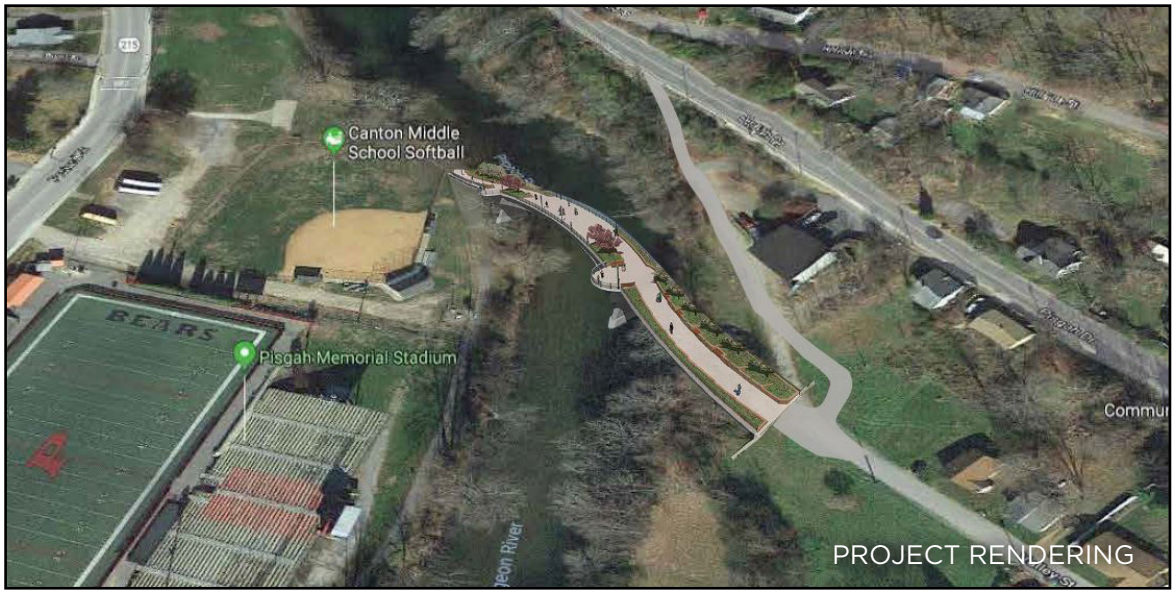
Provide a more direct connection for Canton Middle School students, parents, teachers, and staff to the east part of town.

Consider a picnic area, small parking lot, and/or fishing pier on the properties on either end of the bridge, connecting Valley Street and Conley Street.

OPPORTUNITIES

- This section of the Pigeon River has seen some increases in recreational activity. A bridge can support those activities and create a focal point for some of the town's social events.
- This scenic corridor can help preserve the riparian buffer along the Pigeon River.

39 Pigeon River Bridge

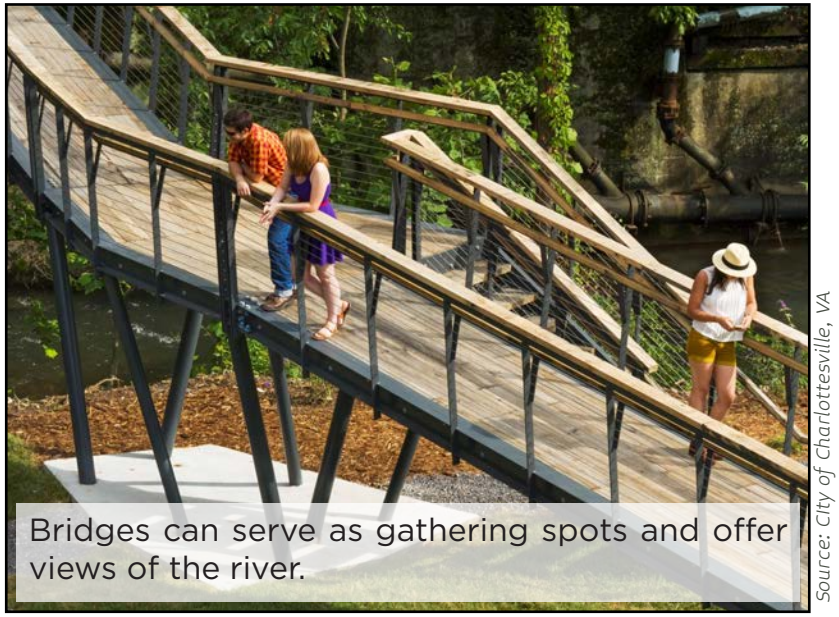


CHALLENGES

- The cost of this project overwhelms the benefits of its construction, so finding the funds and support may prove difficult.
- Construction on a body of water is likely to encounter unforeseen challenges and cost overruns.

A pedestrian bridge can be designed for aesthetics, and can be a source of pride in the community.

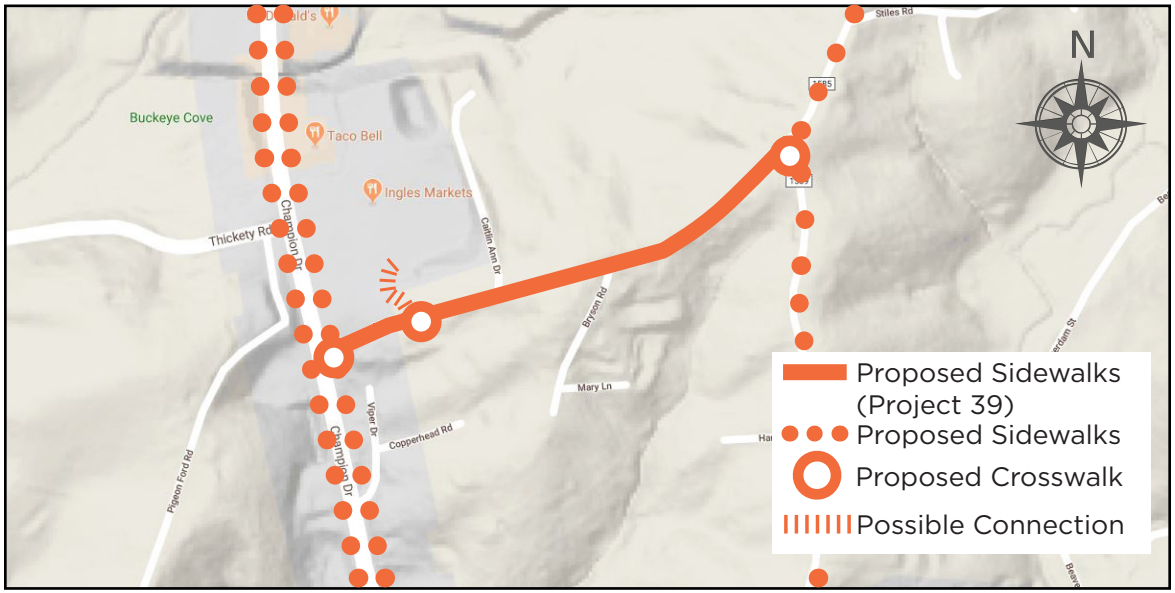
Source: Robert Maillart



Bridges can serve as gathering spots and offer views of the river.

Source: City of Charlottesville, VA

40 Crossroad Hill Road Sidewalk



COST ESTIMATE

$80,000

LENGTH

0.38 miles

PROJECT DESCRIPTION

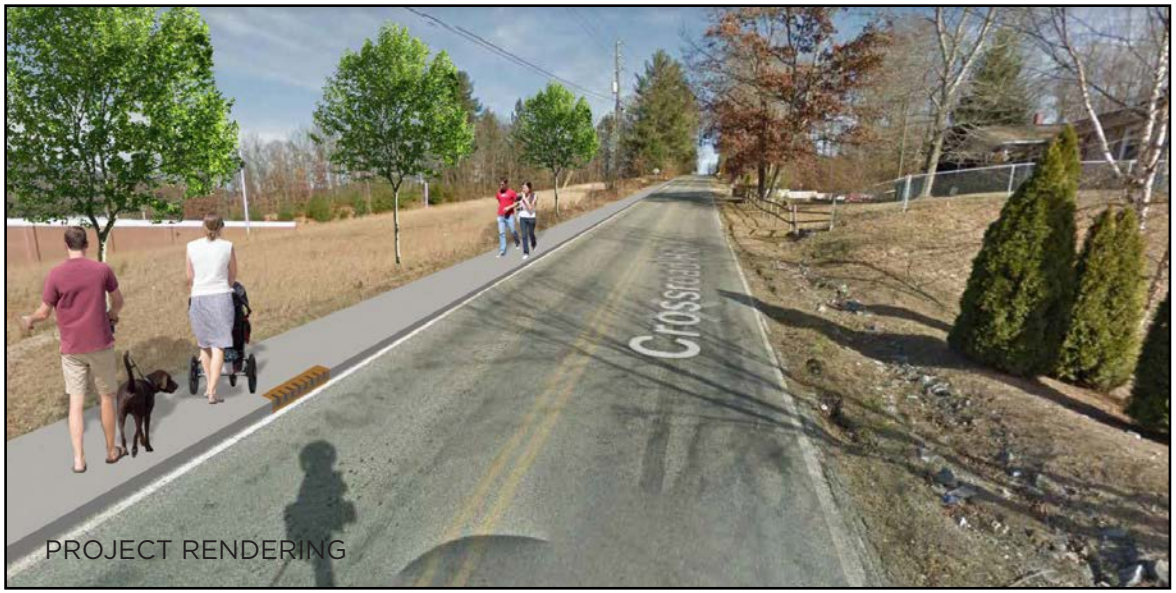
Construct a 5' minimum sidewalk with curb and gutter on one side (westbound) of Crossroad Hill Road from Champion Drive to North Canton Road. Paint pedestrian crosswalks at Champion Drive, the Ingles driveway, and where applicable at the N Canton Rd intersection.

[approximately 2,000 linear feet of sidewalk]

OPPORTUNITIES

- This residential area needs a safe connection to Champion Drive businesses for people on foot.
- This link will connect the commercial corridor along Champion Drive with the extensive housing density alond North Canton Road.

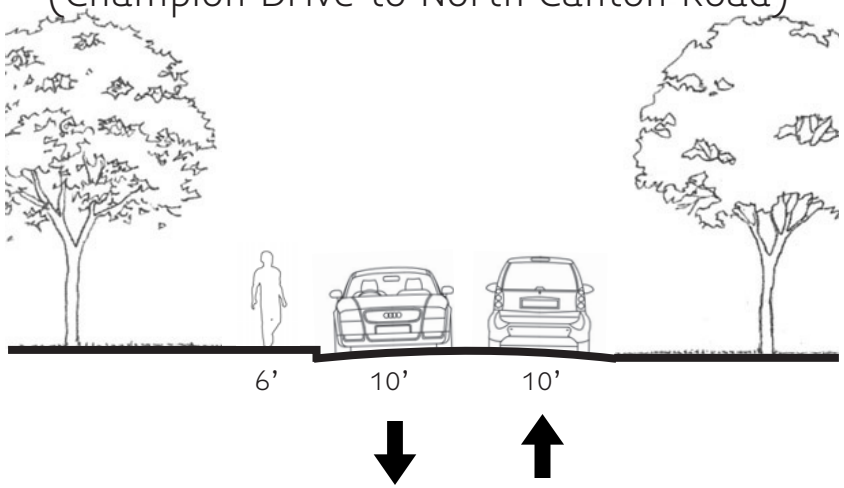
40 Crossroad Hill Road Sidewalk



CHALLENGES

- Topography changes (slopes with guardrails) on the southern edge necessitate utilizing the north side (westbound) for sidewalk construction.
- The ROW along this road is narrow, so accommodating a sidewalk here is challenging.

Proposed Crossroad Hill Road Cross-Section (Champion Drive to North Canton Road)



Canton should encourage the owner of this site to link its entry points to the proposed sidewalk system.

Source: Google Maps 2018

41 Williams/Smathers Intersection Improvement

COST ESTIMATE

$16,000

PROJECT DESCRIPTION

Realign Smathers Street to intersect with Williams Street at closer to a perpendicular angle. Change the intersection from a Yield to an All-Way Stop.

This intersection is prone to speeding and cut-through traffic (who use this route to avoid the downtown area). If cars have to stop here and turn at a sharper angle, speeds will be greatly reduced.

A roundabout here could be a long-term alternative. It would serve as a gateway element for visitors approaching Canton from the east, slowing vehicles down considerably from all directions, and simplifying all turning movements.

Coordinate with Project 57: Williams & Smathers Street Sidewalk.

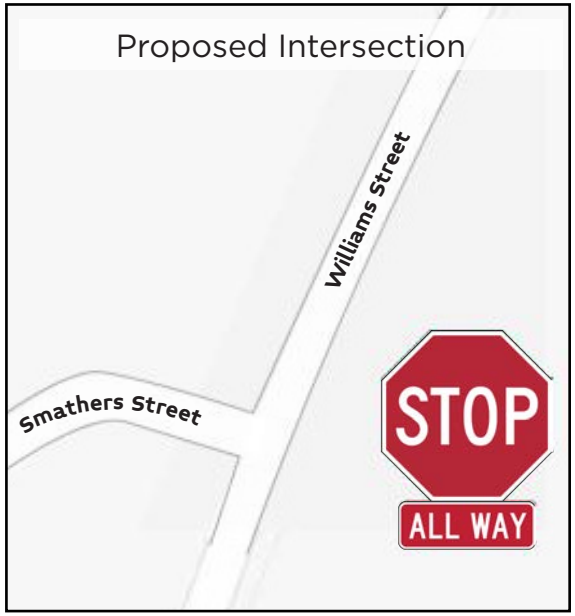
OPPORTUNITIES

- The Town should work with Wells Funeral Home to reconfigure their parking lot for improved access in alignment with proposed sidewalk along these streets.
- A roundabout here would serve as a gateway for visitors approaching Canton from the east, slowing vehicles down considerably from all directions, and simplifying all turning movements.
- Slowing traffic along Smathers Street might encourage drivers to use Spring Street more often, but changing this intersection to an All-Way Stop will lower speeds from every direction.

41 Williams/Smathers Intersection Improvement

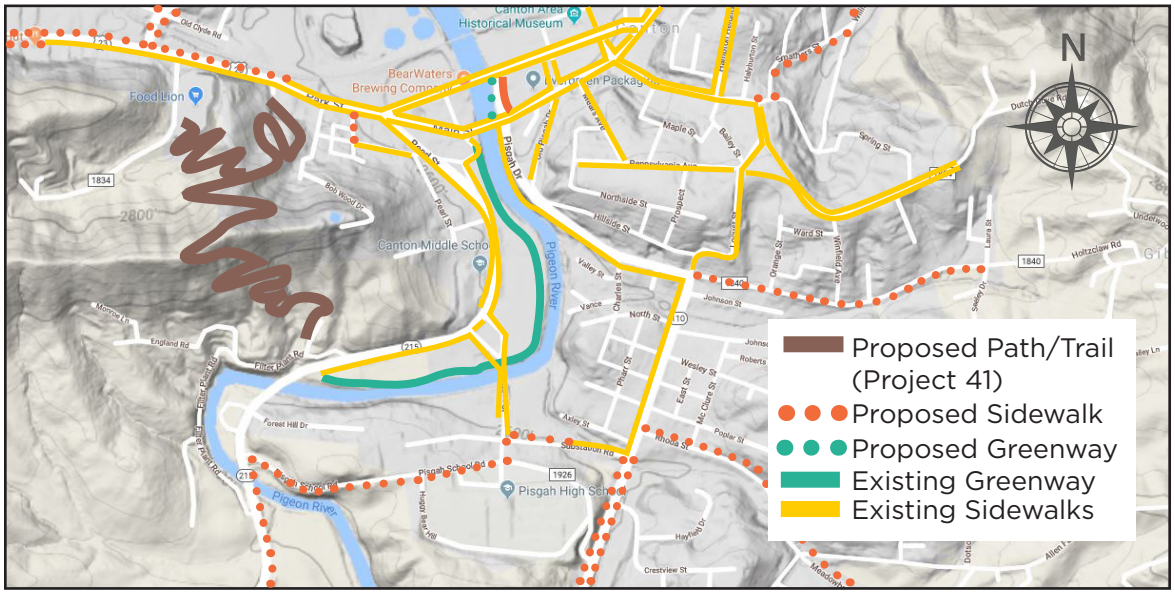
CHALLENGES

- This project will be more cost-effective if combined with Project 56: Williams & Smathers Sidewalk, though the proposed street reconfiguration would not greatly impact the proposed sidewalk.
- This project would require encroaching into the Wells Funeral Home parking lot, so cooperation and support from them is vital.



Warning signs should accompany changes to an intersection.

42 England Road Walking Trail



COST ESTIMATE

$40,000+

LENGTH

approx. 2 miles

PROJECT DESCRIPTION

Develop a 2'-4' unpaved, natural surface walking/hiking trail on the 6-acre Town-owned property behind the Canton Filter Plant. Work with property owners to connect to the other side of the hill, providing both a recreational and transportation corridor for pedestrians.

[approximately 10,000 linear feet of natural surface trail]

Ideally, a direct connection could be made to Penland Street, serving the Middle School and Rec Park. Having a trailhead on Penland would help visitors find the path and avoid concerns from England Road residents about traffic and parking.

The Food Lion parking lot has the capacity to include a trailhead for this project and could offer a healthful lifestyle marketing edge.

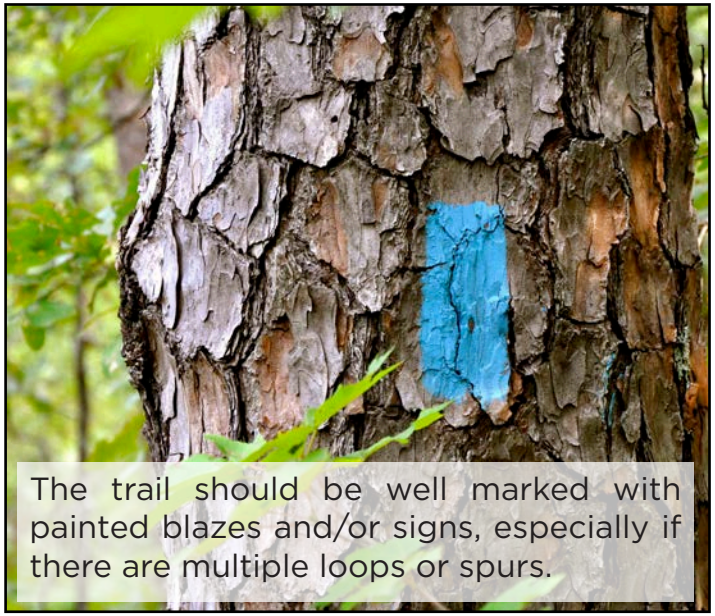
OPPORTUNITIES

- An existing utility easement cuts across the hill and would be useful for trail maintenance access and could help the project save some costs on clearing.
- This project will require collaboration with several property owners, including Food Lion and the US Postal Service, for trailhead locations and access points. However, these might be ideal partners for fundraising efforts.

42 England Road Walking Trail

CHALLENGES

- Steep terrain will necessitate a longer trail overall, which will have to cut back and forth to avoid going straight up the hill.
- Though the Town owns the parcel adjacent to the Filter Plant, the trail will need to traverse at least two other property parcels, so agreements about easements and maintenance responsibilities will need to be made.



The trail should be well marked with painted blazes and/or signs, especially if there are multiple loops or spurs.

Trailheads can be simple, with trail map, rules, and other information. This is a good opportunity for sponsorship and working with community groups to develop branding and signage.

Project 43: Academy Street Sidewalk - Replace 7 on-street parking spaces and striping along Academy Street near Main Street with a 6' sidewalk on the north side (widen existing sidewalk) and street trees. Though already a comfortable street for walking, making Academy Street a more enjoyable pedestrian experience will help incentivize people to walk downtown, to church, to the bank, and to the library. A wider sidewalk with shade trees will do that. Taking away free on-street parking may see some resistance, even though the businesses, churches, and houses on Academy all have off-street parking.

Score: 55

Cost Estimate: $10,000

Project 44: Rhoda Street (SR 1844) Sidewalk - Construct a 5' minimum sidewalk along the north side of Rhoda Street from Pisgah Drive (Hwy 110) to the intersection with Cooper Street and Meadowbrook Drive. This would create a safe connection from downtown to Meadowbrook Elementary School, enabling more students, parents, teachers, and staff to walk, using Meadowbrook Drive to complete the connection.

Score: 55

Cost Estimate: $46,000

Project 45: Pisgah Drive Crosswalk - Install a high visibility crosswalk with a rectangular rapid-flash beacon (RRFB) across Pisgah Drive near the Main Street intersection to connect pedestrians from the existing sidewalk to Hillside Street/Old Pisgah Drive. People already cross here, dangerously. Providing improvements will help prevent crashes, and connecting pedestrians here provides a more direct and intuitive route for people to access downtown. If combined with a pedestrian bridge across the Pigeon River nearby, this will serve as a convenient, safe, and useful link between various destinations.

Score: 54

Cost Estimate: $8,000

Project 46: Beaverdam Road & Thompson Street Sidewalk - Construct a 5' sidewalk along the north side of Beaverdam Road/Thompson Street from Champion Drive to the existing sidewalk on Elm Street. Improve the pedestrian crosswalk at the Glenn Street intersection with ADA-compliant curb ramps and a rectangular rapid flash beacon (RRFB). Add pedestrian crossings at both school driveways and Warner Road with appropriate signs. Connect new sidewalk on Thompson Street to the school's main entrance with striped ADA walking areas through the parking lot. [5,300 linear ft]

Score: 54

Cost Estimate: $360,000

Project 47: Allen Farm Road & Meadowbrook Drive Sidewalks - Construct a 5' sidewalk along the south side (eastbound) of Allen Farm Road from the Cooper Street intersection to Dotson Drive. Construct a 5' sidewalk along the north side of Meadowbrook Drive from the Cooper Street intersection to the rear gate of Meadowbrook Elementary. With Project #43 (Rhoda Street Sidewalk), this would help provide a connection from downtown to the Mountain View Housing development and to Meadowbrook Elementary School, enabling more students, parents, teachers, and staff to walk safely.

Score: 53

Cost Estimate: $120,000

Project 48: Beaverdam Creek Greenway, Phase I - Work over time to acquire property easements from property owners abutting Beaverdam Creek to build a 6'-12' paved shared use path along the creek, alternating sides with small footbridges where necessary. While a 12' paved path is recommended, a narrower path may be easier to implement. Similarly, an unpaved trail might be a good starting goal. This segment of Beaverdam Creek passes by many residential properties (perhaps improving real estate values) and would bring the new greenway down to Champion Drive, where it could tie into the extended Pigeon River Greenway system - making Canton a truly noteworthy recreational tourism destination. NOTE: Consider a connection to a trailhead at the intersection of Crossroad Hill Road and North Canton Road (with joint-use parking at church); consider a connection along one of two streambeds up the hill to the North Canton Elementary School property. Each of these connections would only require support from one property owner. Approximately 12 different property owners abutting the creek would require substantial effort to win support and approval for the project; existing curvature of waterway and mature trees will influence orientation of path and necessitate small bridges, fences, etc.

Score: 51

Cost Estimate: $2,400,000 (not including property acquisition, legal fees, trailheads/parking, or access connections.)

Project 49: North Main & Trammel Intersection Improvements - Install crosswalks at the North Main Street and Trammel Avenue intersection, with ADA curb ramps and pedestrian crossing signals; Install a midblock crossing halfway between Trammel Avenue and Sheppard Street.

Score: 51

Cost Estimate: $65,000

Project 50: Pigeon River Walking Trail Improvements - Improve the grade of this existing paved shared use trail as it passes underneath the Pigeon Street bridge for ADA compliance. The path is very steep, so improving the grade here will alleviate various safety concerns for all users. Other ideas: continue planting memorial trees along the trail, but focus on the north side to create a shadier experience for trail users; design additional trailhead signs to better promote the trail to visitors; construct an amphitheater near Pigeon Street to host outdoor concerts/rental events and serve as an outdoor classroom for the Middle School.

Score: 50

Cost Estimate: $100,000 (to improve the grade of the trail); $300,000 (to install a basic outdoor amphitheater with stage); $10,000 (to plant additional shade trees along the length of the trail)

Project 51: Old River Road (NC 215) Bike Lanes - Widen the roadway within the existing ROW to accommodate 5' bike lanes in both direction from Filter Plant Road to the intersection of US-276. [approx. 6 miles]. This route would help connect Stamey Cove commuters, Bethel schools, and Canton. Bicyclists already use this corridor to access many destinations in the region (Pisgah Forest, the Blue Ridge Parkway, scenic country roads), but there are no existing shoulders. During the next scheduled repaving, it should be feasible to add sufficient width for bike lanes. Cost-prohibitive, but there is opportunity for cost-sharing with Haywood County and NCDOT. The Town of Canton should work to advocate for this project.

Score: 50

Cost Estimate: $6,000,000

Project 52: Pisgah Drive (NC 110) Bike Lanes - Use existing ROW to expand existing shoulder width to accommodate 5'-6' bike lanes (striped and marked) in both directions from Crestview Street to the intersection of US-276. [50,000 linear ft]. Bicyclists already use this corridor to access many destinations in the region (Pisgah Forest, the Blue Ridge Parkway, scenic country roads), but the existing shoulders are not wide enough in most places for safe travel. During the next scheduled repaving, it should be feasible to add width to the paved shoulders. Cost-prohibitive, but there is opportunity for cost-sharing with Haywood County and NCDOT. The Town of Canton should work to advocate for this project.

Score: 50

Cost Estimate: $4,500,000

Project 53: Nyal Drive Connection - Construct roadway along existing ROW that would connect Nyal Drive or Howard Drive (SR 1579) to New Clyde Highway (US-19/23). This small improvement would significantly help connect residents of west Canton more directly to the businesses on US-19/23. ALTERNATIVE: Consider using the ROW to construct a safe, comfortable pedestrian accessway instead of a full roadway connection.

Score: 50

Cost Estimate: $200,000

Project 54: New Clyde Highway (US-19/23) Sidewalk [South Side] - Construct a 5' minimum sidewalk on the south side (eastbound) of New Clyde Highway from Greenberry Street to the existing sidewalk. [2,500 linear ft]. Install signalized pedestrian crosswalks with refuge island across US-19/23 at the east side of Greenberry Street and Blackwell Drive (feasible since there are no left-turn movements with existing land use pattern). Consider one or two midblock crossings with pedestrian refuge islands where feasible along this stretch of road. Connecting the downtown area as far west as possible will help everyone safely access the businesses along this substantial commercial corridor and provide a much more comfortable experience for pedestrians. This project area mostly offers auto-centric businesses and the northern side of US-19/23 has a more urgent need for sidewalks, but it is important that people are able to access both sides of the road. Coordinate with STIP Project B141062 - sidewalks from Greenberry to Blackwell. Constructing pedestrian refuge islands would help the overall experience considerably by providing a safer path for people to access businesses on both sides of the road, but finding appropriate places is a challenge due to the consistent need for vehicles to turn into business driveways and the need to mitigate vehicle storage in those turn lanes.

Score: 49

Cost Estimate: $200,000

Project 55: North Canton Road Sidewalk - Construct a 5' minimum sidewalk along the south side of North Canton Road from Champion Drive to Beaverdam Road (SR 1613) [9,250 linear ft]. This would create a more complete route to connect a residential area to primary commercial area, key transportation routes, and the Beaverdam community center.

Score: 49

Cost Estimate: $200,000

Project 56: Newfound Sharrows - Paint "Sharrows" along both sides of Newfound from Laurel Drive to Bridge Street. This will help bicyclists more safely get between downtown and the Park-and-Ride lot.

Score: 48

Cost Estimate: $60,000

Project 57: Williams & Smathers Sidewalk - Construct a 5'-6' sidewalk along the north/west side of Williams St from US-19/23 to the intersection with Smathers Street; along the south/east side of Smathers Street from Williams Street to Spring Street; and along the north side of Spring Street from Smathers Street to Academy Street. [1,800 linear feet]. Paint crosswalks at each intersection to ensure safe connections. Coordinate with Project #41: Williams/ Smathers Intersection Improvement. The Town should work with Wells Funeral Home to reconfigure their parking lot for improved access in alignment with proposed sidewalk along these streets. This sidewalk can vary in width and side of the street to accommodate constraints.

Score: 47

Cost Estimate: $40,000

Project 58: Hillcrest Street Connection - Use existing ROW to complete Hillcrest Street from Academy Street to Holtzclaw Street. It is helpful for pedestrians and bicyclists to have as direct a route as possible, with a grid-like connectivity. If Hillcrest is a through-street, it is marginally easier for people to access downtown, the public library, and some churches in east Canton. There may be some concerns from adjacent property owners. Consider also making Lewis Street a through-street, but ROW presents a greater challenge.

Score: 45

Cost Estimate: $60,000

Project 59: North Canton Elementary Parking Lot - Work with Haywood County to develop a designated public parking lot on their property across Thompson Street from North Canton Elementary, with designated egress/ingress from Glenn Street to offset some traffic congestion on Thompson Street during drop-off/pick-up. This would tie into the existing sidewalk network (Glenn Street) and encourage people to cross in the crosswalk, thus improving overall safety. Signage can emphasize public use of the walking track.

Score: 45

Cost Estimate: $20,000

Project 60: Holtzclaw Sidewalk - Construct a 5' sidewalk along the south side of Holtzclaw Street/ Holtzclaw Road from Pisgah Drive to the Reynolds School property (partner with agencies to connect sidewalk to new main entrance of park facility). Consider also constructing a multiuse trail to connect Holtzclaw at Lewis Street to the new park at the Reynolds School property.

Score: 44

Cost Estimate: $300,000

Project 61: Beaverdam Greenway, Phase II - Work with property owners to construct a 10'-12' paved side path/shared use path along the creek from the Service Road intersection with Beaverdam Road to Newfound Road (the path will be between I-40 and Beaverdam Road). [approx. 3,800 linear ft]. This route would be a useful residential connection and serve as a catalyst for the industrial park. A greenway here would provide a safer alternative for bicyclists and pedestrians, as well as a recreational amenity that would be highly visible from I-40 (a potential tourism boon). NOTE: This greenway would connect to the proposed Beaverdam Greenway, Phase III, and the proposed Newfound Road connection to the Park & Ride lot at the I-40 interchange.

Score: 44

Cost Estimate: $600,000

Project 62: Newfound Sidewalk & Sidepath - Construct a 5' sidewalk along the southeast side (northbound) of Newfound Street/Road [SR 1004] from Hilltop Farm Road to Laurel Drive [approx. 4,400 linear ft]. Also contruct a 10'-12' sidepath on the south side of Newfound Street/ Road [SR 1004] from Oakmont Drive to Laurel Drive, and install high-visibility pedestrian crossings at Hilltop Farm Road, Oakmont Drive, all I-40 on/off ramps. Provide a safe avenue for bicyclists and pedestrians from downtown Canton to the Park & Ride lot and the North Hominy area, and help connect to the proposed Beaverdam Greenway and the Rough Creek Watershed Trail system. Consideration: Build another Park & Ride lot on Parcel #8667-47-5264 (south side of Newfound at west side of I-40, near ramps, to accommodate additional capacity and improve safety for bicyclists/pedestrians)

Score: 44

Cost Estimate: $1,000,000 [$300,000 for new sidewalk, $700,000 for new multiuse path; $20,000 for ADA curb ramps]

Project 63: Beaverdam Greenway, Phase III - Work with International Paper Company to build a 10'-12' shared use path along Beaverdam Creek from Beaverdam Road (SR 1613) to Beaverdam Street with a parking lot/trailhead on Beaverdam Road and access from Beaverdam Street and the International Sports Complex. [approx. 2,600 linear feet of new greenway]. This section of the Beaverdam Greenway is integral to the success of the system, connecting North Canton for pedestrians and bicyclists, helping connect the Sports Complex, WNC Regional Livestock Center, North Canton Elementary School, and residential areas. Consider trail linkages to the International Sports Complex parking lot (and possible future mountain bike course) and the Rough Creek Watershed area.

Score: 41

Cost Estimate: $300,000 [plus trailheads, parking, and/or signage]

Project 64: Locust Street Sidewalk - Improve the existing sidewalk along Locust Street (widen to 5' min. within existing ROW) from Pisgah Drive to Pennsylvania Avenue; Install a crosswalk to connect existing sidewalks on east and west sides. This serves a crucial residential connection to a primary route and would improve access to the public library.

Score: 41

Cost Estimate: $240,000

Project 65: Rough Creek Watershed Trail Improvements - Improve access to this popular hiking and mountain biking trail network by developing a parking area and wayfinding sign system; consider access from Jerdon Road and/or Pioneer Ridge Road; develop a phased plan for trail maintenance and additions. Make investments in this bicycle/hiking facility to demonstrate commitment to recreational opportunities in Canton; develop phased additions to the trail system and a marketing plan; develop a sign system (both trail markings and roadway wayfinding); partner with Buncombe County, which is adjacent, and Haywood County for marketing; add a parking facility/trailhead at the north end of the property; work with adjacent property owners on the south end of the property to identify opportunities for improvements to the existing entrance area - parking and lower elevation trailhead.

Score: 40

Cost Estimate: $500,000 [parking area and signs]

Project 66: Medford Street Sidewalk - Construct a 5' sidewalk on the east side of Medford Street from US-19/23 to the existing sidewalk on Birch Street [approx. 263 linear ft]. This small section of sidewalk will create a complete loop in the system and serve to better link this residential neighborhood to US-19/23 and create a necessary connection for people walking through this area of town.

Score: 39

Cost Estimate: $50,000

Project 67: Dutch Cove Creek Walking Trail - Develop a 2'-4' unpaved walking/hiking trail on Town-owned property and others behind the Canton Landfill that would loosely follow the Dutch Cove Creek, with trailheads (and parking, if feasible) on Israel Road and Chestnut Mountain Road. Consider a sidewalk connection along Chestnut Mountain Road to Asheville Highway.

Score: 38

Cost Estimate: $40,000

Project 68: Sports Complex Mountain Bike Track - Work with International Paper Company to build a bicycle pump track at the International Sports Complex property between Beaverdam Creek and Service Road. Use the Sports Complex for a wider variety of sports types. A pump track (designed mountain-bike track - either artificial or dirt) could boost bicycle tourism in the Canton area and host tournaments/races.

Score: 30

Cost Estimate: $90,000

Exhibit 4-9: Code of Ordinances Review & Recommendations

Section	Language	Assessment	Recommendation
Part 6, Licensing and Regulation, Part 4: Public Works, Chapter 1, Streets and Sidewalks, Section, Section 4-1008 **Sidewalk improvement.**	*(a) Sufficiency of petition.* A petition for sidewalk improvements shall be deemed sufficient when it shall contain the signatures of the owners of fifty-one per cent (51%) of the property abutting directly on the proposed improvement.	The percentage of signatories may not be realisticly attainable, depending on the context.	Amend the language to indicate that sidewalk improvements are conducted in accordance to an adopted plan. Adopt the Town of Canton Bicycle & Pedestrian Plan.
Part 6, Licensing and Regulation, Part 4: Public Works, Chapter 1, Streets and Sidewalks, Section, Section 4-1008 **Sidewalk improvement.**	*(b) Width.* The sidewalk width shall be such as may be agreed upon by the property owners involved and the Board.	This agreement could result in non-compliant sidewalks and should reflect state standards.	Amend the ordinance (or adopt standards and specifications) that indicate minimum sidewalk width and ensure ADA compliance. Different districts may require different sidewalk widths (e.g. Extra wide sidewalks downtown and standard sidewalks in neighborhoods).
Part 6, Licensing and Regulation, Article A, Obstructions, Chapter 2, Section 6-2004 **Goods displayed and sold on sidewalks.**	(a) Items such as planters, benches, and similar functional items are exempt. Such items may not obstruct vehicular or pedestrian traffic or parking.	It is good to have language in an ordinance to regulate the display of goods on the street; the Town should encourage these sidewalk items without impeding pedestrian movement.	Add language describing a 5-foot "clear zone" along all sidewalks, whereby no obstructions on the sidewalk may limit pedestrian access to the extent that the pathway to walk becomes narrower than 5 feet wide.

Exhibit 4-9: Code of Ordinances Review & Recommendations (Cont'd)

Section	Language	Assessment	Recommendation
Part 6, Licensing and Regulation, Article A, Obstructions, Chapter 2, Section 6-2007 **Maintenance of sidewalks by occupants.**	Every occupant of a structure in front of which the sidewalk is paved with stone, brick, asphalt, or cement shall be required to maintain such sidewalk in a safe condition and make such repairs as are necessary from time to time.	How does the Town determine whether occupants are compliant? Are sidewalks being maintained?	Rewrite to clarify what "time to time" means (i.e. establish a timeframe and procedure for compliance).
Part 7, Motor Vehicles and Traffic, Article K, Regulations for Bicycles, Section 7-1125 **Riding on roadways and bicycle paths.**	(c) Whenever a usable path for bicycles has been provided adjacent to a roadway bicycle riders shall use such path and shall not use the roadway.	The Town should discuss whether this meets the needs of all types of cyclists in the community. NC law does not require cyclists to ride on adjacent facilities if they are available.	Remove this regulation from the Code of Ordinances to align with NC state law.
Part 7, Motor Vehicles and Traffic, Article K, Regulations for Bicycles, Section 7-1129 **Parking.**	No person shall park a bicycle upon a street other than upon the roadway against the curb or upon the sidewalk in a rack to support the bicycle or against a building or at the curb, in such a manner as to afford the least obstruction to pedestrian traffic.	If the town maintains this rule, it needs to provide adequate bicycle parking	The Town should develop more comprehensive bicycle parking regulations, but must also invest in bicycle parking facilities if insisting on strict limitations.

Exhibit 4-9: Code of Ordinances Review & Recommendations (Cont'd)

Section	Language	Assessment	Recommendation
Part 7, Motor Vehicles and Traffic, Article K, Regulations for Bicycles, Section 7-1131 **Lamps and other equipment on bicycles.**	(a) Every bicycle when in use at nighttime shall be equipped with a lamp on the front which shall emit a white light visible from a distance of at least 500 feet to the front and with a red reflector on the rear of a type which shall be visible from all distances from fifty (50) feet to 300 feet to the rear when directly in front of lawful upper beams of head lamps on a motor vehicle. A lamp emitting a red light visible from a distance of 500 feet to the rear may be used in addition to the red reflector.	A red reflector is often not visible enough at night and many are not retroreflective (light does not bounce back to its source), which makes them ineffective. A reflective vest is much more visible, but a bright red light is easier for bicyclists to purchase and maintain.	Amend the Code of Ordinances to align with NC law: *§5.1.(a) General Statute 20-129(e)* (effective Dec. 1, 2016) requires a bicycle to have a red rear light or the operator wear a reflective vest when riding a bicycle at night. Both the light and reflective vest must be visible from 300 feet behind the bicycle.
Part 7, Motor Vehicles and Traffic, Article K, Regulations for Bicycles, Section 7-1131 **Lamps and other equipment on bicycles.**	(b) No person shall operate a bicycle unless it is equipped with a bell or other device capable of giving a signal audible for a distance of at least 100 feet, except that a bicycle shall not be equipped with nor shall any person use upon a bicycle any siren or whistle.	It is important that cyclists be considerate of other road users, particularly blind and partially-sighted pedestrians. A bell is recommended for busy greenways, but would most likely not be heard at all on a roadway by motorists.	Strike item (b) from the Canton Code of Ordinances, or replace with language similar to: "...shall yield the right-of-way to any pedestrian and shall give an audible signal before overtaking and passing such pedestrian."
-----	-------	Code of Ordinances does not address bicycle helmet use.	Include a statement that addresses state law: *§ 20-171.9. Requirements for helmet and restraining seat use.* Anyone under the age of 16 must wear a helmet.

Exhibit 4-9: Code of Ordinances Review & Recommendations (Cont'd)

Section	Language	Assessment	Recommendation
Appendix I – Traffic, Section 105 – **Speed Limits.**	Speed limits are established for the following streets: ...	Speed limits throughout town vary from 10 mph (e.g. Valley Street) to 45 mph on a section of NC 215. Road segments with higher pedestrian and bicycle traffic should have lower speeds.	The Town should create "Slow Zones" along corridors with high bicycle and/or pedestrian traffic (e.g. Main Street), using count data to prioritize specific areas and rationalize the action.
PART 9 Planning and Regulation of Development, Chapter 3 Subdivision Regulations, Article C, Installation of Permanent Reference Points and Improvements.	(c) Sidewalks. Sidewalks shall be constructed on such streets the Planning Board considers sidewalks to be necessary. Sidewalks shall be constructed within the street right-of-way and installed in accordance with Town specifications and standards.	The Planning board needs standards for sidewalk construction (e.g. in an adopted plan, on an identified key pedestrian corridor). The current ordinance standard is not descriptive enough.	The Town should use the Bicycle & Pedestrian Plan to identify and adopt a map of "Key Pedestrian Corridors"; Develop standards and specifications to ensure ADA Compliance with all new sidewalk construction in Canton. Adopt standards whereby all new commercial and residential development of an identified size are required to install sidewalks.

Exhibit 4-9: Code of Ordinances Review & Recommendations (Cont'd)

Section	Language	Assessment	Recommendation
Zoning Districts	Residential Districts have a relatively small (8,000 square feet) lot size – good for walkability.	The Town wants to develop its downtown and to become more walkable and bikeable, so it needs to amend its land use policies and development standards to promote a development pattern that focuses on connectivity, mixed use, sidewalk development, greenway easements, and other strategies.	Canton should develop a Land Use Plan to incorporate policies that encourage bicycling and walking: • Encourage Infill development • Require open space dedication for new development • Manage Parking to Promote Walking • Street connectivity minimums • LOS exemptions in exchange for pedestrian improvements

Exhibit 4-9: Code of Ordinances Review & Recommendations (Cont'd)

Section	Language	Assessment	Recommendation
Vision/Land Development/Comprehensive Plan/Downtown Development Plan	Canton's only current and adopted plan is its Economic Development Strategy, which includes goals related to Business Retention & Expansion, Business Recruitment, Workforce Development, Downtown Development, Entrepreneurial Development, and Quality of Place: • Encourage added pedestrian friendly mixed-use development in areas within the Central Business District and along greenways/trails. • Develop a Bike/Pedestrian plan based on community wants and needs as well as regional initiatives. • Develop a comprehensive Park and Greenway Plan. • Determine what properties are town owned (foreclosed property, vacant lots, etc) and determine what types of aesthetically pleasing uses can be established for them (development, community gardens, pocket parks).	The Town's Downtown Development strategies aid in a bike/walk friendly environment. The Town's Quality of Place strategies are most relevant to a bike/walk friendly environment.	While the Economic Development Strategy is a good start, the town needs a more detailed plan to address the community's land development vision.

Chapter 5

Designing for People Who Walk & Bike

Chapter Five: Designing for People Who Walk & Bike

Applying Complete Streets

Just because a street has sidewalks and bike lanes does not always mean it is "complete" from the perspective of safely accommodating all users of all ages and abilities. Careful consideration must be given to the needs of bicyclists and pedestrians and how they interact with traffic along different routes. Destinations along or near a proposed sidewalk or bicycle route will determine what types of users to expect.

NCDOT's Complete Streets policies, related guidelines, and practices mean that the state is likely to improve streets with bicycling and pedestrian facilities when they are part of other major roadway upgrades or changes in configuration. Given current constraints, it is not likely that NCDOT will add capacity to every street in Canton.

The addition of bike lanes or bikeable shoulders, for instance, is most likely to occur through resurfacing of the streets by NCDOT (in financial partnership with Canton to add pavement width where possible) or through the town independently pursuing federal or local funds to add the lanes to state-managed or locally-controlled routes. JMTE identified several locations (Park Street and Blackwell Drive, for instance) where restriping alone could be used to gain a bicycle facility. However, most streets where these facilities are desirable either have curb & gutter without enough room for a separate lane and/or any widening would require right-of-way from adjoining property owners. The NCDOT's resurfacing projects are not set up to procure additional right-of-way or to remove curb and gutter.

A good solution for rural roads is often to partner with NCDOT. With regularly scheduled resurfacing, encourage the widening of a roadway to include a wide enough shoulder for bicyclists to use safely.

While Complete Streets are being implemented by NCDOT, it is still imperative that Canton and its residents remain diligent about how bicyclists and pedestrians are accommodated on projects. Canton should work closely with its local NCDOT Division office to articulate these needs during the project development process so proper input can be given to the designers, who are oftentimes housed in Raleigh and are not as familiar with local context.

There are several positive examples across the state where this type of constant interaction has yielded better design for bicyclists along state highways. For instance, NCDOT Division 13 presented a design for a 5-lane widening of Merrimon Avenue that was met with criticism from the public, so they partnered with the City of Asheville and stakeholders to make sure the design matched local values and incorporated ideas from residents and business owners. The final approved design ended up being much more conducive to foot and bicycle traffic.

Emerging Trends

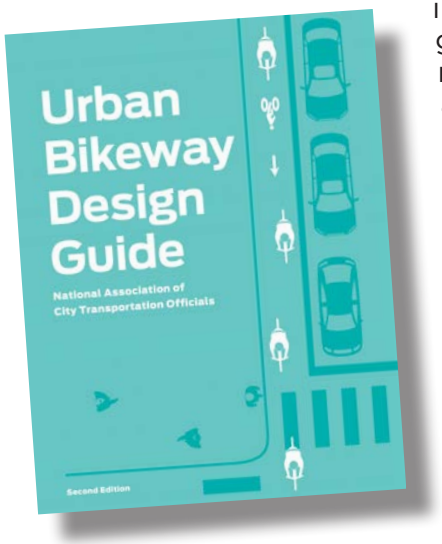
Canton's Bicycle & Pedestrian Plan is a document that emphasizes priorities over a ten- to twenty-year time frame. It is likely that design guidance that is current as of 2018 may be outdated when some recommendations of this plan are implemented.

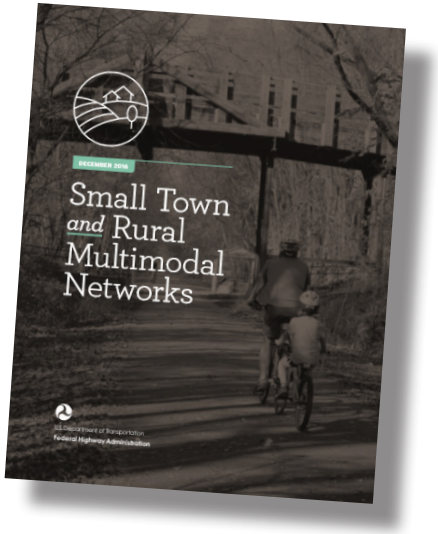
Prevailing design guidelines will always be a step or two behind the prevailing needs of bicyclists and pedestrians, which means it is difficult for designers to justify treatments that are not part of adopted design guidelines due to liability concerns. This section summarizes some emerging trends in bicycle facility design and organizations that are addressing the emerging trends.

WalkBikeNC Implementation. There are several recommendations contained in North Carolina's statewide pedestrian and bicycle plan that could influence how NCDOT and other communities across the state implement future designs for bicycling facilities.

Canton should keep track of the progress of this, in concert with the Southwestern Commission COG and French Broad River MPO, as well as subsequent updates to the state's Complete Streets Planning and Design Guidelines to ensure the most modern application of treatments for pedestrians and bicyclists are accommodated.

https://www.ncdot.gov/bikeped/walkbikenc/default.aspx





NACTO Urban Bikeway Design Guide. The National Association of City Transportation Officials (NACTO) has recognized that prevailing guidance from AASHTO is not well-suited for bicycle mobility in urban areas. They developed this design guide as a way to account for those unique needs. The NACTO guide is available online and includes several innovative treatments, many of which are acceptable applications within what MUTCD allows.

Cycle tracks and colored bicycle lanes are prevalent in the Design Guide, as are various treatments for bicycle boulevards and how to accommodate bicyclists at intersections. WalkBikeNC recommends NCDOT endorse this design guide so that communities and NCDOT are comfortable with applying some of its concepts. Many communities across the country, including Charlotte, have already endorsed it.

https://nacto.org/publication/urban-bikeway-design-guide/

Small Town and Rural Multimodal Networks Report. The FHWA developed this 2016 report as a resource and idea book intended to help small towns and rural communities support safe, accessible, comfortable, and active travel for people of all ages and abilities. It provides a bridge between existing guidance on bicycle and pedestrian design and rural practice, encourages innovation in the development of safe and appealing networks for bicycling in small towns and rural areas, and shows case studies and visual examples of appropriate facilities.

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwahep17024_lg.pdf

Designing for People Who Walk

Pedestrian facility use is a function of a variety of factors, including the connectivity of the facilities, their safety, their convenience, and their comfort. For this reason, pedestrian facility design should be thoughtful and sensitive to the needs of its users. By following the guidelines provided in this section for sidewalk, crossing, and trail design, as well as other items associated with pedestrian facilities, Canton should be able to create a built environment that will promote walking and increase the number of pedestrians in the area.

This section is intended to be a general reference for sidewalk and pedestrian facilities as well as a guide for various "Best Practices" that apply to special pedestrian situations. This section is not exhaustive but rather it refers to various national and state guidelines to respond to specific situations that may arise.

Currently, the town has few standards for pedestrian facilities – sidewalks, crosswalks, and other pedestrian-related amenities are constructed on an ad-hoc, as needed basis. This section of the Plan is important because it provides a consistent set of guidelines to help ensure that safety and accessibility goals are realized and clear expectations are set for drivers and pedestrians.

Design standards are constantly changing and evolving, so it is recommended that the Town confer with NCDOT and various national resource guides whenever embarking on new facilities.

Design Guidance

There are a variety of sources for design guidance for pedestrian facilities, including the following:

- **NCDOT Roadway Standard Drawings (2018)**;
- **NCDOT Complete Streets Planning and Design Guidelines (2012)**;
- **AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities (2004)**;
- **Manual on Uniform Traffic Control Devices (MUTCD)**;
- **U.S. Access Board Guidelines for Pedestrian Facilities in Public Right-of-Way (2011)**; and
- numerous **Federal Highway Administration (FHWA)** publications.

It is best to refer to these design publications when special conditions arise in the design of projects. Every effort should be made to address the requirements, particularly those concerning ADA, to the maximum extent possible even if it means additional right-of-way or construction is needed.

For NCDOT information, see **https://connect.ncdot.gov/projects/BikePed/Pages/Guidance.aspx**

Sidewalks

The typical sidewalk is at least five feet in width, made of concrete, and placed along roadways at least three feet behind the curb line (a 5' buffer is preferable). In general, the width of sidewalks should accommodate two persons walking past one another, a width generally perceived to be five feet, at a minimum. Other circumstances that may require additional sidewalk width are to accommodate:

- High pedestrian volumes, such as in a central business district;
- The overhang of parked vehicles from off-street or angled on-street parking areas; and
- Additional buffer from traffic when a planting strip cannot be installed.

The downside of a typical 5-foot sidewalk is that it barely allows for enough width for two people to walk side by side or comfortably pass when considering clearance.

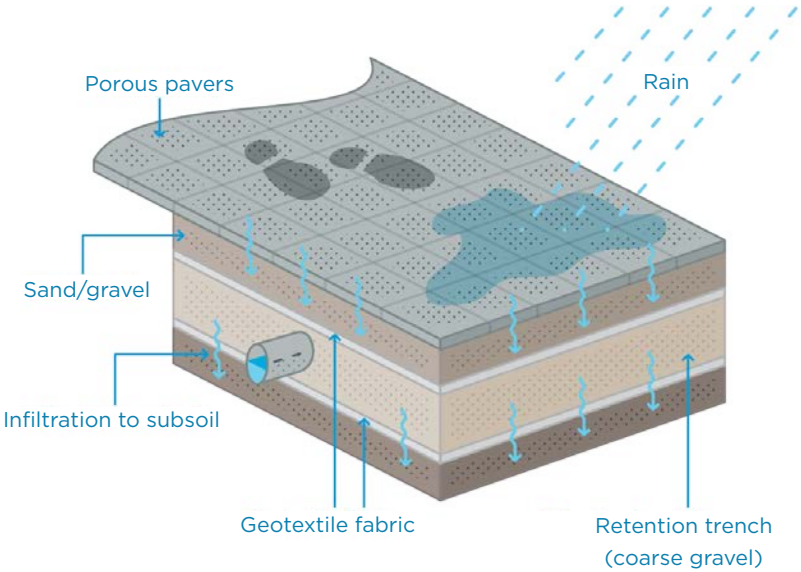
Sidewalks should fit the design characteristics of the area in which they are constructed and designers should recognize when more width is required.

Additional design considerations for on-street sidewalk facilities are:

- Eliminating both high and low contact points with tree branches, mast-arm signs, overhanging edges of amenities or furniture, and
- Providing clear space between walls on one side of the walkway and amenities, parking overhang, or plantings on the curb side of the walkway.

In general, concrete is the preferred surface because it is more durable than asphalt. A more flexible material, such as rubberized paving, can also be considered in situations in which there is the potential for tree roots to crack and lift the concrete. Using these types of materials can reduce the risk of a tripping hazard, and also lower maintenance costs.

More permeable materials, such as porous pavers, can be considered for all pedestrian-ways, and in particular for greenways near streams, in order to reduce run-off from storm events.



Cross-Slopes

Cross-slopes, or a slope along the travelway surface which is perpendicular to the direction of travel, can often make it very difficult for wheelchair travel. In addition, it can make for treacherous walking conditions for individuals with problems with their balance and coordination. Young children, the elderly, or indeed anyone not paying attention, can lose their balance when a sidewalk tips too far to the left or right.

Cross-sloping most frequently occurs in conditions in which a driveway meets a sidewalk, but can also occur in other situations. In order to minimize the risk of a dangerous and difficult travel condition, the ADA states that cross-slopes should not exceed a 2 percent grade, and preferably not exceed 1.5 percent where possible.

Curb Ramps

Curb ramps are a significant and required feature of accessible pedestrian transportation systems, and must be designed carefully to fulfill their function and the requirements of the Americans with Disabilities Act. Curb ramps should not have a running slope greater than 1:12, meaning that for every foot of travel, the slope should not rise more than one inch. To provide a tactile warning to the visually impaired, raised truncated domes with a color contrast to the background material (typically concrete) should be used. The ADA Accessibility Guidelines for Buildings and Facilities has an easy-to-use format for locating specific design criteria related to curb ramps, rise/run restrictions on ramps, and figures illustrating basic concepts.

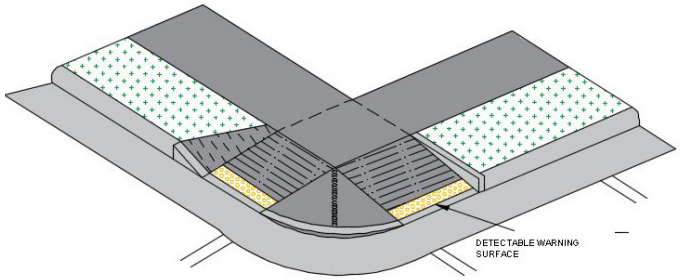
Curb ramps are required to have a 4-foot by 4-foot flat landing (no greater than 2 percent cross slope in either direction) area at the top of the ramp to allow people who walk to orient themselves. In some cases, the 4x4 landing may be accommodated at the bottom throat of the ramp.

Exhibit 5-1: Best Practices for Curb Ramps

Curb ramps are the most difficult element of ADA-compliant pedestrian facility design to address. Getting the slopes and flat landings properly constructed is critical to the function of a person in a wheelchair or someone on crutches as they prepare to enter or leave the street.

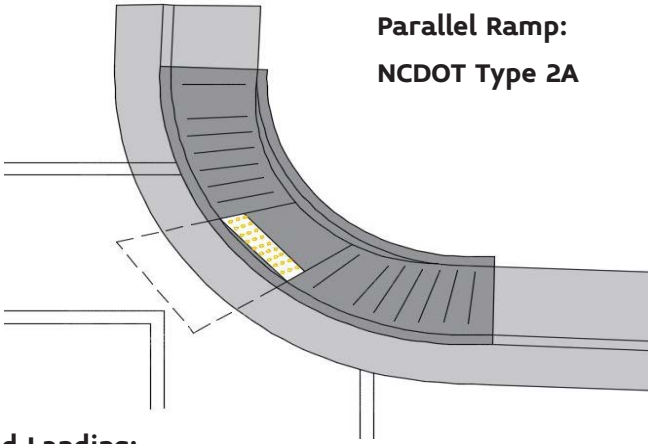
Shared Landing:

NCDOT Type 4



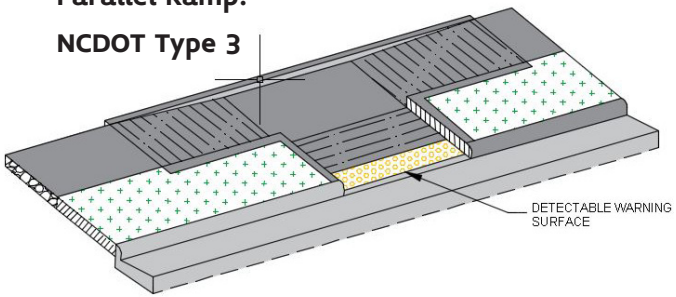
Parallel Ramp:

NCDOT Type 2A



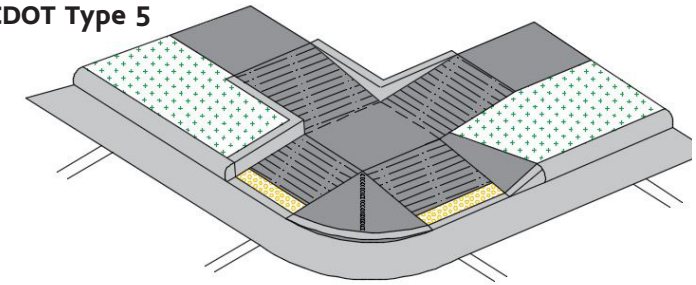
Parallel Ramp:

NCDOT Type 3



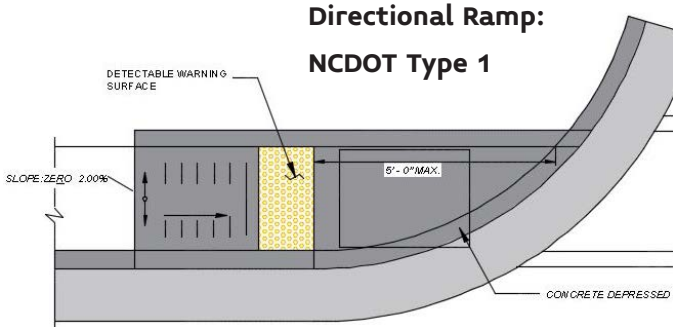
Shared Landing:

NCDOT Type 5



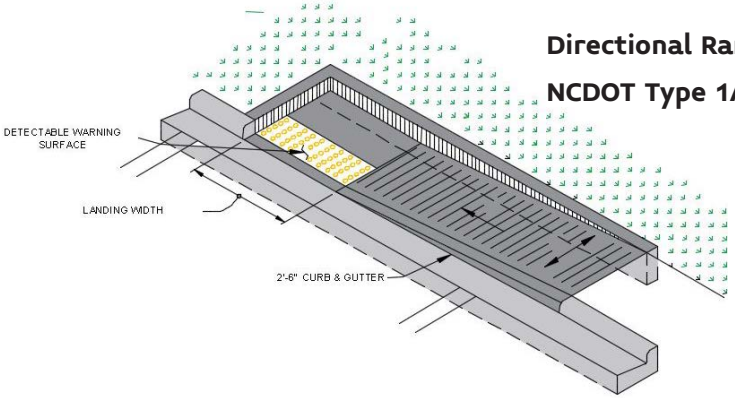
Directional Ramp:

NCDOT Type 1



Directional Ramp:

NCDOT Type 1A



This is a design requirement that is noted in NCDOT's design standards for wheelchair ramps, 2012 Roadway Standards Drawings 848.05 and 848.06

NCDOT's website for Roadway Standard Drawings also includes four different alternative curb ramp designs intended to help communities meet ADA requirements in a variety of constrained situations.

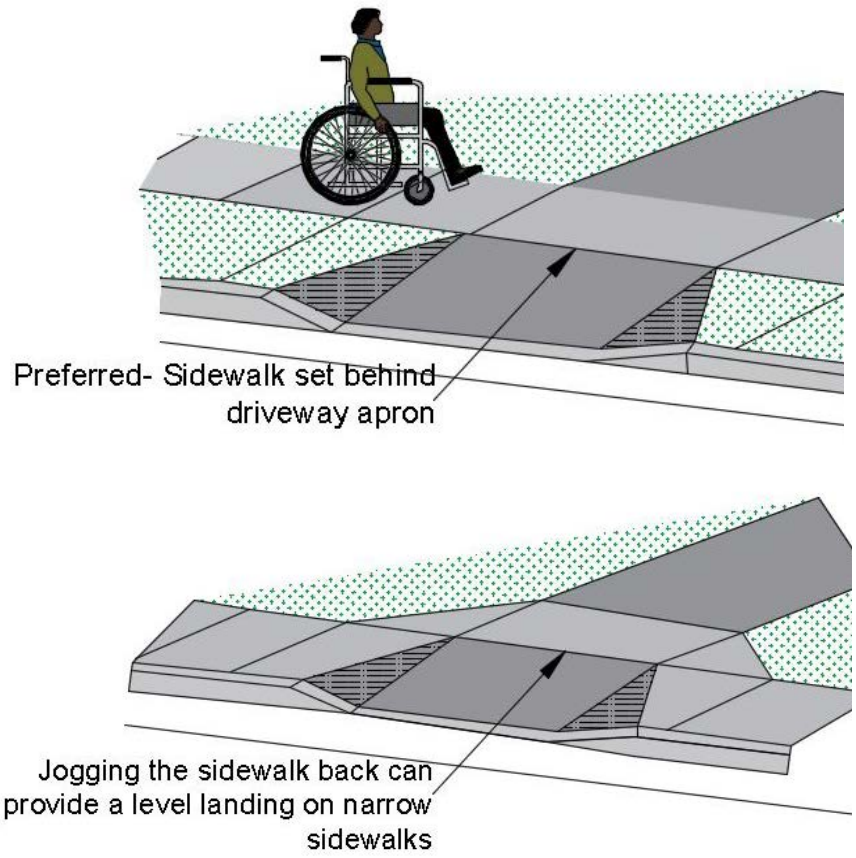
Curb ramps should be placed entirely within the area of a marked crosswalk, so that a pedestrian can enter the ramp space at an angle perpendicular to the direction of travel. Generally, the standard is to have separate curb ramps on each corner; if a shared (sometimes called corner or diagonal) curb ramp is constructed, then the width and radius should accommodate the user so that entry onto the ramp is parallel to the direction of travel.

In 2015, NCDOT conducted an ADA Self-Assessment & Transition Plan and has initiated an effort to correct the curb ramps found to be noncompliant.

https://www.ncdot.gov/initiatives-policies/access-for-all/accessibility-program/Documents/2015NCDOTSelfAssessmentTransitionPlan.pdf

Exhibit 5-2: Flat Landings at Curb Ramps

Across North Carolina, curb ramps are the most commonly misapplied elements in street design, with many failing to meet ADA requirements because they do not feature an appropriate flat landing. The landing allows a space for a person in a wheelchair or other mobility device to orient themselves to cross the street or turn to go in their desired direction on the sidewalk.



Crossings

Pedestrian-friendly crossings are a critical feature in a well-connected pedestrian system because they provide the linkages between one segment of sidewalk to another as a pedestrian may cross a street, connect to another existing piece of sidewalk, or pass to a new development. A well placed crossing can dramatically reduce pedestrian travel time and improve pedestrian safety, greatly increasing the convenience of walking as a mode of travel. Crossings can be either signalized or unsignalized, and located at intersections or, in special circumstances, at mid-block locations.

The most basic crossing is an unsignalized intersection with standard, continental, or zebra crosswalk markings. Other potential treatments for unsignalized crossings include raised crosswalks and/or signage. In-street or overhead "yield to pedestrian" signs are a treatment for unsignalized intersections, encouraging motorists to stop for pedestrians as they cross the street.

These signs offer a visual cue and instill some friction in the roadway, as they are typically placed in the middle of a bi-directional, two-lane road. Additional treatments can be added for crosswalk visibility at unsignalized and signalized locations, including decorative brick, textured crosswalks or experimental paint colors.

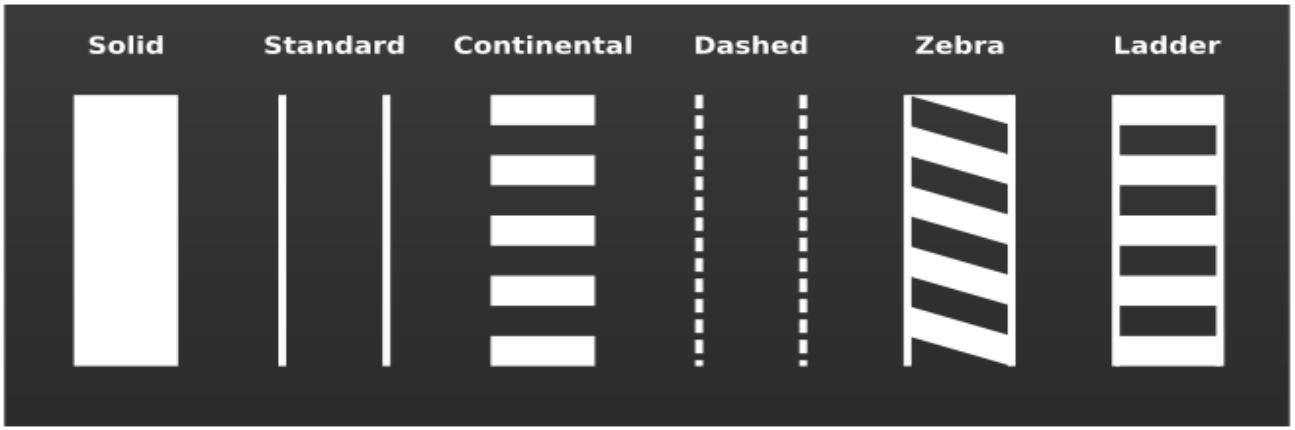
All signalized intersections should be outfitted with countdown pedestrian signals and crosswalks, per NCDOT and MUTCD standards. MUTCD standards dictate that timing must allow for a pedestrian to safely cross the street at a speed of 3.5 feet per second.

In some cases, the built environment or user context may require more crossing time or more specialized treatments to alert motorists to the presence of pedestrians.

MUTCD notes that 3.0 feet per second can be used to allow sufficient time for slower pedestrians, such as older adults, those in wheelchairs, or people with limited sight.

Marked crosswalks (at signalized and unsignalized locations) should not be less than six feet in width, with 10 feet or greater for downtown areas and locations of high pedestrian traffic. Advance stop bars should be placed 4 to 10 feet from the pedestrian crosswalk (with 6 to 15 feet recommended in uncontrolled locations or multi-lane roads). Pedestrian push buttons should accompany pedestrian signals that are not phased into the regular traffic signal cycle; push buttons must follow ADA guidelines.

Pedestrian-activated signals should be used for roadways with long traffic signal cycles



where pedestrians are to be given preference when present, and/or for signals where the pedestrian cue is not phased into the traffic cycle unless a button is activated. Pedestrian- activated signalization can also be used to provide lead pedestrian intervals in high-conflict areas, in order to give pedestrians a few seconds of full use of the intersection or crosswalk prior to allowing right or left turning movements for motorists.

These options reinforce pedestrian safety at high-conflict intersection locations with significant crash history. Push buttons should not be used in central business districts or high traffic locations as the only means of providing a walk signal. Though NCDOT does not have established guidelines for the placement of pedestrian signals, they generally use MUTCD and AASHTO warrants for the installation of traffic signals. It is advisable to follow this same guidance or confer with NCDOT Division 14 before making changes.

Signage

In addition to sidewalks and crossings, pedestrian facilities also include signage along major pedestrian routes.

Regulatory and warning signs serve primarily to reinforce traffic laws and rules of the road, and notify motorists and others of the presence of pedestrians. Often, the intended effect is to instruct motorists to drive more cautiously and reduce their speeds, thereby improving safety for pedestrians in the area.

Regulatory and warning signs can be used in a variety of places, including at crosswalks, at intersections, in-street, and near schools. National standards for sign placement and use can be found in the MUTCD. The MUTCD provides guidance for warning signs which can be used at both crosswalks, or along the roadway.

Accommodation During Construction

For residents to be comfortable using walking as a primary mode of transportation in their town and neighborhood, they need to be confident that the facilities they count on will be available consistently. Therefore it is of high importance to adhere to guidelines laid out in Part 6 (Chapter 6D) of MUTCD regarding Temporary Traffic Control to ensure pedestrian access when construction or special events obstruct the usual pedestrian route. Canton should make sure that both municipal construction crews and contractors comply with these guidelines when pedestrian paths are impacted by construction.

https://mutcd.fhwa.dot.gov/pdfs/2009/part6.pdf

Parking Lots

Pedestrian circulation through parking lots is an essential element of walkability and can make the difference between a resident walking to a store or getting into a car for a short trip. Zoning should include requirements for pedestrian-friendly circulation to and from the front doors of places of business, and development review should include an assessment of pedestrian access and safety through vehicular areas in private developments, including attention to the standards described in this chapter for curb ramps, crosswalks, and driveways.

New Construction and Redevelopment

The town's zoning ordinance should be as specific as possible regarding pedestrian facility requirements for new construction and redevelopment. Developers should be told up front about expectations for pedestrian facilities that not only meet minimum requirements but enhance the pedestrian experience. Requirements may vary by zoning district, size of development, and functional classification and design features of the road the development abuts.

Traffic Calming

Traffic calming is the term used to describe a toolbox of improvements that can be used to "calm", or slow, traffic along a street, usually in a neighborhood or similar area with low traffic speeds and relatively lower traffic volumes.

Traffic calming efforts can help to create a safer, more comfortable pedestrian environment by reducing vehicle speeding. Traffic calming comes in a variety of forms.

Curb extensions (bulb-outs) and reduced curb radii shorten the distance that pedestrians must travel to cross a street, while slowing vehicular traffic as cars make turns. Narrowing the travel lane and reducing vehicular speeds during turning movements at intersections helps create a safer and more comfortable pedestrian environment and makes an intersection safer for all users.

Medians and refuge islands are useful in situations where wide, high volume or high speed roadways create an obstacle to pedestrian mobility. Refuge islands shorten the length of the crossing and give pedestrians who are not able to cross the entire street in one signal cycle the opportunity to split their crossing. Medians and refuge islands also enclose the visual perception of the roadway, encouraging heightened awareness of surrounding and greater compliance with speed limits and other traffic laws.

Median-controlled roadways reduce the number of turning conflicts and are generally considered safer for all road users than a two-way, left turn lane roadway.

Pedestrian Access Routes

A retail establishment may display merchandise on the sidewalk and outdoor seating is permitted immediately in front of a restaurant. This type of street activity should be encouraged as both the display of merchandise and outdoor dining contribute to a business district's vibrancy and visual attractiveness. These types of activities engage the pedestrian.

Four feet of sidewalk should be maintained unobstructed by permanent or temporary obstacles and protruding objects such as benches, bike racks, fire hydrants, planers, utilities, etc. The minimum acceptable ADA sidewalk width is five feet (four feet if a five-foot wide pathway is placed at least every 200 feet). NCDOT preference is five feet minimum.

Many conflicts can arise on downtown sidewalks as merchants want to market their stores and have sidewalk sales while towns want to plant trees, place benches, and other amenities. The illustration above notes the clear route that should be maintained at all times. The pedestrian access route is an ADA requirement take ensure consistent and clear space.

Alternative Pedestrian Facilities

Given budget limitations, the Town of Canton and NCDOT may find opportunities to explore other options for accommodating people who walk in a

manner that addresses required technical elements of design but is cost-effective from a budgetary perspective. The common design manuals provide for the perfect solution and the traditional curb, gutter and sidewalk approach to building pedestrian facilities has been around since the 1800s. But this is not always possible given an area's context. Improvements can sometimes be constructed at 1/10th the cost of traditional curb, gutter and sidewalk designs, which is why it is important to consider these options before embarking on more costly improvements. People are already walking along many streets and that requires them to walk in the roadway at times. These alternative facilities simply allow for that use to continue while giving those who walk some space that is clearly delineated from the vehicular realm.

For instance, painted pedestrian lanes or simple markings are suitable for low speed, low volume residential streets where motorists and pedestrians are already sharing the road space. Alternatives such as shoulders converted into labeled multi-use trails could be an interim measure before full-scale sidewalk construction or a link between greenways alongside a street. Gravel sidewalks and pathways without curbs can provide a minimum amount of safety for pedestrian travel without requiring extensive design work or implementation costs.

Designing for People Who Bike

In addition to the state's Complete Streets policy, NCDOT operates under an adopted Bicycle Policy that stems from the state's **1974 Bicycle and Bikeways Act**. Some important elements of the bicycle policy for Canton to remember when projects are pursued are:

- Bicycle compatibility shall be a goal for state highways in order to provide reasonably safe bicycle use, except on fully-controlled access highways, where bicycle use is prohibited.

- All bicycle facilities shall conform with the (state) adopted Design Guidelines for Bicycle Facilities on state-funded projects, and also with guidelines published by the American Association of State Highway and Transportation Officials (AASHTO) on federal aid projects.

- Paved shoulders shall be encouraged as appropriate along highways for the safety of all highways users, and should be designed to accommodate bicycle traffic.

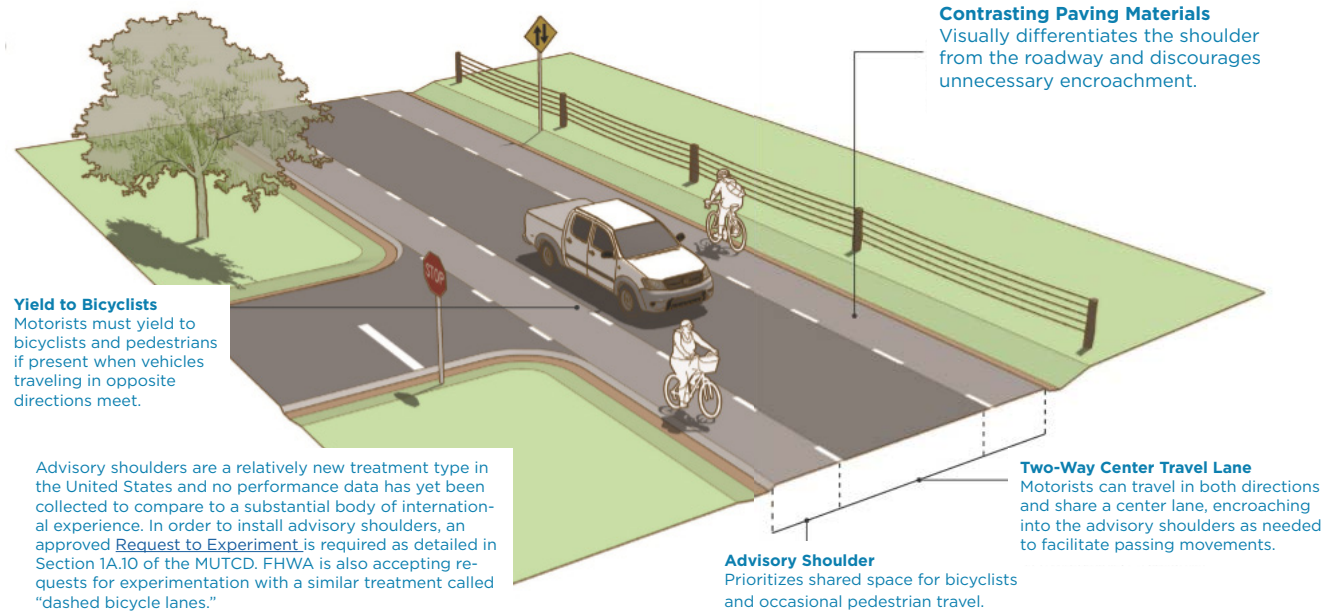
https://www.ncdot.gov/divisions/bike-ped/Documents/bikeped_laws_bikeway_act.pdf

The FHWA issued a report titled "Small Town and Rural Multimodal Networks", which demonstrates hows total roadway width affects the number of road users that can meet and pass simultaneously. Wider roadways allow for more simultaneous interactions and can support higher volumes of motor vehicles. It also demonstrates the concept of advisory shoulders.

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/fhwa-hep17024_lg.pdf

Experimental applications are not currently recommended for use in Canton but might be considered in the future. Advisory shoulders are only permissible on local roads, not NCDOT-maintained roads.

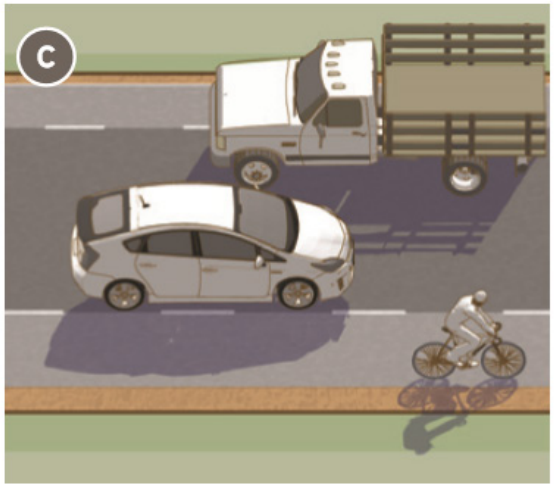
Exhibit 5-3: FHWA Advisory Shoulder Illustration



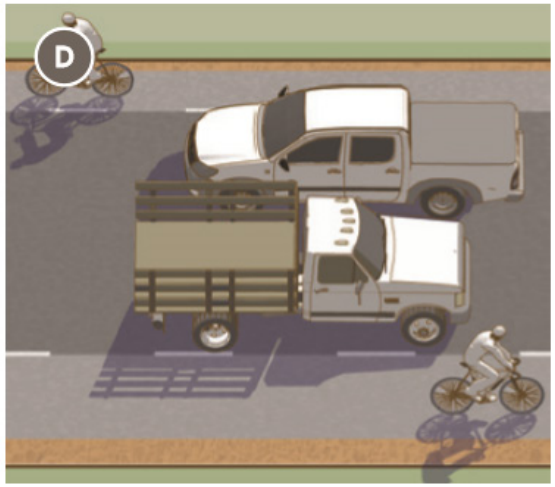
Advisory shoulders are a relatively new treatment type in the United States and no performance data has yet been collected to compare to a substantial body of international experience. In order to install advisory shoulders, an approved Request to Experiment is required as detailed in Section 1A.10 of the MUTCD. FHWA is also accepting requests for experimentation with a similar treatment called "dashed bicycle lanes."

Exhibit 5-4: FHWA Advisory Shoulder Road Width Illustration

13.5 ft (4.5 m) Center Travel Lane



18 ft (15.5 m) Center Travel Lane



As prescribed in NCDOT's Bicycle Policy, most of the prevailing guidance on the design of bicycling facilities stems from AASHTO. In 2012 the organization published its **Guidelines for the Development of Bicycle Facilities**, which serves as the foundation for the design guidance contained in this chapter. Canton should purchase this document to have on-hand for future discussions as it is not universally known about or applied in North Carolina.

The other prevailing design guidance for transportation engineers is the Manual on Uniform Traffic Control Devices (MUTCD), which sets the standards for traffic control practices across the United States. The application of MUTCD is why speed limit signs look the same in most states and the striping and signage along highways and streets is consistent. The most recent MUTCD was adopted in 2009 and includes the most comprehensive set of considerations for signage and pavement markings for bicyclists. Engineers, in most cases, are hesitant to deviate from its guidance due to fears of litigation.

In some instances, NCDOT's own design guidelines have identified features that are more bicycle friendly, such as how to determine appropriate bikeable shoulder width based on the speed of adjacent motor vehicle traffic.

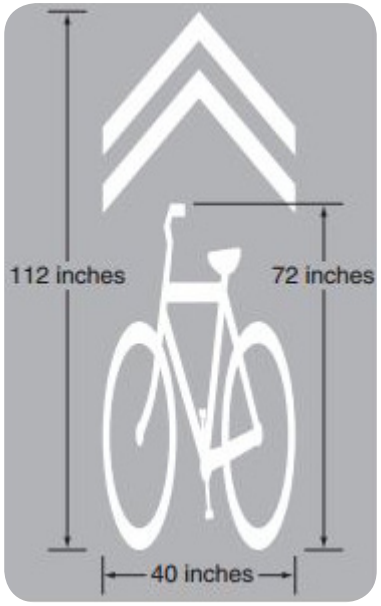
The important thing to note is that as the bicycling culture is changing in America, the design standards are also evolving rapidly and new guidance is being published yearly from various organizations.

Neighborhood "Greenways"

A neighborhood greenway is a signed bicycle route on a slow speed, low traffic residential street. These routes always have bicycle route signing and may also include pavement marking "sharrows" and/or "Share the Road" or "Bikes May Use Full Lane" signs (which may not currently be compatable with state allowances) to alert motorists to the presence of bicyclists. They are intended to prioritize bicycling movements.

Neighborhood bicycle routes and bicycle wayfinding are popular on streets where there is not the need for dedicated bicycling facilities. In a similar fashion as Canton has signed and marked its greenway, the Town may pursue designating a neighborhood bicycle route or historic bicycle tour of Canton through a system of pavement markings and/or signage.

Bicyclists can be given additional priority on these streets through other measures such as traffic calming via chicanes, chokers and dead end streets that allow bicyclists to go through.



Shared Lane Marking ("Sharrows")

The use of shared lane markings has become more popular on streets where adding a bicycle lane or shoulder is not feasible or planned. A shared lane marking is defined by AASHTO as a "pavement marking symbol that indicates an appropriate bicycle positioning in a shared lane, which is a lane of traveled way that is open to both bicycle and motor vehicle travel."

Shared lane markings send other messages to bicyclists and motorists: 1) That a bicycle has a right to use the lane and the lane should be shared; 2) Positions a bicyclists in a travel lane with on-street parking in a location where they can avoid opening car doors; and 3) Positions a bicyclist in a travel lane without on-street parking in a location where they are not squeezed out or riding along the right edge of pavement.

Special care should be taken when marking a shared lane. MUTCD recommends a 10-foot or 11-foot distance from the center of the marking to the curb face when on-street parking is present. However, local conditions may vary and necessitate placing the marking further out into the travel lane or in the middle of the travel lane.

Bicycle Lanes

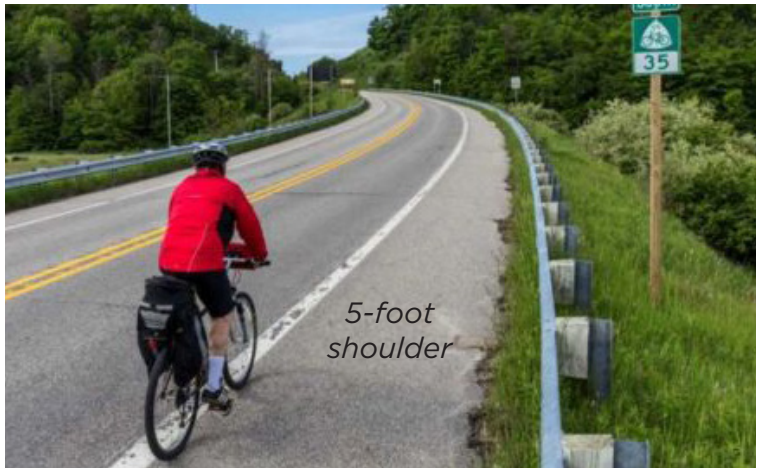
A bicycle lane is defined by AASHTO as a "portion of roadway that has been designated for preferential or exclusive use by bicyclists by pavement markings and signs. It is intended for one-way travel, usually in the same direction as the adjacent traffic lane."

The bicycle lane is the most common application for dedicated bicycling facilities and typically ranges in width from four-feet to six-feet adjacent to a motor vehicle lane. This width does not include the width of the gutter pan as it is not usable space for a bicyclist.

Four-foot wide lanes are most appropriate on low-speed streets such as collectors where there is not as much discrepancy in the speed of the bicyclist versus the speed of the motorist. On higher speed facilities, the width should be greater (5-feet on 35 mph to 45 mph streets; 6-feet on streets with speed limits greater than 45 mph).

Bikeable Shoulders

Bikeable shoulders are similar to bike lanes except there is no curb and gutter and the shoulder may or may not be marked as a bike lane. The 1994 **NC Bicycle Facilities Planning and Design Guide** defines it as a "portion of roadway contiguous with the traveled way that accommodates stopped vehicles, emergency use and lateral support for the roadway surface. Shoulders that are 4-foot (less than 35 mph speed limit) or 5-foot (35 mph to 45 mph speed limit) are considered bikeable because they are a width similar to a bike lane."



Separated Bike Lanes

There is a special type of bike lane called a cycle track. Cycle tracks can be one-way or two-way, and may be either buffered or separated. Buffered bike lanes are divided from the adjacent motor vehicle travel lane only by a painted or marked island, whereas separated bike lanes have a vertical element such as a curb, a raised median or a row of delineation posts between the bicycle lane and the motor vehicle lane. Motor vehicle parking may even be used to separate the travel lane from the cycle track. When a barrier is used between a motor vehicle travel lane and the bike lane, the separated bicycle lane is also known as a protected bike lane.

The application of cycle tracks is increasingly popular on urban streets. Cycle tracks are similar to multi-use trails but are located within the street and intended only for bicyclists; a sidewalk is still needed for pedestrians.

Shared Use Pathways / Sidepaths

These facilities are also commonly called multi-use paths or greenways. Design principles for shared use pathways and sidepaths take both pedestrian and bicyclists' needs into account. Bicyclists need more space for two-way operation, especially when pedestrians also use the facility; this is why these paths are wider than standard sidewalks. A pathway that accommodates both types of users should be 10-feet wide at minimum; (8-feet is allowed in short, constrained sections) but 12-foot or 14-foot wide pathways are preferred in high volume areas or near parks and schools.

A common response to building greenways is that some residents and officials feel that giving a bicyclist a separated trail will get them off the road. This may be true for less confident riders but a trail should not be seen as a substitute for on-road facilities as some bicyclists will prefer to be on the road in most situations.

Some special considerations on shared pathways include:

- A firm and stable surface that can accommodate a wide variety of bicycle types. Narrow tires on road bikes can make travel unsafe on gravel or sand paths.
- Sidepaths should be placed in areas where there are few driveway cuts or low potential for future driveway cuts. Motorists do not expect two-way bicycle traffic on a pathway crossing a driveway.
- Curb ramps and crosswalks at intersections of greenways and other pathways should be a width that conforms to the width of the pathway. Oftentimes, especially in North Carolina since NCDOT does not have a greenway curb ramp design standard drawings, communities place a five-foot wide ramp at an intersection with a multi-use trail. This is not compliant with Americans with Disabilities Act requirements or AASHTO's design guidelines.

Other Treatments

Bicycle Boulevards: Bicycle boulevards are street segments, or a series of contiguous street segments, that are modified to accommodate through bicycle traffic and minimize through motor vehicle traffic. Bicycle boulevards are best suited for street sections that link major destinations like a park or school to a greenway or other major bicycling facility where a dedicated greenway connection is infeasible or a bicycle lane is not practical due to the low-speed, low-volume nature of the street. Bicycle boulevards typically consist of special signage and pavement markings denoting them as a space where bicyclist movement is prioritized. "Stop" signs and traffic signals along such a route should be oriented to favor bicycle traffic, a process that itself requires special analysis and procedure.

Green Lanes: Painting a bicycle lane or sections of a bicycle lane with green paint is becoming a more popular treatment to help visually offset the bicyclist's space of the roadway as a way to improve safety and visibility. The most common treatment of green bicycle lanes is applying the paint where a motorist is merging across a bicycle lane, either at an intersection to reach a right-turn only lane or at a freeway interchange. Green lanes require special permission from the Federal Highway Administration as they are not yet universally accepted in prevailing design standards.

Other Bicyclist Accommodations

Parking lots and driveway entrances/exits are surprisingly hazardous for bicyclists. Motorists are not conditioned to notice bicyclists in these environments. Sometimes novice bicyclists will "cut through" parking areas to avoid perceived hazards on the road, and engage in bad practices such as cutting across parking aisles. Driveway entrances sometimes have channelized islands that allow motorists to make high-speed turns into a parking lot that can pose hazards for both bicyclists and pedestrians.

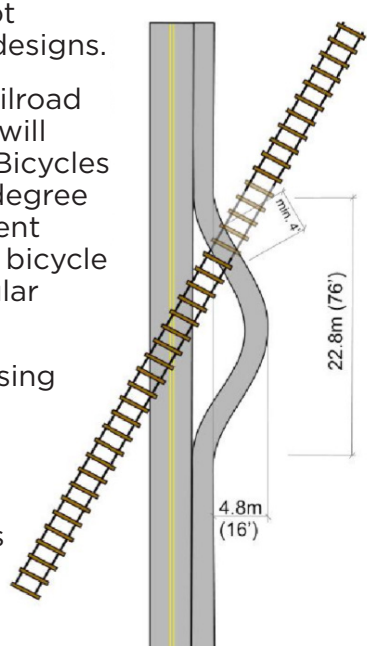
Bicycle parking: Bicycle parking racks can almost literally come in any shape or style you can imagine, thanks to some vendors catering to special markets for event centers, universities with specific mascots, municipal icons, and artists.

However, many of these designs neglect functionality. Even the popular "wave" rack style generally only supports a bicycle at one point, as does the comb rack, often seen at public schools. Regardless of the specific style, a thick (10") concrete base should be constructed for each bicycle parking station.

Generally, the basic rack styles are still a variant of the "post-and-loop" design. These styles are easily recognizable as usable bicycle racks instead of works of art and help prevent two bicycles rubbing up against each other.

Note also that bicycle parking areas should have minimum 6' horizontal clearances on all sides to ensure that each rack can be used properly, and at least a 7-foot vertical clearance. A shorter horizontal clearance with a minimum of 4 feet, may be used behind the rack. Note that bicycles are to park parallel to the rack, not through them for post-and-loop designs.

Crossing Railroad Tracks: Most railroad tracks and on-road bicycle paths will cross at a near-90 degree angle. Bicycles crossing tracks at a less than 45 degree angle should consider the treatment that calls for a realignment of the bicycle path to create a more perpendicular approach angle.



Some communities have begun using shared-lane markings, or sharrows, to indicate to bicyclists the most suitable way to cross a railroad track that is within an urban street where improvements are not feasible.

Drainage Grates & Utility Covers: Drainage grates can pose a serious hazard for bicyclists, particularly on older streets where the design and placement of drainage grates did not consider the potential use of bicyclists. Grates with openings that are parallel to the curb cause the wheels on bicycles , particularly those with narrow tires, to fall into the grates and result in a crash.

On new construction projects, grates should be placed only within the gutter pan of the street with grate openings that are perpendicular to the curb and direction of travel. On older streets, the jurisdiction in control of that street should be requested to retrofit the grates with new grates with openings that are perpendicular to the curb. Another retrofit treatment is the welding of straps across the grate perpendicular to the direction of travel, which narrows the opening of the grate to prevent the bicycle wheel from falling into the opening.

Grates and utility covers/manholes create different problems for bicyclists as roadways sink or are re-surfaced. Grates and utility covers should be flush with the roadway and should be replaced or reconfigured when NCDOT or a municipality resurfaces a street so they remain flush with the pavement.

Utility covers can pose problems on greenways as many of them are constructed along sewer easements. As with roadways, the utility covers should be flush with the trail surface and, where possible, outside of the travelway.

Rumble Strips: The addition of rumble strips along highways causes great concern among bicyclists due to the placing of rumble strips on high speed roadways. The placement is usually the only suitable location for bicyclists to travel due to the speed differential.

To account for the needs of bicyclists, rumble strips should be placed as close to the edge line or fog line of the highway to maximize the space available for the bicyclist along the highway. Design standards for most four-lane highways leave typically 5-feet or greater on the shoulder for bicyclists to operate outside the area of the rumble strips.

It is also important that rumble strips not be continuous, leaving long enough gaps at regular intervals to allow for bicyclists to move safely from shoulder to travel lane.

The Potential of Greenways

Greenways are becoming a popular transportation and recreation feature in communities across North Carolina.

The Pigeon River Greenway is one of more than a thousand such trails snaking their way across America turning old canals, abandoned rail beds and forgotten riverbanks into green recreational corridors. The greenway represents a voluntary local strategy to preserve scenic, natural, historic, cultural and recreational resources and promotes increased public access to the Pigeon River through the creation of riverside parks and trails.

Canton's Bicycle & Pedestrian Plan proposes several additions to the Pigeon River Greenway, including extensions south toward Bethel and northwest toward Clyde. The sidewalk and bike path system would ultimately connect to these greenway corridors, providing a comprehensive bike and pedestrian network throughout the town. This will allow any Canton resident the ability to travel throughout to key destinations. Visitors will be attracted to the area and the system will be a key recruiting and retention tool to businesses and residents.

Greenway Design

How we design greenways and trails impacts the experience and, ultimately, the safety of the diverse set of citizens who use greenways and trails for a variety of recreational, health and transportation purposes. Greenways should not be planned or built unless consideration is given to how they are designed, funded, operated, and maintained.

Some guiding principles for greenways include:

- Think long-term and have a vision for a connected, paved system for both transportation and recreation
- Use on-road and sidewalk connections until a complete system is built
- Do not use eminent domain
- Be creative with the routing, don't get stuck on one route if barriers exist
- Always be building and have an active project each year until finished
- Consider using natural surface trails as an interim until more money is raised or for areas in sensitive areas such as along a lake or a creek
- Incorporate Best Management Practices for storm water management and sedimentation.
- Maintain the system by building maintenance funding into the town budget and cultivating volunteers and adopt-a-greenway efforts

In addition to serving as a transportation function, greenways should include aesthetic and recreational amenities. Consider integrating cultural and historic themes in creative ways to reinforce a sense of place along the greenway. The greenway system should contain cohesive elements to unify the design.

Greenway Surfaces

One major design decision is the selection of the surface material. There are two general categories: hard and soft surfaces. While hard surfaces such as asphalt and concrete are more accessible and accommodating for wheeled vehicles and require less maintenance, the initial cost for installation can be high. Soft surfaces such as crushed stone, mulch, or natural earth are less expensive but are not as accessible, can require more maintenance, and can be impacted by adverse weather and drainage conditions.

The cost of surfacing a trail with asphalt or concrete may be prohibitive in the beginning stages of trail building. However, you may be able to upgrade from a softer surface like dirt or crushed stone to a harder surface like asphalt or concrete once you have secured funding. When selecting a surface, the main factors to consider include cost to purchase and install materials, accessibility, cost of maintaining the surface, life expectancy and ease of use.

Maintenance

A greenway system is only as good as the condition of its surfaces and adjacent amenities. Our climate requires special consideration for design and maintenance practices to ensure four seasons of use per year as greenways are not only recreational facilities, but provide key transportation connections.

The primary objectives of maintaining and operating a greenway system should be to:

- Preserve Existing Investment: Greenways are one of many visible public investments that should be viewed as an asset to the community. The outlay of resources for the initial construction of trails, pathways, amenities, access points, parking lots, signage and lighting also requires consideration of how investments are preserved.
- Protect Habitat & Environment: Greenways and trails are desired in areas that promote or enhance natural environments, even in their most urban settings. The degradation of a greenway or walking trail can adversely impact the quality of the surrounding habitat and environment that it was meant to protect.
- Keep it Safe: Maintenance involves the trail infrastructure and the environment around it, both of which can greatly impact the safety and the perception of safety for users. Rapid growth of foliage can overtake trails, block safety-related signs and create an "enclosed" feeling where users may not feel safe. The environment also impacts the trail surface as root heaves create tripping

hazards for users while encroachment of trailside grasses and shrubs can degrade the edge of pavement or shorten the effective width of the trail and create user conflicts. Storm water runoff can compromise the integrity of the trail base and natural surface trails can be washed away during major storms, both creating unexpected conditions for users.

Some maintenance needs include mowing, trimming foliage on and around greenways, sweeping sediment from the trail, removing fallen limbs, and fixing cracks before they become safety hazards. Delaying action on any or all of them seriously compromises the integrity of the trail and sets forth a cycle of degradation that can quickly result in the need to completely repave or rebuild a trail. Some of these maintenance needs can be planned for while others require methods of reporting maintenance needs, response policies and clearly defined roles for maintenance participants.

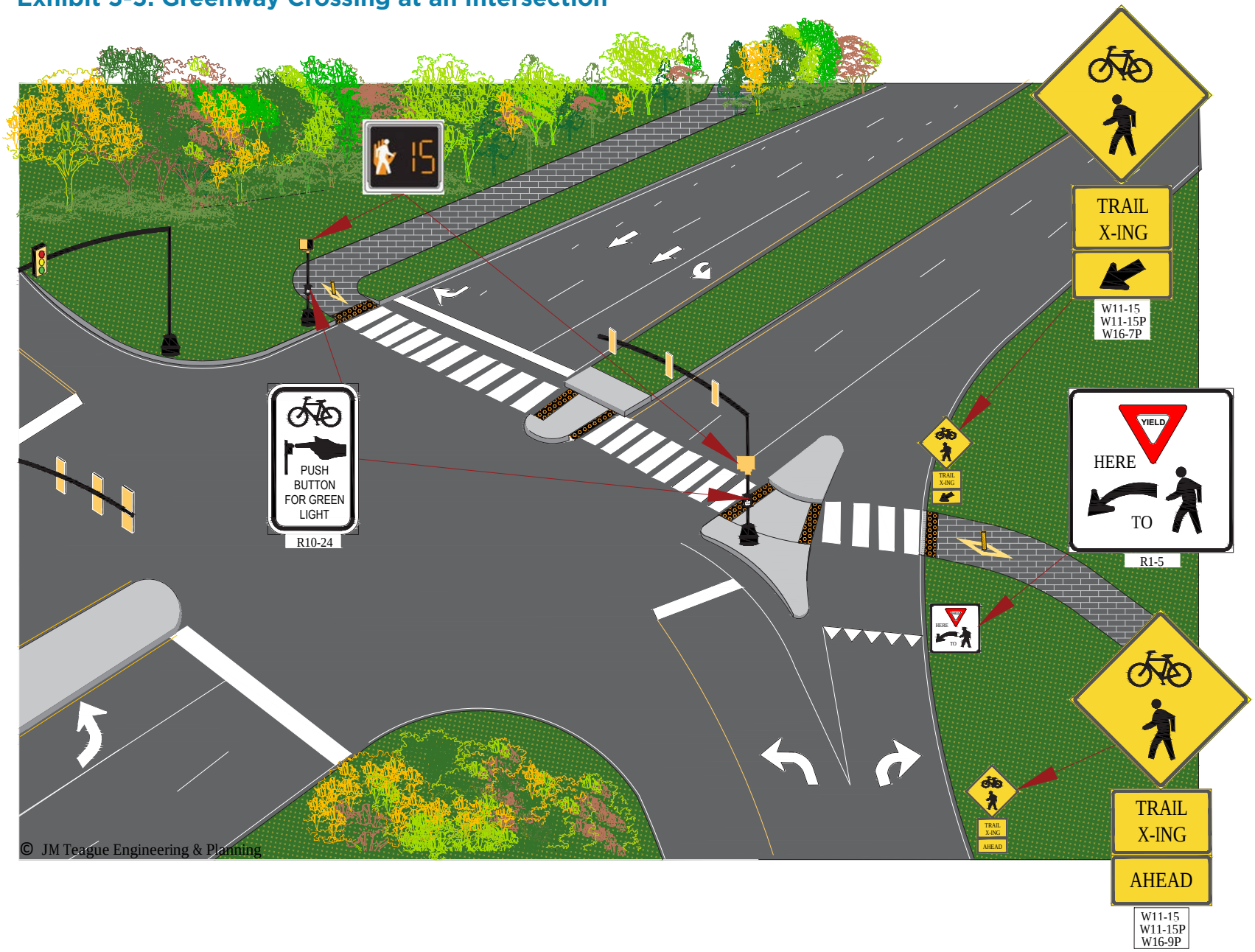
Crossings for Multi-Use Trails

Where multi-use trails meet the street is one of the most critical, yet overlooked, design elements. These locations are where a diverse set of users must cross a street or intersection and they travel at varying speeds.

Places where pathways cross at a mid-block location require design treatments that are very different than a common crosswalk/sidewalk/ramp combination. Crossings and curb ramps must be as wide as the trail. Exhibit 5-3 shows best practice treatments for these conditions.

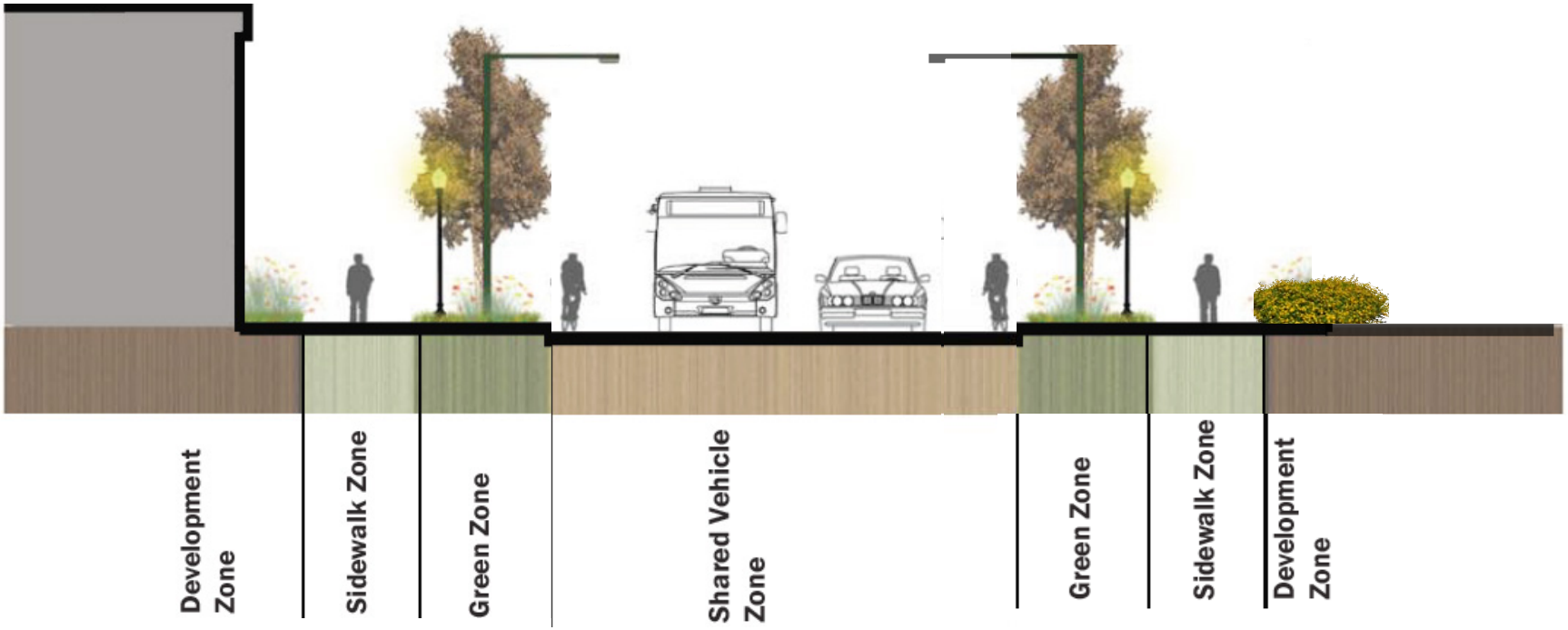
It is important to work with designers and DOT on these crossings to make sure users are safe and signs and markings are clear. NCDOT refers to NACTO and ASHTO multi-use trail design standards.

Exhibit 5-5: Greenway Crossing at an Intersection



Urban/Suburban Avenue

ILLUSTRATIVE STREET CROSS-SECTION

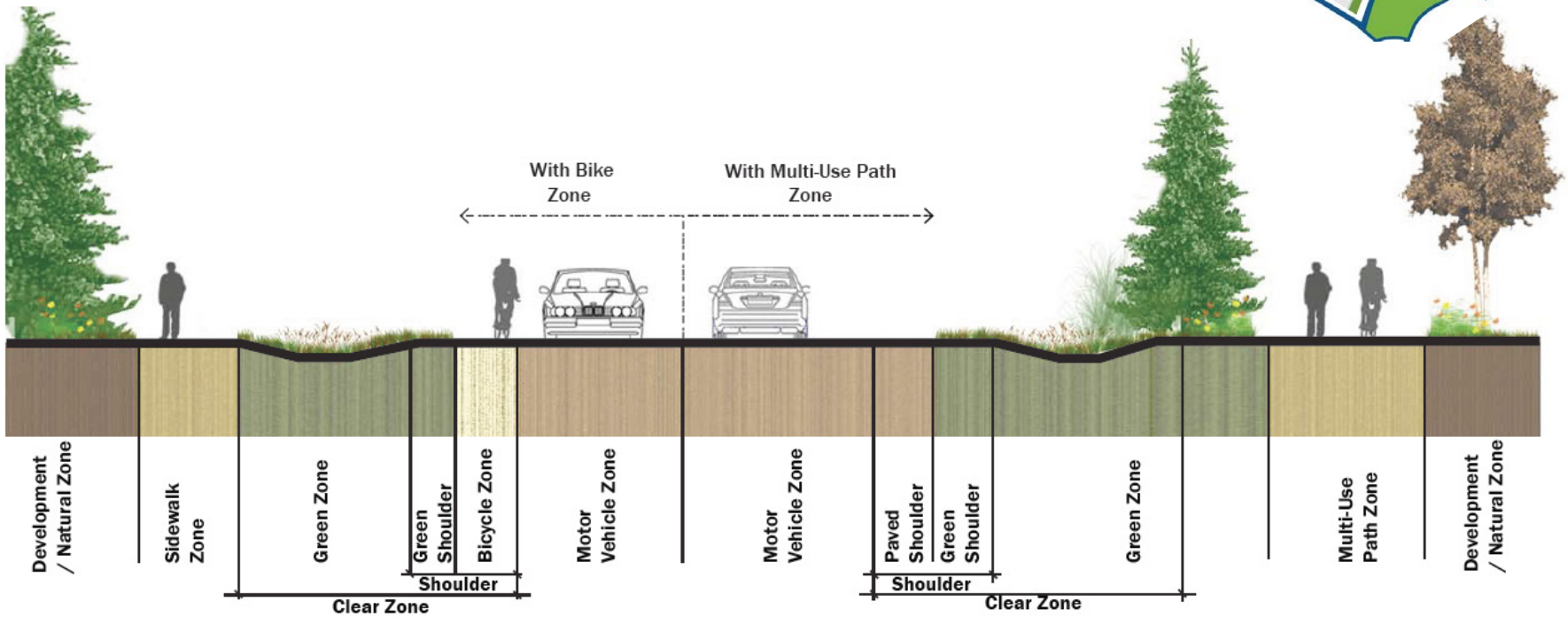


The intent of this cross-section is to make sure pedestrians have 6'-12' sidewalks on both sides of the street, with a 6'-8' green zone buffer when feasible. These avenues do not feature delineated bike lanes, but continue to have shared vehicle streets.

Note that when most development is set back from the sidewalk, there will most likely be parking lots adjacent the sidewalk (though hopefully separated by a vegetative buffer).

Rural Road

ILLUSTRATIVE STREET CROSS-SECTION

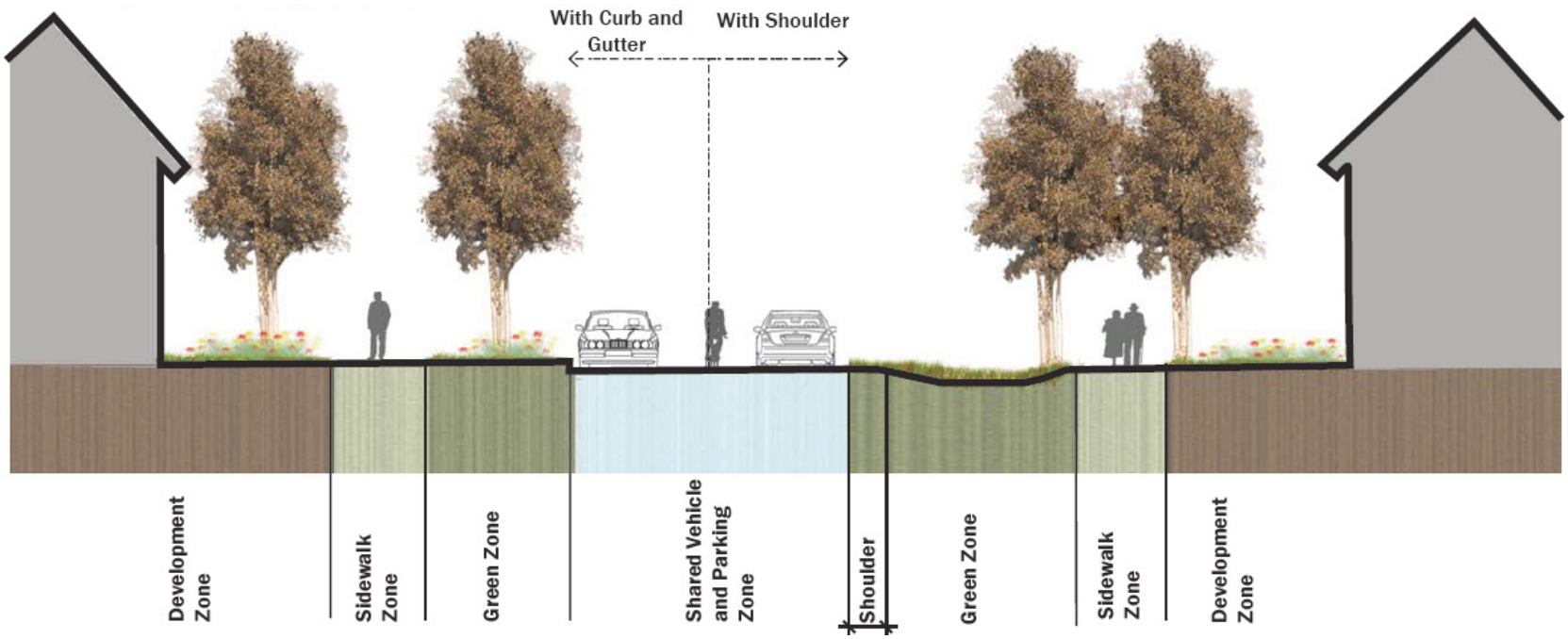


This cross-section features either an on-street bicycle lane or a separated multi-use path, depending on the location, maintaining a minimum 10' sidewalk when feasible.

It is important that bike lanes be a minimum of 5 feet diameter (and preferably physically buffered from the motor vehicle zone with a painted area or barriers).

Local Residential Subdivision Street

ILLUSTRATIVE STREET CROSS-SECTION



Bike lanes are typically not necessary due to low speed and volumes.

Note that medians are typically not provided on local streets (though sometimes for aesthetics)

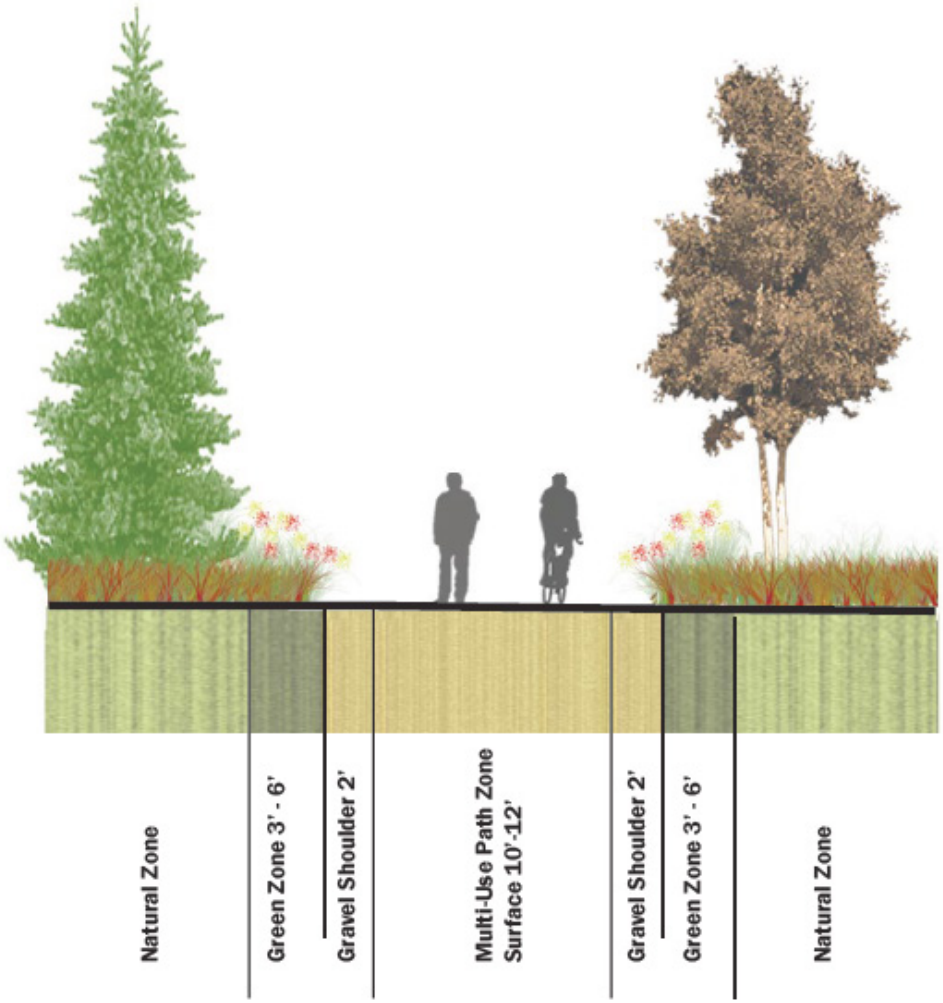
On-street parking may be an option, depending on land use characteristics, street width, and parking demand.

Multi-Use Path

ILLUSTRATIVE PATH CROSS-SECTION

The Green Zone is a planting strip used to create lateral offset from the edge of the path to trees and other objects (so branches don't typically get in the way).

The Natural Zone serves to separate trail users from motorists on the nearest street and can provide attractive shade trees.



Chapter 6
Safety & Enforcement

Chapter Six: Safety & Enforcement

Bicycle & Pedestrian Laws in North Carolina

In all fifty states, bicycles are considered vehicles with all the applicable rights and responsibilities [§20-4.01 (49)]. Thus, every law that refers to "vehicle" can apply to a bicycle. The term "driver" or "operator" in the NC statutes also applies to bicyclists.

Bicycling Laws

House Bill 232 – Bicycle Safety Laws Study: Approved in June 2015, House Bill 232 required NCDOT to study North Carolina bicycle and traffic laws and make recommendations on how the laws could better ensure the safety of bicyclists and motorists. HB 232 also required NCDOT to form and meet with a working group representing various industries and interests. NCDOT released its final report containing recommendations to the Joint Legislative Transportation Oversight Committee on January 8, 2016. Among recommendations about overtaking/passing protocol, group ride registration, and dark condition visibility, the working group determined that there is a need to enhance statewide education and outreach efforts to help ensure motorists and bicyclists are properly informed on how to safely and properly interact with each other when sharing roadways.

Bicycle Helmets and Seats: Bicyclists and bicycle passengers under the age of 16 must wear approved protective safety helmets that are securely fastened to their head using straps, while riding on public roads, bicycle paths, and other public rights-of-way [§20-171.7(b)].

Passengers that weigh less than 40 pounds or are less than 40 inches in height must be seated in a separate restraining seat and must be able to maintain an erect seated position. Other passengers under the age of 16 must be seated on saddle seats (as on a tandem bicycle) [§20-171.7(b)].

The parent or legal guardian of a child under the age of 16 cannot knowingly permit a child to break these helmet and seat laws. The penalty for violation of this law is a civil fine of up to ten dollars. However, the court may waive the fine if the person responsible provides proof that an appropriate helmet or seat has been purchased and is being used as required [§20-171.9(e)].

Bicycle Lights: For riding after dark, every bicycle must be equipped with proper lighting equipment: Front - a lighted lamp that is visible from a distance of at least 300 feet. Rear - a red reflex mirror or lamp that is visible from a distance of at least 300 feet [§20-129(e)]. Lights are required during the period from sunset to sunrise and when there is insufficient light to see clearly a person on the highway 400 feet ahead [§20-129(a)].

Riding on the Right: When riding on a roadway, a bicyclist must ride in the same direction as other traffic. Also, the bicyclist must travel in the right-hand lane and should ride as close as practicable to the right-hand edge of the highway [§20-146(a)]. Requiring a bicyclist to ride as far to the right as practicable should better enable motorists who wish to pass to see around the cyclist.

Exceptions to this law are provided when the bicyclist is making these maneuvers:

- Passing another vehicle moving in the same direction [§20-146(a)(1)];
- Avoiding a dangerous obstruction [§20-146(a)(2)];
- Riding on a one-way street [§20-146(a)(4)];
- Preparing for a left turn [§20-146(e)].

Bicyclists are not required to ride on adjacent bicycle paths or greenways, and a bicyclist is still afforded the ability to use the entire travel lane. Therefore, language in the law causes some confusion among police, motorists, and untrained cyclists, who believe that cyclists need to ride as far to the right as possible, in order to allow a motorist to use the same lane. The law is not about sharing a traffic lane; it is about safety, designed to enable faster drivers to pass slow moving vehicles legally and safely in an adjacent or oncoming lane.

Impairment: A bicycle is not considered a vehicle for purposes of impaired driving [§20-4.01]. However, bicyclists should not mix drinking and bicycling. According to a U.S. DOT study, alcohol involvement was reported in more than one-third of bicycle fatalities in the year 2000.

Reckless Operation: Bicyclists can be guilty of reckless driving if they operate their bicycles on a highway or public vehicular area - which is defined in §20-4.01(32) - with wanton disregard for the rights and safety of others. Reckless driving also includes riding without due caution and at a speed that can endanger people and their property [§20-140(b)].

Stopping on the Highway or Bridge: As with other vehicle operators, bicyclists should not park or leave any bicycles on the paved or main-traveled portion of a highway or bridge outside municipal corporate limits.

If a bicycle is left for more than 48 hours, it will be assumed that a law enforcement officer has been designated to remove the vehicle to safe storage, and the officer is considered the legal possessor under the law [§20-161)].

Parking in Restricted Areas: The law does not allow attended or unattended vehicles to park in these restricted areas:

- On a street or highway in front of a private driveway;
- Within 15 feet in either direction of a fire hydrant or entrance to a fire station;
- Within 25 feet from the intersection of a curbed street or within 15 feet of the intersection of property lines on a street without curbs. Local authorities may pass an ordinance decreasing this distance;
- Any public vehicular area that has been designated as a fire lane, including shopping centers and mall parking lots; however, temporary loading and unloading is allowed as long as the vehicle is attended.

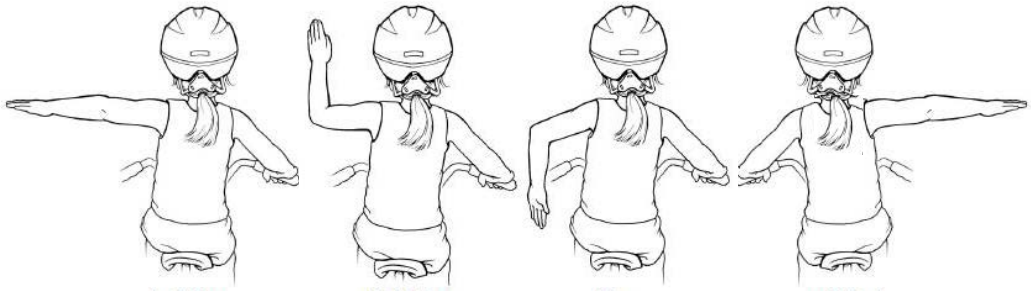
Law enforcement officials may remove any vehicles found in violation and may not be considered criminally liable unless there is wanton misconduct or intentional wrongdoing [§20-162].

Signs and Signals: Bicyclists must obey all traffic signs and signals - they are not exempt because they are operating a non-motorized vehicle [§20-158].

Bicyclists must signal their intention to turn by using electrical, mechanical, or manual (arm and hand) signals for left and right turns, and stopping. The signals must begin at least 100 feet before the turn or stop, and continue throughout the turn. Bicyclists must also give a clearly audible signal to any pedestrians that may be affected by the turning or stopping movement.

Manual signals must be given using the left arm as follows:

- Left turn - left hand and arm horizontal, forefinger pointing [§20-154(b)];
- Right turn - left hand and arm pointed upward at a ninety-degree angle or right hand and arm horizontal, forefinger pointing [§20-154(b)];
- Stop - left hand and arm pointed downward at a ninety-degree angle [§20-154(b)].



Left turn *Right turn* *Stop* *Right turn*

Yielding Right-of-Way to Pedestrians: Bicyclists must yield the right-of-way and avoid colliding with pedestrians who are walking on a roadway, sidewalk, walkway, or in a crosswalk. Bicyclists should exercise caution when exiting a driveway or alley to watch for and yield to pedestrians. Pedestrians have the right-of-way while in a marked or unmarked crosswalk at an intersection that does not have a traffic signal. Also, bicyclists should not pass a vehicle that is stopped at a crosswalk to permit a pedestrian to cross the highway [§20-173 and §20-174].

Yielding to Vehicles: When not using a marked or unmarked crosswalk at an intersection, pedestrians must yield the right-of-way when crossing the roadway. They must also yield the right-of-way when crossing the roadway and not using a pedestrian alternative, such as a pedestrian tunnel or bridge, that is provided for them [§20-174(a) and (b)].

Yielding to Pedestrians Outside of Crosswalks and Intersections: Motorists and bicyclists must yield the right-of-way to pedestrians in several cases that do not involve crosswalks and intersections:

Where there is a traffic signal emitting a steady red light, or flashing red light or flashing yellow light [§20-158(c)]; Where there is a stop sign [§20-158(d)(1)]; When a pedestrian is traveling on a sidewalk or driveway and is approaching a driveway, alley, building entrance, or private road [§20-173(c)].

Regardless of right-of-way, motorists and bicyclists must exercise caution to avoid colliding with pedestrians on the roadway, and must sound a horn to warn pedestrians, when necessary. Vehicle operators must also exercise caution when observing any child or apparently incapacitated person in the roadway. [§20-174(e)].

For additional reference to North Carolina state laws about bicycling, see **www.bikelaw.com/wp-content/uploads/2014/11/BIKELAW_RG_NC_Web.pdf**

Watch for Me NC is a comprehensive program, run by NCDOT in partnership with local communities, aimed at reducing the number of pedestrians and bicyclists hit and injured in crashes with vehicles. All North Carolina communities are encouraged to use Watch for Me NC materials to improve pedestrian and bicyclist safety, and Canton should use their materials for improving residents' knowledge of the law and effective enforcement.

https://www.watchformenc.org/

Pedestrian Laws

Signals: Pedestrians must obey special pedestrian-control signals as follows:

- WALK - Pedestrians facing the signal can walk across the roadway in the direction of the signal, and motorists must yield the right-of-way;
- DON'T WALK - Pedestrians cannot start to cross the roadway, but if they are partially across the highway they can complete their crossing or proceed to a safety island [§20172(b)].

On certain streets and highways, traffic islands or other spaces are set aside specifically as pedestrian refuges when pedestrians cannot completely cross the roadway on a single WALK signal [§20-4.01 (39)]. When these special pedestrian-control signals are not provided, pedestrians must obey the regular traffic control signals, such as traffic lights [§20-172(c)].

Walking Along the Road: When a sidewalk is available, pedestrians must use the sidewalk instead of walking on the roadway, which is defined as the part of the highway that is paved, graveled, or otherwise improved for vehicle travel [§20-174 (d) and §20-4.01 (38)]. When sidewalks are not provided, pedestrians walking along or on the highway should, when practicable, walk on the extreme left of the roadway or shoulder facing traffic and must yield the right-of-way to traffic [§20-174(d)].

Railroad Signals: Pedestrians cannot pass through, around, over, or under any railroad crossing gate or barrier that is closed or in operation [§20-142.1].

Physical Impairment: Only persons that are wholly or partially blind can use a white cane (or white-tipped with red) on a street or other public space [§20-175.1].

Electric Personal Mobility Devices: A person operating an electric personal mobility device has all the rights and duties of a pedestrian. These devices may be operated on public highways with a posted speed of 25 miles per hour or less, on sidewalks, and on bicycle paths. Operators of these devices must yield the right-of-way to pedestrians and other human-powered devices (like bicycles). Municipalities may regulate the time, place, and manner of operating these devices but cannot prohibit their use [§20-175.6].

Right-of-Way at Crosswalks: Pedestrians have the right-of-way at marked and unmarked crosswalks in residential and business areas except where there is a traffic or pedestrian signal [§20-155(c) and [§20-173(a)]. Also, whenever any vehicle is stopped at an intersection crosswalk to permit a pedestrian to cross, other motorists or bicyclists approaching from the rear are not permitted to overtake and pass the stopped vehicle [§20-173(b)].

Crash Data

Vehicle crashes are often the result of driver error or vehicle performance, but crashes may also be associated with the physical characteristics of a roadway. Inadequate turn bays, sight distance, pavement width, and traffic control devices can all contribute to a vehicle crash.

Livable communities that support bicycling and walking are a high priority of the U.S. Department of Transportation. A livable community is one that provides safe and convenient transportation choices to all citizens, whether it's by walking, bicycling, transit, or driving. Each year, unfortunately, pedestrian and bicyclist fatalities comprise about 16 percent of all traffic fatalities with approximately 5,000 pedestrian deaths and 800 bicyclist deaths. Additionally, 76,000 pedestrians and 49,000 bicyclists were injured in 2012.

Bicyclist and pedestrian injuries and fatalities have steadily increased nationwide since 2009. The 5-year trend for bicyclist fatalities rose to 726 fatalities in 2012 - the highest in 5 years. Pedestrian fatalities followed the same trend; rising to 4,743 fatalities in 2012 - also the highest number in 5 years. As a percentage of the total motor vehicle-related deaths in 2012, pedestrian fatalities represented 14.1 percent and bicyclist fatalities represented 2.2 percent.

Demographic Characteristics of Crash Victims

The DOT reveals that pedestrian injuries and fatalities disproportionately occur among older adults. Individuals who are 65 and older accounted for 20 percent (935) of all pedestrian fatalities nationally and an estimated 9 percent of all pedestrians injured in 2012.

Pedestrians are often struck by vehicles simply because they were traversing an area not adequately designed for pedestrians, having to walk in a gutter or overgrown embankment, in the grass and dirt, or on the road itself. This can be fatally dangerous, especially for our children and our older community.

According to the DOT, during the past 10 years, there has been a steady increase in the average age of bicyclists killed and injured.

Since about 25% of Canton's population is over 60 years old, and with a generally aging U.S. population, safety considerations should be a top priority for town officials. Simply having ADA-compliant public facilities and well-maintained sidewalks can have a tremendously positive effect on the senior population's ability to safely navigate their town.

In addition, signal timing can make a big difference for older pedestrians trying to cross at an intersection. The MUTCD requires a minimum WALK time of 7 seconds - the average pedestrian crossing speed is 3.5 feet per second, with older people crossing at much slower speeds. It might take someone twenty seconds to cross a 3- or 4-lane road, and often pedestrian WALK signals do not allow for generous enough time to cross. Creating a safe and comfortable pedestrian atmosphere throughtout Canton requires the entire system to be considerate of every user. Some cities calculate pedestrian crossing times based on a walking speed of 2.8 feet per second.

It's also vitally important to consider a younger demographic when designing and planning our towns. The 8-to-80 rule is fundamental for general safety. DOT statistics raise a red flag - of children between the ages of 5 and 15 killed in traffic crashes nationwide, over one-fifth (22%) were pedestrians.

Young pedestrians are at particular risk of injury from running into the road from between parked cars or other obstacles - their view of traffic is blocked and they cannot see oncoming cars. Additionally, very young children are still learning how to use their peripheral vision and how to use the information they see to identify oncoming cars in the first place.

While young children usually wait for a longer period of time before crossing than older children, there may be a delay between the time a young child decides it is safe to cross the street and when he or she actually starts to cross (Barton & Schwebel, 2007). Due to that delay, it may no longer be safe to cross because motor vehicles may be closer than when the child first decided to cross.

Young children are also at risk for traffic-related injuries because without training or prompting they may not fully understand why traffic situations are dangerous (Hill, Lewis, & Dunbar, 2000).

Distraction and impulsiveness also are contributors to unsafe behaviors because they can affect a child's decision-making process and may lead to unsafe crossing choices or other unsafe bicycling and pedestrian behavior (Barton & Schwebel, 2007). For example, a child who chases a ball into the street does not automatically realize that they have gone from playing in the yard to running in the street.

Areas in Canton without sidewalks can be dangerous for everybody, but are often untraversable for those with mobility challenges. They can lead to delay, as pedestrians are forced to find a safer route, and can lead to poor decision-making that can lead to unsafe behavior.

While children are becoming more physically independent, they still are influenced by role model actions and depend on parents and caregivers for guidance and assistance in their everyday lives. Parental supervision and setting the right example are essential for preparing children to make safe decisions. Often, having the right pedestrian infrastructure will influence behavior, enabling people to cross in safer locations and wait for signalized timing.

Minorities are also overrepresented in pedestrian fatalities. Deaths of African Americans and Hispanics as pedestrians are disproportionately high: although African Americans represent only 12.7 percent of the total U.S. population, they compose 17.3 percent of total pedestrian fatalities, while Hispanics are 15.1 percent of the population but 18.6 percent of pedestrian fatalities.

Areas of Concern

Pedestrian and bicyclist crash data was compiled for Canton utilizing NCDOT's Pedestrian and Bicycle Crash Data tool and online GIS map. The database contains data from 1997 through 2015 on all pedestrian and bicyclist crashes. Data can be sorted in many different ways and at different geographic scales.

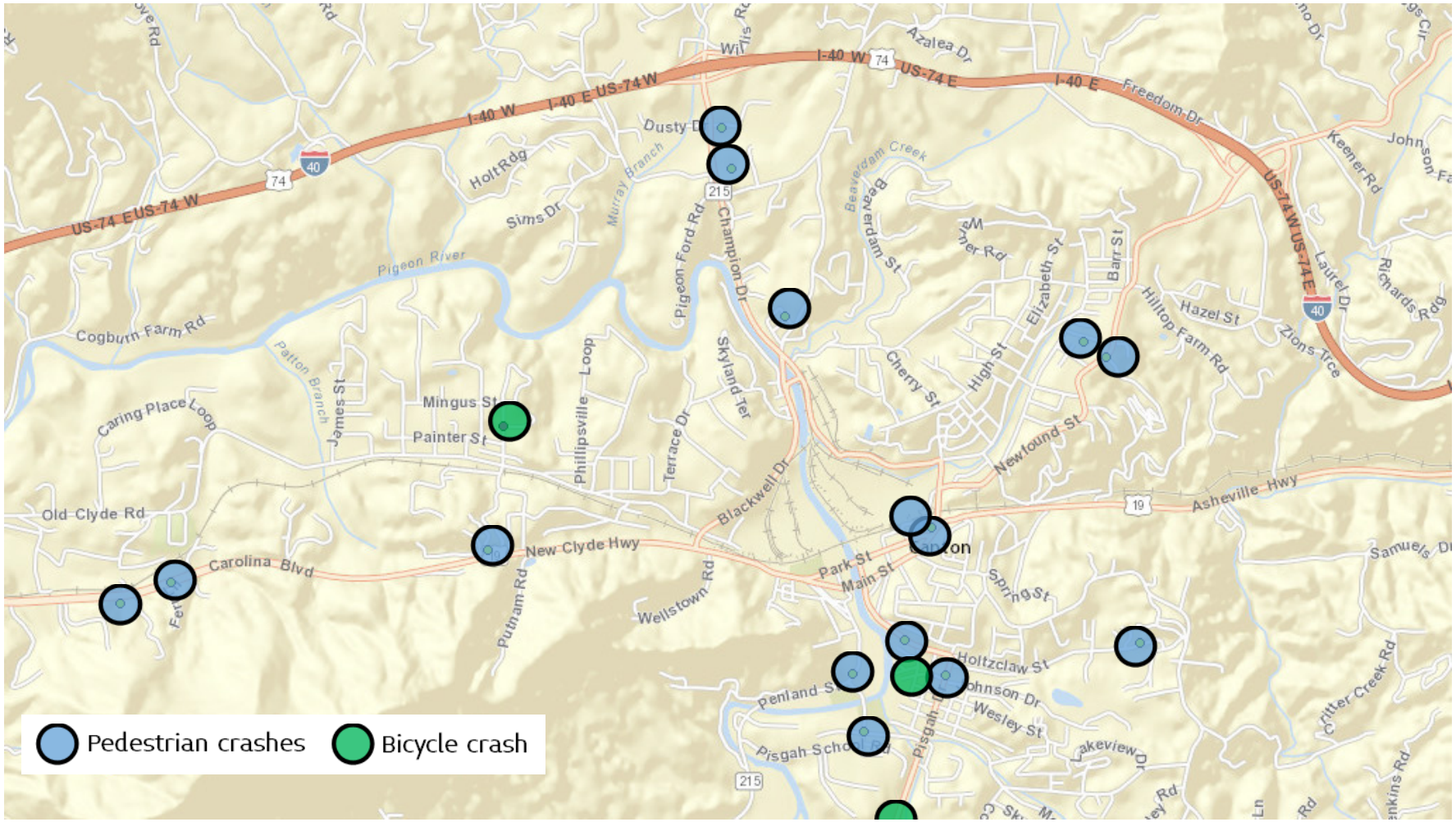
Over the 19-year time period, there were 12 total pedestrian crashes with a motorist in Canton and one bicyclist crash on record. The map indicates that two other bicyclist crashes occurred just outside the town limits, as well as several more pedestrian crashes.

Of the pedestrian crashes:

- There was one (1) fatal pedestrian crash.
- There were two (2) disabling injuries.
- 40% of the victims were over 60 years old.
- 2 occurred in a crosswalk area.

- Almost all crashes occurred on roadways with a posted speed limit of 25 mph or less.
- 64% occurred during daylight hours.
- 80% occurred in clear weather conditions.
- At least half of pedestrian crashes were in drive-ways, parking lots, or alleyways.

Exhibit 6-1: NCDOT Canton Area Bike/Ped Crash Map



North Carolina Department of Transportation Bicyclist & Pedestrian Crash Map (2005-2015).

No real patterns emerge in this data due primarily to the small dataset.

In looking at the crash map, which contains location-specific information for crashes from 2007 through 2013, the majority of crashes occur *near* higher speed roadways, but not necessarily along them. Crash reports indicate that most of the pedestrian crashes in Canton occur on roads with a posted speed limit of 25mph. Luckily, downtown seems to be a fairly safe area for pedestrians and cyclists and the Town has already made some recent sidewalk and streetscape improvements.

The map does quite clearly indicate that certain corridors are less safe for pedestrians. While Newfound Road and Pisgah Drive have extensive sidewalks, most of Champion Drive, and New Clyde Highway (US 19/23) do not. Addressing those gaps in connectivity could have a dramatic effect on pedestrian safety for Canton residents.

Median refuges for pedestrians make crossing multi-lane roads easier, less confusing, and much safer.

Exhibit 6-2: FHWA's Bicycle Protection Hierarchy

Least Protection

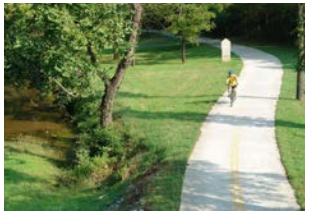
Signed Routes (No Pavement Markings)
A roadway designated as a preferred route for bicycles, usually with a wide paved shoulder.

Shared Lane Markings
A shared roadway with pavement markings ("sharrows") providing wayfinding guidance to bicyclists and alerting drivers that bicyclists are likely to be operating in mixed traffic.

On-Street Bike Lanes
An on-road bicycle facility designated by striping, signing, and pavement markings.

On-Street Buffered Bike Lanes
Bike lanes with a painted buffer increase lateral separation between bicyclists and motor vehicles.

Separated Bike Lanes
An exclusive facility for bicyclists that is located within or directly adjacent to the roadway and physically separated from motor vehicle traffic with a vertical element.



Off Street Trails / Sidepaths
Bicycle facilities physically separated from traffic, but intended for shared use by a variety of groups, including pedestrians, bicyclists, and joggers.

Most Protection

Enabling Safe Behavior

Bicyclist and pedestrian behaviors can affect their likelihood of being victims of a crash with a motor vehicle, as well as their likelihood of surviving that crash. Crossing streets outside of intersections increases the risk of a crash. In fact, 70 percent of pedestrian fatalities occur at non-intersection locations. However, behavior is motivated heavily by circumstance. Having adequate crossing assistance (pavement striping, signs, bulb-outs, median refuges, and other pedestrian safety elements) takes the guesswork out of the decision-making and makes sure the responsibility is on both the motorist and the pedestrian to be watchful and take fewer risks.

It is important for cyclists to follow the rules of the road, especially simple actions like riding with the flow of traffic, using turn signals, and yielding to pedestrians - many bike crashes are easily preventable.

For bicyclists, wearing a properly fitted helmet is the single most effective piece of personal protective equipment to lower the cyclist's risk of injury or fatality in the event of a crash.

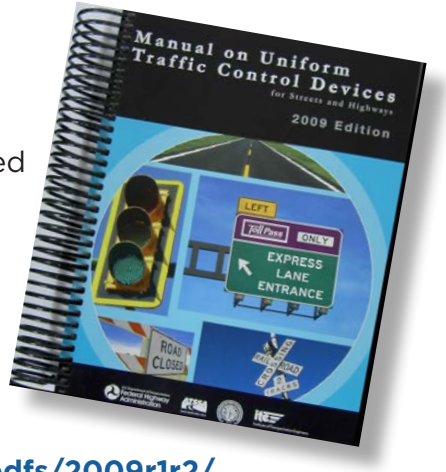
However, if the bicycling infrastructure and network is extensive and inclusive enough, the environment for cycling can be very safe (see Exhibit 6-2). Certain facilities, like off-street paths or protected/buffered bike lanes, have shown to encourage more cyclists to take to the road, and with larger assemblages of cyclists comes safety in numbers. The number of crashes involving bikes has been demonstrated to correlate with the number of riders in a community. As ridership increases and more cyclists are on the road, the crash rate diminishes (Jacobsen 2003). Perhaps the high visibility contributes to safety - drivers come to expect bicyclists in the road and learn to accommodate their inclusion in the transportation community.

Visible Reminders

The burden of preventing crashes and injury does not rest solely on pedestrians and bicyclists, but must be shared by the motorists as well. Crossing the street safely and wearing reflective clothes while biking are certainly helpful in mitigating dangerous occurrences, but drivers also need to be reminded of the perils of driving.

Bright yellow signs clearly and visibly indicate caution. Bicycling and pedestrian advocates and municipalities can work with NCDOT and others to provide an effective safety component—signage in the public and private realm.

Traffic signs along key corridors promote good behavior by motorists and bicyclists. There are several types of signs that can be installed along roads and streets to highlight the presence of bicyclists or the designation of a bicycle route.



Most signs for this type of enforcement are contained in the Manual on Uniform Traffic Control Devices (MUTCD), which is a document developed at the federal level to ensure consistent implementation of traffic control devices, such as signs, across the United States. NCDOT relies on this publication, updated in 2009, as a guide for their implementation methods.

https://mutcd.fhwa.dot.gov/pdfs/2009r1r2/mutcd2009r1r2edition.pdf

Signage does not have to be limited, and many communities have recognized that the signs in the MUTCD are intended to be universal and utilitarian. Some communities develop other specialized signs and, while guidelines should be followed, some creative rethinking may be appropriate.

The "share the road sign" is highly maligned. It is a friendly reminder - but for whom? Sometimes the confusion stems from a lack of knowledge and sometimes it's because the sign's message does not suit the need of the particular road user. For example, some motorists don't like to share the road with bicyclists because they are in a rush to get somewhere or they feel bicyclists slow down and get in the way of the flow of traffic; they might feel the sign is directed to the bicyclist, and sharing the road means the bicyclist should move over, get off the road, or use the sidewalk. Some bicyclists feel the sign is directed only to the motorist.

In 2014, the Delaware Department of Transportation announced that the state would stop using the MUTCD-approved "Share The Road" plaque (W16-1P). In addition, the department would also start removing all "Share The Road" signs currently installed in Delaware. The determination was that the sign's primary audience was ambiguous and causes more conflict and consternation than problem-solving or influencing behavior, while adding distracting clutter to the visual landscape.

Regardless, having visible warning signs is an important component of any safe roadway network and proper signage will remind people to use caution and be mindful of others.

Greenway Safety Considerations

People who are unfamiliar with greenways often fear that they will attract crime and lower adjacent property values. Numerous studies in the past couple of decades have refuted this, in fact, greenways are generally safer than the surrounding communities and can have a positive effect on property values.

Careful attention to the site planning and design of particular areas such as parking lots, trailheads, and restrooms is critical in reducing safety problems. There is a balance between creating a recreational facility that is safe while also preserving the natural traits of an area. Design strategies include allowing clear visual access, having appropriate lighting in key areas, providing multiple access and egress points, and organizing activities to increase the number of users and "eyes on the path".

Encouraging ownership of the greenway by involving the public in the planning process and educating them on the benefits of greenways, as well as presenting data illustrating the lack of crime and other problems is essential in gaining public support. Other safety-related initiatives can include:

- Programming activities for users of all ages and interests encourages increased greenway use and is especially effective when planned for times that may not get much use. The more people there are on a trail, the safer it will be.
- Consistent maintenance will help keep the greenway safe by eliminating potential hiding places through the use of regular landscape clearing and pruning.
- Encouraging children to walk and bicycle is part of the Safe Routes to Schools (SRTS) program, a school-based effort that involves young students, teachers, law enforcement officers and parents in the development of school safety initiatives.

Offering instruction on how to safely use the greenway is important for people to learn proper riding techniques, greenway etiquette, safety awareness, and how to avoid collisions.

Enforcement

Law enforcement officers see first hand the consequences of motor vehicle crashes and they known the behaviors that cause these consequences. From conducting education and enforcement campaigns to identifying unsafe conditions, law enforcement officers can play multiple roles in any community effort to improve bicycle and pedestrian safety.

Demands are usually quite high for a typical police department, however, so the level of support varies from community to community. It is important to understand what the local police resources are. There are at least three general types of law enforcement officers:

- **Traffic Enforcement Specialists:** These officers specialize in traffic enforcement and are well-acquainted with issues and trends. They respond quickly to traffic safety hot spots in a community.
- **Community Action Officers/Precinct Officers**: These officers are generally assigned to a specific portion of the town and work on problem areas. While they do not specialize in traffic enforcement, they can be called in for enforcement activities (during special events) and help coordinate with vehicular officers.
- **School Resource Officers:** Some police officers are assigned to schools and concentrate on campus-related problems. They can also be used to help solve special traffic problems on or near the campus and can coordinate with Safe Routes to Schools programs.

Police are able to provide an enforcement presence that discourages dangerous behaviors on a town's streetscape. This may mean issuing warnings to drivers breaking traffic laws and maintaining a presence during peak traffic times - rush hour and special events. Drivers who have made a minor error will often respond to a warning from an officer by being more careful. Drivers who continue to violate traffic laws, however, need to be ticketed. Simply enforcing speed limits can have a huge impact on pedestrian safety (see Exhibit 6-3).

Creating partnerships with local law enforcement agencies should start with building upon existing relationships in Canton. The existing support from the Police Department illustrates the agency's commitment to having a safe community for walking and bicycling. The department can be a valuable component of further programming, providing support for organized rides and participating in walk/bike to school events.

This type of involvement with enforcement agencies should continue to be supported through events and identification of new partnerships to help with enforcement. One such partnership should be the inclusion of an officer to teach the specific module of bicycle rodeos or other education-based efforts, such as the League of American Bicyclists Traffic Skills 101 course.

Other methods to engage law enforcement include:

- Conduct training on the laws that affect bicycling and help law enforcement officials understand them from the perspective of the bicyclist.
- Encourage your local law enforcement trainers to take the class on bicycle laws so they can in turn train the rest of the department officers.

- Work with your local departments explaining the importance in having all officers trained in this area.
- Encourage the use of bike patrol officers for the greenways and parks in the community and future bike lanes.
- Request a police liaison for advisory/advocacy groups.

Outreach can range from simply passing out printed materials created by other campaigns, to a targeted media blitz combined with in-person outreach at community events or high traffic intersections and coordinated with enforcement actions. It is often said that the most effective education for drivers is "enforcement, enforcement, and education about the enforcement."

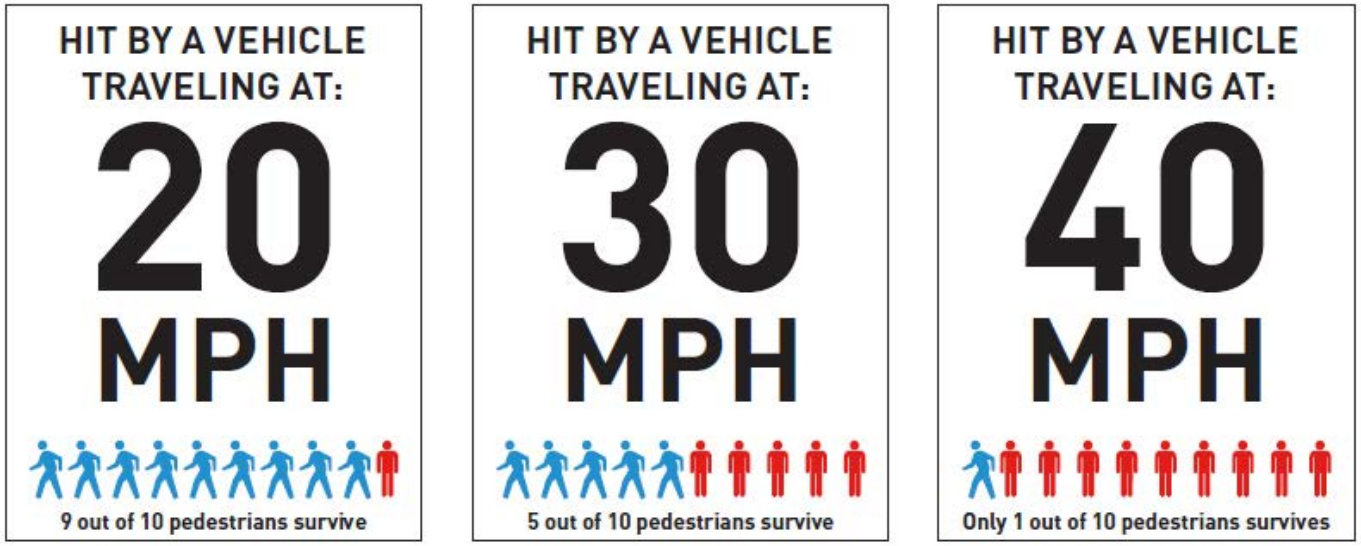
Residents themselves can also take a greater role in their own neighborhoods in advocating for slower speed limits and posting yard signs reminding motorists that children and pets live nearby.

Safe Passing

BikeWalkNC, the statewide advocacy organization for active transportation, has published a summary of safe passing of bicyclists. They note that narrow two-lane state roads are important travel routes for commuting and recreational bicyclists.

When there is little or no shoulder and the travel lane is narrow, competent drivers recognize that there isn't room to pass within the bicyclist's lane, and so they wait until the oncoming lane is clear of traffic for an adequate distance before moving into the next lane to pass. In 2016, North Carolina state law was amended. § 20-150 (e)(4) now states that "The driver of the faster moving vehicle either provides a minimum of four feet between the faster moving vehicle and the slower moving vehicle or completely enters the left lane of the highway."

Exhibit 6-3: Pedestrian Fatality Rates by Vehicle Speed



Enforcing speed limits in residential neighborhoods and school zones can greatly decrease pedestrian injuries.

In many places where this occurs, a solid yellow centerline is striped to discourage passing of other motor vehicles. Traffic engineers place this striping where there is not adequate distance to safely pass a motor vehicle that is traveling near the maximum posted speed limit. But in the real world, drivers recognize that the distance required to pass a slow moving bicyclist is a small fraction of this distance, and invariably ignore the striping in favor of weighing the safety and convenience of passing under the existing conditions. Drivers routinely cross solid centerlines to pass bicyclists safely, and police routinely ignore this as long as the passing driver does not create a danger for oncoming traffic.

Police in NC are in a difficult situation and frequently turn to the laws that govern driving around disabled vehicles and fallen trees to justify not ticketing prudent drivers. In North Carolina, this is § 20-146 (a)(2):

§ 20-146. Drive on right side of highway; exceptions.

(a) Upon all highways of sufficient width a vehicle shall be driven upon the right half of the highway except as follows:

(1) When overtaking and passing another vehicle proceeding in the same direction under the rules governing such movement;

(2) When an obstruction exists making it necessary to drive to the left of the center of the highway; provided, any person so doing shall yield the right-of-way to all vehicles traveling in the proper direction upon the unobstructed portion of the highway within such distance as to constitute an immediate hazard.

Awareness of Contributory Negligence Laws

North Carolina is one of only a few states with a contributory negligence law that can greatly impact the bicyclist's ability to receive compensation in the event of a crash where the motorist is seen as at fault. Other states may require contribution - if the accident is 20% the fault of a cyclist, then they get 80% of the judgment, otherwise known as comparative fault.

This approach to legal remedy has far-reaching consequences for bicyclists in North Carolina. A bicyclist struck by a drunken driver would have a much lower chance of receiving compensation for his or her injuries under the state's pure Contributory Negligence law, which bars the cyclist's recovery of damages if his or her fault for the crash is described as even 10%.

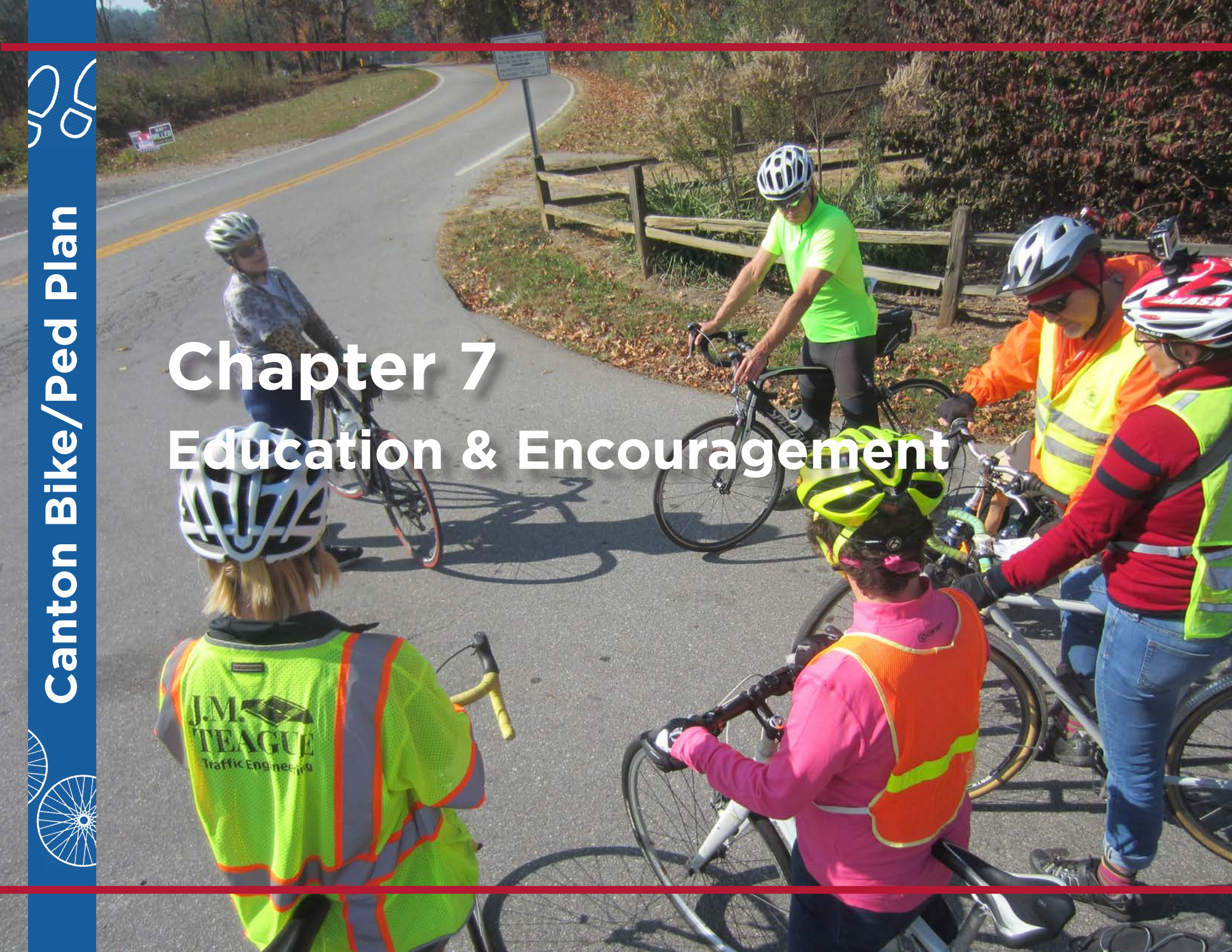
Although juries do tend to award zero negligence in cases where the plaintiff's role was slight in order to avoid this decision and provide some compensation, lawyers will frequently turn down tort liability cases where they believe that a protracted legal battle will provide no compensation to them or their clients. One of the issues that this law potentially raises is the perception that riding in the street is disproportionately dangerous; bicyclists are simply "asking for it" when they ride as they should – with traffic and obeying all the laws.

It is vital for bicyclists and their advocates to continue to work with and educate law enforcement officials on the perspective of the bicyclist and what it means to be a bicyclist in and around Canton.

Canton Bike/Ped Plan

Chapter 7

Education & Encouragement



Chapter Seven: Education & Encouragement

Pedestrian and bicyclist safety improvements depend on an integrated approach that involves engineering, enforcement, and education. The FHWA's Office of Safety develops projects, programs and materials for use in reducing pedestrian and bicyclist fatalities.

Education should start at a young age - teaching kids how to ride their bikes safely, cross the street properly, and acknowledge that just because you are cautious, it does not necessarily mean that everyone else is being careful as well. A large part of driver education is anticipation of other drivers' actions and reactions - it is also a vital skill when walking and riding a bicycle in any situation, especially in typically car-centric neighborhoods and on new bike/ped facilities. For instance, cars parked on-street may not look for bicyclists before they open their drive-side door, even with newly striped bike lanes. Similarly, new pedestrian crossings can go overlooked unless they are clearly marked.

Walking is a form of transportation used throughout life - first as a toddler holding their parent's hand, and lastly as an elder guided across the street. Being able to walk safely is an essential life skill that needs to be developed and practiced, starting with those first wobbly hand-held walks. Just as teenagers must first know the rules, then practice judgment and skills, young children need help learning and practicing where and how to walk safely. To help children become safe walkers, adults must look at the world of traffic from a child's point of view and have an understanding of how children's abilities to learn and reason develop over time. A parent or instructor walking or bicycling with a child enables them to learn in a real world setting and allows the adult to assess how well the child understands and applies new skills.

Education

Planning successful education activities requires differentiating how children and adults learn best. Children benefit from a combination of educational methods such as group activities, hands-on skill building, and discussion. Many of the pedestrian and bicyclist safety skills that children need cannot be taught solely by verbal instruction; they also require practical experience (Tolmie, Foot, & McLaren, 1996; Kearsley, 2005). Hands-on activities such as simulated street crossings and bicycle handling drills provide children with the opportunity to watch and directly apply safety skills.

Adults learn best when they feel the topic is relevant to them (Lieb, 1991). Safe Routes to School education aims to provide parents with information about how to address barriers to walking and bicycling and how to create and promote safe walking and bicycling behaviors and environments for their children. For example, if vehicles frequently speed near the school, parents may be educated on both how the speed of a vehicle hitting a pedestrian relates to the seriousness of injuries and potential solutions for improving safety.

Indeed, there is a paradox with schools whereby parents don't feel it's safe for their kids to walk to school because of too much car traffic, so they drive them to school and become part of the problem. Safe Routes to School, and similar programs, help people who normally drive see the hazards and constraints and benefits involved in walking, which may result in policy or infrastructure changes and lead to a reversal in the trend toward a majority of families choosing to drive to school and to work.

Education programs are primarily aimed at promoting safe driving, bicycling and walking habits. Educational examples include pedestrian and bicycle safety workshops, personal safety training and brochures advising parents on correct pick-up/drop-off procedures at schools. Educational programs are most effective if they are ongoing, rather than a one-time event.

Watch for Me NC

The "Watch for Me NC" program is a comprehensive platform, run by the North Carolina Department of Transportation (NCDOT) in partnership with local communities, that aims to reduce pedestrian and bicycle injuries and deaths through a comprehensive, targeted approach involving two key elements:

- Safety and educational messages directed toward drivers, pedestrians and bicyclists;
- Enforcement efforts by area police to crack down on some of the violations of traffic safety laws.

The Watch for Me NC program is a source of outreach materials and potential funding for such campaigns, and nationally, the National Highway Traffic Safety Administration (NHTSA) funds many similar programs. All materials created with NHTSA funding are available in the public domain for use and adaptation by other agencies, although Watch for Me NC materials will contain specific information on North Carolina laws. Efforts include public outreach messaging and education about how to be a safer driver, bicyclist, and pedestrian, and ultimately, reduce the number of people hit or killed by vehicles on North Carolina streets.

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.

The city of Carrboro, NC, recognized that the Watch For Me NC program has helped their community over the past few years. A key measure of success has been the institutionalization of enforcement. Since 2009, the town has conducted two enforcements per month and has also conducted at least one brochure handout per month. This consistent presence of enforcement holds drivers, bicyclists, and pedestrians all accountable for their behavior on a regular basis, and it sets an expectation for safe road use.

Watch For Me NC bumper stickers, which are also offered in Spanish to help communities reach a broader audience and be sensitive to local populations.

Amendments to the Town Code endorsed by local bicycling advocates were passed, related to both riding abreast and rider spacing on roadways. City officials cite two main lessons learned from instituting the program:

- **Acknowledge good behavior:** In addition to conducting enforcement actions, Carrboro used the Watch For Me program to identify safe cycling behavior. In spring 2015, cyclists riding safely were provided "good cyclist vouchers" for ice cream at a local coffee shop.
- **Rotate enforcement locations:** The Carrboro Police Department conducts enforcement activities at several different sites throughout the town. The diversity of sites both helps to raise awareness about safe driving and non-motorized behavior, but also helps to avoid criticism so places aren't "over-targeted."

For information, visit **http://watchformenc.org/**

Let's Go NC

This education program ("A Pedestrian and Bicycle Safety Skills Program for Healthy, Active Children ") teaches elementary age children how to walk and bike safely, giving them the essential skills that they need to enjoy a healthy and active lifestyle. Let's Go NC! is an all-in-one package of lesson plans, materials, activities and instructional videos that encourages children to learn about and practice fundamental skills that build safe habits.

This program was developed for the North Carolina Department of Transportation's Division of Bicycle and Pedestrian Transportation and Safe Routes to School Program by NC State University's Institute for Transportation Research and Education.

For more information, visit **https://connect.ncdot.gov/projects/BikePed/Pages/LetsGoNC.aspx**

Safe Routes to School

The Safe Routes to Schools (SRTS) Program is a federal transportation funding program administered by the Federal Highway Administration (FHWA), a division of the U.S. Department of Transportation. It was established by Congress in 2005 as a part of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

The program's stated mission is to increase the number of children walking and bicycling to school, while also improving the safety of these activities. The goals as stated in the enabling legislation are:

- Enable and encourage children, including those with disabilities, to walk and bicycle to school;
- Make bicycling and walking to school safer and more appealing, thereby encouraging a healthy and active lifestyle from an early age;
- Facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution within the area surrounding (approximately 2 miles) primary and middle schools (grades K-8).

Law enforcement agencies often are involved and play a very important role in this program, working with engineers, teachers, health advocates and parents to improve student safety and encourage more physical activity.

According to a FHWA report, in 1969 about half of all students in the U.S. walked or bicycled to school. Today, fewer than 15 percent of all school trips are made by walking or bicycling. Many take a bus, but up to half of all school children go to and from school in a private automobile.

The shift of student walking and bicycling trips to auto trips has contributed to many problems that local communities are now struggling to address:

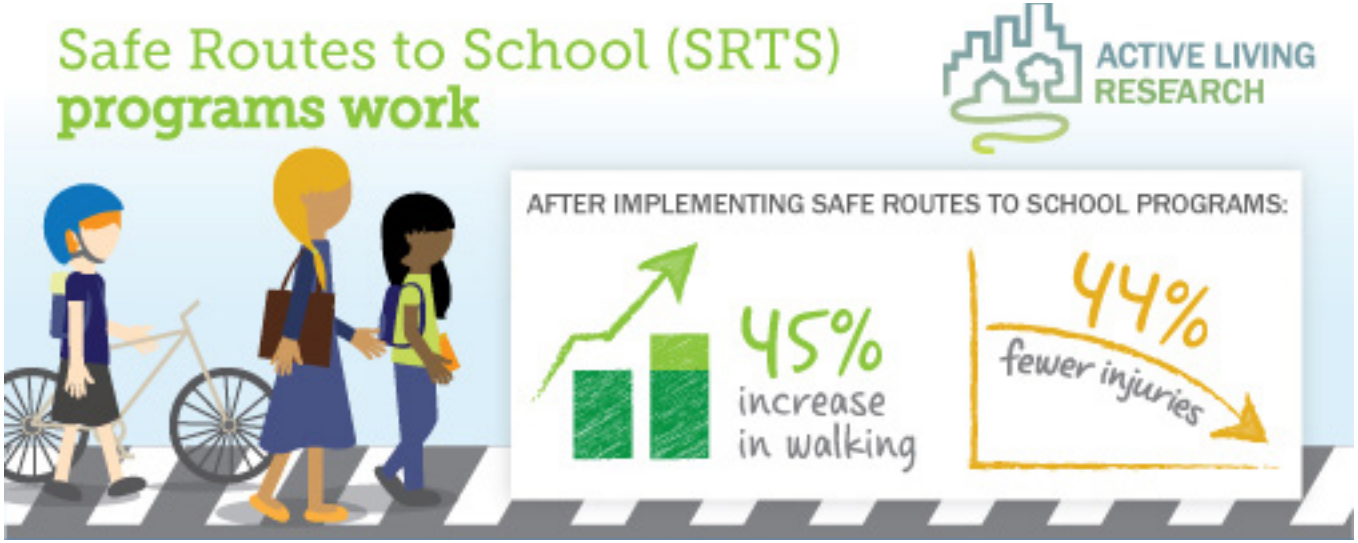
- Increased traffic congestion, especially around schools;
- A perceived decrease in pedestrian safety, especially on routes to school;
- Poor air quality around schools and related health problems for children such as asthma;
- Childhood obesity and related health problems such as type-2 diabetes.

Encouragement activities also play an important role moving the overall Safe Routes program forward because they build interest and enthusiasm which can buoy support for changes that might require more time and resources, such as constructing a new sidewalk.

In brief, encouragement activities:

- Can be quick and easy to start;
- Can be done with little funding;
- Can be organized by parents, students, teachers or community volunteers;
- Involve all children, including children with disabilities;
- Focus on fun and enjoyment;
- Jump-start a community's interest in walking and bicycling;
- Show quick success and generate enthusiasm for other strategies that may require a greater investment of time and resources;
- Can foster safe walking, bicycling and physical activity behaviors that will be useful throughout children's lives;
- Offer teachable moments to reinforce safe walking and bicycling behaviors;

In schools, these can be Walk to School events, mileage clubs and contests (where classes or grades compete to see who counted the most steps over a period of time, using small affordable pedometers), park-and-walk routines, a "walking school bus" or bicycle train, and on-campus waking or biking activities (including a targeted bicycling safety curriculum).



According to a report by Active Living Research for SRTS, of the recommended 60 minutes of daily activity, on average 16 minutes (25%) can be achieved simply by walking or biking to school.

Children and schools play a key role in creating a safe, pedestrian-friendly culture, improving overall safety and reducing congestion near schools. Safe Routes to School and related programs not only make children more aware while walking to and from school, but also help them to become better future drivers and to positively influence their parents' driving by reminding them to slow down, avoid distractions, and watch for pedestrians and bicyclists.

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

Safe Routes to School

Safe Routes to School (SRTS) is a North Carolina program that bridges neighborhood transportation elements with community health, focusing on children.

Until recently, the Region 1 (Cherokee, Clay, Graham, Haywood, Jackson, Haywood, Swain, and Transylvania counties) Active Routes to School - a subset of SRTS - Project Coordinator was Jackie Moore. She spearheaded a list of elementary school events to help students start their day with affirmation and exercise in a safe and fun environment. While the program is not currently funded, Canton can make sure to advocate for future funding for these types of programs at the state and federal level, harnessing additional support from parents, municipal agencies, and in-school champions.

https://www.communityclinicalconnections.com/What_We_Do/Active_Routes_To_School/index.html

"20 is Plenty"

These campaigns aim to educate neighbors about the dangers of speeding in residential neighborhoods and busy downtown city centers. The goal is to remind people to be conscious of their speed, acknowledge that high speeds may affect pedestrians, and ask drivers to voluntarily slow down to 20 mph where the posted speed limit is 25 mph. Some advocates hope to convince lawmakers to actually lower the speed limit - since most drivers already go faster than what is posted.

Themed & Fundraising Rides

The concept of organizing themed rides can be a fun experience and add to the comfort factor of riding bicycles. Options for Canton and the area include organizing some type of bicycle-based history or culinary tour. This could be organized in cooperation with restaurants and farms throughout the area offering bite size samples of their food in exchange for a small promotional fee.

Similar rides to coffee shops or other popular destinations could be incorporated into the ride. Holding a group ride where participants dress in costumes or that is held to celebrate special days such as St. Patrick's Day or Halloween can develop group camaraderie and encourage riders to enjoy the spirit of riding.

"Kidical Mass" RIdes

The concept of a Kidical Mass ride arose in Oregon in 2008 as a way to provide a legal and safe experience for kids to have fun while riding their bicycles in their community and promoting the idea that "kids are traffic, too!" These family-oriented rides are intended to be a short ride from a common community space such as a school or park to a fun destination such as an ice cream shop, pool or a special event.

The most notable Kidical Mass effort in North Carolina is in Carrboro (pop. 20,000) where they've had more than 300 participants in rides the past several years. The ride starts at the Elementary School and in 2014 the local bike coalition gave away kids bicycles as part of an event raffle.

Bike Fairies

Another innovation practiced in Carrboro is a bike fairies program that focuses on alleviating the degree of negatively between motorists and bicyclists. Local bike coalition members look out for motorists and bicyclists doing the right thing while in traffic and reward them with gift cards from local businesses.

Other communities integrate the bike fairies theme into encouragement programs at schools to reward kids who frequently bike or ride scooters to school. Raffle tickets are placed on the bikes and scooters and there are drawings for helmets, locks, tune-ups and gift certificates to local fun places for kids (e.g. skating rink, bowling alley).

Ciclovia or Open Streets

Canton seems ripe for a Ciclovia or Open Street event. Ciclovia translates to "bike path" in Spanish and the events by this name involve the temporary closure of streets to automobiles to provide safe space for walking, bicycling and other social events. According to Project for Public Spaces, there are 46 Ciclovia events throughout the United States - Marion, NC, might serve as an example for Canton.

Communities use them to celebrate active transportation or provide a very visible demonstration for projects or concepts that are planned. For example, "pop-up bike lanes" or "pop-up cycle tracks" are a common feature at these events. Using temporary materials such as spray chalk, hay bales and cones, towns can show citizens and businesses what the facilities look like.

Canton could close a side street downtown on a weekend to have this type of festival and showcase potential improvements for walking and bicycling. Closing Penland Street, Pigeon Street, Academy St or Park Street to automobile traffic (while perhaps

temporarily converting Main Street to two-way traffic to accomodate drivers) would serve as a bold declaration in support of pedestrians and provide the opportunity to encourage healthy behavior and demonstrate the need to think seriously about multimodal transportation networks.

Healthy Living Initiative

One of the major characteristics of a bicycle-friendly and walkable community is to have a body of citizens, municipal staff, and elected leaders who are engaged in and educated about the economic, health, and general quality of life benefits of a multimodal community.

Additionally, educational activities (like presentations on pedestrian- and bicycle-friendliness) could be held downtown at one of the public squares to learn about the projects, programs, and policies that can encourage a more bicycle- and pedestrian-friendly city. Several organizations, such as the National Center for Bicycling and Walking (www.bikewalk.org), Walkable Communities, Inc., and the Complete the Streets initiative (www.completestreets.org), provide resources such as speakers, handouts, guides, and publications, which can be used for the education and encouragement component of the event. Local businesses might be asked to encourage employee participation in workplace walking clubs and events, along with the promotion of a local walking route.

This program could also be promoted in local schools, health centers and at City/County events. A "Fitness Challenge" event and/or regular senior cycling/walking program could also be incorporated.

Bike-to-Work Day

Bike month is each May and National Bike to Work Day is usually held the 3rd Friday of May. The League of American Bicyclists has a packet to assist in starting a bike to work event in any town and could be a good starting place for Canton.

Local encouragement programs can build separately from the national events. Some local contests in North Carolina provide awards like the Golden Sneaker (for walkers), Golden Spoke (for bicyclists) and Golden Wheel (for carpoolers and bus riders) who choose non-single occupancy vehicle rides. Programming usually includes breakfast stations with free coffee and treats on the specific day and education classes to give people more confidence to try a new travel mode that day. Some communities have awards for the most creative commute and most decorated bicycle.

Walk & Bike to School

October is International Walk & Bike to School Month. The premise of this program is to encourage children to walk and bike to school as a way to increase physical activity, help children develop an understanding of their environment and to become more healthy and independent. When it is safe to walk and bike to school this is an encouragement program; when it is not already safe it is important to hold a safety workshop and audit with a variety of community leaders, school officials and parents to develop an understanding of the needs, concerns, challenges and opportunities to make it safe. Bike to School Day is in May of each year and Walk to School Day is in October.

Bike Corrals

Valet parking through bike corrals at community festivals is a way to develop secure parking, education about your programs, and provide a way to get feedback from the general public. It also adds

a fun element to the festival. Besides providing the service, this provides an opportunity to educate the public about your programs and collect email addresses. Make colorful posters and have them laminated for durability. It is also important to document how many bikes are parking each time this service is provided and how many volunteers have worked, including their hours.

Bike Rodeos

A rodeo is a bicycle skills event which provides an opportunity for bicyclists to practice and develop skills that will help them to become better bicyclists and avoid typical crashes. Some rodeos are designed as large, municipal events with skills activities, exhibits and games, while others are much smaller in format, requiring a smaller number of volunteers. An evaluator provides immediate feedback to the participant in a positive manner (satisfactory; needs improvement). If the child has difficulty with a particular lesson, he or she has the chance to keep practicing. The goal of any bicycle rodeo is to provide an opportunity for the participants to learn, practice, and demonstrate their bicycle handling skills in a fun, noncompetitive atmosphere.

Wayfinding Systems & Maps

More and more communities are using pedestrian and bicycle wayfinding systems to provide visitors and residents with directional and distance information to major landmarks, parks and other local attractions. Given Canton's walkable scale, it would be prudent to provide visitors with a frame of reference to walkable destinations and parks (including the Pigeon River Greenway, the library, the post office, churches, and public parking lots), a similar system could be useful.

Depending on the distances between attractions, it is advisable to combine bicycle and pedestrian wayfinding systems, recognizing that some bicycle-based destinations may only be accessed from on-street routes and may then have to be combined with auto-oriented wayfinding.

Bicycle and pedestrian wayfinding signs should be at a height of at least 7 feet, with a font and orientation appropriate for viewing by those traveling at the speed of a pedestrian or bicyclist. Distance information should be provided in blocks or miles and kiosks with a map can be useful for visitors. Such a system could incorporate local themes, allowing area artists an opportunity to design sign templates that reflect specific aspects of Canton culture or history. Opportunities for private-public partnerships exist, such as working with area retailers or restaurant's along the route to sponsor signage and/or complementary brochures in exchange for promotion.

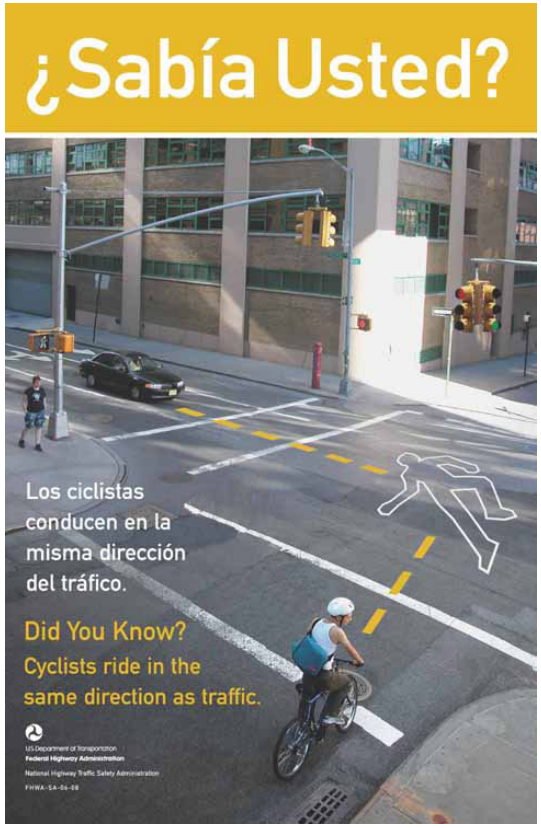
Context Sensitivity

In safety education campaigns, it is important to recognize that the majority of existing outreach materials were created in and for major metropolitan areas where pedestrian crashes make up the highest percentage of traffic fatalities and pedestrian traffic is relatively high. Some of their messages, like "always use crosswalks" may not be applicable or practical in less dense areas where roads do not have frequent intersections. The focus of a safety campaign should be on locally observed problems and responsive to local conditions, so messages such as walking facing traffic or watching for pedestrians on the shoulder while driving on roads without sidewalks are more relevant in areas with fewer sidewalks and more rural roads.

Reaching a Broad Audience

Messages in an education campaign should be clear and have a broad appeal, but also target those groups most likely to be at risk or to pose a risk to others. Since men and boys constitute a substantial majority of pedestrians hit by cars and also a majority of motorists who kill pedestrians safety-related advertising may be targeted towards sporting events or other programming with an audience that skews male. Media outlets and events that reach minority and low income communities should be particularly targeted for pedestrian-focused messages, whereas messages aimed at making drivers more aware and respectful of pedestrians may be relevant in suburban or higher-income areas.

Materials should be provided in any foreign languages spoken within the community, particularly Spanish, and cultural differences should be considered. For example, recent immigrants from Latin America may work long hours, traveling to and from work on farms or construction sites when it is dark outside, and may walk or bike longer distances than the typical US-born resident will tolerate. They may also walk with traffic, bicycle against traffic, be accustomed to drivers being more aware of their presence because they came from a place with higher walking levels, and be completely unaware of US "jaywalking" laws, as in many countries around the world, pedestrians are permitted to cross the street wherever they need to.



League Cycling Instructors (LCI)

The cycling community in Canton and Haywood County should consider development of a bicycle education program for children and adults that is similar to programs already in place in places like Buncombe County. For example, there are 10 individuals in Buncombe County certified by the League to teach bicycle training courses. Having individuals with this certification gives a community many advantages, the first being a first-rate curriculum from the League of American Bicyclists that has been tested across the United States and provides materials that are age appropriate.

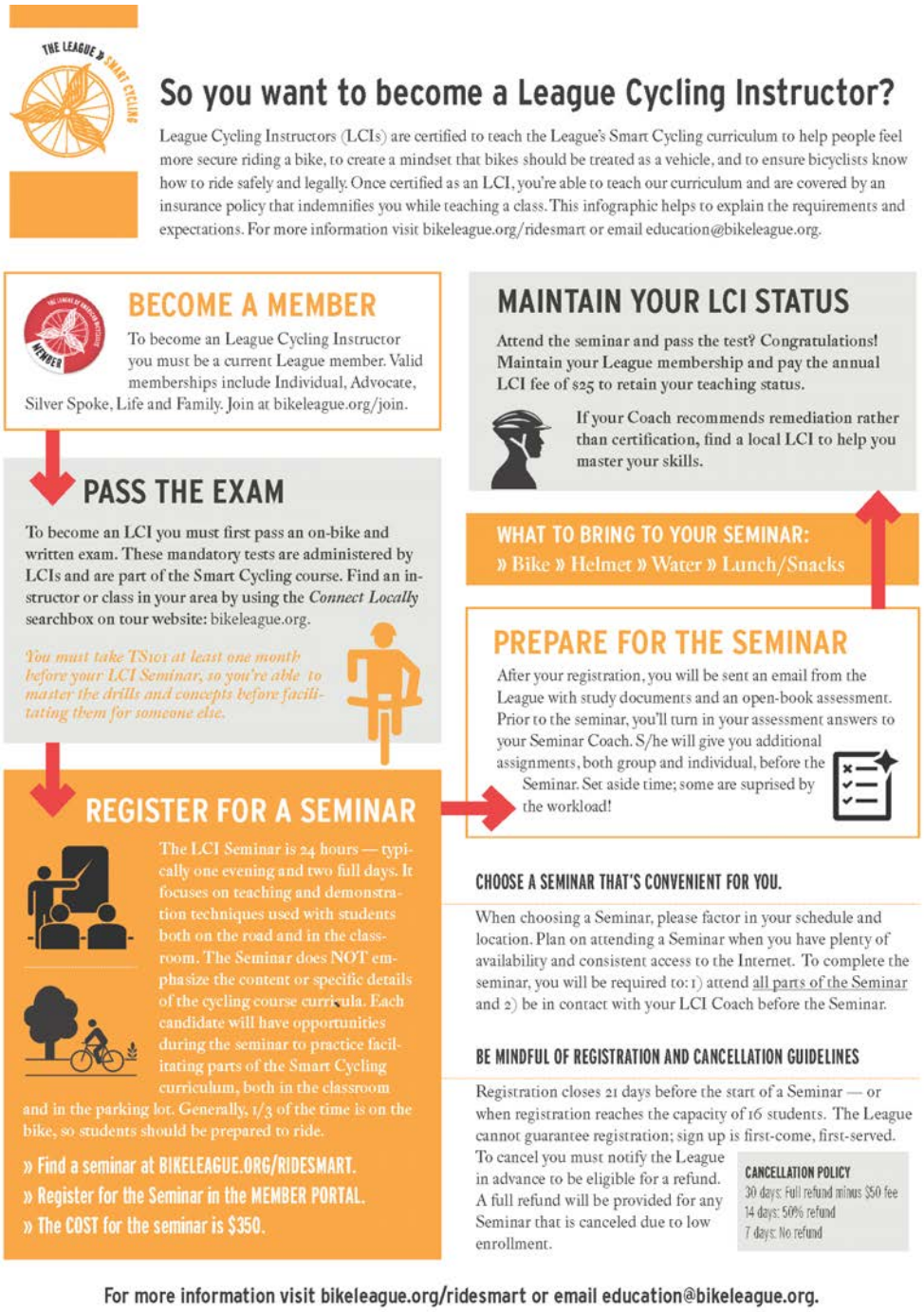
https://www.bikeleague.org/content/become-instructor

Encouragement

Pedestrian outreach always needs to balance safety messages with reminders that walking is a healthy, beneficial activity. People should not be scared away from it because the built environment isn't ideal and crashes with vehicles do happen.

Providing wayfinding signs to comfortable walking routes including greenways, main street shopping districts, and low-traffic neighborhood streets with optimal sidewalks is an important part of building pedestrian traffic in a community so that broad support can be built for improving the less walkable areas.

Encouragement should be available multiple ways – through public signs, brochures, and web sites, and promoted through community newsletters and other similar forums. Information on physical and mental health benefits of



walking and the economic impact of walkability and foot traffic on local businesses are particularly useful. Environmental messages about reducing short car trips are a powerful motivating factor for some, but seen as a threat by others. Some individuals may need reassurance about the safety of walking, particularly senior citizens, parents of young children, residents of higher crime neighborhoods, people with disabilities, and women who may have experienced street harassment or even assault.

Attention should be paid to making sure messages are inclusive and do not reach only the groups of people who are most likely to walk anyway ("preaching to the choir"). While a health fair is a good place to start spreading a pro-walking message, efforts are also needed to reach people who may not be as aware or concerned about fitness. Messages and activities should be positive, fun, and accessible – focusing on the benefits of even a small amount of walking and the possibility of incremental change. Outreach to the business community and civic organizations can also build synergy toward raising the profile of walking in the community as multiple influences relay related messages about the many benefits of walking to the community and take small steps to improve the pedestrian environment.

Giveaways!

Education and encouragement programs frequently feature prizes such as t-shirts, bags, reflective items like zipper pulls or even small blinking lights. Low-cost pedometers can also be particularly useful for encouragement programs. Healthcare organizations are often sponsors

Source: Lids for Kids

of these items, and local businesses that benefit from foot traffic may also be interested in promotional opportunities. Local artists or students can be involved in developing creative materials to add interest to the campaign. Reflective items can be particularly useful since people frequently need to walk home after dark from a destination where they can't wear reflective clothing, such as a job with a dark uniform, and for many people who need to walk in dark locations, often due to economic circumstances, buying reflective clothing could be a hardship. Small lights or reflective gear can be kept in a purse or work bag and provide both a means of visibility and a reminder of the campaign's message.

Some towns (often larger municipalities with Bicycle and Pedestrian Advisory Committees) offer bike helmet giveaways with fittings in order to ensure that no one in the community has an excuse not to be safe. Each piece of education, enforcement, and encouragement campaigns should work together to make walking easier and biking safer and to support the engineering improvements being considered as part of Canton's Bicyle & Pedestrian Plan.

Recreation/Health and Wellness

In addition to holding some of the existing community events, there are other ways to encourage the use of Canton's downtown walkability, regional bicycling appeal, and growing greenway network for recreation and health:

- Host events such as veterans' celebrations and senior citizens' gatherings on greenways and in parks;
- Host or support other organization's efforts to promote walks, running, bicycle, canoe and kayak trips, fishing, yoga, and other activities;
- Partner with healthcare facilities in the region to hold public health programs and promotions, such as Bike-to-Work and Walk-to-Work Days.
- Encourage support groups such as cancer, diabetes, rehabilitation groups, and others to do activities on the greenway;
- Host events for charity or awareness such as March of Dimes Walk, Crop Walk, National Trails Day;
- Provide residents access to equipment such as bikes, roller skates, canoes, and kayaks through rentals, bike share programs, or donations of new or recycled equipment;
- Support bicycling by providing bicycle storage and bicycle maintenance clinics at town events, while making sure there are plenty of bicycle racks throughout downtown and important destinations;
- Organize dog-related activities and create dog parks near the Pigeon River greenway.

Cultural Resources

Incorporating cultural features along greenways, bike trails, and sidewalks can provide opportunities for citizens to learn about their community heritage and strengthen community bonds. Using local history and community identity through sequential art and stories conveyed through sculpture, signs, murals, site furniture, paving patterns, and other design elements can be integrated with programs - hosting cultural events such as storytelling, music, drama, dance, and art classes.

Environmental Education & Stewardship

Bicycling and walking inherently get people outdoors and greenways in particular provide an easy way to connect people with the natural environment. The proximity of the Pigeon River to Canton (passing right through downtown), other streams, and natural wooded areas provide numerous opportunities for environmental education.

Providing outdoor classrooms with educational programs about the flora, fauna, geology, and hydrology of the area is one popular program in many communities. The town could develop partnerships with schools, such as Pisgah High School or Canton Middle School, particularly with environmental studies classes and programs, to assist with water quality sampling, stream monitoring, and other activities. Hosting Earth Day and other environmental events on the greenway could be appropriate and festive.

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Chapter 8
Health Impacts of Walking & Bicycling

Chapter Eight: Health Impacts of Walking & Bicycling

Walking, Bicycling and Health

In order to encourage healthy living through bicycling and walking, a community must create an environment where people feel safe enjoying those modes for recreation and transportation. Bicyclists will choose whether or not to take a trip by bike based on the worst segment they have to overcome. An uncomfortable distance on a ride as short as a few hundred yards can be a deterrent to the interested but concerned riders that are the primary emphasis for promoting increased bicycling.

Motorists also have a major influence. Drivers are not always accustomed to driving through areas with significant bicyclist and pedestrian traffic in combination with more vehicular turning movements and other distractions. Drivers passing through Canton or its neighborhoods may see the presence of bicyclists and/or pedestrian traffic as an inconvenience.

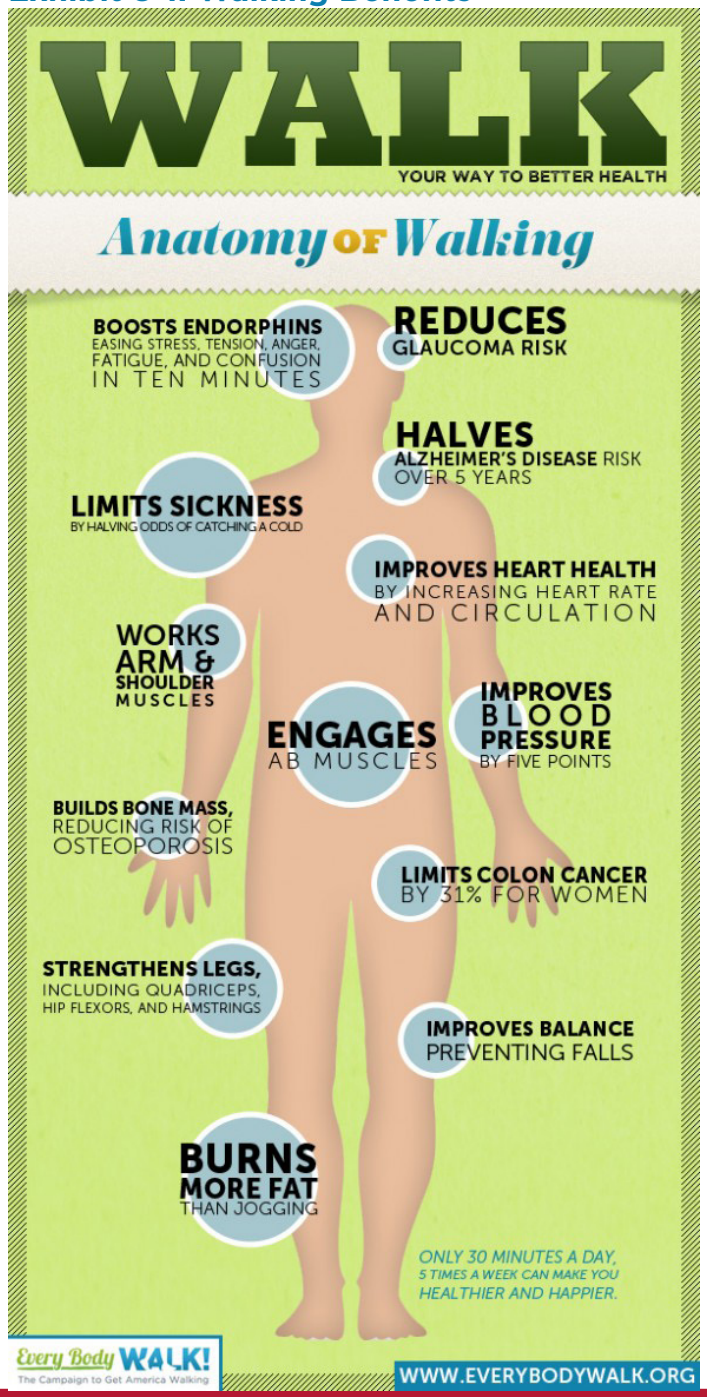
Indeed, even infrastructure changes can seem challenging. Roundabouts are consistently greeted with consternation by those unaccustomed to their use, and planning for their incorporation into a streetscape is frequently met with debate about their merits, safety, and size.

Canton recently added some significant trafffic-calming devices to its downtown core, an effort to slow vehicular speeds and provide a safer pedestrian environment. These design treatments, which included improved midblock crossings, intersection bulb-outs, wider sidewalks, and new street trees, were met with some distaste from several residents.

A Call to Action

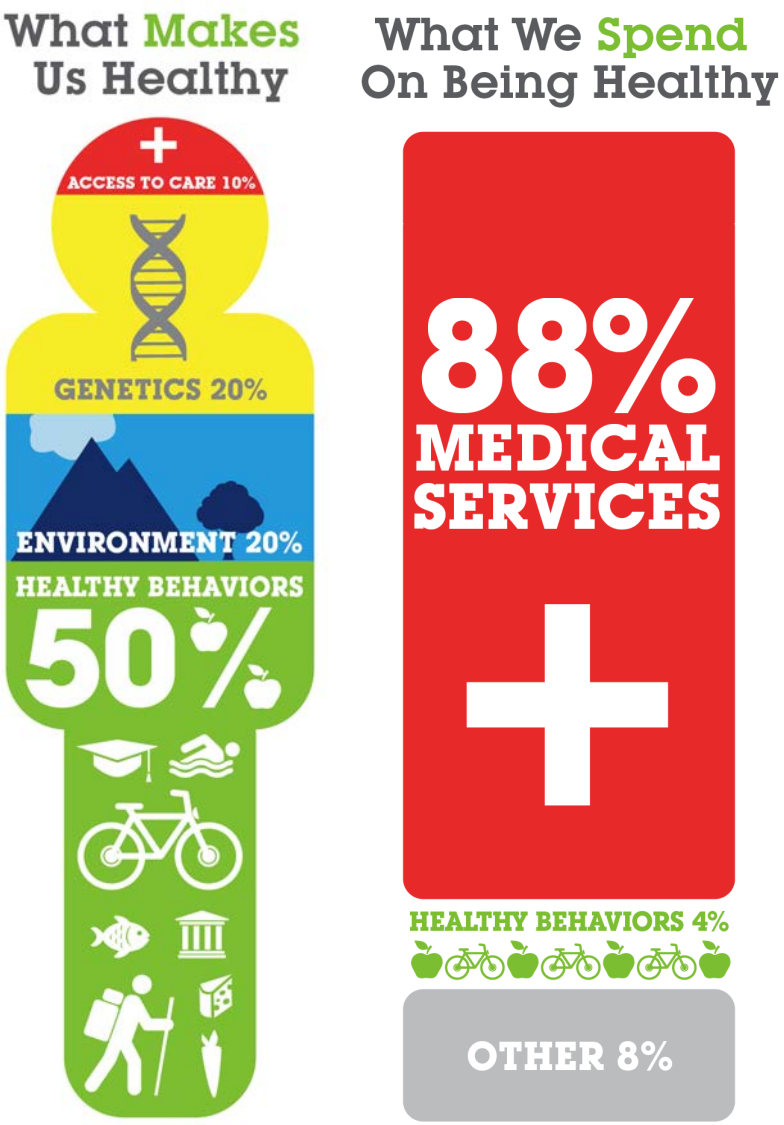
According to the Centers for Disease Control and Prevention (CDC), a lack of physical activity is a major contributor to obesity, diabetes, heart disease, stroke, and other chronic health conditions in the United States. The CDC

Exhibit 8-1: Walking Benefits



recommends expanding multimodal transportation infrastructure as one strategy for increasing physical activity.

Exhibit 8-2: Health Factors vs. Spending



A study published in the American Journal of Public Health found a link between walkable and bikable physical environments and lower obesity rates. Researchers analyzed city- and state- level data from the United States and internationally from 15 countries to study the relationship between "active travel" – bicycling or walking rather than driving – and physical activity, obesity, and diabetes. Comparing all 50 U.S. states and 47 of the 50 largest American cities, the researchers found that states with higher rates of walking and cycling were home to a higher percentage of adults who achieved recommended levels of physical activity, a lower percentage of adults who were obese, and a lower percentage of adults with diabetes.

The Federal Highway Administration (FHWA)'s Non-motorized Transportation Pilot Program also estimated the economic savings resulting from reduced mortality as a result of increased bicycling in the pilot communities from 2007 to 2013. This study found that the additional bicycling trips taken in the pilot communities in 2013 reduced the economic cost of mortality by an average of $46.3 million, plus or minus $6.7 million - that is in just a single year! These are conservative estimates for the health benefits, because they only calculate reduced mortality due to increased physical activity, and do not incorporate any health benefits from improved air quality (due to reduced motor vehicle exhaust) or stress related to commuting, parking, and avoiding collisions.

In a 2015 call to action, the U.S. Surgeon General stated:

> "Americans need to walk regularly to combat heart disease and diabetes, while at the same time recognizing that the way neighborhoods are designed often are unsafe or aren't conducive to walking."

Overall, the body of research linking active transportation to increased physical activity is limited in its strength, but suggests a positive association. Significant findings include:

(1) even low levels of active transportation are associated with decreased cardiovascular disease risk in adults;

(2) students using active transportation method for travel to school are more physically active;

(3) bicycling to school is positively linked with cardiovascular fitness; and

(4) adolescents walking or cycling for functional reasons achieve higher levels of moderate to vigorous physical activity.

The literature identifies the need for intervention studies to strengthen the body of evidence. This is especially true for evidence specific to rural environments. This is what we know:

Physical health: It has long been suggested that walking, bicycling, and other forms of activity can improve our bodies' state of health by varying degrees in many different ways, such as aerobic capacity, cardiovascular fitness, muscle strength, balance, and decreased obesity, diabetes, heart disease, high blood pressure, asthma, and even some forms of cancer.

Exhibit 8-3: Surgeon General Call to Action

Mental and emotional health: Research findings currently indicate that walking and riding bikes can relieve symptoms of depression and anxiety, while alleviating loneliness and social isolation. Links have also been shown that demonstrate improved work performance, on the job and at school (where kids work), after brief breaks to take walks or perform other physical activities. Many walk to school programs indicate improvements in learning capacity from kids who get to school on foot rather than by car or bus.

These health benefits lead to decreased medical costs for individuals, insurers, and the organizations that provide employee health programs. The cost of a mile of sidewalk is cheap compared to emergency room visits, operations, hospital stays, rehab, and sometimes, permanent disability.

A 2004 study concluded that for every dollar spent on public trails, nearly $3 are produced in public health benefits.

While the typically recommended daily dose is a minimum of 10,000 steps, or about 30 minutes, benefits can be seen well below this limit. Studies have found that moderate amounts of walking lead to a significant reduction in heart disease, cancer, lung disease, diabetes and pain from arthritis. It reduces stress, anxiety and depression, and improves sleep, creativity, memory, and cognitive performance for children as well as older adults.

The problem is that we just don't do it enough anymore. Over 80 per cent of Americans today commute to work by car, compared to three per cent who walk, and under one per cent who bike. In 1969, 48 per cent of children walked or biked to school, compared to 13 per cent in 2009, a decline that has contributed to more than a ten per cent increase in obesity rates amongst youth.

The built environment can have a significant effect on this. Many studies have shown that the more walkable a community is, the more people will walk.

Promoting Healthy Living

Stronger communities are created by offering recreation, exercise, and non-motorized transportation opportunities for all citizens. Greenways, bike lanes, and other pedestrian infrastructure provide a safe place for people to enjoy nature and experience a sense of community and create stronger social and familial ties, while enabling physical fitness opportunities by encouraging healthy behavior - likewise, these amenities attract tourism and business investment which can spur the local economy and affect the community's wellbeing.

Bicycle and pedestrian networks can reinforce the identity of a community by incorporating public art and highlighting local history into the design.

By building greenways, bike lanes, and sidewalks, communities make it easier for people to incorporate active living into their everyday life. A 2004 study concluded that for every dollar spent on public trails nearly $3 of public health benefits is produced.

Greenways can provide safe places for kids to play, which is vital for physical health as well as brain development in children and can help with Attention Deficit Hyperactivity Disorder (ADHD). In addition to physical health, numerous studies point to how contact with the natural world improves psychological health, and relieves feelings of anxiety and depression. Trails offer a safe place to engage with the community, increasing social cohesion. Greenways also provide safe routes for pedestrians and cyclists,

reducing the number of collisions with vehicles. By making it easier for people to drive less, air quality will improve due to lower carbon dioxide levels resulting in fewer respiratory illnesses.

For information about NCDOT's efforts to contribute to public health by providing active living environments with safe, connected, accessible facilities along with programs that encourage walking and bicycling, visit:

www.walkbikenc.com/pillars-of-plan/health

The 7 Dimensions of Health & Wellness

When we think about health, whether individual or public, we often limit our associations with the term to general topics such as healthcare, physical activity, and nutrition. We think about the common mantras from our peers and healthcare professionals - Don't forget your annual checkup. Run this many miles per day. Eat this, not that. We often forget, or perhaps never even realize, that true and complete health is about so much more.

According to the World Health Organization, health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Meaning that achieving complete health entails much more than merely reaching optimal physical health. In other words, health is holistic. It is made up of many interconnected components that must all be achieved individually in order to obtain overall health. These components can be easily organized into what is known as The Seven Dimensions of Health: physical; social; economic and occupational; environmental; spiritual; emotional; and intellectual. These dimensions are interrelated and each has the ability to strongly influence the others. Further, walking and bicycling have impacts that extend beyond the physical dimension of health, as illustrated in this section.

The implementation of active transportation methods, specifically walking and biking, has been proven to help both individuals and communities thrive in each of these seven dimensions and ultimately achieve total health.

Following is a summary of the 7 Dimensions of Health and the related implications of walking and bicycling:

Physical: The ability to maintain a healthy quality of life that allows us to get through our daily activities without undue fatigue or physical stress. The ability to recognize that our behaviors have a significant impact on our wellness and adopting healthful habits (routine check ups, a balanced diet, exercise, etc.) while avoiding destructive habits (tobacco, drugs, alcohol, etc.) will lead to optimal physical health and wellness.

- Low-impact and easy way to improve physical health that can be enjoyed by people of all ages.
- Gives your heart, blood vessels and lungs a good workout, as well as increased cardiovascular fitness; increased strength and flexibility; improved joint mobility; improved posture and coordination; and decreased body fat.
- One of the best ways to reduce the risk of health problems such as stroke, heart disease, some cancers, diabetes and arthritis.
- 30 minutes of moderate walking per day five days a week can help ensure a longer, healthier and happier life.
- One hour of walking may increase your life expectancy by two hours.

Social: The ability to relate to and connect with other people in our world. Our ability to establish and maintain positive relationships with family, friends and co-workers contributes to our Social Health and Wellness.

- Creates shared sense of community by making an activity that is also transportation a social event.
- Provides mobility to members of a community who may not have access to a private vehicle.
- People who live in walkable areas with less traffic statistically have more friends than those who live in areas with heavy traffic.
- Every few members of a community are excluded from its benefits.

Occupational: The ability to get fulfillment from our jobs or career fields while still maintaining balance in our lives. Our desire to contribute in our careers to make a positive impact on the organizations we work in and to society as a whole.

- Physically active people save an average of $500 per year on healthcare costs.
- Walkable and bikable communities are becoming more valuable and stimulating economies through increased property values, job creation, local spending, and tourist spending.
- Improves an employee's attitude and work ethic and increases motivation and productivity.
- People who walk or bike regularly are overall mentally and physically healthier, and therefore enjoy their jobs more and work more efficiently, contributing to an overall increase in occupational health.

Environmental: The ability to recognize our own responsibility for the quality of the air, the water and the land that surrounds us. The ability to make a positive impact on the quality of our environment, be it our homes, our communities or our planet.

- Pollution-free modes of transportation with reduction of carbon emissions, noise pollution and water pollution.
- Walking and bicycling facilities are an efficient use of space. Over 20 times as many people can travel in the same space when walking than in a car.
- Significantly reduces an individuals' ecological footprint.
- Leads to greater appreciation for being in contact with nature and recognizing personal effects on the quality of the environment.

Spiritual: The ability to establish peace and harmony in our lives. The ability to develop congruency between values and actions and to realize a common purpose that binds creation together.

- Relaxing recreational activities are linked to spiritual wellness.
- Natural environments have a great spiritual meaning and represent a strong sense of place, typically associated with memories of special times spent outdoors.
- Can strengthen a person's identity and help them define who they are by allowing them to be themselves and express their personality – a very important aspect of spiritual health.

Emotional: The ability to understand ourselves and cope with the challenges life can bring. The ability to acknowledge and share feelings of anger, fear, sadness or stress; hope, love, joy and happiness in a productive manner.

- Physical activity has also been proven to benefit the emotional and mental well-being of individuals. Americans identify "relaxation and peace" (stress reduction) as the 2nd most prevalent benefit they experience from physical exercise.
- Walking specifically has been shown to reduce the decline of cognitive performance among the elderly.
- Promotes a good night's sleep – an essential element of maintaining good emotional health – more effectively than many other popular physical activities.

Intellectual: The ability to open our minds to new ideas and experiences that can be applied to personal decisions, group interaction and community betterment.

The desire to learn new concepts, improve skills and seek challenges in pursuit of lifelong learning.

- Associated with better cognitive performance by children in school.
- Gives people a chance to slow down and step away from their stress, their to-do lists, and their TVs and clear their mind so they can think about other things in life.
- Linked to improving the cognitive functions of adults, and decreasing the rate of cognitive decline among the elderly.
- Improves intellectual health simply through the challenge of making it a part of their regular daily activity.

Beyond Physical Activity

The American Automobile Association's (AAA) annual study "Your Driving Costs" showed in 2017 that owning and operating a motor vehicle in the United States continues to become more expensive. Based on driving 15,000 miles per year, depending on vehicle type, owning and operating a vehicle can cost an average of 60.8 cents per mile or $9,887 per year.

http://exchange.aaa.com/wp-content/uploads/2017/08/17-0013_Your-Driving-Costs-Brochure-2017-FNL-CX-1.pdf

Safe non-motorized transportation options, combined with access to public transportation, are critical components of a transportation network that connects people— especially low-income households—with jobs, education, and essential services, providing "ladders of opportunity."

Economic Impacts of Biking & Walking

Greenways attract new business, increase tourism, enhance property values, and help promote a strong local economy. Many studies show increased property value and faster home sales near greenways. For example, homes near greenways were estimated to increase approximately 5% in value due to proximity to the trail.

https://www.researchgate.net/publication/285579311_An_Assessment_of_Tax_Revenues_Generated_by_Homes_Proximate_to_a_Greenway_The_Context

A study of Greenville County's Swamp Rabbit Trail shows that the trail has generated $6.7 million for area businesses in 2013 - an excellent example of the positive influence greenways can have on a community's economy. Travelers Rest, SC, attracted more than a half

Bicycle and pedestrian infrastructure helps lure tourists to towns and their destinations, and similarly attracts new businesses, whether directly relational like a bike shop on a greenway, or tangential, like a brewery on an accessible downtown street.

million walkers, joggers and bicyclists in 2013. Additionally, the number of businesses in their three-block business district increased from four to 60 after the trail was constructed.

http://www.documentcloud.org/documents/404182-srt-20impact-20study-20year-201.html

Based on local tourism expenditure data and visitor profiles for Western NC, Bikes in Beds (Haywood County TDA and Southwestern Commission's report on bicycle tourism in the region) estimated that bicycle tourism accounts for roughly 2% of total trips to Haywood County and generates more than $3 million in annual expenditures by visitors. The report lists these bicyle tourism numbers for the region:

- $14 million estimated total impact of bicycle tourism in Western North Carolina.
- $150,000 to $170,000 estimated visitor spending per year from the Blue Ridge Breakaway.
- $500,000 estimated economic impact of the 2014 Lake Logan Multisport Festival.
- 91.5 million Americans went biking in 2013.
- 33 percent of cycling tourists staying overnight.
- $76 spent per day of overnight stay and $50 per day trip.
- 2.8 people in the average group of cyclists.

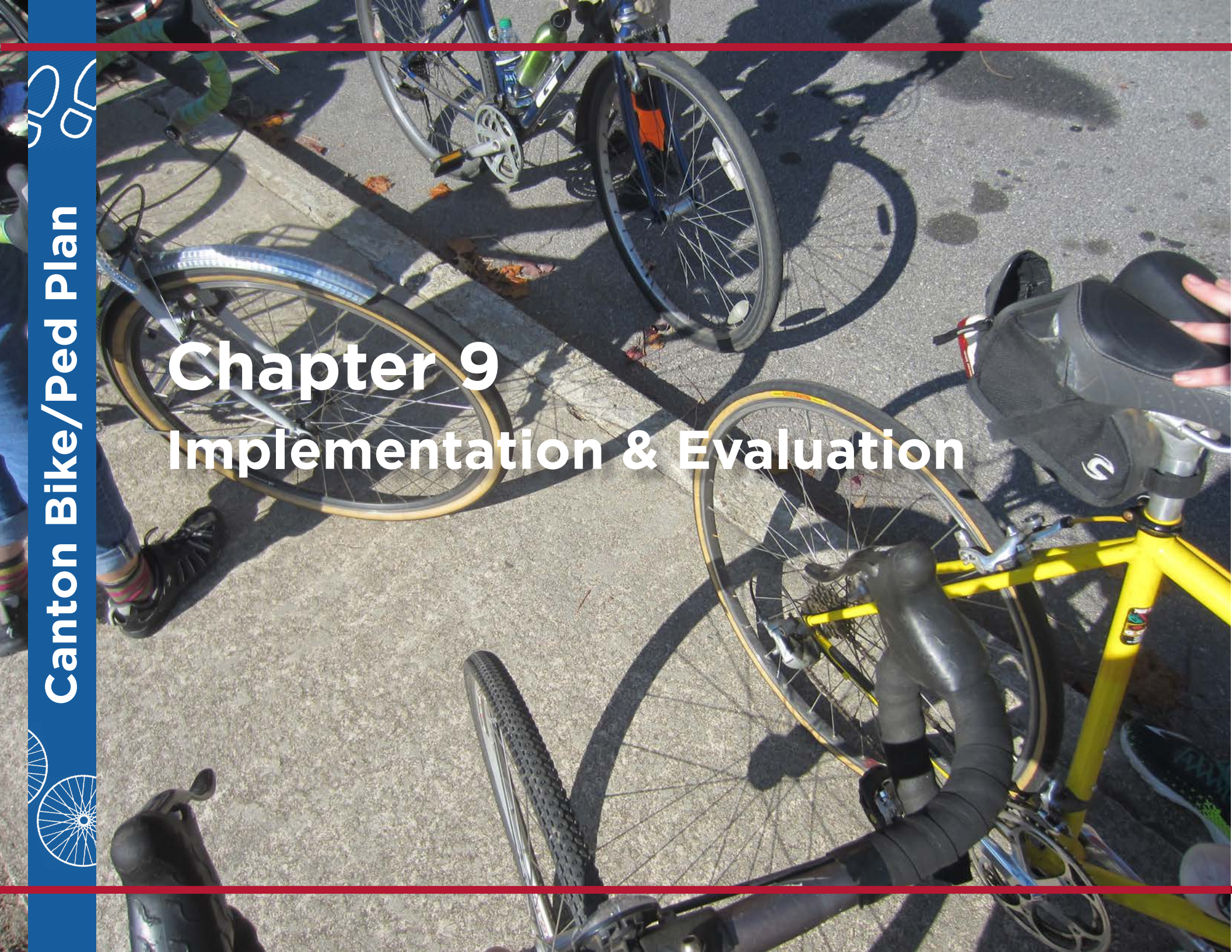
http://www.isothermalbikeplan.com/pdf/2015_bikes-in-beds_wncbiketourism.pdf

Nearby Asheville, NC, was able to provide incentives for a large California brewery to build their eastern factory, distribution center, and taproom in the city. The brewery chose its location partly because it was adjacent to the French Broad River and an anticipated greenway connector. In exchange for NCDOT Complete Streets improvements and city concessions, the company designed and built the greenway segment during facility construction. Now, trail users can easily walk right up to the taproom after exercising and the city has valuable new tax revenue.

For information about NCDOT's goal of maximizing economic competitiveness, return on investment, and employment opportunities by creating walkable and bikable communities, visit:

http://www.walkbikenc.com/pillars-of-plan/economy

Asheville's New Belgium Brewery promoted its site design to the community. It features a completely new greenway segment (a vital link in Asheville's greenway plan recommendation), brownfields amelioration, stream restoration, Complete Streets improvements (bicycle lanes and sidewalks), on- and off-street low impact parking, and bicycle parking at the facility.



Chapter 9
Implementation & Evaluation

Chapter Nine: Implementation & Evaluation

Adoption of Canton's Bicyle and Pedestrian Plan is only one step in creating a bicycle- and pedestrian-friendly community. The implementation of the plan will require a coordinated effort amongst town officials, community leaders, engaged business owners, and citizen volunteers as well as follow-up plans and studies on more specific improvements. This chapter provides a series of action steps for moving forward with the recommendations of the Plan, as well as potential funding sources and partners for proposed projects.

A major emphasis of this plan is aligning recommendations with the prevailing understanding of how bicyclists view themselves (capable and willing in any conditions or timid and cautious) and how comfortable pedestrians are in their environment: confident and able, walking out of necessity, or even mobility challenged.

The theme of inclusive planning - designing our transportation network for all people with all modes of travel in mind - is addressed to some degree within Canton's Bicycle and Pedestrian Plan. This can help stakeholders articulate to local, regional and state leaders that the implementation of this plan is aimed at optimizing investments in bicycling and walking for the largest number of potential users.

Canton's Bicyle and Pedestrian Plan's implementation strategies are closely aligned with the Bicycle and Pedestrian Safety Strategies in North Carolina's statewide WalkBikeNC plan that were developed through a series of statewide summits. The major action initiatives identified through those summits to help guide NCDOT and other state agencies through the next decade were:

- Fully implement Complete Streets;
- Address multi-modal funding;
- Retrofit existing facilities;
- Require more from all road users;
- Increase public awareness through education;
- Connect transportation and land use; and
- Improve law and strengthen enforcement.

Action Steps for Implementation

Completing the action steps listed below helps guide development of the proposed bicycling and pedestrian network and creates a supportive program and policy environment for a more bicycle-friendly and walkable Canton. These steps will be crucial in moving forward with the overall recommendations of this bicycle and pedestrian plan.

1. Adopt the Plan

This is the first stage of implementation. The Plan should be forwarded to regional and state decision-makers, such as the MPO and NCDOT Division office, for inclusion in other regional planning and development processes. The towns of Waynesville Clyde, Lake Junaluska, Maggie Valley, and Candler, as well as the city of Asheville and Buncombe and Haywood Counties, should receive a copy for consideration when their local plans are updated.

- *Partners: Town of Canton, NCDOT, French Broad River Metropolitan Planning Organization (MPO).*
- *Time frame: Immediately*

2. Identify Resurfacing Projects to Advocate for Shoulder Widening

NCDOT's maintenance programs and resurfacing projects offer an opportunity to add bikeable shoulders to corridors identified in the plan. Canton should communicate regularly with NCDOT Division

staff to determine when routes will be subject to resurfacing.

• *Partners: Town of Canton, NCDOT, French Broad River MPO.*

• *Time frame: Varies based on scheduling of resurfacing, but annual review of NCDOT's three-year resurfacing plan.*

3. Begin Work on Low-Hanging Fruit Project Construction

Several projects in this plan are relatively cost-effective and more feasible than others. Even though they might not score as highly, they are worth pursuing because the success of the plan will be gauging in part by how many projects are completed shortly after adoption. For instance, Sorrells Street improvements (projects 2 and 3) do not require additional right-of-way or considerable design work and would offer a very clear impression of commitment to bicycle and pedestrian improvements. Sharrows are another opportunity for quick installation (projects 23, 29, and 56), and smaller crosswalk projects are great spot improvements for short-term construction (especially projects 13, 16, 38, 41, 49). Meanwhile, the Town can begin the process of slightly more ambitious projects that offer great publicity, like the Pigeon Street Path (#31) and Pisgah High School Pedestrian Improvements (#4).

Additionally, projects that are incidental to NCDOT highway State Transportation Improvement Plan (STIP) projects can have all of the bicycle facilities included so long as they are the standard treatment, such as a five-foot wide bicycle lane. If a local government wanted more than the standard treatment (a separated bicycle lane, for example), the local government would be responsible for 100% of the "betterment" cost, i.e., the difference in construction cost between the two treatments. The Town of Canton should work closely with NCDOT Division 14 and the French Broad River MPO, following the STIP prioritization process to make sure that projects in Canton feature incidental bicycle and pedestrian improvements.

• *Partners: Town of Canton, NCDOT, French Broad River MPO*

• *Time frame: Ongoing.*

4. Adopt a Vision Zero & Complete Streets Policy

Now that Canton has a bicycle and pedestrian plan, the community can work in a more focused manner on implementing a Complete Streets Policy for the town. The emerging trend of bicycle tourism and opportunities to grow businesses in Canton add another dimension to Complete Streets but help make a more compelling case for their necessity to local and state decision makers. Canton should explore adopting a local Vision Zero and/or Complete Streets policy, which would help facilitate taking decisive action on lowering speed limits, and make decisions about bicycle-friendly and pedestrian oriented lan-

guage in local policy documents. These policies should be continually reviewed and revised in accordance with State and Federal law and best practices.

• *Partners: Town of Canton, NCDOT, and local businesses.*

• *Time frame: Ongoing.*

5. Establish a Sidewalk Capital Improvement Plan

Canton should allocate annual amounts for sidewalk improvements and construction in its budget and create a sidewalk CIP to help make determinations for the town's spending on its sidewalks. The Town should use the GIS map created for this Plan as a starting point, which indicates lack of ADA compliance and the need for utility relocation, and conduct a more comprehensive sidewalk condition survey and ADA assessment to assess damage and missed opportunities.

A CIP will enable strategic funding prioritization and scheduling, while encouraging performance measurement and providing residents with the opportunity to contribute to pedestrian infrastructure planning - it is recommended that the Town website feature a "current sidewalk projects" page and a forum for participation and suggestions for site-specific recommendations. A CIP will enable long-term thinking with short-term results.

All newly constructed sidewalk must be accepted for maintenance by a party other than the NCDOT, which is usually the municipality but could also be the county. In 2016, the Town collaborated with NCDOT's Division 14 to make improvements to the downtown pedestrian framework. The Town had made plans for streetscape improvements to the Main Street corridor and Division 14 was set to start a road resurfacing along the same corridor. Both parties agreed to coordinate schedules so that the Town could develop and implement its sidewalks and streetscape project in parallel with resurfacing. The Town of Canton finished its planned sidewalk work and some needed stormwater and streetscape improvements, while NCDOT was able to upgrade the curb ramps as part of resurfacing.

• *Partners: Town of Canton, residents, volunteers.*

• *Time frame: Ongoing.*

6. Build a Regional Bicycle & Pedestrian Task Force

The Town of Canton Board of Aldermen should appoint a Bicycle & Pedestrian Coordinator, responsible for providing input to decision makers on projects, programs, and policies, and represent the Town's interests amongst a regional Bicycle & Pedestrian Task Force. This Task Force should make sure to receive and respond to citizen ideas and concerns, holding regular quarterly (or biannual) meetings to discuss all issues related to bicycling and pedestrians, including major projects (e.g. bridges, street repaving, comprehensive plan). Bicycle & Pedestrian advisory groups can help spur innovation by providing a community forum to work through complicated issues such as on-street bike parking or stronger school-siting policies. The agendas, meeting minutes, memos and other records can be used to track progress over time and revisit old ideas.

• *Partners: Town of Canton, Town of Clyde, Town of Waynesville, Town of Maggie Valley, Town of Lake Junaluska, French Broad River MPO, Haywood County Schools, NCDOT, local bicyle clubs and walking groups, downtown business leaders, health advocates.*

• *Time frame: 2019-2020, Ongoing.*

7. Develop a Supportive Education and Enforcement Program

Bicycle and pedestrian facilities alone will not lead to a bicycle- and pedestrian-friendly community. A variety of program recommendations are highlighted in Chapter 7 of this plan to promote a bicycling culture. Ideally, programs and policy priorities should be implemented alongside infrastructure improvements, but the community should recognize that programs such as installing signage or wayfinding can occur several years before major infrastructure improvements are made. Applying for state resources, like NCDOT's Watch for Me NC program, is a good place to start. The town can embrace the state's template for Walk or Bike to School programs, encorporate Let's Go NC curricula, and consider testing an Open Streets initiative in the downtown core during key tourist seasons or large events.

- *Partners: Town of Canton, Haywood County Schools and Health Department, Canton Police Department, Canton Fire Department, local schools, NCDOT.*
- *Time frame: Ongoing.*

8. Support the Haywood Greenways Coalition

The regional coalition is prepared to develop a comprehensive greenway map for the county region and the Town of Canton should be a voice of support and a committed presence at all meetings. This effort will be integral to developing the Pigeon River Greenway and other broader regional connections.

- *Partners: Towns of Canton, Clyde, Waynesville, Maggie Valley, and Lake Junaluska, Haywood County, Haywood Waterways Association, Haywood County TDA, Haywood County Parks & Recreation, Blue Ridge Bicycle Club, NCDOT, advocacy groups.*
- *Time frame: Ongoing.*

9. Consider Budget Allocations for Regional & Local Multiuse Trails and Sidepaths

Allocate Town of Canton funding to regional and local trails, including the Pigeon River Greenway, the Beaverdam Creek Greenway, and the Rough Creek Watershed Trail System. This amount should be substantial enough to support a regional trail fundraising effort on an annual basis and allocated for local matches on NCDOT "betterment" facilities, such as the proposed trail from Chestnut Mountain Road to Wiggins Road along Smokey Park Highway (STIP# U-6048).

The Town may also be able to provide publicity and public support to regional efforts through conservation columns in local newspapers, organization newsletters, web sites, and other media, provide technical support that can further the establishment and long-term maintenance of the greenways, assist in grant writing for proposed trail systems, host public forums as needed to focus attention and support for greenway initiatives, and maintain a library of resources to assist in the planning and development of greenways.

- *Partners: Town of Canton, NCDOT, Haywood County (Parks & Recreation, TDA, Health & Human Services), Haywood Waterways Association.*
- *Time frame: Fiscal Year 2020-2021, ongoing.*

10. Initiate a Town-Sponsored Bicycle Parking Application Program for Businesses and Property Owners

The Town should create a streamlined process to apply for bike parking in the public right-of-way (with standard options for both on-the-sidewalk inverted u-racks and in-the-parking-lane bike corrals),

with up-to-date design standards for both types.

The bicycle parking application program can also provide Town funding for those applications that meet the highest demand for bike parking as part of Canton's transportation system. The Town would specify a number of racks to fund every year.

• *Partners: Town of Canton, local businesses.*

• *Time frame: Immediate (2019); Annual review of applications.*

11. Complete the "Bicycle Friendly Community" Application

In the year following adoption of the Plan, the community should complete and submit a Bicycle Friendly Community application to the League of American Bicyclists. The application requires input from a variety of data sources, many of which are included in this Plan. Even if the community does not receive official designation on its first attempt, the feedback from the League and potential for Honorable Mention status can inspire local leaders to implement other Plan recommendations.

Source: League of American Bicyclists

The French Broad River MPO and Blue Ridge Bicycle Club could help the community complete the application.

• *Partners: Town of Canton, French Broad River MPO , Blue Ridge Bicycle Club, Haywood County, Haywood Community College, volunteers.*

• *Time frame: 2020-2022.*

12. Paint "Sharrows" in Canton

Canton can use this Plan to determine which roads should be prioritized for shared lane markings (sharrows) and develop a prioritized implementation schedule. Sharrows may not save lives, but they demonstrate a Town's support for cycling in the community and help bring awareness about sharing the roadways. This can be a relatively easy and cost-effective way to show progress.

[See Projects 7, 10, 23, 29, 30, 35, 56.]

• *Partners: Town of Canton.*

• *Time frame: Begin immediately (2019-2020), Ongoing.*

13. Fund Bicycle Infrastructure Downtown

Canton should work with Haywood County and the French Broad River MPO to allocate local funding for prioritized bicycle infrastructure in the downtown area, including bike lanes on municipal streets. Canton can lead the way and serve as an example for small town bicycling. A town- or county-wide bond referendum is an option for continued funding.

Canton shoud work with Haywood County and philanthropic agencies to invest in funding for minor bicycle improvements (bike racks and fix-it stations) at all public parks, the rec center, pool, library, and town administration offices. Canton should also support Haywood County Transit planning efforts by helping to fund bike racks at all future bus stop locations in town. The Canton logo is ideal for incorporation into a custom bicycle rack, using the "C" and gear motif to great effect.

• Partners: Town of Canton, Haywood County, French Broad River MPO, business owners.

• Time frame: Fiscal Year 2020-2021 (target one bike rack per year, one fix-it station per five years, one mile of bicycle lanes per five years).

14. Develop & Support Bicycle Events and Foot Races to Canton

The Town of Canton should proactively recruit established bicycling and foot race events to use Canton as a host and continue to support local events, like the Bethel Half Marathon and 5K and the Haywood County Rescue Squad Heart Smart 5K. Canton should develop a bicycle race event with the Blue Ridge Bicycle Club to demonstrate support for the cycling community, raise awareness, and promote the area.

• Partners: Town of Canton, local and regional bicycle clubs, race organizers, event promoters.

• Time frame: Immediate.

15. Develop a Regional Bicycle Route Map

The Town of Canton should begin immediately working with neighboring towns and Haywood County to design a bicycle route map for the region, with input for cycling clubs, NCDOT, and advocacy groups. Having a map of common and beloved routes, with ranges in length and difficulty, can support local ridership and bolster regional recreational tourism. It can also demonstrate that Canton is bicycle-friendly and an ideal place to start and end a ride, which could be leveraged as an economic development tool.

• Partners: Town of Canton , NCDOT, Blue Ridge Bicycle Club, French Broad River MPO, Haywood County.

• Time frame: Short-term (2020-2022).

16. Organize an Open Streets Event

Canton should organize an Open Streets event, where the aim is to allow nonmotorized transportation to enjoy full use of the downtown core. Vehicular traffic can be rerouted effectively to allow Park Street, Main Street, or Penland Street to be the epicenter of the event. Asheville and Waynesville are good examples of successful events, typically all day on a Sunday in spring or fall.

• Partners: Town of Canton, French Broad River MPO, Haywood County Chamber of Commerce, Haywood County TDA and Schools, Blue Ridge Bicycle Club, AARP.

• Time frame: Begin planning immediately for a 2020 event; Ongoing on an annual basis.

17. Amend Canton's Code of Ordinances

Make sure to include language about minimum sidewalk width (5' or wider) and ensuring ADA compliance on all new Town sidewalks. Clarify the Towns' procedure for sidewalk maintenance; remove language dictating that cyclists must use an adjacent trail rather than the roadway and that cyclists must have a bell on their bicycle; align current bicycle regulations with NC law; and explore development standards for sidewalk construction. These recommendations are listed in detail in Chapter 4.

- *Partners: Town of Canton.*
- *Time frame: Short-term (2020).*

18. Create "Slow Zones"

The Town should lower the speed limit along roadway corridors with high bicycle and/or pedestrian traffic, using count data to prioritize specific areas and rationalize the action. Develop metrics that would determine where to lower the speed limit and enforce those limits.

- *Partners: Town of Canton, NCDOT, neighborhood associations.*
- *Time frame: 2022 to develop metrics, with ongoing review of data and enforcement.*

19. Rethink Downtown Spaces

Develop a new gathering place downtown. Consider replacing the gazebo with a playground and food truck lot. This space is currently under utilized. Creating a space for residents and visitors to linger downtown can be a huge benefit to the businesses nearby, attracting people to walk and bike downtown more. The nearest playground is over a half mile away. Consider also the parking lot at the corner of Mears and Main for a food truck lot. Make sure people know that everything here is temporary, until another economic development (infill) opportunity arises.

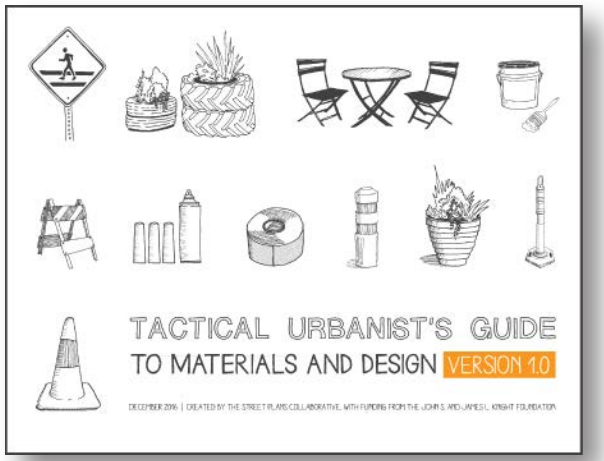
- *Partners: Town of Canton, Local Schools, Haywood County Health Department. Haywood County Parks & Recreation.*
- *Time frame: Immediate.*

20. Implement "Tactical Urbanism" Projects

The Town of Canton should list key intersections and corridors (reflective of the goals of this plan) for short term, low-cost, and scaleable bicycle and pedestrian projects. These can demonstrate the feasibility of permanent improvements to elected officials and NCDOT. The Town can work with the Blue Ridge Bicycle Club volunteers to host design charettes and get residents engaged, then install small, temporary projects (protected bike lanes, bulbouts, mid-block crossings, street trees, etc.) that could become permanent if successful.

The City of Asheville recently followed this process for improvements along Coxe Avenue downtown and could offer input and general guidance.

- *Partners: Town of Canton, Blue Ridge Bicycle Club, French Broad River MPO, NCDOT, AARP, Haywood County, neighborhood associations.*
- *Time frame: Short-term (2020), with ongoing development of new project ideas.*



21. Support Haywood County Transit

Canton should demonstrate support for Haywood County's plan for a fixed-route bus system in the region. The Town should keep involved in the planning process and make sure that all bus stops will have access to a connected sidewalk system with ADA accessibility. The Town should coordinate with local property owners along the fixed route and host several public meetings to make sure that the bus system meets the needs of residents.

• *Partners: Town of Canton, Haywood County, business owners.*

• *Time frame: Immediate.*

22. Support Research in WNC

The Town of Canton should vocalize its support for research efforts in the region that provide a clearer understanding of roadway safety in the mountains of Western North Carolina and the impact of multimodal infrastructure, both for the health of the community and its economic prospects. One of the best motivators to induce spending on bicycle and pedestrian infrastructure is to demonstrate its varied benefits to the community's property values, ability to attract employment generators, and general well-being. Canton should support all regional work on surveys and statistical analysis to assess the current and possible impact of walking and bicycling (for commuting and recreation) in the region. This could influence tourism outreach and economic development approaches.

• *Partners: Town of Canton, Haywood County Schools, Parks & Recreation, TDA, and Health Department, French Broad River MPO, Blue Ridge Bicycle Club.*

• *Time frame: Ongoing.*

23. Measure Performance

The Town of Canton, the French Broad River MPO, and others can track the performance in implementation of the Plan, which can help justify additional expenditures and strengthen the ability of the community to gain funding from various sources. These efforts include regular surveys, counting users along popular bicycling routes and the Pigeon River walking trail, and participation in Safe Routes to School and annual Strive Not To Drive events. Measuring the implementation schedule and timeline will help NCDOT identify multimodal case studies and keep track of successes in the region.

Canton should make sure to share any new data with agencies throughout the region and continuously collect information about user experience.

• *Partners: Town of Canton, Haywood County Schools, Parks & Recreation, TDA, Transit, and Health Department, French Broad River MPO, Blue Ridge Bicycle Club.*

• *Time frame: Ongoing.*

Evaluation

Transportation-based projects, programs and policies are some of the most measurable aspects of the built environment because an organization or municipality can track the progress of investments and policy changes. Given the economic uncertainty in many communities, non-profits, towns, COGs and DOTs, these organizations are finding value in tracking the performance of a variety of actions. For communities like Canton, methods of tracking the performance of projects, programs and policies can not only lead to easy material to include in a Bicycle Friendly Community application, but communities that show measurable progress in the implementation of their plans can also find themselves in a more strategic position to receive funding from grants or other pursuits.

Performance should not be confused with prioritization. Performance is measured as a change over a period of time, not a ranking of strategies. Performance for bicycling and related endeavors can fall into many categories, each of which is in turn measured by some criterion.

Exhibit 9-1 depicts several performance areas that Canton and its partners could consider to measure and document performance of itself, NCDOT's investments in the town, and outreach efforts.

Funding

Facilities for people who walk and bike are constructed – and therefore funded – through a number of avenues and there are even more funding sources to pursue for programmatic implementation measures. Funding is generally divided into five categories of sources: local, state, federal, non-profit and private.

The following sections describe some of the more prominent sources in each category that Canton could tap for implementation of this plan.

Exhibit 9-1: Performance Measures & Frequency

Performance Measure	Frequency (Every 1 or 2 years)
Percentage of Bicycle Facilities Addressed from Plan	2 years
Miles of Bicycle Lanes, Greenways	2 years
Number of Bicycle Racks	2 years
Number of Street Trees Planted	Yearly
Participants in Bike to School and Walk to School Programs	Yearly
Participants in Bicycle or Foot Races	Yearly
Number of Automobile Crashes (with Pedestrians and Bicyclists)	Yearly
User Counts on Greenways	Yearly
Funding Amount Allocated for Bicycle and Pedestrian Projects and Programs	Yearly
Miles of New Sidewalk Constructed	Yearly
Percentage of Crosswalks with Painted Striping	2 years
Percentage of Downtown Sidewalk System That Meets ADA Requirements	2 years
Citizen Self-Reported Physical Activity	2 years

As shown in Exhibit 9-2, there is a strong economic and job creation argument to be made.

Local Funding

Canton can establish an annual budget line item specifically for bicycling and walking improvements. A specific budget item is the most direct way to ensure that funding for such facilities is available, but sometimes a municipality's budget may be too limited to finance this work. Bicycling and pedestrian facilities can also be built as an "incidental" with any new projects or improvements, such as parks and recreation facilities, libraries, schools, and new roads. Sidewalks can be developed as an element of other funded projects and incorporated into planning for different types of infrastructure investments. In addition, future private development should be reviewed for adequate bicycling access, pedestrian connections, and parking as it affects the neighboring area land use.

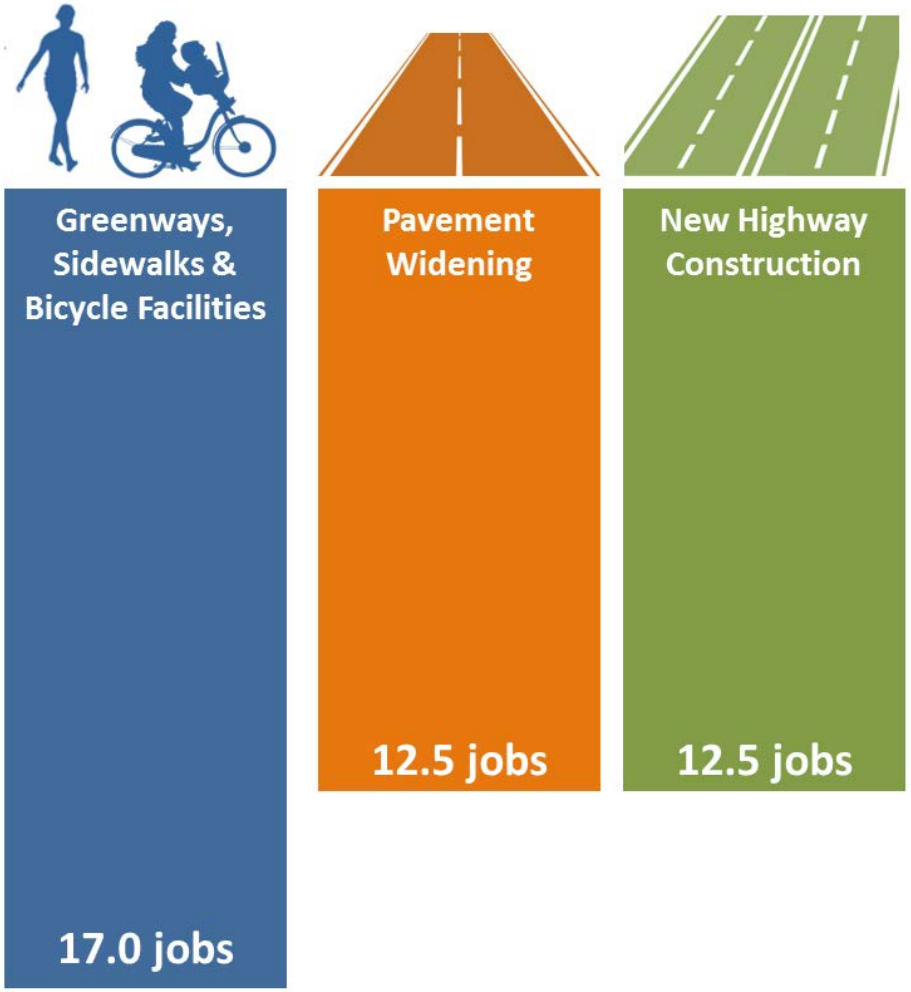
Municipalities often plan for the funding of bicycling and greenway facilities or pedestrian improvements through development of Capital Improvement Programs (CIP). Typical capital funding mechanisms include the following: capital reserve fund, capital protection ordinances, municipal service districts, tax increment financing, taxes, fees, and bonds.

State & Federal Funding

This section highlights common sources of funding, however, these are in a constant state of flux due to transportation funding discussions occurring at the state and federal levels. The French Broad River MPO, French Broad River MPO, and NCDOT are able to provide the latest information on these funding options.

NCDOT is restricted from expending state funds on standalone bicycling or pedestrian projects, even when those projects or upgrades are essential along state-managed roads. "Stand-alone" projects are prioritized in the State Transportation Improvement Plan (STIP) under the mode of transportation, and require the local government to pay a 20% percentage of all estimated costs (planning, design, right-of-way, construction, and utility), and to be responsible for 100% of any project overrun costs.

Exhibit 9-2: AASHTO Average Direct Jobs Created by Project Type (per Million Dollars Spent)



Projects that are "Incidental" to highway STIP projects can have all of the bicycle facilities included so long as they are the "standard" treatment, such as a five-foot wide bicycle lane. If a local government wanted more than the standard treatment (a separated bicycle lane, for example), the local government would be responsible for 100% of the "betterment" cost, i.e., the difference in construction cost between the two treatments. As of 2019, there is a sliding scale for sidewalk projects that are incidental to highway projects, with towns of 10,000 people or fewer responsible for 20% of the total facility cost.

This limitation makes it difficult for implementation of North Carolina's Complete Streets policy to occur without local contributions. It also makes it very important for local projects to coincide with NCDOT's planned roadway projects in the area - this maximizes collaboration, funding opportunities, and coordination of time frames. Funding projects simultaneously along strategic corridors can limit the need to expensively retrofit existing facilities on multiple occassions; instead, roadway projects can be constructed correctly the first time. Multimodal upgrades can occur along state-maintained roads when major investments are made, such as highway or intersection widening, so these planned investments should be regularly monitored.

It is important to track changes or adjustments in these programs through the MPO as funding allocations and programs are in flux on a regular basis and partially driven by the status of the federal government's transportation funding acts that are intended to be updated on a semi-regular basis.

Appalachian Regional Commission (ARC): The Appalachian Regional Commission (ARC) is a regional economic development agency that represents a partnership of federal, state, and local government. Established by an act of Congress in 1965, ARC is composed of the governors of the 13 Appalachian states and a federal co-chair, who is appointed by the president. Local participation is provided through multi-county local development districts. ARC invests in activities that address the five goals identified in the Commission's strategic plan:

Goal 1: Economic Opportunities: Invest in entrepreneurial and business development strategies that strengthen Appalachia's economy.

Goal 2: Ready Workforce: Increase the education, knowledge, skills, and health of residents to work and succeed in Appalachia.

Goal 3: Critical Infrastructure: Invest in critical infrastructure—especially broadband; transportation, including the Appalachian Development Highway System; and water/wastewater systems.

Goal 4: Natural and Cultural Assets: Strengthen Appalachia's community and economic development potential by leveraging the Region's natural and cultural heritage assets.

Goal 5: Leadership and Community Capacity: Build the capacity and skills of current and next-generation leaders and organizations to innovate, collaborate, and advance community and economic development.

Each year ARC provides funding for several hundred investments in the Appalachian Region, in areas such as business development, education and job training, telecommunications, infrastructure, community development, housing, and transportation. These projects create thousands of new jobs; improve local water and sewer systems; increase school readiness; expand access to health care; assist local communities with strategic planning; and provide technical and managerial assistance to emerging businesses.

https://www.arc.gov/funding/GrantsandFunding.asp

Transportation Alternative Program (TAP): North Carolina receives an annual allocation of TAP funds from the federal government. Bicycling and greenway improvements are eligible expenses under this program. Due to state restrictions, the full 20% match required on these funds must be borne by the municipality. Canton should work through the MPO and with other regional municipalities to develop strategies to help the state appropriately utilize these funds.

www.ncdot.gov/strategictransportationinvestments

State Street-Aid (Powell Bill) Funds: In addition to local funding sources, municipalities receive some financial assistance from the state to help pay for the construction, maintenance and repair of municipal streets. North Carolina levies motor fuel taxes pursuant to a formula that increases taxes when the wholesale price of motor fuels increases. G.S. 136-41.1 appropriates a certain percentage of this revenue, plus an additional percentage of the net proceeds of the North Carolina Highway Trust Fund, to eligible municipalities across the state. The total FY 2010 allocation to municipalities was $134,299,711.21. (Note that counties do not receive this assistance because their authority to construct or maintain streets is significantly more limited.) The legislation that first established this distribution is known as the Powell Bill (after its principal sponsor in the North Carolina Senate), and the moneys distributed to the municipalities are referred to as Powell Bill funds. Annually, state street-aid (Powell Bill) allocations are also available for planning, construction, and maintenance of bikeways or sidewalks along public streets and highways. New sidewalks or replacement of existing sidewalks are an eligible expense for these funds.

Street maintenance includes street cleaning and snow removal. Permitted construction expenditures include all phases of construction: right-of-way acquisitions; legal and engineering expenses; salaries, wages, and fringe benefits; materials for construction; payments to contractors, and so forth. Municipalities also may use gasoline tax money for traffic control devices and signs, and debt service on street bonds. They may not use it for street lighting, on- or off-street parking, traffic police, or thoroughfare planning.

https://connect.ncdot.gov/municipalities/State-Street-Aid/pages/default.aspx

Recreational Trails Program: The Recreational Trails Program (RTP) is a grant program funded by Congress with money from the federal gas taxes paid on fuel used by off-highway vehicles. This program's intent is to meet the trail and trail-related recreational needs identified by the Statewide Comprehensive Outdoor Recreation Plan.

https://trails.nc.gov/trail-grants/apply-grant

North Carolina Parks and Recreation Trust Fund (PARTF): The fund was established in 1994 by the North Carolina General Assembly and is administered by the Parks and Recreation Authority. Through this program, several million dollars each year are available to local governments to fund the acquisition, development and renovation of recreational areas. PARTF funds are allocated through the North Carolina Trails Program to help fund beach accesses, state trail systems, and local trail construction efforts. The projects in this plan that create connections to parks are a good match for PARTF funds.

https://www.ncparks.gov/more-about-us/parks-recreation-trust-fund/parks-and-recreation-trust-fund

North Carolina Health & Wellness Trust Fund: The NC Health and Wellness Trust Fund was created by the General Assembly as one of three entities to invest North Carolina's portion of the Tobacco Master Settlement Agreement. Fit Together, a partnership of the NC Health and Wellness Trust Fund (HWTF) and Blue Cross and Blue Shield of North Carolina (BCBSNC) established the Fit Community designation and grant program to recognize and reward North Carolina communities' efforts to support physical activity and healthy eating initiatives, as well as tobacco-free school environments.

http://www.hwtfc.org/

Fixing America's Surface Transportation (FAST) Act: Passed in 2015, the FAST Act provides long-term funding certainty for surface transportation infrastructure planning and investment. Municipalities can submit projects for Surface Transportation Block Grant (STBG) funding, including roadways, transit, bike facilities, pedestrian facilities, truck parking areas, and intelligent transportation systems (ITS) improvements. Eligible projects for Transportation Alternatives (TA) funding include pedestrian and bicycle facilities, recreational trails, and Safe Routes to School projects. Planning studies can be funded through the Metropolitan Planning program. Due to state restrictions, the full 20% match required on these funds must be borne by the municipality. Canton and Haywood County should work through the French Broad River MPO and NCDOT to develop strategies to help the state utilize these funds.

https://www.transportation.gov/fastact/

North Carolina Highway Safety Improvement Program (HSIP): The purpose of the North Carolina HSIP is to provide a continuous and systematic process that identifies, reviews, and addresses specific traffic safety concerns throughout the state. The program is structured in several distinct phases:

- A system of safety warrants is developed to identify locations that are possibly deficient;
- Locations that meet warrant criteria are categorized as potentially hazardous (PH) locations;
- Detailed crash analyses are performed on the PH locations with the more severe and correctable crash patterns;
- The Regional Traffic Engineering staff performs engineering field investigations, and utilizes Cost/Benefit studies and other tools to develop safety recommendations;
- Depending on the cost and nature of the countermeasures, the investigations may result in requesting Division maintenance forces to make adjustments or repairs, developing Spot Safety projects, developing Hazard Elimination projects, making adjustments to current TIP project plans or utilizing other funding sources for countermeasures;
- Selected projects are evaluated to determine the effectiveness of countermeasures.

The ultimate goal of the HSIP is to reduce the number of traffic crashes, injuries and fatalities by reducing the potential for and severity of these incidents.

https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx

Exhibit 9-3: Implementation Matrix

Action	Lead Agency *(Partners)*	Timetable	Cost
Adopt the Canton Bicycle & Pedestrian Plan The Town of Canton should kick-start its long-range multimodal goals by adopting this plan. Canton should also demonstrate support for County-wide and regional projects.	Town of Canton.	Immediately	--
Build a Regional Bicycle & Pedestrian Task Force A diverse group of advocates (including members of the Steering Committee) can work together to expedite implementation of projects and make sure that no opportunity is overlooked. Canton should consider enlisting a volunteer Bicycle & Pedestrian Coordinator or staff member to organize meetings in an effort to continue a dialogue about multimodal transportation in the region and share successes and opportunities.	Towns of Canton, Clyde, Waynesville, Maggie Valley, and Lake Junaluska; *Canton Bicycle & Pedestrian Plan Steering Committee Members, French Broad River MPO, Haywood County Schools, Haywood Greenways Coalition, Health Advocates, Blue Ridge Bicycle Club.*	Form Immediately (2019-2020); Continue to meet on a regular basis (quarterly or biannually)	-- *(will require staff or volunteer time for meetings)*
Collaborate on Bicycle Performance Measures & Share Results Between Agencies It's important to keep track of growth in the region as more infrastructure is planned and built. The Town of Canton can support consultants, agencies, and NCDOT in any effort to count bicycle and/or pedestrian traffic. Canton may even begin doing so biannually (through volunteers) at key locations to offer broader data collection and analysis projects.	Town of Canton; *French Broad River MPO, Haywood County (Health Department, Parks & Recreation, TDA, Transit), Blue Ridge Bicycle Club.*	Ongoing; Metrics should be measured yearly or every two years *(see Exhibit 9-2)*	$
Complete "Bicycle-Friendly Community" Applications and Support Local Businesses To Do So After implementing some of the bicycle projects in this Plan (even some short-term, low cost projects, like new sharrows and bike racks), the Town of Canton should apply for this designation from the League of American Bicyclists. Though not likely to be awarded, the survey and assessment results will offer concrete and supportive feedback that will help the Town to better plan for prioritization and implementation of the projects in this Plan.	Town of Canton; *French Broad River MPO, Haywood County, Businesses, Haywood Community College, Citizen Volunteers.*	Short-term (2020-2022)	-- *(will require time to fill out 42-page application)*

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Align with NCDOT's Roadway Resurfacing Schedule and STIP Prioritization Process The Town of Canton should fully participate in all NCDOT STIP prioritization meetings, French Broad River MPO and French Broad River MPO TCC meetings, and any other regional corridor planning efforts to make sure Town officials and residents are aware of NCDOT's roadway resurfacing plans in the area. Canton should advocate for bicycle and pedestrian infrastructure on all NCDOT projects, especially those that align with projects in this Plan.	French Broad River MPO, NCDOT; *Town of Canton, Haywood County.*	Ongoing	-----
Conduct a Comprehensive Sidewalk Conditions Survey & ADA Assessment While this Plan highlights gaps in the sidewalk system and lists specific areas for improvement, the Town can create a detailed map of all existing sidewalk infrastructure that assesses in detail their overall condition (ADA compliance, minimum width, etc.), resulting in a schedule of repair and replacement that can be integrated into the Town's capital improvement plan.	Town of Canton.	Short-term (2020)	$
Create "Slow Zones" The Town should lower the speed limit along roadway corridors with high bicycle and/or pedestrian traffic, using count data to prioritize specific areas and rationalize the action. Develop metrics that would determine where to lower the speed limit and enforce those limits.	Town of Canton; *NCDOT, Safe Routes to School, neighborhood associations.*	Medium-term (2022) to develop metrics; Ongoing review of data for future speed limit reductions; Ongoing enforcement	$
Support Research into the Economic Impact of Bicycling in WNC One of the best motivators to induce spending on bicycle infrastructure is to demonstrate its economic benefit to the community. Canton should support all regional work on surveys and statistical analysis to assess the current and possible impact of bicycling in the region. This could influence tourism outreach and economic development approaches.	French Broad River MPO, NCDOT; *Haywood County (TDA), Haywood Chamber of Commerce (and Economic Development Council), Town of Canton, Haywood Community College.*	Ongoing	$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Develop a Regional Bicycle Route Map The Haywood County Bike Plan, Blue Ridge Bike Plan, and public input from this plan all recommend printing up-to-date route maps for the area. Canton can initiate the effort by organizing a meeting of supportive agencies to discuss funding.	Haywood County, NCDOT; *French Broad River MPO, Town of Canton, Town of Clyde, Town of Waynesville, Town of Maggie Valley.*	2020-2022	$$
Support Roadway Safety Research in WNC Bicycling in the mountains can be dangerous, so the Town of Canton should work with NCDOT, French Broad River MPO, and the local colleges on research for targeted and specific health and safety improvements related to roadway safety of bicyclists and pedestrians.	French Broad River MPO, NCDOT; *Haywood County, Town of Canton, Haywood Community College.*	Ongoing	$$
Develop a Supportive Education & Enforcement Program The Town should catalog the tools listed in Chapter 7, identifying programs that would be successful in Canton and allocating funding to access and incorporate them on a regular basis.	Town of Canton; *Haywood County (Schools, Health & Human Services), Canton Police Department, Canton Fire Department.*	Ongoing	$
Allocate Town Budget Appropriations for Both Local & Regional Multiuse Trail Projects This amount should be substantial enough to support a regional trail fundraising effort on an annual basis and allocated for local matches on NCDOT "betterment" facilities, such as the proposed 10' multiuse path from Chestnut Mountain Road to Wiggins Road along Smokey Park Highway (STIP# U-6048).	Town of Canton.	FY 2020-2021; Ongoing annually	$$
Support the Haywood Greenways Coalition The regional coalition is prepared to develop a comprehensive greenway map for the county region and the Town of Canton should be a voice of support and a committed presence at all meetings. This effort will be integral to developing the Pigeon River Greenway and other broader regional connections.	Towns of Canton, Clyde, Waynesville, Maggie Valley, and Lake Junaluska, Haywood County; *Haywood Waterways Association, Haywood County TDA, Haywood County Parks & Recreation, Blue Ridge Bicycle Club, NCDOT, Friends of Beaverdam Creek Greenway, Friends of Pigeon River Greenway.*	Ongoing	-----

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Adopt a Vision Zero and Complete Streets Policy Canton should explore adopting a local Vision Zero and/or Complete Streets policy, which would help facilitate taking decisive action on lowering speed limits, and make decisions about bicycle-friendly and pedestrian oriented language in local policy documents. These policies should be continually reviewed and revised in accordance with State and Federal law and best practices.	Town of Canton; *NCDOT.*	Short-term (2020); Ongoing Review (every 2-4 years)	$
Amend the Town of Canton Code of Ordinances Make sure to include language about minimum sidewalk width (5' or wider) and ensuring ADA compliance on all new Town sidewalks. Clarify the Towns' procedure for sidewalk maintenance; remove language dictating that cyclists must use an adjacent trail rather than the roadway and that cyclists must have a bell on their bicycle; align current bicycle regulations with NC law; and explore development standards for sidewalk construction. For additional details, see recommendations and their impetus in Chapter 4.	Town of Canton	Short-term (2020).	-----
Support STIP Projects EB-5945 and U-6048 These projects could add sidewalks along Champion Drive and a multiuse path (sidepath) along Smoky Park Highway from Canton to the Buncombe County line. Both corridors could be key to the regional multimodal network. Canton should vocalize support for bike/ped infrastructure and dedicate funding for a required local match. Including a multiuse trail along Smoky Park in NCDOT's roadway widening project will be much cheaper than developing a trail separately.	Town of Canton; *NCDOT, French Broad River MPO, Haywood County, Haywood Greenways Coalition.*	Immediately (2019-2020).	$$
Rethink Downtown Spaces The Town should work strategically to plan pop-up (temporary) placemaking events in underutilized spaces downtown, developing long-term plans for infill development, and partner with food truck vendors to hold events and schedule regular times and locations.	Town of Canton.	Short-term (2020, ongoing).	$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Paint "Sharrows" in Canton Canton can use this Plan to determine which roads should be prioritized for shared lane markings (sharrows) and develop a prioritized implementation schedule. Sharrows may not save lives, but they demonstrate a Town's support for cycling in the community and help bring awareness about sharing the roadways. This can be a relatively easy and cost-effective way to show progress. See Projects 7, 10, 23, 29, 30, 35, 56	Town of Canton; NCDOT.	Immediately (2019, ongoing).	$
Fund Bicycle Infrastructure Downtown Canton should work with Haywood County and the French Broad River MPO to allocate local funding for prioritized bicycle infrastructure in the downtown area, including bike lanes on municipal streets. Canton can lead the way and serve as an example for small town bicycling. A town- or county-wide bond referendum is an option for continued funding. Canton shoud work with Haywood County and philanthropic agencies to invest in funding for these minor bicycle improvements at all public parks, the rec center, pool, library, and town administration offices. Canton should also support Haywood County Transit planning efforts by helping to fund bike racks at all future bus stop locations in town. The Canton logo is ideal for incorporation into a custom bicycle rack, using the "C" and gear motif to great effect.	Town of Canton, Haywood County; *French Broad River MPO, business owners.*	Fiscal Year 2020-2021; (target: one bike rack per year minimum and one fix-it station per five years minimum); Ongoing budget line item.	$-$$
Plan Ahead for a Complete Sidewalk Network The Town of Canton should develop a blueprint for completing its sidewalk network: striving to build sidewalks on *both* sides of as many public streets as possible over the next 20 years.	Town of Canton; *NCDOT.*	Long-term (2026 and beyond)	$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Initiate a Bicycle Parking Application Program The Town should create a streamlined process to apply for bike parking in the public right-of-way (with standard options for both on-the-sidewalk inverted u-racks and in-the-parking-lane bike corrals), with up-to-date design standards for both types. The Town should also provide funding for those applications that meet the highest demand, with a specific number of racks to fund every year.	Town of Canton; *property owners.*	Immediately (2019 or 2020).	------
Support Haywood County Transit Canton should demonstrate support for Haywood County's plan for a fixed-route bus system in the region. The Town should keep involved in the planning process and make sure that all bus stops will have access to a connected sidewalk system with ADA accessibility. The Town should coordinate with local property owners along the fixed route and host several public meetings to make sure that the bus system meets the needs of residents.	Town of Canton, Haywood County; *business owners.*	Immediately (2019).	-----
Recruit & Support Local Bicycle & Foot Races The Town of Canton should proactively recruit established bicycling and foot race events to use Canton as a host and continue to support local events, like the Bethel Half Marathon and 5K and the Haywood County Rescue Squad Heart Smart 5K. Canton should develop a bicycle race event with the Blue Ridge Bicycle Club to demonstrate support for the cycling community, raise awareness, and promote the area.	Town of Canton; *Blue Ridge Bicycle Club, Haywood County Rescue Squad, Town of Clyde.*	Ongoing (seek to organize a bicycle event/race by 2022)	$
Organize an Open Streets Event Canton should organize an Open Streets event, where the aim is to allow nonmotorized transportation to enjoy full use of the downtown core. Vehicular traffic can be rerouted effectively to allow Park Street, Main Street, or Penland Street to be the epicenter of the event. Asheville and Waynesville are good examples of successful events, typically all day on a Sunday in spring or fall.	Town of Canton; *French Broad River MPO, Haywood County Chamber of Commerce, Haywood County TDA, Blue Ridge Bicycle Club, AARP, Haywood County Schools, Safe Routes to School.*	Begin Planning Immediately for a 2020 event; Ongoing on an annual basis	$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Develop & Implement Tactical Urbanism Projects The Town of Canton should list key intersections and corridors (reflective of the goals of this plan) for short-term, low-cost, and scaleable bicycle and pedestrian projects. These can demonstrate the feasibility of permanent improvements to elected officials and NCDOT. The Town can work with the Blue Ridge Bicycle Club volunteers to host design charettes and get residents engaged, then install small, temporary projects (protected bike lanes, bulbouts, mid-block crossings, street trees, etc.) that could become permanent if successful. The City of Asheville recently followed this process for improvements along Coxe Avenue downtown and could offer input and general guidance.	Town of Canton, Blue Ridge Bicycle Club; *French Broad River MPO, NCDOT, AARP, Haywood County, Neighborhood Associations.*	Short-term (2020); Ongoing on an annual basis (i.e. one new project per year)	$
Project #1 - Reed Street Bike Lanes Since this project scored the most points for prioritization and it is relatively simple (a short, straight roadway segment without topography challenges), the Town of Canton should work with NCDOT to fund this project for the next STIP prioritization phase. The Town should also consider the alternative of converting Murphy Boulevard into a designated bike/ped facility, with appropriate markings and signage.	Town of Canton, NCDOT; *Canton Middle School.*	Reed Street Widening: Medium-Term (2022-2026) Murphy Blvd Alt.: Short-term (2020-2022)	$$
Project #2 & #3 - Sorrells Street Improvements Sorrells Street is a key segment in Canton's roadway network and should be prioritized. The Town of Canton can work immediately to identify opportunities to fund the sidewalk and multiuse path as a single construction project along Town-owned property, while seeking funding for an overlook on the river.	Town of Canton; *NCDOT, Haywood Waterways Association, Evergreen Packaging.*	Short-term (2020-2022)	$
Pisgah High School Improvements The Town of Canton should convene a meeting between NCDOT, High School staf and administration, Safe Routes to School, and adjacent property owners to discuss Projects 4, 13, 18, and 19, which all involve the area surrounding Pisgah High School (Substation Road, Pisgah School Road, Pigeon Street).	Town of Canton, Pisgah High School (staff, admin, students, and parents), Haywood County Schools; *Safe Routes to School, NCDOT, Property Owners.*	Immediate (2019-2020)	-----

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #5 - Penland Street Bike Lanes The Town of Canton can demonstrate its support for safe students, a healthy community, and active transportation by initiating this project, which would only include striping the roadway to include bike lanes. Though a relatively simple project, NCDOT coordination is essential.	Town of Canton, NCDOT, Canton Middle School; *Haywood County Parks & Recreation, Safe Routes to School.*	Short-term (2020-2022)	$$
Project #6 - Park Street Bike Lane The Town of Canton should organize a temporary demonstration project along Park Street (tactical urbanism) to highlight adoption and implementation of the Bicycle & Pedestrian Plan. A long-term, permanent construction project should follow.	Town of Canton, NCDOT; *Blue Ridge Bicycle Club, French Broad River MPO.*	Temporary Demonstration: Short-term (2019-2020); Permanent Project: Medium-Term (2020-2026)	Demonstration: $ Permanent Project: $$
Project #8 - Penland Street Sidewalk The Town of Canton should coordinate with property owners and tenants to develop a preliminary roadway design within the existing right-of-way.	Town of Canton, *NCDOT.*	Medium-Term (2022-2024)	$$
Project #9, 10, 27 Old Clyde Road Improvements The Town of Canton should partner with NCDOT to make sure this Plan's vision for Old Clyde Road (Project 9, 10) comes to fruition. Prioritize bikeable shoulders west of Greenberry Street in the repaving schedule, and include a sidewalk in the STIP prioritization list. The Town can include Old Clyde Road in its sharrows painting list.	Town of Canton, NCDOT.	Medium-Term	$$$
Project #11, 12 - Church Street Improvements The Town of Canton can begin a dialogue with NCDOT immediately to determine feasibility for high-visibility crosswalks and signalization. Funding may come from NCDOT's Highway Safety Improvement Program (HSIP). This would also prove to be an opportunity to highlight adoption and implementation of the Bicycle & Pedestrian Plan.	Town of Canton, NCDOT.	Short-term (2020-2022)	$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #13 - Old Pisgah Drive Crosswalk The Town of Canton should immediately paint a crosswalk with ADA curb ramps here. This project can kickoff the implementation process and demonstrate to the community and NCDOT that the Town is serious about successful realization of the projects in this Plan.	Town of Canton.	Immediate (2019)	$
Project #15 - Champion Drive Sidewalks The Town of Canton should partner with NCDOT to make sure that STIP project EB-5945 supports the suggested improvements in this Plan. Additional lengths (north of Thickety Rd and south of N. Canton Rd) should be included in future roadway projects.	NCDOT; *Town of Canton.*	Immediate (2019)	$$$
Project #16 - Academy Street Crosswalks The Town of Canton can immediately begin planning and design on this project's speed tables and crosswalks, with input from church leaders, the Library, and residents. The Town should make sure to speak with emergency services to identify challenges and survey residents' concerns about speeding. The Town should also perform a traffic study to determine if speeding is an issue and the ideal placement of speed tables and signage for crossings.	Town of Canton.	Immediate (2019-2020)	$
Project #17, 32 - Pisgah Drive Bike/Ped Improvements The Town of Canton should organize a design charette and public workshop to discuss recommended improvements to Pisgah Drive.	Town of Canton; NCDOT; *Canton High School, Residents.*	Design: Immediate (2019-2020); Construction: Medium term (2022-2026)	$$
Project #18 - Asheville Highway Bike/Ped Improvements The Town of Canton should partner with NCDOT to make sure this Plan's vision for Asheville Highway comes to fruition. Prioritize bikeable shoulders east of Chestnut Mountain Rd in the repaving schedule, and include protected bike lane, sidewalks, and pedestrian refuge islands in the STIP.	NCDOT; *Town of Canton.*	Short-term (2020-2024)	$$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #21 - The Pigeon River Greenway The Town of Canton should initiate planning efforts (the Haywood Greenways Coalition and Blue Ridge Bicycle Club are two key partners to help lead the initiative) to design a feasibility study for this project and establish a fundraising apparatus (perhaps a "Friends of the Pigeon River Greenway" group). A long-term funding approach could work to break the project into manageable phases and eventually connect this project to Waynesville's Richland Creek Greenway system and Lake Junaluska. Canton can lead the way through vocal advocacy, financial commitments, and working with Pinnacle Church, Evergreen Packaging, and local landowners on property easements and constructing a public park at the end of Fiberville Street (that could be converted to a trailhead in the future).	NCDOT, Town of Canton, Town of Clyde, Haywood County (Parks & Recreation, TDA, Schools); *French Broad River MPO, Property Owners (along the Pigeon River, including Evergreen Packaging), Blue Ridge Bicycle Club, Haywood Greenways Coalition, Haywood Waterways Association.*	Planning (2019-2022); Fundraising (2020-2030); Property Acquisition (2030); Construction (2032-2037)	$$$
Project #22 - Champion Drive Bike Lanes The Town of Canton should advocate with NCDOT for a "road diet" along Champion Drive to accommodate bike lanes. This will require considerable dialogue, an extensive design process, and funding. The Town should request or commission a traffic study (or a broader Corridor Study) to assess the impact of lane reconfiguration on congestion and access.	NCDOT, Town of Canton; *French Broad River MPO.*	Long-Term (2026 or later)	$$$
Project #24, 25 - Blackwell Drive Sidewalks & Bike Lanes The Town of Canton should advocate with NCDOT for a "road diet" along Blackwell Drive to accommodate bike lanes and urge inclusion of sidewalks in the STIP process. This will require considerable dialogue, an extensive design process, and funding. The Town should request or commission a traffic study (or a broader Corridor Study) to assess the impact of lane reconfiguration on congestion and access.	NCDOT, Town of Canton; *French Broad River MPO.*	Long-Term (2026 or later)	$$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #26, 33 - New Clyde Highway Sidewalks & Bike Lanes The Town of Canton should coordinate with NCDOT to align the Town's vision for the corridor with NCDOT's imperatives. New Clyde Highway will need extensive planning and engineering design work, but the Town can advocate for funding bike lanes and sidewalks through the STIP process. The Town should also explore the option of funding mid-block crossings as separate projects, where feasible.	NCDOT, Town of Canton.	Long-term (2026 or later)	$$$
Project #28 - Main/Park/Reed Roundabout The Town of Canton can begin the process of advocating for this project and could commission some planning-level designs and renderings options to build public support (and assuage concerns about roundabouts). The Town should then approach French Broad River MPO about funding options and NCDOT coordination.	Town of Canton; *French Broad River MPO, NCDOT.*	Long-term (2026 or later)	$$$
Project #31 - Pigeon Street Path The Town of Canton can begin to explore options for greenway spurs that link residential areas to recreational opportunities, including this project. This project is low-key and would serve the residents in the neighborhood as well as the students at the Middle School and Hig School, so would not attract tourists in search of a recreational trail. However, there is value in the Town investing in their children and residents. This is a good opportunity for the Town to use vacant land and turn it into valuable park space.	Town of Canton; *Haywood County (Schools, Parks & Recreation).*	Medium-term (2022-2024)	$$
Project #34 - Newfound Street Crosswalks The Town of Canton can begin to improve this corridor immediately with some cans of paint, installing the speed table at a later date. This would demonstrate support for residents living on this priority transportation corridor without major changes to the roadway.	Town of Canton.	Immediate (2019-2020)	$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #35 - Greenberry Street Sidewalks & Bike Lanes The Town of Canton can phase this project, starting with sharrows, then constructing sidewalks and crosswalks, with a bike lane as a long-term goal.	Town of Canton; *NCDOT.*	Sharrows: Immediate (2020-2022) Sidewalks/Crosswalks: Short-term (2022-2024) Bike Lanes: Long-term (2026 or later)	$$
Project #36 - Park Street Sidewalks The Town of Canton can phase this project, starting with sharrows, then constructing sidewalks and crosswalks, with a bike lane as a long-term goal.	Town of Canton, NCDOT; *Utilities*	Immediate (2020-2022)	$
Project #37 - Park Street Midblock Crossing The Town of Canton should proceed immediately to work with NCDOT and determine feasibility for this improvement. This could be part of a "tactical urbanism" approach for the street, along with a temporary bike lane (Project #6) and other safety improvements.	Town of Canton, NCDOT; *Canton Area Historical Museum, First Citizens Bank.*	Immediate (2020-2022)	$
Project #38 - Library Intersection Improvements The Town of Canton should immediately begin allocating funding for this project, which should be a quick, low-cost improvement.	Town of Canton; *Haywood Canton library.*	Immediate (2020)	$
Project #39 - Pigeon River Bridge The Town of Canton should begin a planning effort and discussion with Haywood County and NCDOT to explore feasibility of this project. Depending on the outcome of the discussion, a fundraising apparatus can be formed to acquire public donations and pursue grants.	Town of Canton; *Haywood County (Schools, Parks & Recreation, TDA), NCDOT.*	Long-term (2026 or later)	$$$
Project #40 - Crossroad Hill Road Sidewalk The Town of Canton can coordinate this project with NCDOT's sidewalk improvements to Champion Drive and discuss connectivity options with Ingles Markets to ensure that this sidewalk serves the businesses in the area. The Town should include residential property owners in all discussions to make sure to address ROW concerns.	Town of Canton; *NCDOT, Ingles Markets.*	Medium-term (2024-2016)	$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #41 - Williams Street & Smathers Street Intersection Improvement The Town of Canton must work with Wells Funeral Home to determine the best alignment for this intersection (based on parking configuration) and include plans for sidewalks along these streets (Project #56).	Town of Canton, Wells Funeral Home.	Immediate (2020-2022)	$$
Project #42 - England Road Walking Trail The Town of Canton should spearhead planning for this project by initiating dialogue with Food Lion, the Post Office, and adjacent property owners, while moving forward with developing trail plans for the Town-owned parcel as a starting point.	Town of Canton; *Food Lion, U.S. Post Office, Property Owners, Haywood County Parks & Recreation, Canton Middle School.*	Medium-term (2024-2026)	$$
Project #43 - Academy Street Sidewalk The Town of Canton must consult with adjacent business owners about the reallocation of on-street parking, and make sure to budget for street trees and other amenities (stormwater remediation, benches, etc.)	Town of Canton.	Immediate (2020-2022)	$
Project #44 - Rhoda Street Sidewalk The Town of Canton should facilitate coordination with NCDOT and Meadowbrook Elementary School on planning for this project, while identifying funding allocation and property owner dialogue opportunities.	Town of Canton, NCDOT; *Meadowbrook Elementary School.*	Medium-term (2024-2026)	$$
Project #45 - Pisgah Drive Crosswalk The Town of Canton should meet with NCDOT about steps to take to implement this project, standards for high-visibility crosswalks (and RRFBs), and preferred location.	Town of Canton, NCDOT.	Short-term (2020-2022)	$
Project #46 - Beaverdam Road & Thompson Street Sidewalk The Town of Canton can work with NCDOT to explore spot improvements along this corridor and allocate funding for this project, with support from North Canton Elementary School. Consider hosting open house meetings during planning and design phases at the school.	Town of Canton; *NCDOT, North Canton Elementary School.*	Medium-term (2024-2026)	$$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #47 - Allen Farm Road & Meadowbrook Drive Sidewalks The Town of Canton should continue discussions with NCDOT and Meadowbrook Elementary School, with input from nearby residents, to determine phasing and funding options for this project.	Town of Canton, NCDOT; *Meadowbrook Elementary School, Mountain View housing development.*	Long-term (2026 or later)	$$
Project #48, 61, 63 - Beaverdam Creek Greenway The Town of Canton should work with greenway supporters and multimodal transportation advocates in the region to explore options for alignment and funding of this project, focusing initial efforts on Phase I, but planning for the complete greenway (Phase II or Phase III may be more feasible in the short-term). The Town should begin to acquire property easements from supportive landowners and leverage that support to communicate the benefits to other property owners. A 501(c)3 organization should be founded to raise awareness and funs for this project: Friends of the Beaverdam Creek Greenway.	Town of Canton; *Haywood County (TDA, Parks & Recreation, Schools), French Broad River MPO.*	Coordination & Fundraising: Short-term (2020-2024); Planning & Design: Medium-term (2024-2026); Construction: Long-term (2026 or later)	$$$
Project #49 - North Main Street & Trammel Avenue Intersection Improvements The Town of Canton can immediately begin design for this project and dedicate funding for construction. While not a priority project, it may be eligible for NCDOT Highway Safety Improvement Project (HSIP) funding.	Town of Canton; *NCDOT.*	Medium- to Long-Term (2024 or later)	$$
Project #50 - Pigeon River Walking Trail Improvements The Town of Canton should partner with Haywood County Parks & Recreation to develop a short-term plan for low-cost improvements (trees, signs) to the walking trail, while initiating a planning and funding mechanism for long-term projects (grade improvements, amphitheater).	Town of Canton, Haywood County.	Short-term (2020-2024); Long-term (2024 and beyond)	$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #51 - Old River Road Bike Lanes NCDOT should begin to plan for funding of this project in the STIP, with support from the Town of Canton, Haywood County, and the French Broad River MPO. Canton leaders should make a concerted effort to advocate for this project through the MPO for long-term feasibility as a resurfacing project in NCDOT's regular schedule.	NCDOT; *Town of Canton, Blue Ridge Bicycle Club, Haywood County, French Broad River MPO.*	Long-term (2026 or later)	$$$
Project #52 - Pisgah Drive Bike Lanes The Town of Canton should advocate with the French Broad River MPO for NCDOT funding for this project's long-term feasibility as a resurfacing project in NCDOT's regular schedule.	NCDOT; *Town of Canton, French Broad River MPO, Blue Ridge Bicycle Club, Haywood County.*	Long-term (2026 or later)	$$$
Project #53 - Nyal Drive Connection The Town of Canton should initiate a discussion with NCDOT for making good use of this ROW for a short roadway connection or pedestrian avenue. The Town can commit to funding a percentage of the total cost, or consider acquiring adjacent land to streamline project success, and should make sure that residents and property owners understand the benefits.	NCDOT, Town of Canton.	Long-term (2026 or later)	$$
Project #54 - New Clyde Highway Sidewalk [South] The Town of Canton should immediately advocate for this NCDOT STIP project and additional safety elements (mid-block crossings, street trees, etc.)	NCDOT; *Town of Canton, Haywood County.*	Planning & Design: Medium-Term (2022-2026); Construction: Long-term (2026 or later)	$$
Project #55 - North Canton Road Sidewalk The Town of Canton should advocate for this project as vital to the local community, even though it is outside the municipal limits, with French Broad River MPO and NCDOT. The Town should partner with Haywood County on local funding appropriations, vehicular and pedestrian traffic counts, and resident/commuter surveys.	NCDOT; *Town of Canton, French Broad River MPO, Haywood County.*	Long-term (2026 or later)	$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #57 - Williams & Smathers Sidewalk The Town of Canton can quickly begin conversations with residents and Wells Funeral Home to develop a plan and design for sidewalks along this corridor, establishing widths and alignment, and possible reconfiguration of the funeral home parking lot. The Town should make sure that these plans align with Project #40.	Town of Canton; Wells Funeral Home.	Long-term (2026 or later)	$$
Project #58 - Hillcrest Street Connection The Town of Canton should work with residents in this neighborhood to implement this project, using Town funds to construct this short segent of street.	Town of Canton.	Medium- to Long-Term (2024 or later)	$
Project #59 - North Canton Elementary School Parking Lot The Town of Canton should facilitate a conversation with elementary school staff, teachers, parents, and students about safety and accessibility along Thompson Street, presenting a preliminary plan for a new parking lot and safe and visible crossings. The school and Town can partner of funding.	Town of Canton, North Canton Elementary School; *Haywood County Schools.*	Medium-term (2024-2026)	$
Project #60 - Holtzclaw Sidewalk The Town of Canton can begin discussing these improvements with the Reynolds High School Community Foundation, Haywood County Parks & Recreation, and French Broad River MPO, identifying funding sources and a timeframe for construction. Planning for the Reynolds Community Center should incorporate plans for sidewalk access along Holtzclaw.	Town of Canton; *RHS Community Foundation, Haywood County (Parks & Rec), French Broad River MPO.*	Long-term (2026 or later)	$$
Project #62 - Newfound Sidewalk & Sidepath The Town of Canton should advocate with the MPO for NCDOT strategic prioritization of this project, and offer a local funding match for its construction. This project could leverage financing from Beaverdam Greenway fundraising efforts, as they directly connect.	Town of Canton, NCDOT; *French Broad River MPO.*	Long-term (2026 or later)	$$$

Exhibit 9-3: Implementation Matrix, Cont'd

Action	Lead Agency *(Partners)*	Timetable	Cost
Project #64 - Locust Street Sidewalk The Town of Canton could capitalize on NCDOT roundabout construction at the Locust/Pisgah Drive intersection and allocate funding for improved pedestrian access to the library and Academy Street.	Town of Canton; *NCDOT, Haywood County library.*	Long-term (2026 or later)	$$
Project #65 - Rough Creek Watershed Trail Improvements The Town of Canton should advocate with the RPO for state funding for this project, while organizing a fundraising/planning/advocacy effort with local and regional supporters. Haywood County and Canton could partner on an RFP for wayfinding signage and parking improvements. Canton should spearhead these efforts and serve as the primary champion for the project, supporting branding and marketing campaigns.	Town of Canton, Haywood County, Haywood Waterways Association; *Buncombe County, French Broad River MPO, Blue Ridge Bicycle Club.*	Medium-term (2024-2026)	$$
Project #66 - Medford Street Sidewalks The Town of Canton can immediately begin work on this short segment, with minimal funding and planning.	Town of Canton.	Immediate (2020-2022)	$
Project #67 - Dutch Cove Creek Walking Trail The Town of Canton should quickly get to work assessing the feasibility of this project and enlisting the help of volunteer support and consultants. The Town could develop a long-term phasing plan to turn the landfill into a park and include a trailhead, parking, and other amenities. It might be a good idea to coordinate with work on Project #43 (England Road Walking Trail); pursue grant funding from Parks & Recreation or health advocacy groups and initiate a joint marketing scheme.	Town of Canton; *Haywood County (Parks & Recreation, Health & Human Services); Haywood Waterways Association.*	Planning: Short-term (2022-2024); Fundraising: Medium-term (2024-2026); Design & Construction: Long-term (2026 or later)	$
Project #68 - Sports Complex Mountain Bike Track The Town of Canton and International Paper Company should begin a working group to plan for further development of the International Sports Complex, with a long-term vision for connectivity to the proposed Beaverdam Creek Greenway. A mountain bike track (as well as other additions like skateboard park and playground) could be profitable with effective marketing.	Town of Canton, International Paper Company; *Blue Ridge Bicycle Club, Haywood County (TDA, Parks & Recreation), Friends of the Beaverdam Creek Greenway.*	Long-term (2026 or later)	$$

Non-Profit & Private Funding

Another method of funding sidewalks and greenways is to partner with public agencies, private companies, hospitals or hospital foundations, and not-for-profit organizations. Most private funding sources offer limited grants and public-private partnerships engender a spirit of cooperation, civic pride and community participation.

The key to the involvement of non-profit and private partners is to make a compelling argument for their participation. Major employers and developers could be identified and provided with a "Benefits of Walking, Bicycling and Greenways" handout for themselves and their employees. Very specific routes that make critical connections to places of business would be targeted for private partners' monetary support following a successful master planning effort.

Potential partners include major employers that are located along or accessible to sidewalks, bicycle routes, or greenways.

Name recognition for corporate partnerships could be accomplished through trailhead signage or interpretive branding along greenway systems - the new Bearwaters Brewing Company location, Bethel Christian Academy, and Evergreen Packaging are all along the river and their owners may be open to sponsorship of events or future greenway connectors or a pedestrian bridge. Additionally, property owners might see the benefit of bringing new additions to the Pigeon River Greenway right up to their backyard (especially if they have development plans in the works) and might be willing to sponsor a segment of that extension or host fundraising opportunities. Often, banks and credit unions are interested in community partnerships and might be open to sponsoring pedestrian improvements near their offices downtown or 5K races in Canton.

Utilities also often make good partners and many trails now share corridors with them. Money raised from providing an easement to utilities can help defray the costs of maintenance. It is important to have legal counsel review the agreement and verify ownership of the subsurface, surface or air rights in order to enter into an agreement.

Volunteer Work

It is expected that many citizens will be excited about the continued development of Canton's bicycling and greenway system. Individual volunteers from the community can be brought together with groups of volunteers from church groups, civic groups, walking/hiking groups, bicycling clubs, scout troops, and environmental groups to work on route and greenway development or downtown walkability improvement projects (tree planting, landscaping, bike lane painting, etc.) on special community work days. Volunteers can also be used for fundraising, maintenance, and programming needs.

Elected Official Responsibilities

Elected officials will be key to implementing the recommendations in Canton's Bicycle & Pedestrian Plan by providing the direct connection between the public, businesses, and staff. Elected officials serve as the leadership that enable staff to do their jobs and to make sure the plan is implemented as approved. There are numerous ways these officials are involved. Elected officials provide support through funding and giving direction for activities that range from addition of bikeways, to maintenance of infrastructure, to education programs carried out by the police or parks and recreation department.

Another key role of elected officials is to make sure the plan implementation results in expected outcomes by reviewing progress each year through a staff report on the plan. This report will promote fiscal responsibility of efforts and benefits from budget and staff time spent. This will result in public accountability and opportunities for elected officials to share the success of implementation efforts in all facets of the plan.

NCDOT Division 14 Responsibilities

NCDOT Division 14 administers those construction projects not administered by the central office in Raleigh and carries the responsibility for operations and maintenance of state-maintained networks within their boundaries. As part of regular roadway maintenance, specific bicycle and pedestrian improvements can be included at a relatively low cost - if the conversation is initiated early in the process.

NCDOT Division staff participate on MPO and RPO committees and provide input into the project prioritization process to help select projects for inclusion in the STIP. NCDOT Division 14 must continue to work with Haywood County and the Town of Cantonto help administer bicycle and pedestrian projects funded with federal and state dollars, including Safe Routes to School projects.

French Broad River MPO Responsibilities

The French Broad River MPO Board is made up of local elected officials and the Technical Coordinating Committee (TCC) is made up of local government staff. Committees meet to discuss regional transportation issues and to prioritize future transportation improvements. Among the MPO responsibilities are holding calls for projects for Surface Transportation Program-Direct Attributable Funds (STP-DA), as well as prioritizing projects for inclusion in the STIP to be implemented with federal and state transportation dollars. French Broad River MPO committees, with support from staff, will have the following direct impact and responsibilities with regards to implementing Canton's Bicycle & Pedestrian Plan recommendations:

- Work through NCDOT's SPOT prioritization process to recommend roadway, bicycle and pedestrian projects for inclusion in the STIP—bicycle and pedestrian improvements not part of a larger roadway project would require a local 20% match and any additional multimodal infrastructure inclusions would require 100% of the cost difference above the standard treatment;
- Work with NCDOT and local government members to ensure recommended bicycle and pedestrian facilities are provided as part of larger roadway widening and interchange projects being implemented in or near Canton;
- Consider Canton's Bicycle & Pedestrian Plan recommendations when working on updates to the Comprehensive Transportation Plan (CTP);

- When MPO transportation planning funds are available for special studies, consider funding feasibility studies and detailed corridor studies for priority projects identified in Canton's Bicycle & Pedestrian Plan. Planning studies require a 20% local match;
- Continue to serve as a transportation planning information center and data collection center with regards to bicycle facilities inventory, bicycle/pedestrian counts, and multimodal plans in the French Broad River MPO region;
- Support education and outreach initiatives to promote more multimodal facilities and policies in the region;
- Provide an opportunity for public input as part of the regional transportation planning process.

Haywood County Responsibilities

Haywood County does not typically construct or maintain roadways. However, the County is involved in transportation planning and implementation in the following ways:

- Provide input to NCDOT Division 14 on road resurfacing needs;
- Representation at MPO and RPO meetings to provide critical input regarding transportation needs for CTPs, SPOT prioritization, and STIP adoption;
- Haywood County can be a local sponsor providing a 20% match to initiate a transportation planning study funded with 80% federal dollars; or a NCDOT project with added multimodal facilities;
- Build and maintain County parks, and continue to plan for, build, and maintain greenways;
- Continue to invest in Haywood County Transit, with improvements to service and reliability. Public transit can support the needs of walkers and bicyclists in Canton by providing a link on a longer trip or an alternative in case of inclement weather. As of 2019, the proposed fixed-route system will enable commuting to Clyde and Waynesville with regular hourly service.

Advocacy Groups & Citizen Responsibilities

Advocacy groups and private citizens can provide their input and communicate the need for bicycle and pedestrian improvements to Canton's elected officials, to NCDOT, and to the French Broad River MPO. In some cases private citizens can do some of the research for a potential future project (e.g. identifying particularly dangerous locations and alerting municipal or NCDOT staff, sketching out bicycle routes, and attending transportation planning public meetings). Often avid cyclists who get involved in bicycle advocacy have a deep knowledge of roads in need of new facilities and can share their expertise with local and regional staff. People who frequently walk and bike in the community know where the problems are and often know just how to fix them.

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Canton Bike/Ped Plan

Appendix

Exhibit 10-1: Project Ranking Metrics and Point Scale

Points	Potential Evaluation Criteria
20	**Proximity to Schools/Churches** 20 points: Within 1/4-mile and along primary route 16 points: Within 1/4-mile and along secondary route 12 points Within 1/2-mile 8 points: Within 3/4-mile 4 point: Within 1-mile
15	**Ease of Implementation** 15 points: Under $20,000 and within existing Right-of-Way 12 points: Under $50,000 and within existing Right-of-Way 9 points Under $100,000 6 points: Under $250,000 3 point: Under $500,000
15	**Proximity to Downtown or Employment Area** 10 points: Within 1/4-mile of Downtown 7 points: Within 1/4-mile of Downtown or Employment Area 5 points Within 1/2-mile of Downtown or Employment Area 3 points: Within 3/4-mile of Downtown or Employment Area 1 point: Within 1-mile of Downtown or Employment Area
15	**Improves Safety** 3 points for every level of safety hierarchy control improvement project achieves over existing facility *(See Safety Chapter)* AND 1 point for every bicycle or pedestrian crash that occurred in the most recent seven year crash history that would likely not have occurred if the project had been in place
10	**Proximity to Parks or Natural Areas** 10 points: Within 1/4-mile and along primary route 7 points: Within 1/4-mile and along secondary route 5 points Within 1/2-mile 3 points: Within 3/4-mile 1 point: Within 1-mile

Exhibit 10-1: Project Ranking Metrics and Point Scale Cont'd

Points	Potential Evaluation Criteria
10	**Fills a gap in the system** 10 points: Project fills gap in existing system along a primary route 7 points: Project fills more than half of a gap in existing primary system 5 points: Project fills gap in system along secondary routes or less than half a gap in the primary system 3 points: Project fills more than half of a gap in existing secondary system 1 point: Project fills less than half a gap in the secondary system
10	**Benefits a Population in Need** *(per Census block groups; categories refer to socio-economic characteristics and include education level, employment, standard of living, disability, and vehicle ownership)* 10 points: Project is in a block group showing need among more than 3 categories 7 points: Project is in a block group showing need among 3 categories 4 points: Project is within a block group showing need among 2 categories 1 points: Project is within block group showing need in 1 category
5	**Improves Access to Food** 10 points: Within 1/4-mile of Grocery Store and along primary route 7 points: Within 1/4-mile of Community Garden or Farmer's Market 5 points Within 1/2-mile of Community Garden, FM, or Grocery Store 3 points: Within 3/4-mile of Community Garden, FM, or Grocery Store 1 point: Within 1-mile of Community Garden, FM, or Grocery Store

NOTE: While not linked to a point system, projects than align with those featured in other plans from the town, community, or region where highlighted as having added benefit.

Exhibit 10-2: Project Ranking Criteria Points

	Project	School or Church (20)	Imple-men-tation (15)	Down-town or Jobs (15)	Safety (15)	Parks or Nature (10)	Gap in the System (10)	Popu-lation in Need (10)	Access to Food (5)	TOTAL Points
1	Reed Street Bike Lanes	20	15	15	10	10	10	4	0	84
2	Sorrells Street Sidewalk	20	15	15	10	10	10	0	1	81
3	Sorrells Street Sidepath	20	15	15	11	10	10	0	5	81
4	Pisgah High School Improvements	20	12	8	15	10	10	5	0	80
5	Penland St Bike Lanes	20	5	12	15	10	10	6	0	78
6	Park Street Bike Lane	20	10	15	12	10	10	0	0	77
7	Main Street & Bridge Street "Sharrows"	18	15	15	2	10	10	5	1	76
8	Penland Street Sidewalk	20	4	15	15	8	10	4	0	76
9	Old Clyde Rd Sidewalk	20	8	15	10	0	10	10	2	75
	Old Clyde Rd "Sharrows"	20	15	15	2	0	10	10	2	74
	Church St Crosswalk	20	15	15	10	0	10	2	0	72
	Church St/Bridge St In-tersection Improvement	20	10	15	10	0	10	2	0	72
	Old Pisgah Dr Crosswalk	0	15	20	2	8	15	10	1	71
	Substation Rd Sidewalk	20	8	8	12	10	10	2	0	70
	Champion Dr Sidewalks	15	5	15	10	0	10	8	5	68
	Academy St Crosswalks	20	15	15	8	0	10	0	0	68
	Pisgah Drive Pedestrian Improvement	18	15	8	10	2	10	2	2	67
	Asheville Highway Sidewalks & Bike Lanes	18	8	10	10	0	10	10	0	66

Exhibit 10-2: Project Ranking Criteria Points, Cont'd

Project	School or Church (20)	Imple-men-tation (15)	Down-town or Jobs (15)	Safety (15)	Parks or Nature (10)	Gap in the System (10)	Popu-lation in Need (10)	Access to Food (5)	TOTAL Points
Pisgah School Road Sidewalk	20	10	6	11	8	6	5	0	66
Old River Rd Sidewalk	20	10	6	11	8	6	5	0	66
Pigeon River Greenway	20	0	8	15	10	10	2	0	65
Champion Dr Bike Lanes Fiberville Rd Sharrows	10	5	15	10	0	10	10	5	65
Locust St Sharrows	20	15	12	2	0	10	6	0	65
Blackwell Dr Sidewalks	10	10	15	10	0	10	4	5	64
Blackwell Dr Bike Lanes	10	10	15	8	0	10	5	5	63
New Clyde Highway Sidewalk (North Side)	5	10	15	10	0	10	8	5	63
Old Clyde Rd Bike Lanes	20	8	5	10	5	10	4	0	62
Main/Park/Reed Street Roundabout	20	5	15	8	8	4	2	0	62
Academy St Sharrows	20	15	15	2	0	5	5	0	62
Pisgah Drive Sharrows	10	15	15	2	6	5	8	0	61
Pigeon Street Path	8	12	5	10	10	10	6	0	62
Pisgah Drive Sidewalks	20	10	5	10	0	10	5	0	60
New Clyde Highway (US 19/23) Bike Lanes	5	5	15	10	0	10	10	5	60
Newfound St Crosswalks	18	15	3	8	0	8	7	0	59`
Greenberry St Sidewalks & Bike Lanes	5	5	13	10	0	10	10	5	58

Exhibit 10-2: Project Ranking Criteria Points, Cont'd

	Project	School or Church (20)	Imple-men-tation (15)	Down-town or Jobs (15)	Safety (15)	Parks or Nature (10)	Gap in the System (10)	Popu-lation in Need (10)	Access to Food (5)	TOTAL Points
	Park Street Sidewalks	4	12	20	10	4	8	0	0	58
	Park Street Midblock Crossing	5	15	15	10	5	8	0	0	58
	Library Intersection	10	15	8	10	8	5	2	0	58
	Pigeon River Bridge	20	4	8	5	10	10	5	0	57
	Crossroad Hill Road Sidewalk	10	2	15	10	0	10	5	5	57
	Williams/Smather Inter-section Improvement	20	15	5	10	0	4	2	0	56
	England Rd Walking Trail	20	10	5	0	10	5	0	5	55
	Academy St Sidewalk	20	15	15	3	0	0	2	0	55
	Rhoda St Sidewalk	20	5	2	8	0	10	10	0	55
	Pisgah Drive Crosswalk	0	8	15	8	5	8	10	0	54
	Beaverdam/Thompson Sidewalk	20	3	5	10	0	10	5	1	54
	Allen Farm Rd & Mead-owbrook Dr Sidewalk	20	5	0	8	0	10	10	0	53
	Beaverdam Greenway, I	10	0	5	10	10	8	8	0	51
	N Main & Trammel Inter-section Improvements	10	10	3	8	0	8	7	5	51
	Pigeon River Walking Trail Improvements	20	5	0	15	10	0	0	0	50
	Old River Rd Bike Lanes	10	10	0	10	0	10	10	0	50

Exhibit 10-2: Project Ranking Criteria Points, Cont'd

Project	School or Church (20)	Imple-men-tation (15)	Down-town or Jobs (15)	Safety (15)	Parks or Nature (10)	Gap in the System (10)	Popu-lation in Need (10)	Access to Food (5)	TOTAL Points
Pisgah Drive Bike Lanes	10	10	0	10	0	10	10	0	50
Nyal Drive Connection	0	5	15	5	0	10	10	5	50
New Clyde Highway Sidewalk (South Side)	5	6	10	8	0	10	5	5	49
N Canton Rd Sidewalk	15	0	8	8	0	5	8	0	49
Newfound Sharrows	10	15	10	2	0	5	5	1	48
Williams St & Smathers Street Sidewalk	20	2	3	10	0	10	2	0	47
Hillcrest St Connection	5	12	0	8	0	10	10	0	45
N Canton Elementary Parking Lot	20	15	0	10	0	0	0	0	45
Holtzclaw Sidewalk	10	4	5	12	2	6	5	0	44
Beaverdam Greenway, II	8	5	0	5	10	8	8	0	44
Newfound Sidewalk	10	8	0	10	0	10	5	1	44
Beaverdam Greenway, III	0	10	0	9	10	10	2	0	41
Locust Street Sidewalk	10	0	8	8	0	10	5	0	41
Rough Creek Watershed Trail Improvements	10	10	0	5	10	0	5	0	40
Medford Street Sidewalk	5	2	15	5	0	10	2	0	39
Dutch Cove Creek Walking Trail	0	8	0	5	10	10	5	0	38
Sports Complex Moun-tain Bike Track	3	15	0	0	10	0	2	0	30

Exhibit 10-3: Roadway Facility Characteristics

Route	Street Name	Surface Width (ft)	Edge Treatment	Shoulder Width (ft)	ROW (ft)	Speed Limit (mph)	Notes
SR-1854	Academy Street	22	Grass	1	30	35	Grass shoulder is walkable; good site distance
SR-1938	Academy Street	30	Concrete Curb	0	60	35	Utility poles in sidewalk, curb ramps not ADA
SR-1942	Adams Street	20	Concrete Curb	0	0	35	Utility poles in east sidewalk; could be 2-way or single lane
SR-1844	Allen Farm Road	16	Grass	0	0	35	Grass shoulder is walkable; adequate ROW for paved shoulder or sidewalk
US-19	Asheville Hwy	35	Concrete Curb or Grass	0	100	45	Topography changes, utility poles, high vehicular speeds
SR-1592	Beaverdam Street	20	Concrete Curb	0	0	35	Topography changes; narrow unmarked lanes
SR-1945	Black Bear Drive	30	Grass	0	0	35	Inadequate pedestrian space; suitable for bicycles
NC-215	Blackwell Drive	52	Concrete Curb	0	60	25	Multiple lanes allows for bicycle passing; grass shoulder not suitable for walking
SR-1643	Bridge Street	24	Concrete Curb	2	60	25	Adequate sidewalk infrastructure; mid-block crossings; safe for cycling
SR-1589	Canton Road	18	Grass	3	0	35	Too many constraints for safe walking (not enough room); low traffic volumes/ speeds allow for comfortable bicycling

Exhibit 10-3: Roadway Facility Characteristics, Cont'd

Route	Street Name	Surface Width (ft)	Edge Treatment	Shoulder Width (ft)	ROW (ft)	Speed Limit (mph)	Notes
NC-215	Champion Drive	46-64	Concrete Curb	0	50-90	25-40	Speed/volume not comfortable for cycling; sidewalk lacks buffer and safe crossings
SR-1582	Champion Drive	24-36	Grass	6	0	35	Grass shoulder not consistent enough for walking; guardrail prohibits walking; speed/volume unsafe for bicycling
US-19	Church Street	28-38	Concrete Curb	0	40-100	35	Utility poles on one side; no buffer; unsafe crossings; curbs not ADA
SR-1845	Cooper Street	18	Grass	4	60	35	Rural street safe for walking in lane and comfortable for bicycling; section between Skyline Dr and Rhoda St should have pedestrian facilities
SR-1937	Crescent Loop	18	Grass	4	60	35	Consistent walkable grass shoulder; comfortable for bicycling
SR-1854	Dutch Cove Road	22	Grass	1	30	35	Narrow lanes; some poor sight distance; limited shoulder makes walking unsafe and uncomfortable; Adequate bicycling corridor, but unsafe for passing
SR-1577	Greenberry Street	18	Grass	5	60	25	Inadequate pedestrian corridor and somewhat unsafe for cyclists (blind curve, driveway cuts, RR crossing)
SR-1847	Kims Cove Road	16	Grass	4	0	35	Topography changes make walking inconsistent; comfortable for cycling but some blind curves

Exhibit 10-3: Roadway Facility Characteristics, Cont'd

Route	Street Name	Surface Width (ft)	Edge Treatment	Shoulder Width (ft)	ROW (ft)	Speed Limit (mph)	Notes
SR-1584	Livestock Market Drive	34	Concrete Curb	0	0	35	Narrow lanes are suitable for walking and bicycling, but economic development should support sidewalk infrastructure
SR-1004	Main Street	25	Concrete Curb	1	30	25	Generally Safe and comfortable for cyclists and pedestrians (though sidewalk is inconsistent); large RR crossing (8 tracks)
US-19	Main Street	18-30	Concrete Curb	0	30	20	Safe and comfortable for cyclists and pedestrians downtown
SR-1643	North Main Street	42	Concrete Curb	0	60	25	Utility poles in sidewalk, curb ramps not ADA, limited marked crossings, no buffer, but safe for pedestrians; comfortable for cyclists
US-19	New Clyde Hwy	68	Concrete Curb	0	60-200	35	Inadequate pedestrian infrastructure (sidewalk only on one side, no crossings or buffer); bicycling is unsafe due to high speeds and high volumes
US-19	New Clyde Hwy	68	Grass	10	200	35	Unsafe for walking or biking due to lack of infrastructure, high speed/volume roadway
SR-1004	Newfound Street	25	Grass	1	30	25	Unsafe for walking; comfortable for cycling but limited passing capability due to curves

Exhibit 10-3: Roadway Facility Characteristics, Cont'd

Route	Street Name	Surface Width (ft)	Edge Treatment	Shoulder Width (ft)	ROW (ft)	Speed Limit (mph)	Notes
SR-1004	Newfound Street	25	Concrete Curb	0	30	25	Walkable, but with utility poles along one side and limited crosswalk markings; safe and comfortable for cycling
US-19	Park Street	30-52	Concrete Curb	0	60	20-35	Very walkable but more midblock crossings needed; comfortable for bicycling, but would be safer on a narrower road or designated bike lane
NC-215	Penland Street	40	Concrete Curb	0	0	45	Some utility pole obstructions, limited crossing opportunity, safe for pedestrians; safe and comfortable for bicycling, but proximity to school and rec facilities warrant designated bike lane
NC-215	Penland Street	18	Grass and Curb	5	60	45	One side has sidewalk and is adequate for pedestrian travel; safe and comfortable for bicycling
SR-1940	Penland Street	28	Bitumen (Asphalt)	2	0	35	Unsafe for pedestrians; insufficient shoulder width on bridge; suitable for bicycling, but additional shoulder width would accommodate different user types
SR-1946	Pigeon Street	30	Grass and Curb	0	0	35	Sidewalk is too narrow, but facility on bridge is adequate; safe and comfortable for bicycling

Exhibit 10-3: Roadway Facility Characteristics, Cont'd

Route	Street Name	Surface Width (ft)	Edge Treatment	Shoulder Width (ft)	ROW (ft)	Speed Limit (mph)	Notes
NC-110	Pisgah Drive	24-28	Concrete Curb	0	40-60	25	Sidewalk needed on both sides, with buffer; some utility poles, and lack of crosswalks; Safe and comfortable for bicycling
NC-110	Pisgah Drive	24	Bitumen (Asphalt)	12	100	25-50	Unsafe for bicycling due to high speed traffic; unsafe for pedestrians due to lack in sidewalk
SR-1926	Pisgah School Road	18	Grass	4	60	35	Grass shoulder is suitable for walking, but buffer from road is preferred; safe and comfortable for bicycling
SR-1847	Queentown Road	18	Grass	6	0	35	Inadequate shoulder for walking; comfortable but unsafe for bicycling (curves and lack of room for passing)
NC-215	Reed Street	40	Concrete Curb	0	50	45	Narrow sidewalk, no crossings; safe for cyclists, but shoulder is inadequate for use
SR-1848	Skyline Drive	16	Grass	4	60	35	Mostly adequate grass shoulder for walking (less safe near Cooper St); comfortable for cyclists but very narrow (i.e. hard to pass)

Exhibit 10-3: Roadway Facility Characteristics, Cont'd

Route	Street Name	Surface Width (ft)	Edge Treatment	Shoulder Width (ft)	ROW (ft)	Speed Limit (mph)	Notes
NC-110	Sorrells Street	20	Concrete Curb	0	0	20	Grass shoulder for pedestrians, but sidewalk is recommended; safe, but uncomfortable for cycling during peak traffic times – Main St and Park St are busy, and Sorrells St is the primary connector and link to Pisgah Drive
SR-1593	Star Ridge Road	16	Grass	4	60	35	Insufficient shoulder width for bike or pedestrian use; narrow lanes
SR-1594	Star Ridge Road	18	Grass	0	60	35	Insufficient shoulder width for bike or pedestrian use; narrow lanes
SR-1513	Thickety Road	16	Grass	4	0	30	Not enough shoulder width for bike or pedestrian use; no pedestrian facilities on bridge; high speed traffic and narrow roadway make biking unsafe

Exhibit 10-4: Stakeholder Interviews

Interview with Art O'Neil, Co-Owner of Bearwaters (4/17/17)

Do residents walk or bike to school/library/Brewery? *No, not really.*

Why did you choose to locate your business downtown? *The Town Manager had a huge role in building this place: the Town helped a lot. Having the greenway nearby is great – two groups of cyclists came by on Saturday: similar colors–perhaps they were a club?*

Is having a central downtown location part of a strategy? *Absolutely. People can make a big loop – walking down Main Street and back: 2.5 miles.*

Does it make economic sense for them to have a walkable destination? *Yes!*

How would you characterize feelings of safety/comfort walking in downtown Canton? *Many couples currently walk by the brewery – increasingly many moms and dads pushing strollers. Lots of new people are moving here from somewhere else; realty firms are realizing the growth opportunities.*

What else is needed? *Downtown needs bike lanes: Canton can create some of the energy in Greenville SC. The areas are getting beautified. 10 years ago most of downtown was closed. Now it's open and welcoming. Beaverdam is super dangerous – needs bike lanes (would need to be widened). Radio hill area needs help. Recommend widening the trail around the rec park. Downtown park (Sorrells Street) needs improvements so that it is more than open greenspace. For example, the young families with young children need a place to walk and exercise for fun.*

Linda & Mike Caldwell, Canton Residents (4/3/17)

Do you walk or bike in Canton? *We walk around on the Riverwalk for health and exercise. We don't walk from our house because we don't have sidewalk connections.*

Problem areas for bicyclists and pedestrians:

- *Ferguson Street (close to the elementary school) and Thompson Street all the way down to Champion Drive. North Canton Elementary needs a sidewalk: not a lot of kids walk to school because it's not safe.*
- *Newfound Road.*
- *Going up to the Sav-Mor Shopping Center: There are only sidewalks part way. A lot of people are going to minimum wage jobs, risking their lives to get to these employment centers.*
- *A lot of foot traffic up to Ingles, but no sidewalks/bike paths.*
- *Pisgah High School: Substation Road needs sidewalks in front of the school. (Pigeon Street has sidewalks).*

Do people walk or bike places? *We have a lot of homeless people who walk a lot of places (for example, homeless high school students walk to the library. They have to cross the street back and forth but there are sidewalks. Others also walk to the library). People walk to the Community Kitchen (currently downtown) on Pisgah Drive. The new place out on Champion Drive will not be pedestrian friendly (so harder for folks to pick up food boxes on foot or bike – some people don't have cars). One fellow who lives on Johnson Drive bikes to the Kitchen – and he also bikes to church.*

Pisgah High School has 33 people fix people backpacks each day – these kids don't have homes and some must walk to school. We need to make sure they can do so safely.

Exhibit 10-4: Stakeholder Interviews, Cont'd

Jennie Stamey, Canton Post Office (4/3/17)

Do you walk or ride a bike in Canton? *I am a runner – I'm going by Canton Middle School today. I run in the street some – Run from post office and up. I stay around the Rec Park and through downtown, mostly.*

How would you characterize the feelings of safety and ease walking? Biking? Do any places feel especially dangerous or scary?

I don't see much of an issue with the sidewalk infrastructure – no safety concerns about walking or biking. I haven't heard any recurring issues about biking or walking from customers at the Post Office.

Do people walk or bike places?

There are sidewalks by the post office, but very few people walk here. Biking is just not a big thing yet in Canton, at least not for the residents I've seen or spoken with.

Problem areas for bicyclists and pedestrians:

Newfound Street is not bad, but could be better. People using the sidewalk below the Catholic church have to switch sides of the road – inconvenient and possibly dangerous.

Occasionally I go up to Pisgah High School and run on Pisgah School Rd, but there are no sidewalks. It's okay to run when traffic is light, but a sidewalk there would be good.

Where Evergreen Packaging is – down towards the mill, there is nothing in that area for pedestrians or bicyclists. Across the railroad tracks, before you get to the red light, have to stop and make sure no one is crossing the street. The railroad crossing should have better safety infrastructure for people walking and riding bikes across it.

Jennifer Stuart, Haywood County Public Library (4/17/17)

Do you live here? Walk/Bike for recreation? *Yes, I live in Canton and walk for recreation.*

Describe the conditions affecting the Library: *We have a strong community presence – support for lifelong learning, children's programming, job fair/job training, entertainment, and seniors (we have several programs for seniors throughout the year). People feel safe coming to the library.*

Some roads around the library have sidewalks, but the street that goes up next to the Giving Garden (Prospect Road) does not. We want to encourage people to walk up there – it would be great it it connected. Will put in a story walk so families and children will be able to take a walk through the garden. The Giving Garden is a collaboration with Master Gardeners, Sow True Seed, Haywood ext office, and library. It's a demonstration garden that shows the specific method for growing things. The produce grown is given to the community kitchen.

Sidewalks around the library are disjointed – they will just randomly end. Locust Street is a steep hill behind the library: It's not walkable for all ages and abilities – narrow and crumbling. We need continuous sidewalks from downtown to the library.

Do people walk or bike to the library? *People who live close to the library often walk there. Not many people bike there. Lots of folks who don't have their own car come here – I was just talking to a fellow in a motorized wheelchair who went to the library from a lower income apartment complex (Smoky Meadows apartments off 110 at Crestview St). That's over half a mile!*

Teens could walk to the library from their school (middle or high), but would have to criss-cross streets to stay on a sidewalk.

Also, the trails/sidewalks around the Rec Park are crumbly – need some repair. People stay away from the sidewalk on Penland because traffic is too fast – can we reduce the speed limit along that road?

Exhibit 10-4: Stakeholder Interviews, Cont'd

Cynthia Blankenship and Beth Swanger, P.E. Teachers (4/17/17)

What roads/areas need the most improvements? *There is an opportunity at the Rec Park to widen the trail to 10–12 feet.*

People want to be able to walk or bike up to the Radio Hill commercial sector and the Ingles supermarket on Champion Drive.

Blackwell Drive: Many people are walking in the grass behind the mill to get to work. This would be a great pedestrian and bicycle connection: improvements to this road alone would make Canton a lot more complete for people walking and bicycling.

Walking up Glenn Street and High Street: Many people walk up there, even until dark (25–30 folks a day walking there). There aren't sidewalks: we need them.

Meadowbrook Road could use bike lanes (Constraints: can barely fit a single school bus on this narrow street).

Used to see students walking up to N. Canton Elementary School, but the sidewalks are not complete – need to add them here.

Do you enjoy walking or biking for recreation? Do you feel safe doing it? If not, is there anything you could do to make you feel safer and more comfortable? *Cindy used to, but will not bike for exercise due to traffic safety concerns. A lot of elementary students will ride bikes at Lake Junaluska. 4th graders want to learn to ride bikes: took kids to Pisgah's parking lot to learn to ride bikes*

There are more people walking downtown for shopping and people walking for exercise.

Other notes:

Bike Rodeos: The school system has a trailer (grant from police dept Haywood county schools foundation). It would be great to do a bike rodeo after the plan is complete – learn about the rules of the road. Those who participate can receive bike helmets and have a drawing to give away a bike.

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