

# TRYON AND COLUMBUS Bicycle and Pedestrian Plan

August 2020





# ACKNOWLEDGMENTS

The Tryon and Columbus Bicycle and Pedestrian Plan is the result of a collaborative process involving the talents and efforts of the Steering Committee, local staff, elected officials, the Isothermal Rural Planning Organization, and the North Carolina Department of Transportation. In addition, the contributions from the residents of the Town of Tryon, Town of Columbus, and Polk County provided invaluable insight during the planning process.

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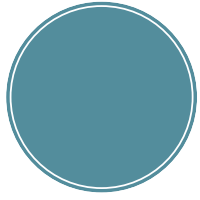
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# CHAPTER 1

## INTRODUCTION



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# CHAPTER 1

## INTRODUCTION

The Towns of Columbus and Tryon are located on the first rise of the Blue Ridge Mountains in the midst of the western North Carolina thermal belt. Their location in the thermal belt leads the Towns to experience milder temperatures year round. Both towns are centrally located between the cities of Asheville and Charlotte, North Carolina as well as being close to Greenville and Spartanburg, South Carolina. The appeal of the mountains, the rich equestrian history, the culture, and the arts make both Towns a desirable location to both live and vacation. The **Tryon and Columbus Bicycle and Pedestrian Plan** sets the stage for building out the bicycle and pedestrian systems of each town into unified networks that support their rich character.

## Planning Process and Project Background

This process is intended to identify opportunities for encouraging and enhancing bicycle and pedestrian travel within Tryon and Columbus. Both Towns have expressed an interest in increasing bicycle and pedestrian accommodations to better support local tourism and quality of life by linking both local and regional destinations. At the outset of the grant application and planning process, there was strong interest in a connection between the two Towns via NC 108; however, after the initial public outreach process, this connection was removed from the scope of the plan and the study area was redefined to include just the municipal limits of the Towns and none of unincorporated Polk County.

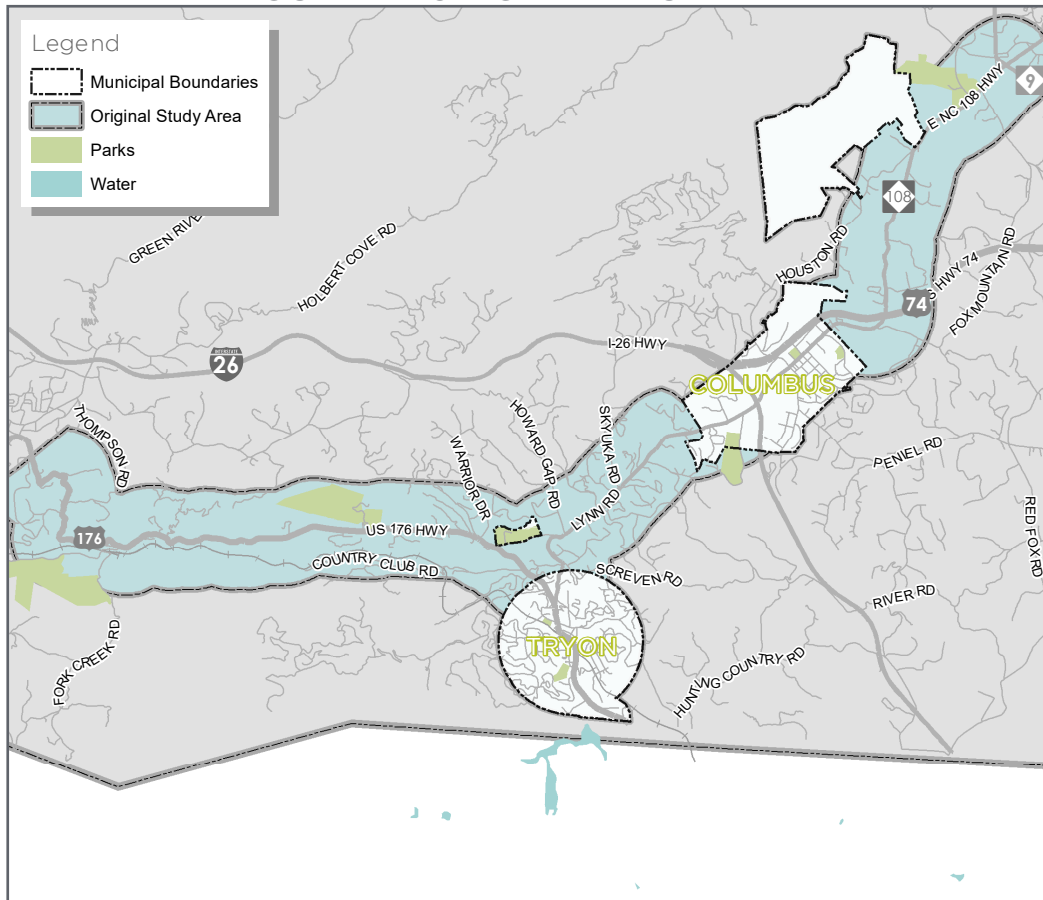
The following pages highlight the vision and goals of the **Tryon and Columbus Bicycle and Pedestrian Plan**, as well as how this plan responds to regional and statewide initiatives.

### VISION AND GOALS

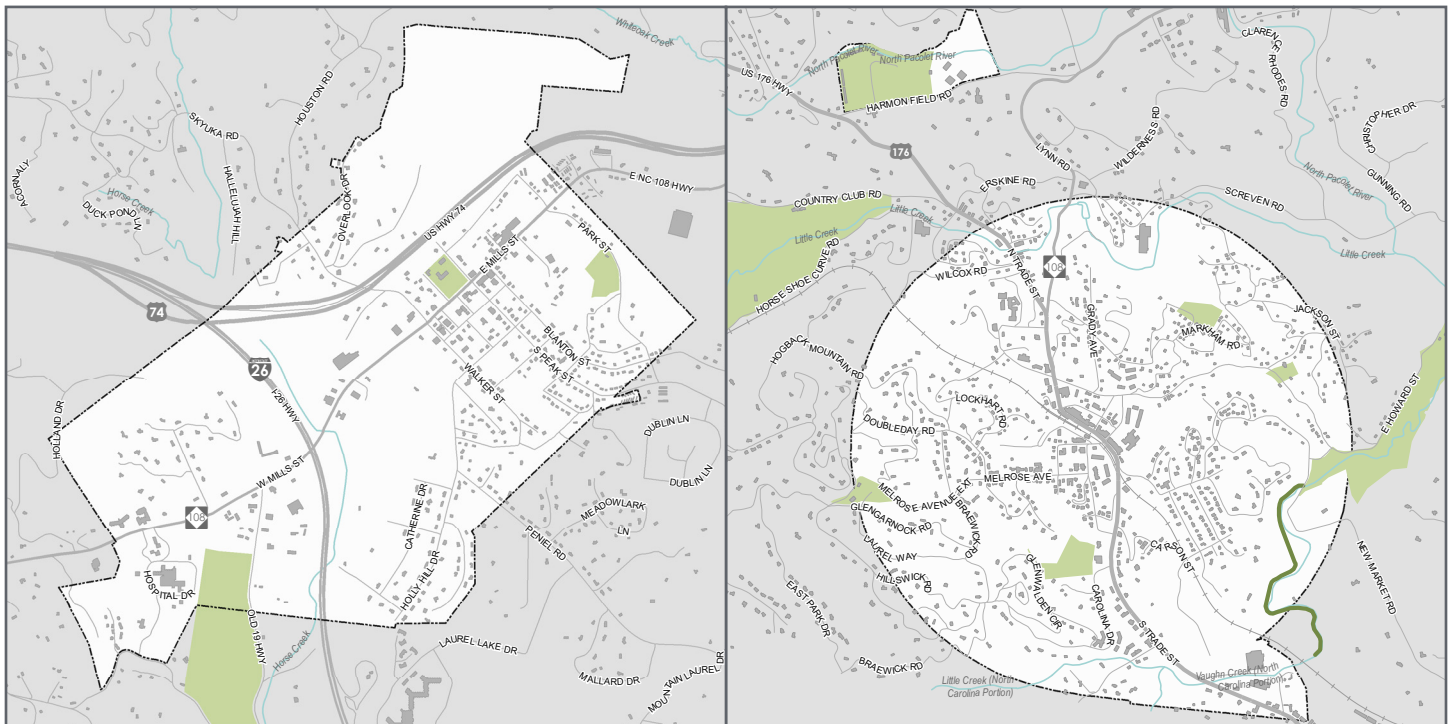
The Towns of Tryon and Columbus will encourage an active lifestyle for residents and visitors, regardless of age, income, or physical ability, by promoting a safe, inviting, and cohesive network for walking and biking.

- Provide context sensitive bicycle and pedestrian facilities that are in line with the rural character of the area.
- Promote connections between key local destinations.
- Support educational and enforcement initiatives to promote walking and biking.

**FIGURE 1 ORIGINAL STUDY AREA**



**FIGURE 2 REFINED STUDY AREAS**



Columbus

Tryon

## Benefits of Active Transportation

The following table highlights several benefits that can be gained by promoting walking and bicycling in Tryon and Columbus.

TABLE 1: BENEFITS OF ACTIVE TRANSPORTATION

Category	Definition	Potential Benefits
Economy	Strong economies are supported by job growth, increased sales revenue, and land development	Improving walk- and bike-ability can be a boon to homeowners and business owners
Environment	Environmental stewardship holds the community accountable to protect natural resources	More people walking and riding bikes can result in lower levels of motor vehicle emissions, cleaner air, and stronger interest in the preservation of streams and open spaces
Health	Health includes the mental state and physical condition of individuals and collective communities.	Walking and biking are low impact forms of exercise that can reduce stress and help reduce conditions such as high blood pressure, diabetes, and obesity
Livability	Livability comprises quality of life, sense of place, and community vibrancy for residents and visitors	Infrastructure features that increase comfort for bicyclists can enhance the character of communities by reducing motor vehicle speeds and improving safety
Mobility	Mobility is the equitable availability of transportation options for everyone	Walking or bicycling can be an attractive travel mode for short trips that would otherwise be made by driving
Safety	Safe travel conditions result from effective design, enforcement, and education.	The presence of bike and pedestrian infrastructure and people walking and riding bicycles naturally calms traffic, and fully separated facilities can provide safe and comfortable infrastructure

### Economy

The economics of biking and walking make sense. In rural communities similar to Tryon and Columbus, individuals often need to own more than one vehicle and drive much farther distances which in turn drives up the cost of owning and maintaining a car. In Tryon and Columbus, residents spend 28% and 26%, respectively, of their household income on transportation costs. According to the Center for Neighborhood Technology's Housing and Transportation (H+T) Index annual transportation costs are \$13,090 and \$12,192 in Tryon and Columbus respectively.

The walkability and bikeability of a place not only impacts the quality of life for its residents, but also the quality of experience of its visitors, and can help draw visitors that spend money in Tryon and Columbus. In a report by the NCDOT Division of Bicycle and Pedestrian Transportation, Evaluating the Economic Impact of Shared Use Paths in North Carolina, the 5-mile greenway in the nearby Town of Brevard generates approximately \$1.5 million annually.

### Environment

Environmental stewardship holds the community accountable in protecting natural resources — a key goal of the Polk County 20/20 Vision Plan. More people walking and riding bikes can result in lower levels of motor vehicle emissions, cleaner air, and stronger interest in the preservation of streams and natural spaces. A research article in the Journal of the American Planning Association found a 5% increase in walkability to be associated with a 32.1% increase in active travel (biking or walking), 6.5% fewer vehicle miles traveled, 5.6% fewer grams of oxides of nitrogen emitted, and 5.5% fewer grams of volatile organic compounds emitted per capita. In addition to reducing air pollution, more individuals opting to bike and walk can reduce noise pollution.

### Health

Walking and bicycling are forms of physical activity that can be accomplished by residents and visitors of all abilities. Regular practice of these types of exercise are well-known to help prevent or reduce the risk of heart disease, obesity, high blood pressure, type 2 diabetes, osteoporosis, and mental health problems such as depression. In 2015, the Center for Disease Control (CDC) reported that 30.1% of North Carolina adults were obese. Additionally, in 2012 North Carolina medical costs related to physical inactivity accounted for \$3.67 billion. Making biking and walking more accessible forms of physical activity have the potential to support health outcomes and reduce strains on the health system. A 2005 study completed by CDC researchers in Atlanta, Georgia found there was an average \$2.94 medical savings return for every \$1 spent on bicycle and pedestrian infrastructure.



## Livability

The walkability and bikeability of a community is an indicator of its livability. This factor has profound impact on attracting businesses and workers as well as tourism. In cities and towns where people can regularly be seen out walking and biking, there is a sense that these areas are safe and friendly places to live and visit. By providing appropriate bicycle and pedestrian facilities, communities enable the interaction between neighbors and other citizens that can strengthen relationships and contribute to a healthy sense of identity and place.

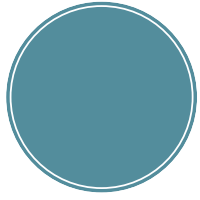
## Mobility

Mobility is the equitable availability of transportation options for everyone. By providing the appropriate facilities, communities allow people to choose how they want to travel. Youth, seniors, and those with disabilities may not have the option to drive, while others are unable to afford a car. This lack of choice in transportation creates an inconvenient and socially unjust barrier to mobility. Strong pedestrian and bicycle networks provide an alternative to driving and promote equitable mobility. In 2012, the Alliance for Biking and Walking reported that an estimated 40% of all trips, both commute and non-commute, taken by Americans are less than two miles, equivalent to a 10-minute bike ride or 30-minute walk; however, just 13% of all trips are made by walking or bicycling nationwide. Bicycling can be an attractive travel mode for short trips that would otherwise be made by driving.

## Safety

Safe travel conditions result from effective design, enforcement, and education. Of those residents who participated in the survey, a majority shared that they feel unsafe walking and biking in Town given the limited infrastructure. In 2015 the National Highway Traffic Safety Administration (NHTSA) reported 5,376 pedestrians fatalities on U.S. roadways. This count is a 10% jump from the total number of pedestrian deaths in 2014. There has been 6 bicycle and pedestrian related crashes in Tryon and Columbus from 2007 - 2016, primarily along major routes such as US 176 and NC 108. The presence of active transportation infrastructure and people walking and biking can naturally calm traffic, and fully separated facilities provide safe travel ways.

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## CHAPTER 2

# EXISTING CONDITIONS



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# CHAPTER 2

## EXISTING CONDITIONS

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The development of the Tryon and Columbus Bicycle and Pedestrian Plan began with building an understanding of both towns' demographic, societal, administrative, geographic, physical, and operational contexts. This chapter of the report considers the following broad subjects and how they relate to mobility in Tryon and Columbus:

- Community Demographics
- Key Destinations
- Existing Bicycle and Pedestrian Infrastructure
- Environmental Considerations
- Mobility Considerations
- Previous Planning Efforts

### Community Demographics

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The demographic makeup of a community is extremely important when considering biking and walking in Tryon and Columbus. This section utilizes the 2017 American Community Survey 5-year estimates from the US Census Bureau to gather relevant data for the community. This data helps to better understand the people in Tryon and Columbus, while also helping to tailor the recommendations of the final plan. These snapshots provide a look at key demographic features present in Tryon and Columbus.

# TRYON AND COLUMBUS

## Bicycle and Pedestrian Plan

FIGURE 3 TRYON COMMUNITY SNAPSHOT

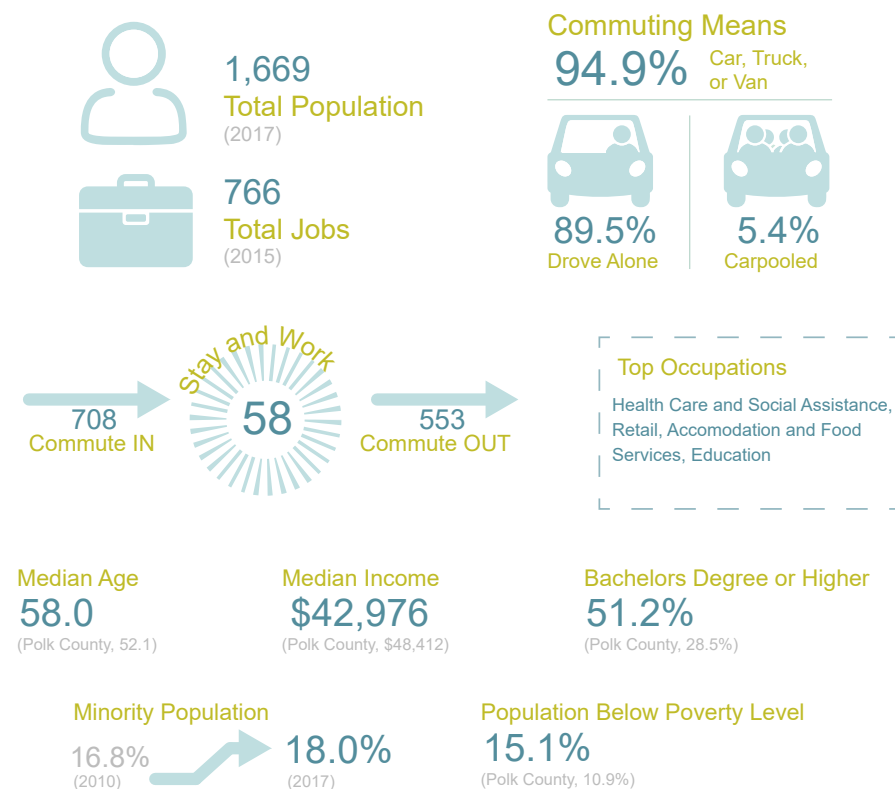
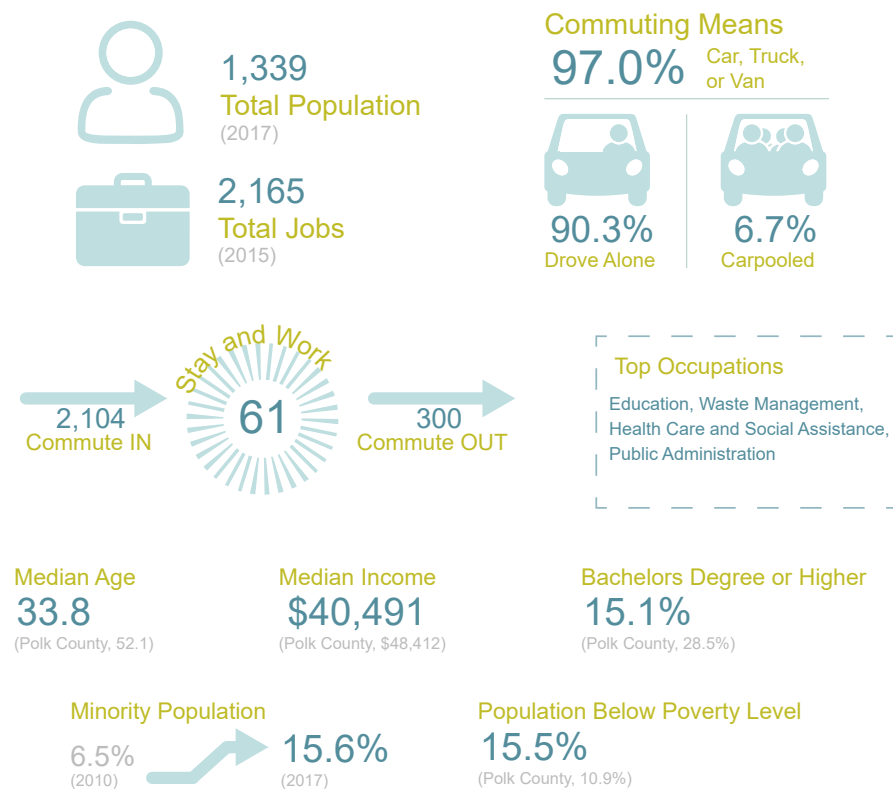


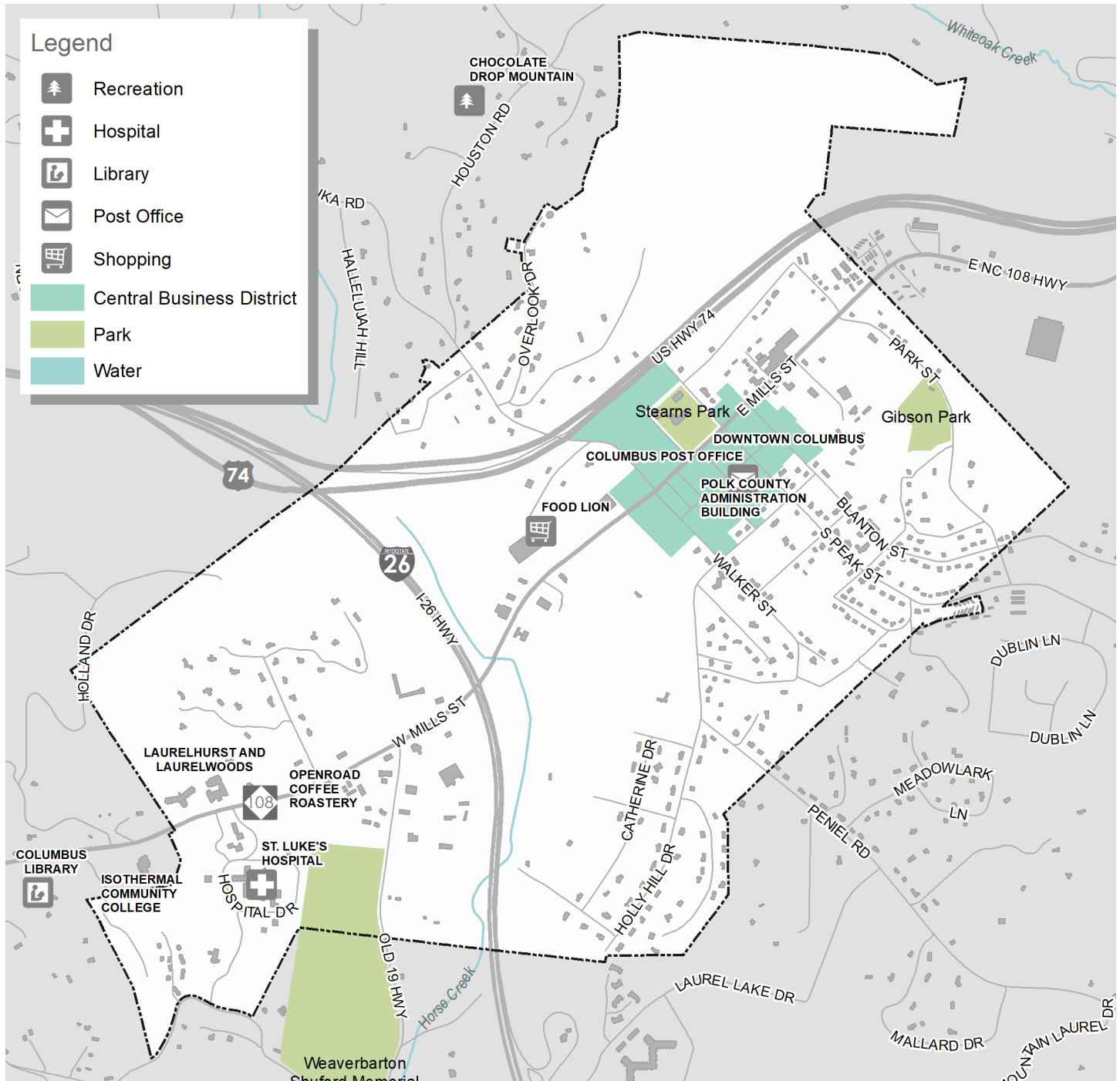
FIGURE 4 COLUMBUS COMMUNITY SNAPSHOT



## Key Destinations

Developing a community-wide plan for improving bikeability and walkability requires the consideration of accessibility and connectivity to key destinations, including major employers, schools, parks, greenways, and other retail and shopping centers including downtown and grocery stores. These destinations are shown in the figure below.

FIGURE 5 KEY DESTINATIONS IN COLUMBUS



## Bicycle and Pedestrian Plan

**Legend**

- School
- Recreation
- Hospital
- Library
- Post Office
- Shopping
- Vaughn Creek Greenway
- Historic Downtown
- Park or Open Space
- Water

Map labels include: US 176 HWY, COUNTRY CLUB RD, HORSE SHOE CURVE RD, HOOBACK MOUNTAIN RD, DOUBLEDAY RD, MELROSE AVENUE EXT, GLENGARNOCK RD, LAUREL WAY, HILLSNACK RD, EAST PARK DR, BRAEWICK RD, LITTLE CREEK (NORTH CAROLINA PORTION), VAUGHN CREEK (NORTH CAROLINA PORTION), HARMON FIELD, HARMON FIELD RD, N. TRADE ST, GRADY AVE, MARKHAM RD, CARSON ST, S. TRADE ST, NEW MARKET RD, HOWARD ST, WILDERNESS RD, LYNN RD, BRS KINE RD, WILCOX RD, LOCKHART RD, TRYON POST OFFICE, LANIER LIBRARY, MELROSE COMMUNITY, WHITE OAK MANOR, IGA, WOODLAND PARK, ROGERS PARK, DOWNTOWN TRYON, VAUGHN CREEK GREENWAY, HISTORIC DOWNTOWN, PARK OR OPEN SPACE, WATER.



## Bicycle and Pedestrian Infrastructure and Routes

### Bicycle Network

Dedicated bicycle facilities provide exclusive travel space for bicyclists. Traditional facilities are placed directly adjacent to general travel lanes, though more and more communities are installing bicycle lanes with striped buffers or vertical elements to improve safety and comfort. Shared facilities, such as shared lane markings, require bicyclists and motorists to share the street space. Shared-use paths are off-street facilities shared by bicyclists and pedestrians. As of 2018, there are a limited number of bike routes, dedicated bicycle facilities, and shared-use paths in Tryon and Columbus.

While Columbus has no dedicated bicycle facilities, Tryon is home to both NC Bike Route 8 - the Southern Highlands Route and the Vaughn Creek Greenway.

### Pedestrian Network

Similar to the bicycle infrastructure, the pedestrian network is fairly limited, and the quality of the network is poor, with many crumbling sidewalks, ADA compliance issues, missing curb ramps, and an insufficient number of roadway crossings for pedestrians.

Based on observations and the survey, few residents in Tryon and Columbus choose walking as a form of transportation. There is some value placed on walking for exercise, but people do not walk to work, shopping, school, etc. Further, the municipalities do not have an inventory of the network, sidewalks, curb ramps, and pedestrian crossings. This makes it difficult to know the condition of these facilities and do effective asset management.

FIGURE 7 EXISTING PEDESTRIAN INFRASTRUCTURE IN COLUMBUS

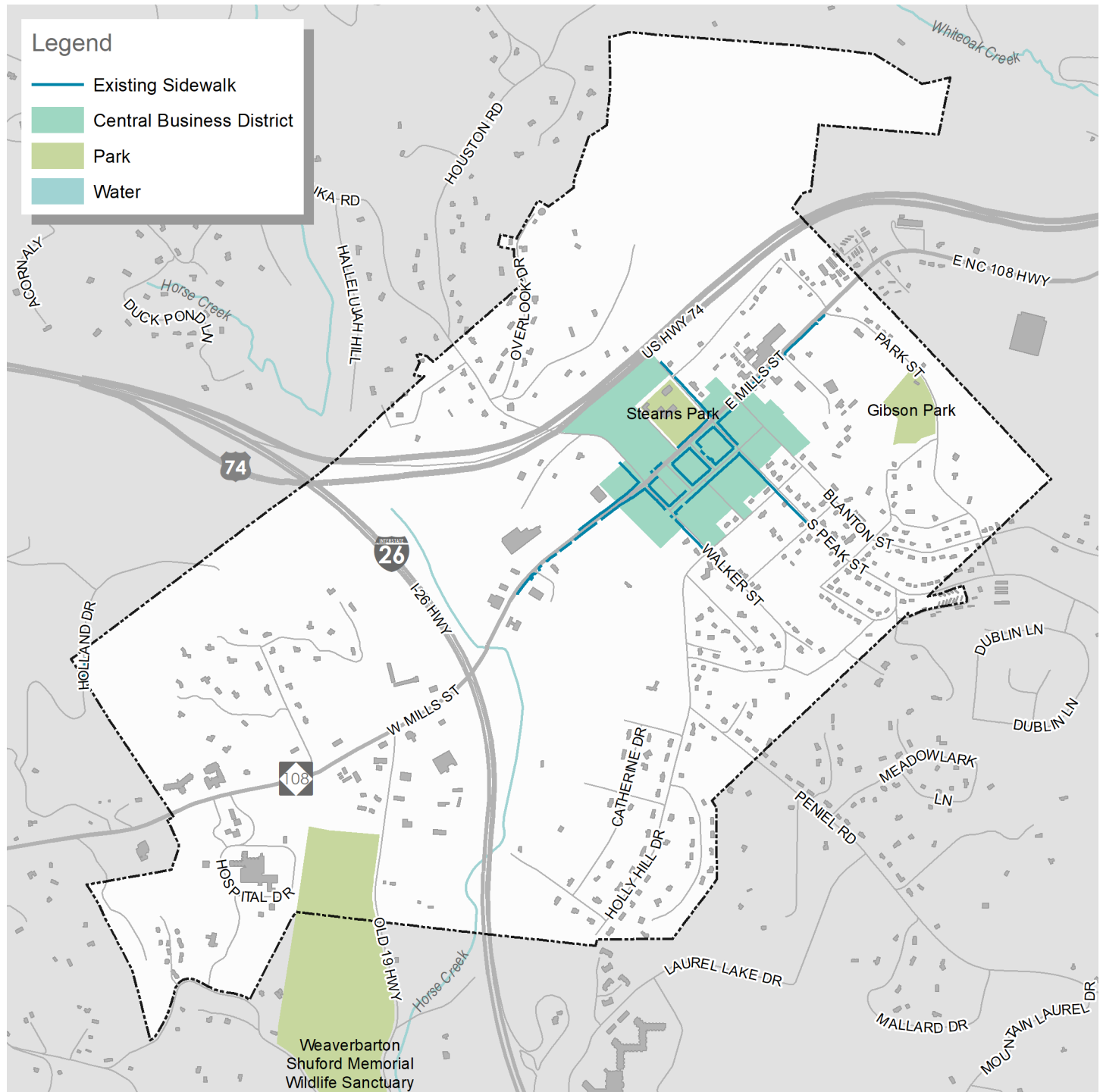
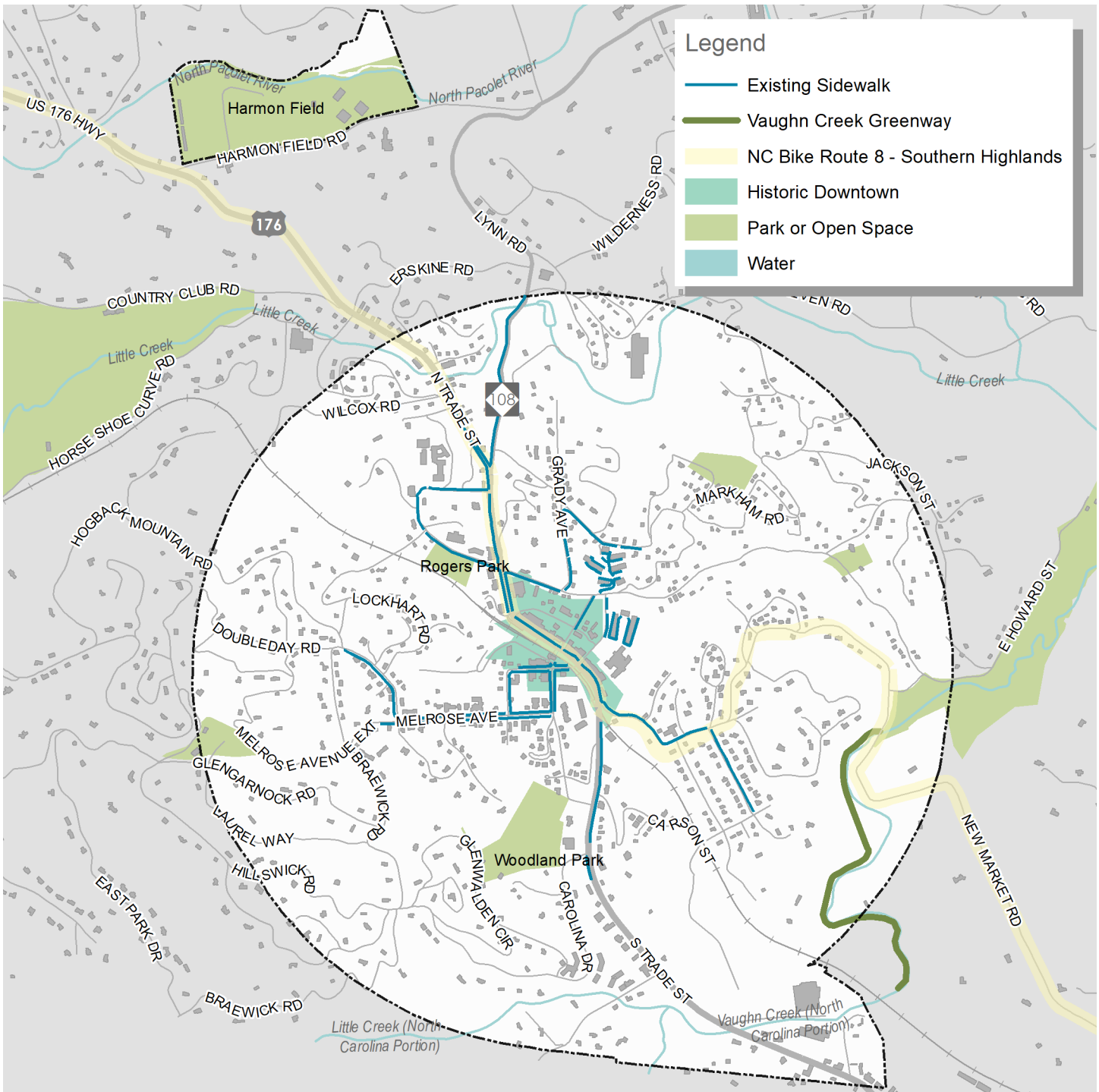


FIGURE 8 EXISTING BICYCLE AND PEDESTRIAN INFRASTRUCTURE IN TRYON



## Environmental Considerations and Other Challenges

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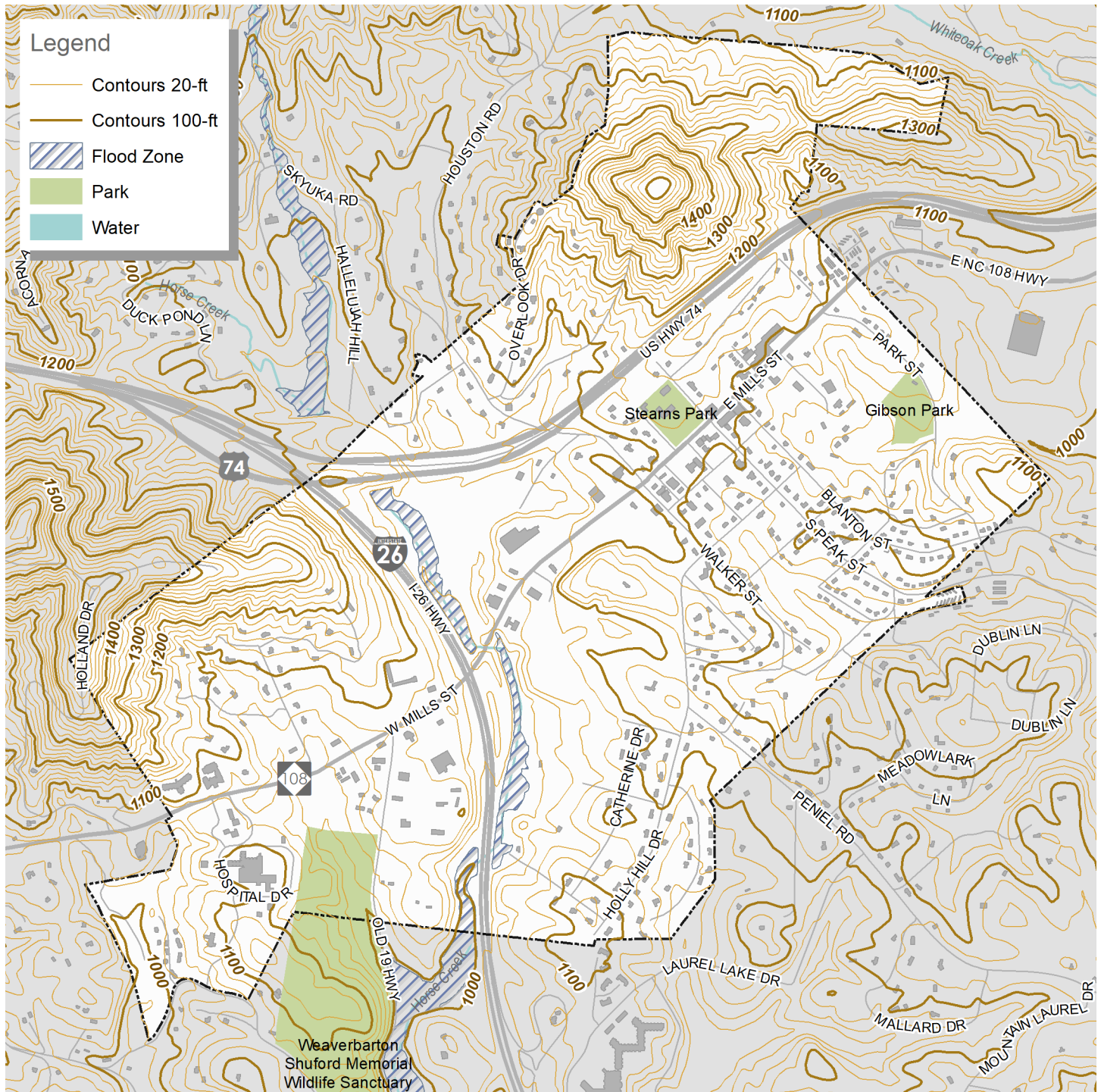
There are minimal floodplain impacts in Columbus; however, there is floodplain surrounding Little Creek and Vaughn Creek in Tryon near the South Carolina border. Floodplains present a challenge as well as an opportunity to find creative and unique solutions for additional infrastructure, particularly in this case when connecting Tryon to surrounding adjacent communities.

Both Tryon and Columbus have a unique set of obstacles to overcome when planning for bicycle and pedestrian infrastructure. Like many other mountain towns, Tryon and Columbus are home to challenging terrain and limited rights-of-way. Additionally, each Town has limited roadway miles maintained by NCDOT. Tryon has roughly 5.3 miles of state-maintained roadways and nearly 22 miles of town-maintained. Columbus has approximately 8 miles of state-maintained roadways — 2 of which are Interstate 26 — and 10 miles of town-maintained roadways. This adds an extra layer of complexity to providing bicycle and pedestrian facilities, as nearly 80% of Tryon's roads and 60% of Columbus's roads will be reliant on Town funding.

Due to limited rights-of-way, constrained funding, and challenging terrain, the planning of bicycle and pedestrian facilities in Tryon and Columbus will place more of an emphasis on filling gaps and addressing maintenance concerns, and less on wholesale redesigns of streets to accommodate bicycles and pedestrians.



FIGURE 9 ENVIRONMENTAL CONSIDERATIONS IN COLUMBUS





# TRYON AND COLUMBUS

## Bicycle and Pedestrian Plan

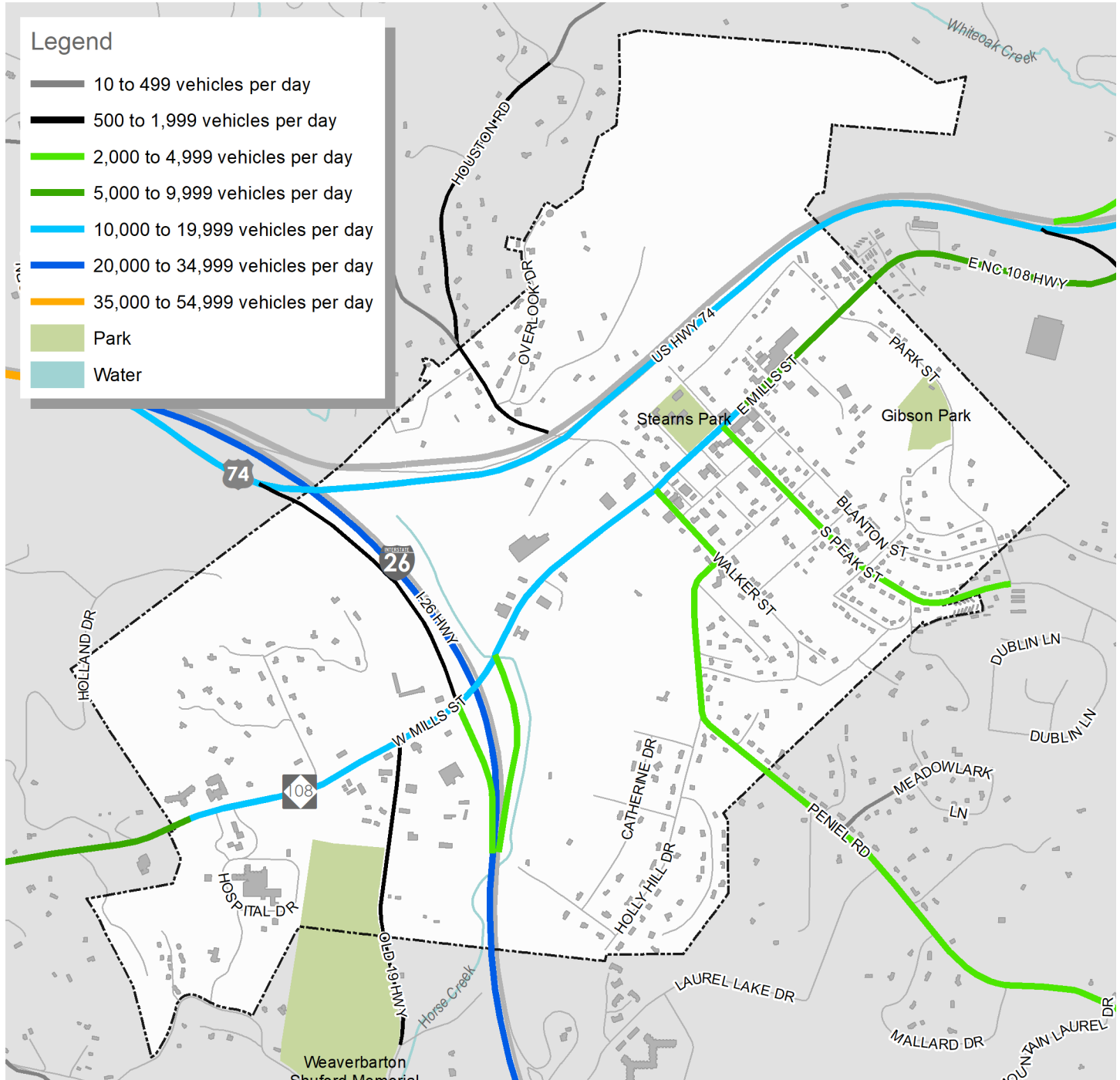
FIGURE 10 ENVIRONMENTAL CONSIDERATIONS IN TRYON



## Annual Average Daily Traffic (AADT)

The Town of Columbus' most heavily traveled corridors present both challenges and opportunities for mobility. Heavily traveled I-26, while not used by bicyclists and pedestrians, poses a safety challenge to bicyclists and pedestrians alike when trying to navigate the existing interchange with NC 108. NC 108 (Mills Street) serves as the spine of the Town and carries more than 10,000 vehicles per day.

FIGURE 11 ANNUAL AVERAGE DAILY TRAFFIC (AADT) IN COLUMBUS



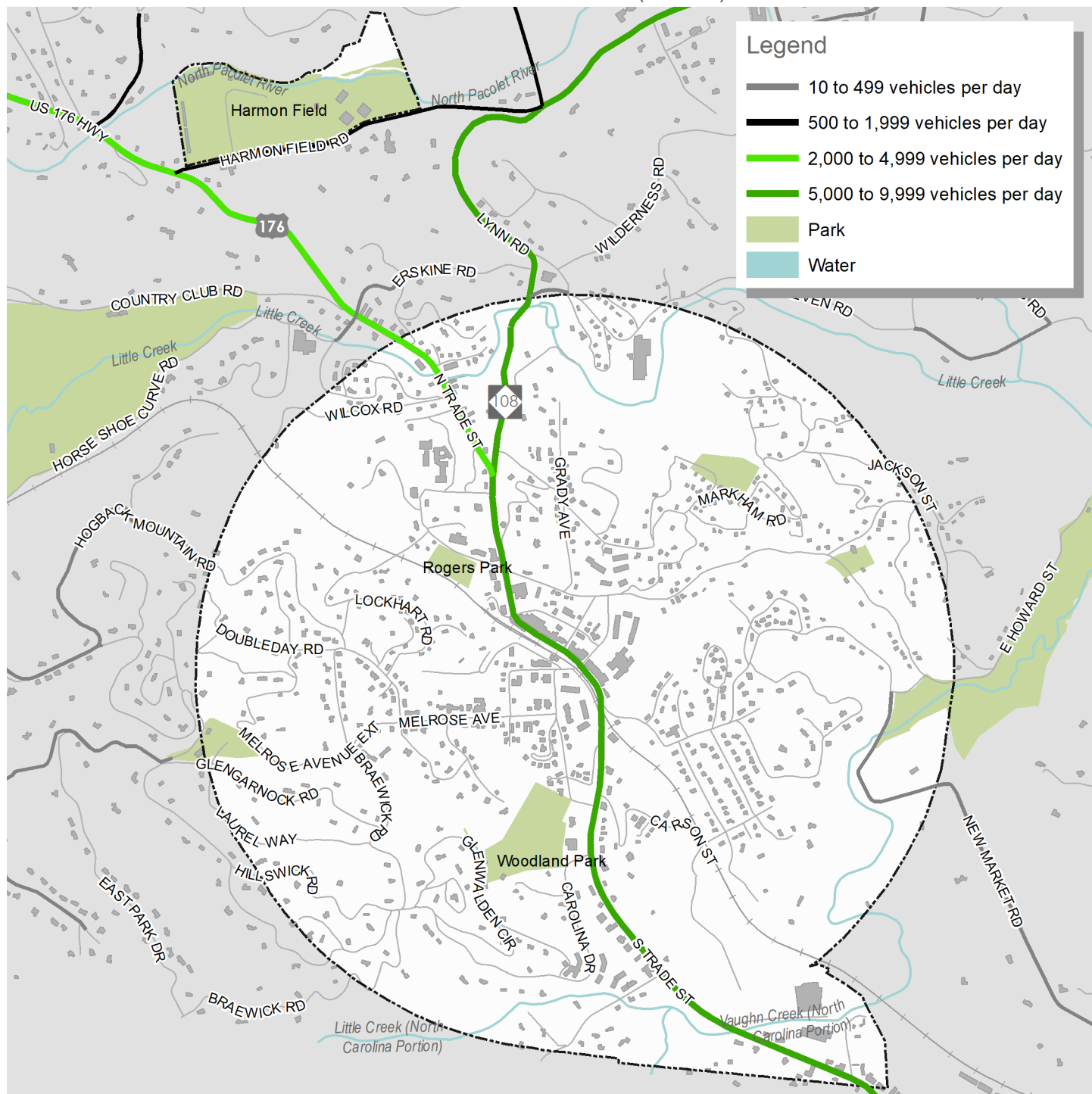


# TRYON AND COLUMBUS

## Bicycle and Pedestrian Plan

Tryon's most heavily traveled corridors are US 176 and NC 108/Lynn Road. Both roads provide vital connections through the Town and serve local key destinations, as well as connecting Tryon to the rest of the region.

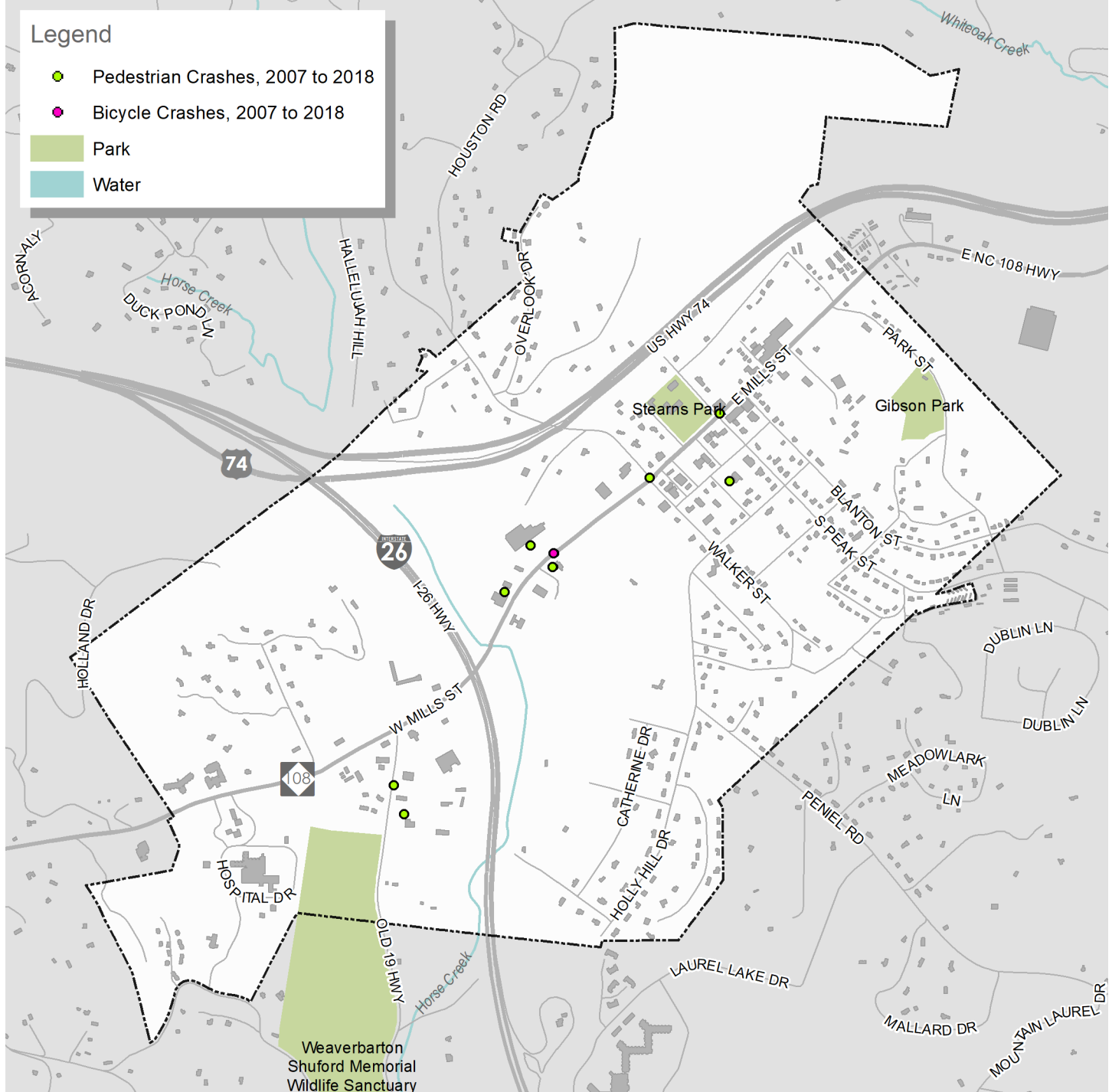
FIGURE 12 ANNUAL AVERAGE DAILY TRAFFIC (AADT) IN TRYON



## Bicycle and Pedestrian Safety

The Town of Columbus has had eight pedestrian crashes and one bicycle crash between 2007 and 2018. The majority of these crashes have occurred along NC 108/Mill Street or in private parking areas.

FIGURE 13 BICYCLE AND PEDESTRIAN CRASHES IN COLUMBUS (2007-2018)

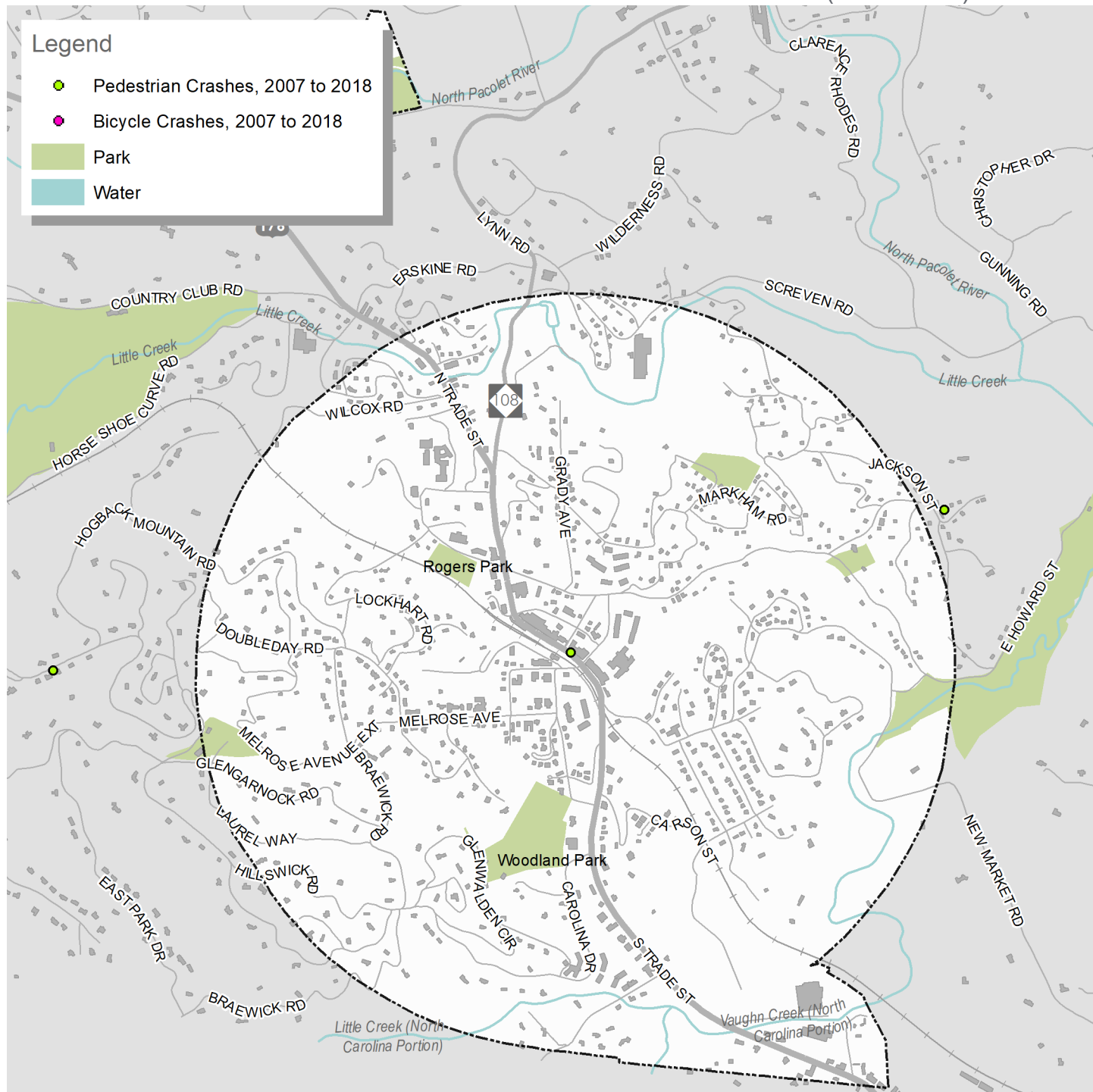


# TRYON AND COLUMBUS

## Bicycle and Pedestrian Plan

In Tryon, there has been one pedestrian crash between 2007 and 2018. This crash was at the intersection of US 176/Trade Street and Oak Street.

FIGURE 14 BICYCLE AND PEDESTRIAN CRASHES IN TRYON (2007-2018)





## Previous Planning Efforts

The **Tryon and Columbus Bicycle and Pedestrian Plan** is intended to build upon the foundation of past transportation and comprehensive planning efforts in the Towns and the surrounding area. In 2018, the Isothermal Regional Planning Organization (IRPO), in partnership with member jurisdictions (including Tryon and Columbus), completed the Isothermal Regional Bicycle Plan. The key findings and recommendations of this plan, and other relevant plans, are summarized on the following pages.

### Polk County 20/20 Vision Plan — 2010 (updated November 2017)

#### Plan Description

Polk County 20/20 Vision serves as the comprehensive plan for Polk County. Polk County 20/20 Vision will “provide a workable, creative, and dynamic plan to guide future long-term growth and development throughout the next twenty (20) years.” The plan provides a foundation for Polk County’s planning program, as well as serves as the county’s policy guide for short- and long-range planning, zoning, and land use related decision-making within the county.

#### Relevant Recommendations

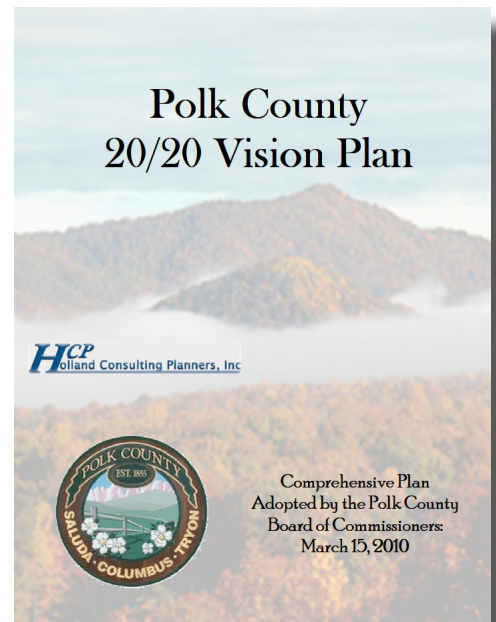
##### **I.31 (Page VII-10): Implement the following in support of bikeways and pedestrian paths/trails:**

- Encourage appropriate thoroughfares (state-maintained roads) to include bike lanes as they are designed and expanded, especially along routes providing access to schools.
- Support the NCDOT Safe Routes to School initiative for community greenways
- Coordinate efforts for construction of bike and pedestrian paths with county and municipal park systems
- Include bike and pedestrian trails at all county parks
- Consider securing access to and provide for natural low-impact bike and pedestrian trails along rivers and streams
- Consider developing requirements for bikeways and pedestrian paths to access schools and other key destination points where practicable

##### **I.36 (Page VII-11): Support development of the Isothermal Regional Trail System Plan and coordinate local trail system planning with the regional plan.**

##### **I.43 (Page VII-13): Revise the Polk County Subdivision Ordinance to accomplish the following:**

- Where practical make subdivisions “walkable” communities including coordination with and access to existing Polk County trail systems.



## TRYON AND COLUMBUS

### Bicycle and Pedestrian Plan

#### I.45 (Page VII-13): Prepare a comprehensive county-wide pedestrian/trail/walkway/bicycle plan.

##### This plan should:

- Address the appropriate utilization of abandoned rail lines in the county;
- Emphasize the use of natural corridors such as streams and floodplains;
- Emphasize man-made corridors such as utility and transportation rights-of-way and easements;
- Coordinate with the Isothermal Regional Trail System Plan.

## Polk County Recreation Plan — 2013

### Plan Description

The June 2013 Polk County Recreation Plan identifies the needs of citizens through a survey, public meetings, and stakeholders; assesses the ability of the department and other entities to meet those needs; and determines the actions necessary for the future. The plan is intended to be a 5 year plan with a 2018 horizon; Currently, a new plan is being completed.

### Relevant Recommendations

Page 50 of the Polk County Recreation Plan shares that one of the top requests received via the survey and public meetings is the inclusion of more trails, greenways, and walking paths. The plan recommends the creation of a formal trail plan that builds off the regional trail plan. Specific trail recommendations included were:

- Additional trail development and connectivity to Green River Gamelands
- Local greenways to connect neighborhoods and towns
- Regional trail connections such as the Overmountain Victory Trail and connections to neighboring counties.

#### POLK COUNTY RECREATION PLAN

JUNE 2013



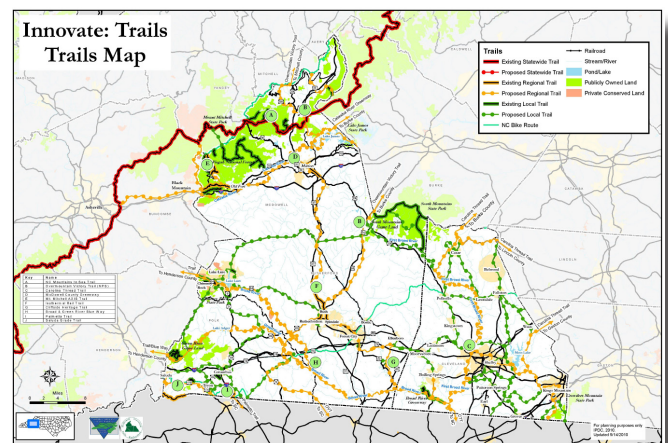
## Isothermal Regional Trails Plan

### Plan Description

The Isothermal Regional Trails Plan intended to guide federal, state, and local efforts for trail development as well as provided a blueprint for connecting public lands, communities, and significant natural features.

### Relevant Recommendations

The Isothermal Regional Trails Plan included several local trails in both Tryon and Columbus, as well as specific recommendations for the Saluda Grade Rail Trail and connections to the Palmetto Trail in South Carolina.



## Polk County Area Walking Paths, Hiking Trails, and Playgrounds

### Brochure Description

Polk Fit, Fresh, and Friendly (PF3) created a brochure that highlights locations to engage in physical activity such as walking and hiking. There are several locations noted in both Tryon and Columbus such as unpaved trails at Isothermal Community College and Woodland Park, as well as the Vaughn Creek Greenway.

## Isothermal Regional Bicycle Plan — 2018

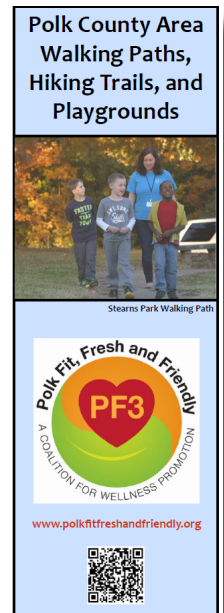
### Plan Description

The Isothermal Regional Bicycle Plan, funded by an NCDOT planning grant, outlines a 30-year vision for bicycling infrastructure and programs in the four-county region. The plan's vision includes bicycling as an normal and safe means of transportation, as well as a mechanism for boosting tourism and economic development.

### Relevant Recommendations

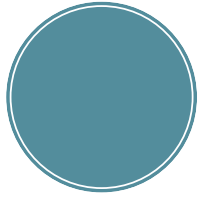
Priority projects 1,3, and 4 are all within or adjacent to Tryon and Columbus. Additionally, the plan includes an entire network of on- and off-street bicycle facilities in Tryon and Columbus.

- Priority Project #1 – Saluda Grade Rail Trail
  - » The Saluda Grade Rail Trail is a 9.3 mile section of trail between Saluda and Tryon along an inactive Norfolk Southern rail line. The Town of Tryon has passed a Resolution of Support for the project.
- Priority Project #3 – NC 108 Columbus to Tryon Separated Bicycle Lanes
  - » This project was intended to provide a physically separated bicycle facility along NC 108 between Tryon and Columbus. Elements of this project were included with STIP project R-5838, which faced strong public opposition and has since been removed from State's Transportation Improvement Program.
- Priority Project #4 – Downtown Tryon – NC 8 Southern Highlands Bike Route
  - » North Carolina Bike Route – NC 8 Southern Highlands – passes through Downtown Tryon along US 176. This project includes a separated bicycle facility from the NC 108/US 176 intersection to Howard Street, and shared lane markings between Howard Street and New Market Street.



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# CHAPTER 3

## OUTREACH





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# CHAPTER 3

## OUTREACH

To help guide the plan, the project team reached out to the public to better understand their experiences walking and biking in Tryon and Columbus, and to receive feedback on the projects they feel would be most beneficial. The public engagement process took several different forms. These included both online and in-person opportunities to provide feedback. Below is a timeline demonstrating the process of public engagement for the **Tryon and Columbus Bicycle and Pedestrian Plan**.

### Bicycle-Pedestrian Advisory Committee

The project team worked with Town Staff, NCDOT, and the Isothermal Regional Planning Organization to establish a Bicycle-Pedestrian Advisory Committee (BPAC). The Bicycle-Pedestrian Advisory Committee met three times to provide direct oversight and counsel to the planning process. The BPAC included representation from the following entities and groups:

- Polk Fit, Fresh, and Friendly
- Isothermal Rural Planning Organization
- Local Business Owners
- NCDOT Division 14
- Polk County
- Polk County Chamber of Commerce
- Polk County Community Foundation
- Polk County Parks and Recreation
- Polk County Tourism
- St. Luke's Hospital
- Thermal Belt Ministries
- Town of Columbus
- Town of Tryon



### Meeting Overviews

#### February 2018

The agenda for the first BPAC meeting included:

- A review of the planning process;
- A exercise to help identify strengths, challenges, opportunities, risks, and expectations for the bicycle and pedestrian plan;
- The creation of a draft vision statement and supporting goals; and
- A mapping exercise to identify destinations, challenges, and opportunities.

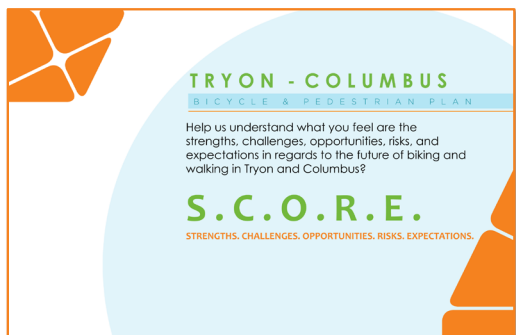
#### May 2018

The second BPAC meeting was held in conjunction with the first public workshop. This meeting reviewed the draft vision and goals, discussed how to distinguish the bicycle and pedestrian plan from the NC 108 modernization project, and concluded with a work session to identify key routes for walking and biking.

#### September 2018

The agenda for the third BPAC meeting included:

- A recap of the online survey;
- A review of draft recommendations; and
- An introduction to project prioritization.



### S.C.O.R.E. Results

A key part of this planning process involves identifying assets to be leveraged and opportunistic ways to improve the pedestrian and bicycle system in Tryon and Columbus. To help identify these characteristics, the BPAC and local staff completed a S.C.O.R.E. Assessment early in the planning process.

#### Strengths and Opportunities

- Active cycling community
- Beautiful natural surroundings
- Small town character
- Large tourism industry

#### Challenges and Risks

- Local support
- Aging population
- Topography
- Small town character

#### Expectations

- Better connectivity
- Worries-free bicycle and pedestrian travel
- Inviting pedestrian realm

## Public Workshop

The project team held a public meeting on May 17, 2018. The meeting was held to gather feedback from the public on their experience walking and biking in the study area, and to understand their ideas for future projects. The workshop was formatted as a drop-in meeting with no formal presentation and included an information wall of community demographic facts, a S.C.O.R.E. (Strengths, Challenges, Opportunities, Risks, and Expectations) activity, a facility preference survey, and an issues and project identification mapping exercise. Additionally, a representative from NCDOT was present to discuss the NC 108 modernization project (R-5838). The public workshop was attended by 20 participants.



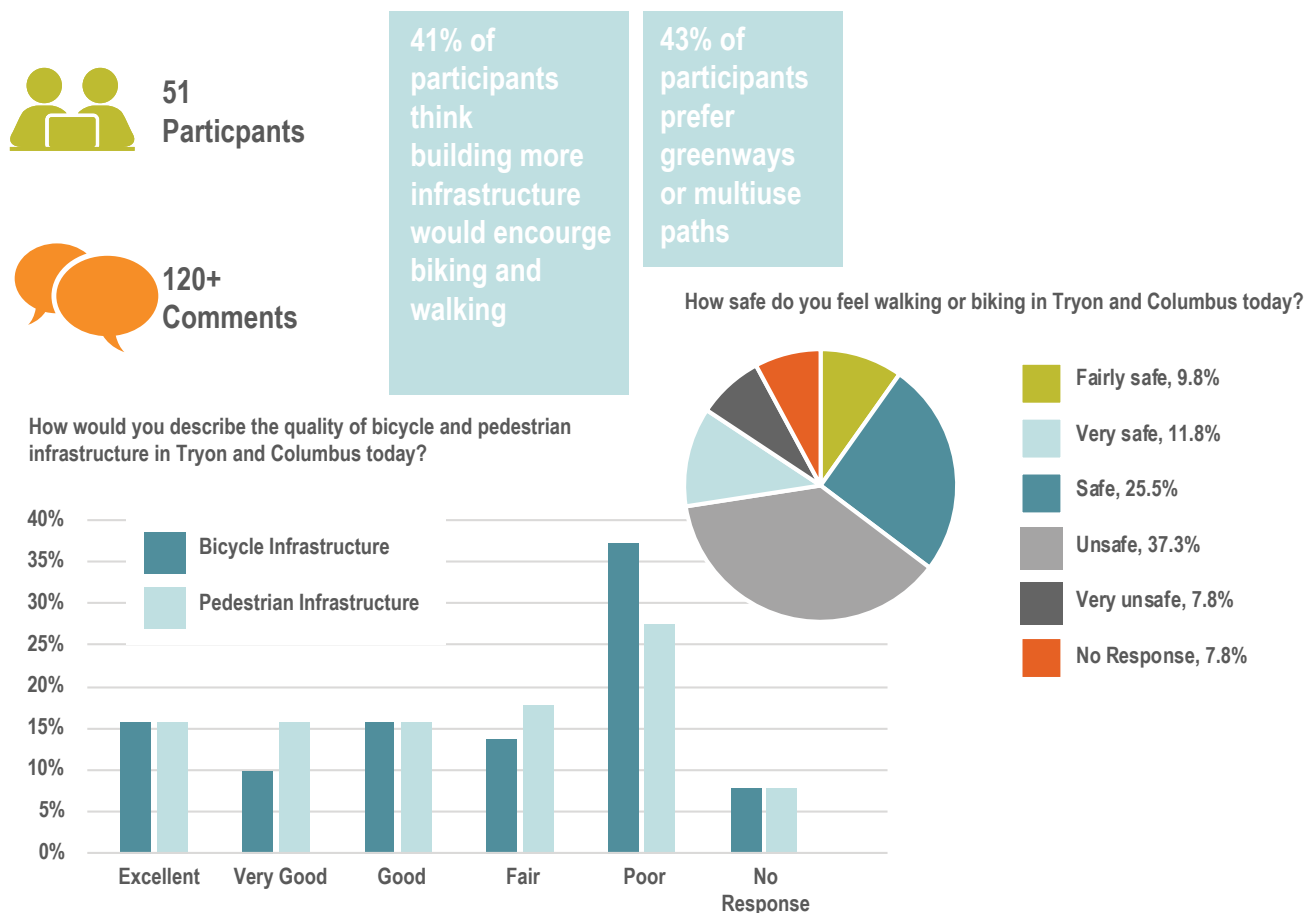
Connections shared by facilities placed a strong emphasis on connecting to the high school and community college, as well the opportunity offered by the Saluda Grade Rail Trail and connections to Landrum, South Carolina. Many participants also shared the desire to keep bicycle facilities off of existing streets and to place more of a focus on off-street facilities such as greenways and trails.

## Public Surveys

The project team developed an online survey to extend its reach and gather additional input from members of the public who could not attend the public meeting. The initial survey included a brief questionnaire and an interactive map for participants to offer feedback about biking and walking in Tryon and Columbus. The second survey was released in response to the community's desires to modify the project study area to not include more rural areas in Polk County.

### Online Survey #1

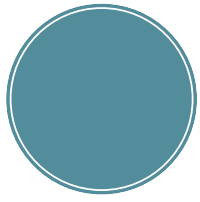
A total of 51 individuals took the first online survey to share their sentiments about bicycle and pedestrian infrastructure in Tryon and Columbus. Of those who took the survey, the most represented age group was between ages 50 to 65. Additionally, of the participants who completed the first survey, many were opposed to additional bicycle and pedestrian infrastructure in unincorporated Polk County. To address this, the project team worked with NCDOT, the RPO, and the Towns to redefine the study area. The graphic below provides a snapshot of the results from the first survey. The full survey results and all comments can be found in the appendix.



### Online Survey #2

After strong opposition during the first public workshop and online survey, the study area was modified to be the municipal limits of Tryon and Columbus. With the change in study area, the project team created a second survey to gather feedback from those individuals interested in biking and walking in the municipal limits. The new survey received no participation.





# CHAPTER 4

## RECOMMENDATIONS



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# CHAPTER 4

## RECOMMENDATIONS

### Facility Recommendations

Each roadway has unique characteristics, and the appropriate bicycle and pedestrian solutions are based on adjacent land use context, functional classification, vehicular travel speed, and existing or expected bicycle use or pedestrian demand. The bicycle and pedestrian improvement types and design guidance in this chapter are consistent with national design standards. The design manuals that should be referenced for additional guidance are provided in the appendix of the report.

### Planning for Pedestrians

During most trips, all travelers become pedestrians for at least a short distance. Whether it's walking from the parking lot, walking to school, walking to work, walking to a restaurant, or taking a stroll with family members — many residents and visitors in Tryon and Columbus walk to some extent on a regular basis. The pedestrian network, which includes sidewalks, ramps near intersections, and pedestrian crossings, can make the pedestrian experience either pleasant or uncomfortable. A pedestrian network that makes walking uncomfortable will influence how confident people feel walking, and thus the likelihood that people will walk.

When planning for pedestrians in Tryon and Columbus, there are three primary concerns shared with the project team. These common concerns and suggested solutions are:

- Discontinuous or Poorly Maintained Sidewalks
  - » Maintaining and completing the existing sidewalk network is equally as important as locations for where new sidewalks should be built. The facility recommendations will prioritize sidewalk gaps in the existing system, while the policy and programs address maintenance concerns.
- Infrequent or No Safe Crossings
  - » Establishing enough pedestrian crossings increases the likelihood that people use the crossing instead of choosing a location where the risk of conflicts with motorists may be high. The Town of Tryon has done a great job at designating crossing locations within the historic town center. This plan further builds on this precedent and identifies additional locations for enhanced crossings.
- High Vehicular Speeds
  - » High travel speeds affect the safety and comfort of all road users in Tryon and Columbus, especially pedestrians. While the posted speed limits are relatively low in Tryon and Columbus, the street design doesn't self-enforce. Introducing traffic calming and street-side design along primary corridors like US 176 and NC 108 could help to tame high vehicular speeds.

### Planning for Bicyclists

When planning for bicyclists in Tryon and Columbus, there was one simple concern that there is nowhere to safely ride a bicycle. There is currently no dedicated bicycle infrastructure in either town; however, the Isothermal Rural Planning Organization (RPO) recently completed a regional bicycle plan that included Tryon and Columbus. The Tryon and Columbus Bicycle and Pedestrian Plan carries forward the recommendations from the Isothermal Regional Bicycle Plan, adopted in 2018, with the exclusion of on-street facilities recommended for NC 108. This project (I-4729B) is currently in the design phase, and does not include on-street bicycle facilities.

### Recommended Facility Types

#### Sidewalks

Sidewalks are physically separated from the roadway and provide a safe and comfortable environment for pedestrians. Sidewalks are the canvas for street-side design, which plays a critical role in character, function, and accessibility. There are three primary zones that make up a well-designed sidewalk: frontage zone, pedestrian through zone, and furnishing zone. The frontage zone is nearest to the building or property line and provides space for individuals to enter and exit. In the core of Tryon, this area is often features outdoor dining and space for window shopping. The pedestrian through zone serves as the area dedicated to walking and should be kept clear of obstructions. Finally, the furnishing zone provides a separation between the travelway and pedestrian through zone, which increases pedestrian safety and creates an inviting walking environment. The furnishing zone can be used for a variety of amenities such as street trees, lighting, benches, bike racks, or public trash cans and mail boxes.

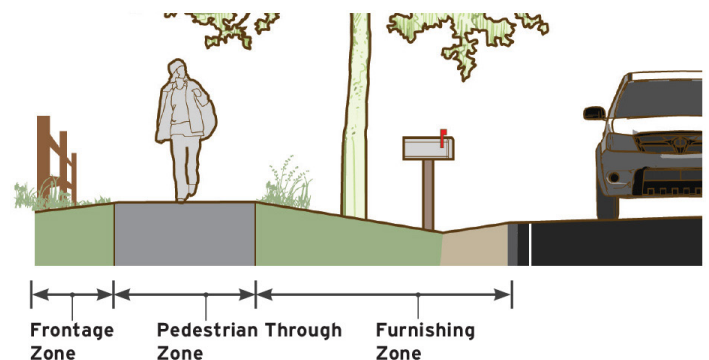


Image Source: FHWA Small Town and Rural Design Guide



## Shared Use Paths

### Off-Road Shared Use Paths or Greenways

Off-road trails are greenways and pathways that are not located along a roadway but instead follow their own alignment or possibly a stream or utility easement. The trails are ideally 10 to 14 feet in width and typically constructed with concrete or asphalt as well as timber bridges and boardwalks around wetlands and other environmentally-sensitive areas. When signalized crossings of roadways are not preferred or possible, elevated or tunneled trail crossings may be considered. Restrooms and parking locations may be located at trailheads and other key points along the path. The only off-road trail in either town is the Vaughn Creek Greenway, and it has a natural surface.



### Street-side Shared Use Path or Side Path

Street-side shared use paths or side paths function like most paved trails. They are physically separated from motorized vehicular traffic, either by a landscaped buffer or a barrier, but rather than having an independent alignment, they are designed to follow roadway corridors. These facilities are particularly useful when roadway width is limited and providing an on-street bike facility is not possible. These paths are designed for two-way travel and serve both bicycles and pedestrians.

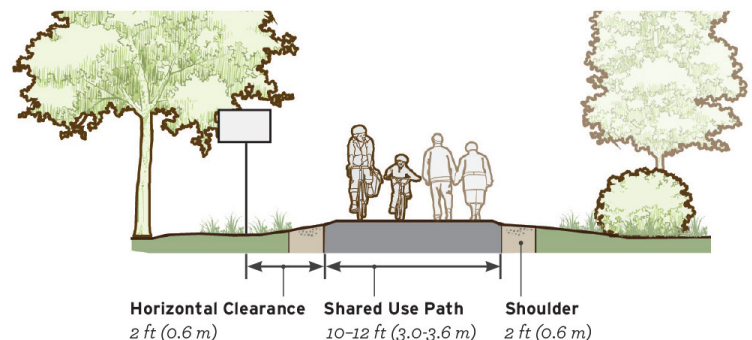
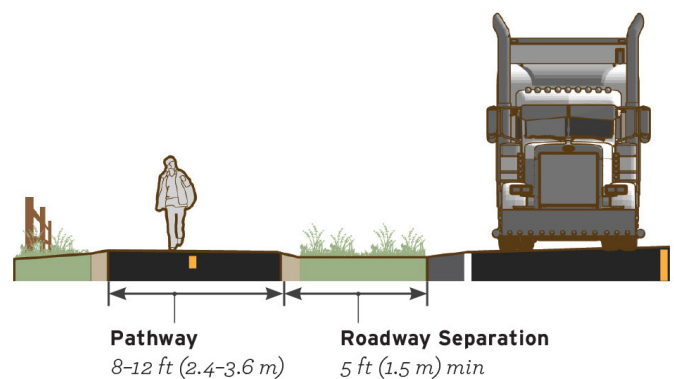


Image Source: FHWA Small Town and Rural Design Guide



### Bike Lanes (Separated or Buffered)

#### Buffered Bike Lanes

When sufficient roadway width is present, or if extra travel lanes are reduced, a buffer may be striped between a bike lane and travel lane to provide additional comfort for both bicyclists and motorists. This provides space for bicyclists to pass one another or ride side by side without encroaching into a motor vehicle travel lane. The buffer adds to the perception of safety and encourages greater use of the on-street bicycle network. It appeals to a wider set of bicycle users by providing added separation between motorists and bicyclists that may be traveling at substantially different speeds.

#### Separated Bike Lanes

Separated bike lanes function similar to a side path, but with increased safety in areas where there may be high volumes of pedestrians or vehicles, as separated bike lanes feature separation from both the vehicle travel way and the pedestrian travel way. Separated bike lanes can be constructed as either one-way or two-way operation, and appeal to a wider range of bicyclists than conventional on-street facilities.

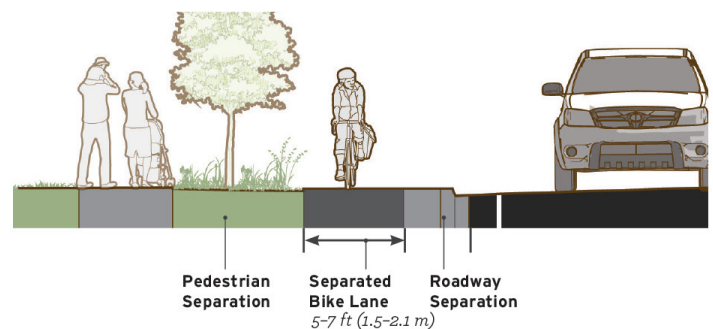
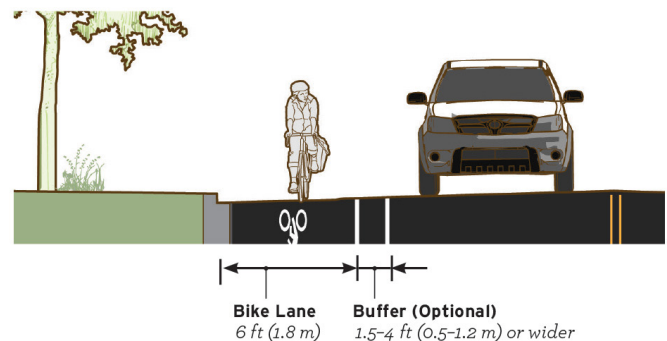
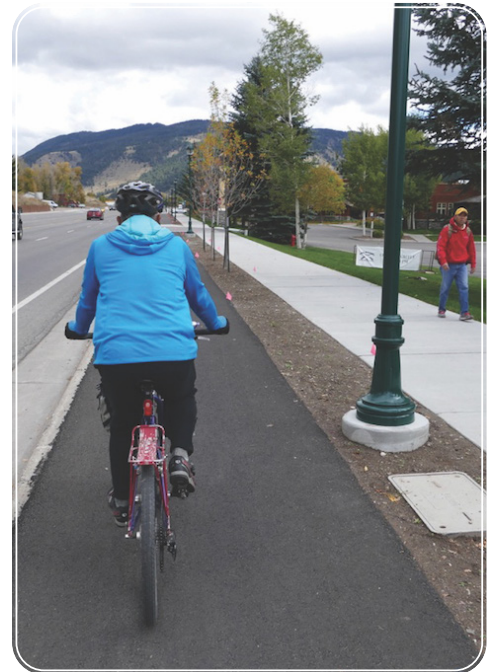


Image Source: FHWA Small Town and Rural Design Guide

## Paved Shoulders

Maintaining paved shoulders on rural roadways without curbs and gutters may offer convenient connections to regional destinations, particularly for recreational cyclists. When shoulders are not constructed or maintained for bicycle use, the higher posted speeds and narrow shoulder widths on rural highways typically deter inexperienced riders. Some of the Towns' rural roads may eventually be reconstructed to include bike lanes, but if the road is not expected to be widened in the near future, the Towns or the State can consider adding or improving paved shoulders to accommodate bicyclists.

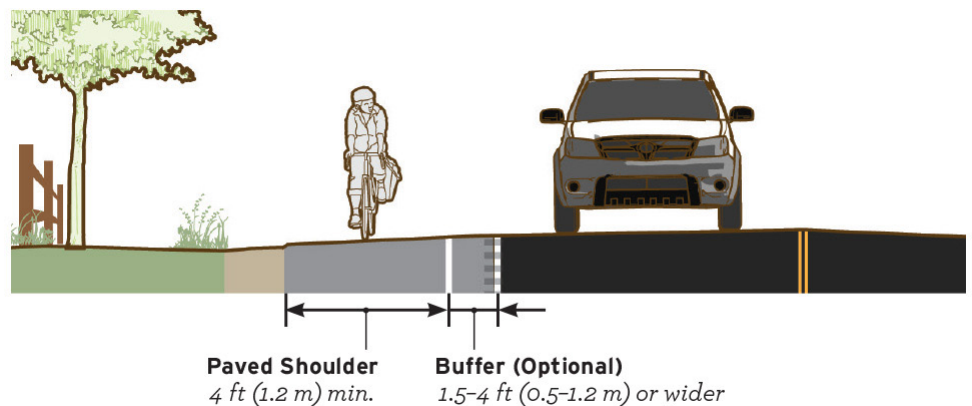


Image Source: FHWA Small Town and Rural Design Guide

TABLE 4: COLUMBUS FACILITY RECOMMENDATIONS

Street	Improvement	Extents
Forest Glen Road	Paved Shoulder	NC 108 to Columbus Town Limits
Houston Road	Paved Shoulder	NC 108 to Columbus Town Limits
NC 108 (Mills Street)	Separated Bike Lane	Walker Street to Peak Street
NC 108 (Mills Street)	Shared Use Path	Blanton Street to Columbus Town Limits
Peak Street	Separated Bike Lane	NC 108 to Columbus Town Limits
Walker Street/Peniel Road	Separated Bike Lane	NC 108 to Columbus Town Limits
Ward Street	Separated Bike Lane	Walker Street to Peak Street
NC 108	Sidewalk	Walker Street to Isothermal Community College
Walker Street	Sidewalk	Ward Street to Simms Street
Park Street	Sidewalk	NC 108 to Gibson Park
Simms Street	Sidewalk	Walker Street to Peak Street
Peak Street	Sidewalk	Ward Street to Simms Street
Shuford Road	Sidewalk	NC 108 to Columbus Town Limits
Hospital Drive/Forest Glen Road	Sidewalk	NC 108 to Columbus Town Limits
Hospital Drive	Sidewalk	NC 108 to Forest Glen Road

FIGURE 15: COLUMBUS FACILITY RECOMMENDATIONS

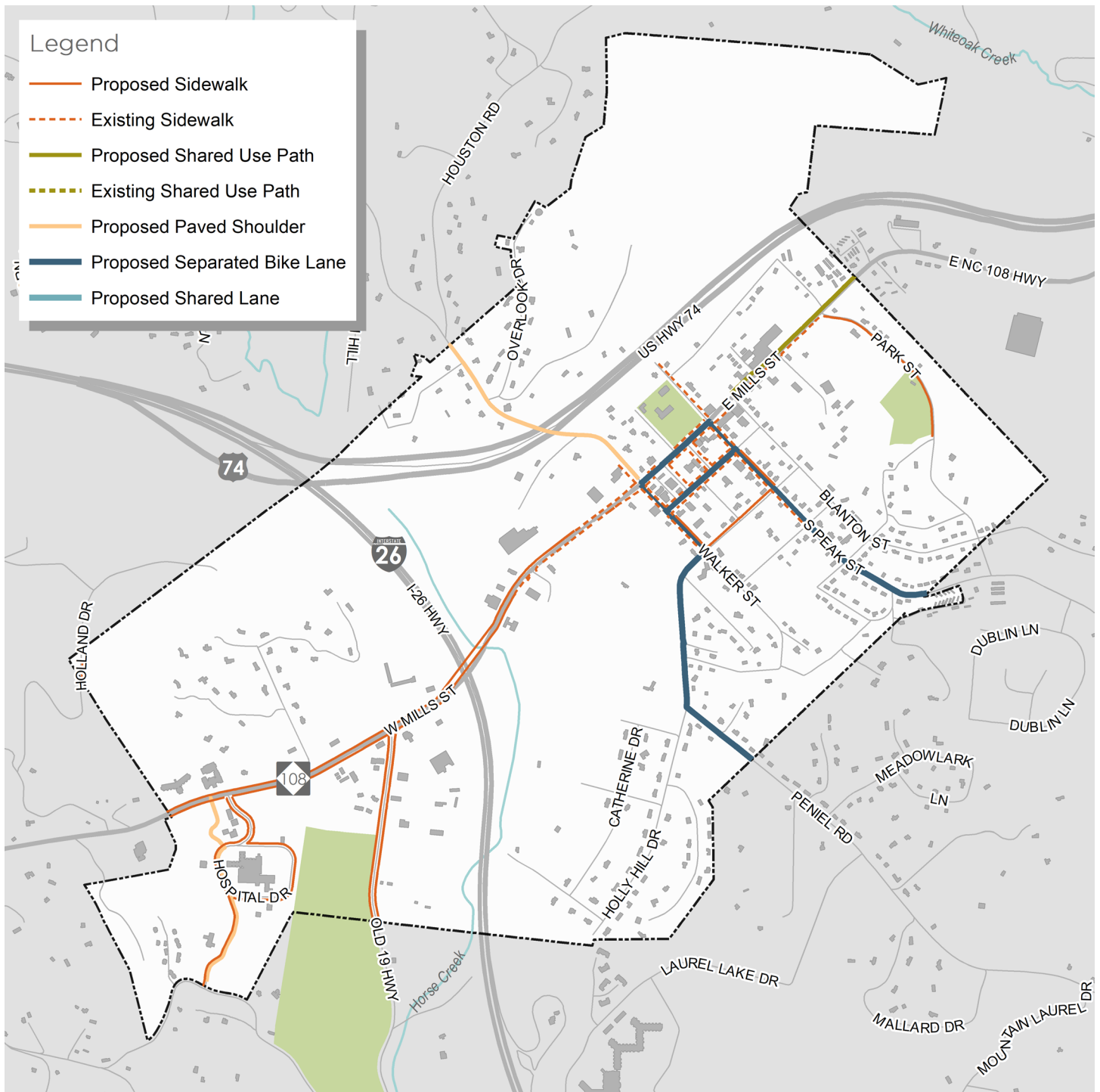


TABLE 5: TRYON FACILITY RECOMMENDATIONS

Street	Improvement	Extents
Hogback Mountain Road	Paved Shoulder	Laurel Ave to Tryon Town Limits
Howard Street	Shared Lane	US 176 (Trade St) to Oak St
Howard Street	Paved Shoulder	Oak St to Ziglar Field
Jackson Street	Paved Shoulder	Markham Rd to Shepard St
Laurel Avenue	Shared Lane	Melrose Ave to Hogback Mountain Rd
Maple Street	Shared Lane	US 176 (Trade St) to Howard St
Markham Road	Paved Shoulder	Jackson St to Tryon Town Limits
Melrose Avenue	Shared Lane	Chestnut St to Laurel Ave
New Market Road	Paved Shoulder	US 176 (Trade St) to Tryon Town Limits
Oak Street	Shared Lane	US 176 (Trade St) to Howard St
Pacelot Street	Shared Lane	US 176 (Trade St) to Melrose Ave
Palmer Street	Shared Lane	US 176 (Trade St) to Maple St
Peake Street	Paved Shoulder	Howard St to Shephard St
Shepard Street	Paved Shoulder	Jackson St to Peake St
US 176 ( N Trade Street)	Separated Bike Lane	E Howard St to Tryon Town Limits
US 176 (Trade Street)	Shared Lane	E Howard St to New Market Rd
US 176 (S Trade Street)	Separated Bike Lane	New Market Rd to SC State Line
Vaughn Street	Paved Shoulder	New Market Rd to Howard St
Saluda Grade Rail Trail	Shared Use Path	NW Town Limits to SE Town Limits
Palmetto Trail Connection	Shared Use Path	US 176 (S Trade St) to Future Palmetto Trail
Vaughn Creek Greenway Extension	Shared Use Path	Palmetto Trail Connection to Current Terminus near RR Terminus near New Market Rd to Ziglar Field

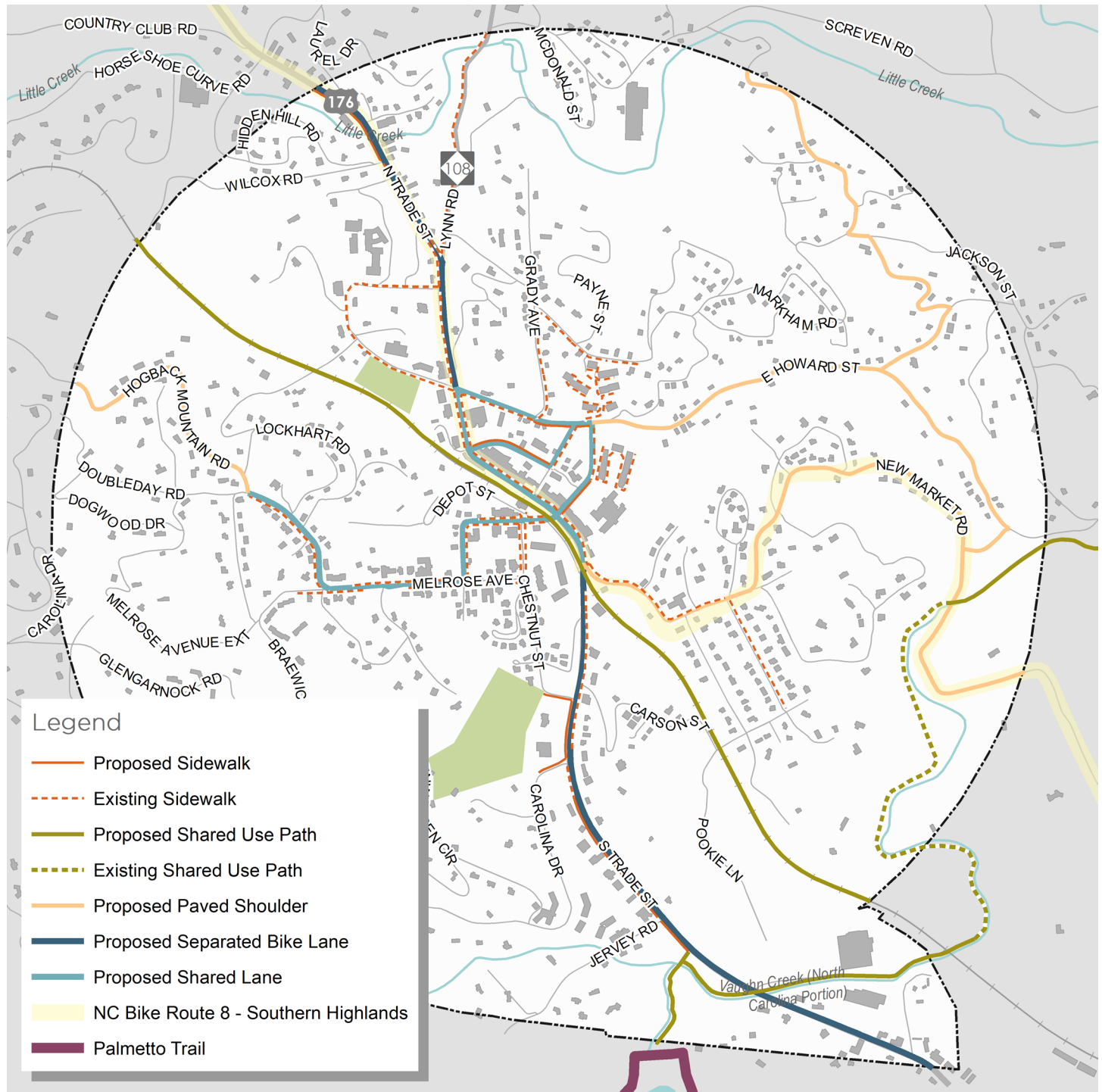


Street	Improvement	Extents
Palmer Street	Sidewalk	US 176 (N Trade St) to Maple St
Howard Street	Sidewalk	Oak St to Grady Ave
US 176 (Trade Street)	Sidewalk	Chestnut St to Carolina Dr
Chestnut Street	Sidewalk	US 176 (Trade St) to Woodland Park
US 176 (Trade Street)	Sidewalk	South of Carolina Dr to Palmetto Trail Connector
US 176 (Trade Street)	Sidewalk	Wilcox Rd to Tryon Town Limits
Carolina Drive	Sidewalk	US 176 (Trade St) to Woodland Park

# TRYON AND COLUMBUS

## Bicycle and Pedestrian Plan

FIGURE 16: TRYON FACILITY RECOMMENDATIONS



## Program and Policy Recommendations

This plan includes a variety of infrastructure recommendations. Beyond those facilities, the Towns and their local and regional partners can undertake programmatic efforts to improve walking and biking conditions and enhance the active transportation culture. These efforts include creating programs or organizing events to promote and encourage walking and biking; educating motorists, pedestrians, and bicyclists about how to safely and legally navigate the Towns together; and creating policies that ensure walking and biking are recognized as valid modes of transportation and contributors to the Towns economic and tourism engine.

The programs and policies have been assigned to one of eight general categories, described below.

**Local Events:** Local events, such as festivals, street races, and open streets events, help build and nurture active transportation culture. These events also bring visitors to the towns and can be incorporated into school activities to enhance awareness for users of all ages.

- Plan and execute Open Streets events.
  - » Open Streets events temporarily close streets to motor vehicular traffic allowing the street to be used for a variety of pedestrian, bicyclist, and recreation activities. These events build community while celebrating the use of non-motorized transportations.

**Project Integration:** A strategic approach to project integration ensures bicycling and walking accommodations are incorporated into the decision-making process for improvements to the Towns' transportation network, whether those improvements are publicly or privately financed.

- Incorporate recommendations into all new, reconstruction, and maintenance projects
  - » The most efficient and cost-effective way to build a bicycle and pedestrian network is to include bicycle and pedestrian facilities as part of other ongoing roadway projects. This includes new, reconstruction, and maintenance projects.
- Identify regional, state, and federal funding opportunities to implement multimodal opportunities
  - » Apply for grants and explore partnerships with local businesses and developers to fund the installation of shared use paths, sidewalk improvements, and better pedestrian crossings.

**Design Guidelines:** Design guidelines can provide predictability to street design and consistency across jurisdictional boundaries.

- Local Complete Streets and Traffic Calming Policies
  - » Complete Streets policies establish a process which requires planning and designing for all roadway users, including pedestrians, bicyclists, transit users, and motorists. A local Complete Streets policy would supplement NCDOT's Complete Streets policy and would be specifically applicable to Town-owned streets. (<https://www.completestreetsnc.org/>)

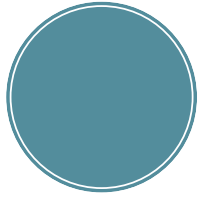
**Promotions and Awareness:** Once recommendations are in place, users of all ages and abilities must be made aware of new connections and be advised of the rules of the road. A coordinated approach to promotion and awareness is critical.

- Establish a Bicycle and Pedestrian Advisory Committee to Ensure Regional Consistency and Connections
  - » A Bicycle and Pedestrian Advisory Commission consists of volunteers who provide guidance and leadership concerning bicycle and pedestrian issues to RPO staff. The Bicycle and Pedestrian Advisory Commission would meet regularly to discuss strategies to improve bicycling and walking conditions in Tryon and Columbus. Partner with Polk County and Saluda to identify ways to connect local trails into a regional greenway system.
- Become a Watch For Me NC partner community
  - » Watch for Me NC is a collaborative effort between NCDOT and local communities to reduce the number of bicycles and pedestrians injured in vehicle crashes. The program provides public education and enhanced support and training for police departments.  
(<https://www.watchformenc.org/>)

**Monitoring and Assessment:** It's important for residents, stakeholders, and elected officials to see how investing time and money into the bicycle and pedestrian network positively contributes to broader community initiatives.

- Develop a pedestrian and bicycle facility maintenance program.
  - » A bicycle and pedestrian facility maintenance program can help to keep an inventory of bicycle and pedestrian facilities and their conditions, enabling the prioritization and implementation of facility maintenance. Maintenance cycles and triggers should be based on the impact of surfaces and debris on bicyclists and pedestrians, rather than thresholds used for motor vehicle travel lanes.





# CHAPTER 5

## IMPLEMENTATION





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# CHAPTER 5

## IMPLEMENTATION

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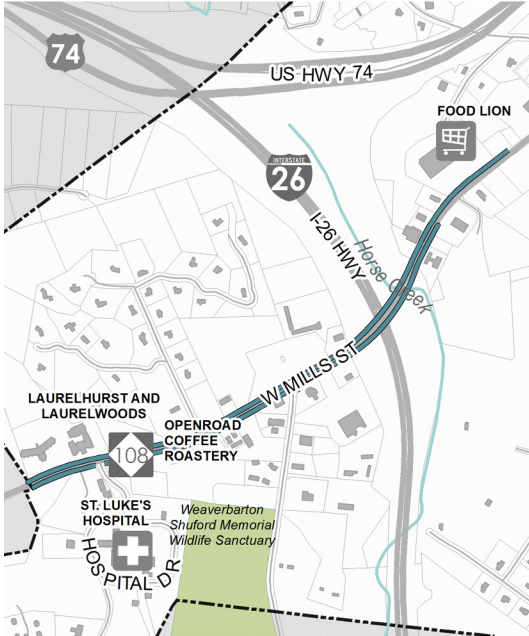
The following pages highlight ten projects recommended throughout Tryon and Columbus. These projects were identified as high priority projects in coordination with each Town and members of the Steering Committee. Each project is accompanied by a brief project description, as well as key project elements such as the length, cost, and constraints. Cost for each project was calculated using the 2019 NCDOT Bicycle and Pedestrian Cost Estimation Tool. The cost estimates and assumptions accompanying each can be found in the Appendix.

Columbus Priority Projects



## NC 108 Sidewalks

### Walker Street to Isothermal Community College



This project is located along both the north and south sides of NC 108 from approximately Walker Street to Isothermal Community College. This project offers the greatest opportunity for partnership with NCDOT.

Elements of the project include:

- Total Length: 1.0 mile
- Key Connections: Polk County Library, Isothermal Community College, St. Luke's Hospital, Openroad Coffee Roastery, LaurelHurst and LaurelWoods Assisted Living Facilities, Commercial areas
- Estimated Cost: \$5.0 million
- Challenges: high cost, I-26 Interchange configuration (there is currently a committed NCDOT project to update the bridge and improve pedestrian access here)

## Park Street Sidewalk

### NC 108 to Gibson Park



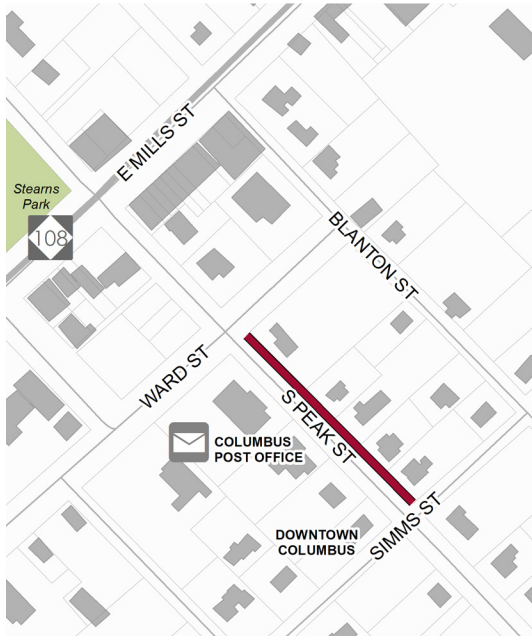
This project is located along the west side of Park Street from NC 108 to Gibson Park. This project is proposed along the west side to avoid impacting local residences and provide direct access to the park from the central business district (CBD) without having to cross Park Street.

Elements of the project include:

- Total Length: 1,500 feet
- Key Connections: Columbus CBD, Gibson Park, Gibson Park Pool
- Estimated Cost: \$360,000
- Challenges: utilities along west side of street, lack of curb and gutter

### Peak Street Sidewalk

Ward Street to Simms Street



This project is located along the east side of S Peak Street from Ward Street to Simms Street.

Elements of the project include:

- Total Length: 550 feet
- Key Connections: Columbus Fire Department, Foundation Community Church
- Estimated Cost: \$175,000
- Challenges: right-of-way, utilities, lack of curb and gutter

### Shuford Road Sidewalks

NC 108 to Columbus Town Limits



This project is located along both the east and west sides of Shuford Road from NC 108 to the Town Limits. The sidewalks along Shuford Road would connect to the currently closed trails at the former Weaverbarton Shuford Memorial Wildlife Sanctuary. The trails closed in 2014, but the estate is still a conservation easement and could reopen to the public in the future.

Elements of the project include:

- Total Length: 2,000 feet
- Key Connections: many commercial locations, Ridge Oak Apartments
- Estimated Cost: \$1.0 million
- Challenges: high cost, lack of curb and gutter



## NC 108 (Mill Street) Shared Use Path

Blanton Street to Columbus Town Limits

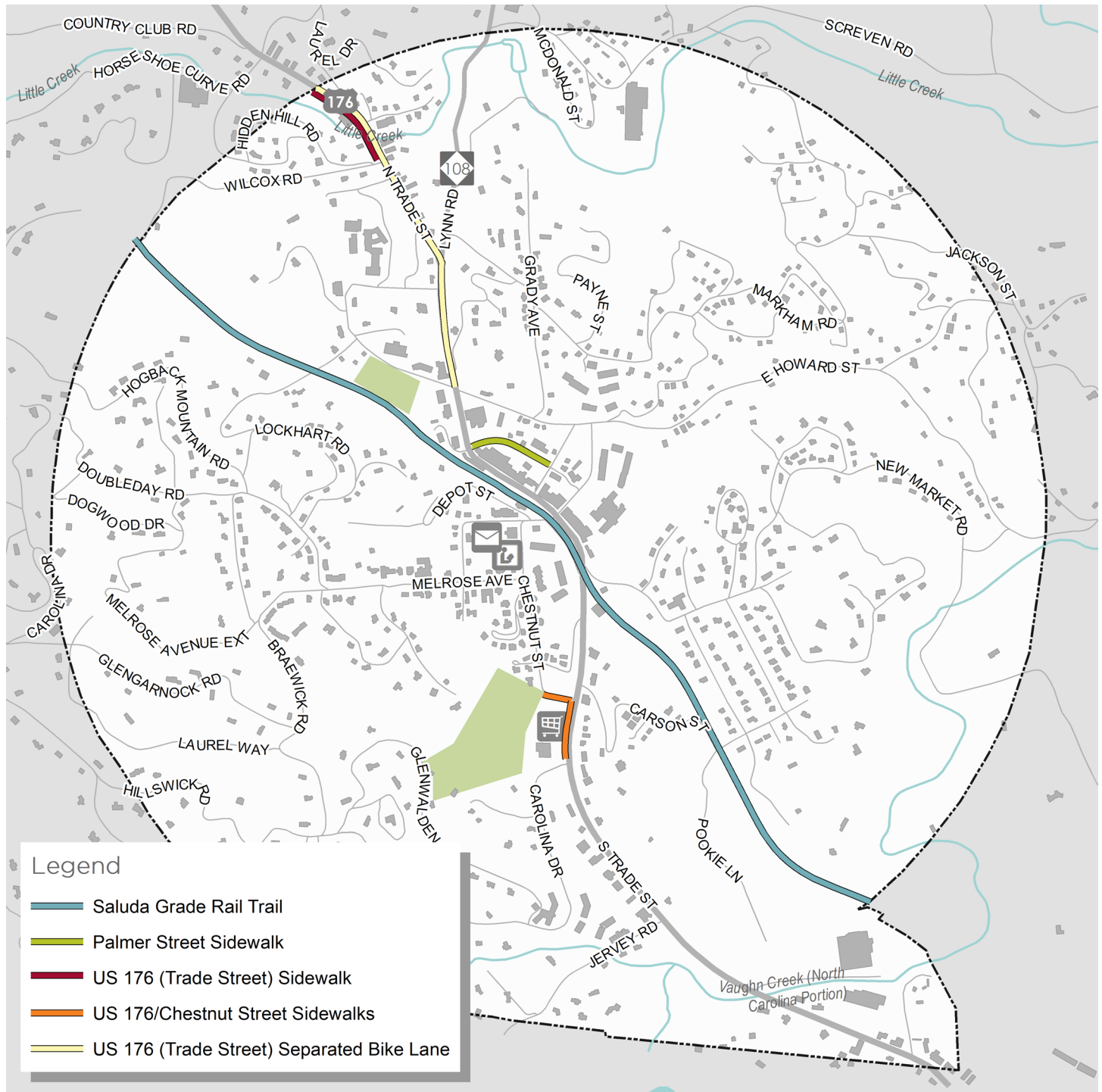


This project is located along the north side of NC 108 from Blanton Street to the Town Limits. The shared use path could later be extended to provide a direct connection from Downtown Columbus to Polk County High School.

Elements of the project include:

- Total Length: 2,000 feet
- Key Connections: Continuation of Downtown network, possibility of future extension to connect Polk County H.S.
- Estimated Cost: \$1.09 million
- Challenges: high cost

### Tryon Priority Projects



## Saluda Grade Rail Trail

NW Town Limits to SE Town Limits



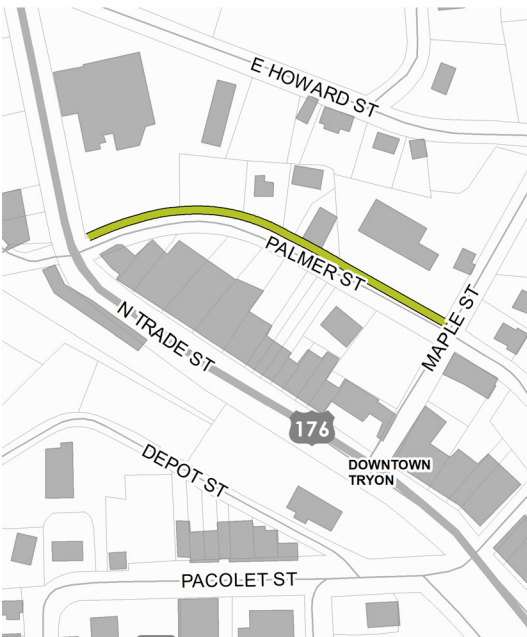
The Saluda Grade Rail Trail has been identified in several planning documents and is noted as a regional priority in the Isothermal Regional Bicycle Plan. Additionally, the Towns of Saluda and Tryon have both passed resolutions in support of the trail.

Elements of the project include:

- Total Length: 1.5 miles
- Key Connections: Downtown Tryon, Saluda, Vaughn Creek Greenway, Landrum
- Estimated Cost: \$4.5 million
- Challenges: securing or getting access to the rail right-of-way, cost, cross-jurisdictional/agency collaboration

## Palmer Street Sidewalk

US 176 to Maple Street



Sidewalks along the north side of Palmer Street would help provide connectivity in Downtown Tryon.

Elements of the project include:

- Total Length: 675 feet
- Key Connections: Downtown Tryon, Thompson's Garden Gallery and Outdoor Living Center
- Estimated Cost: \$200,000
- Challenges: constrained right-of-way

### US 176 (Trade Street) Sidewalk

Wilcox Road to Tryon Town Limits



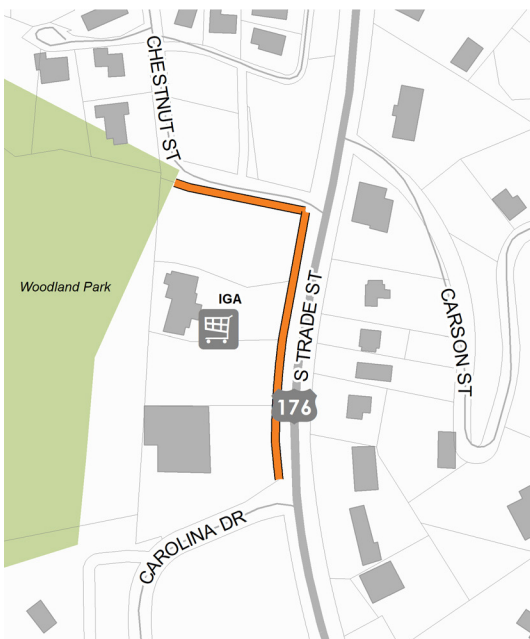
This project fills in a missing link in the Tryon sidewalk network. Construction of the project will allow for sidewalks on at least one side of US 176 from the Town boundary to Downtown.

Elements of the project include:

- Total Length: 800 ft
- Key Connections: existing sidewalks on US 176
- Estimated Cost: \$235,000
- Challenges: Little Creek, lack of curb and gutter

### Chestnut Street and US 176 Sidewalk

Woodland Park to Carolina Drive



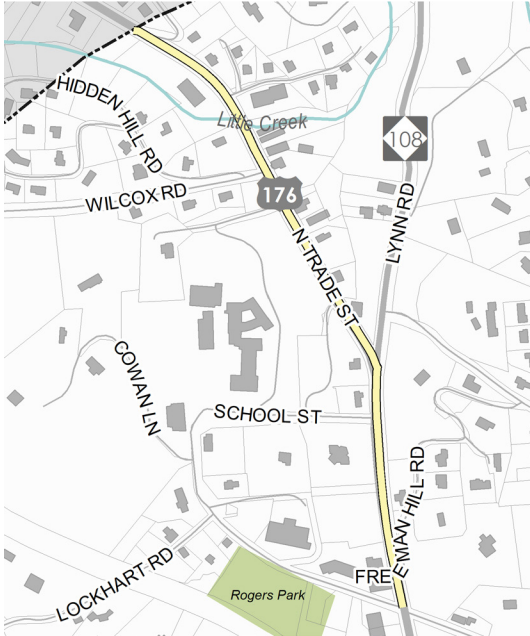
Sidewalk connections along Chestnut Street and US 176 will provide an extension of the existing sidewalk network, providing access to key retail and recreation opportunities. This project could be extended in the future to reach Tryon Little Theater.

Elements of the project include:

- Total Length: 700 ft
- Key Connections: Woodland Park, Tryon IGA, Dollar General
- Estimated Cost: \$180,000
- Challenges: terrain along Chestnut Street

## US 176 (Trade Street) Separated Bike Lane

Howard Street to Tryon Town Limits



Separated bike lanes along both sides of US 176 would provide a safe opportunity for cyclists of all ages and abilities to reach downtown Tryon where speeds are lower and the environment is more inviting. This project is along the NC 8 Southern Highlands Bike Route.

Elements of the project include:

- Total Length: 2,750 ft
- Key Connections: Rogers Park, Tryon Elementary School, Tryon Health and Fitness Club
- Estimated Cost: \$1.42 million
- Challenges: cost, public acceptance



## Project Funding

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The consideration of multiple funding sources allows the Towns and RPO to work on more than one implementation approach. A combination of larger and more complex projects that require significant funding and smaller projects with lesser funding needs should be pursued. While a large project such as the Saluda Grade Rail Trail is an important connection in the bicycle network for which BUILD funding could be pursued, smaller projects and programs can begin to shift the community's perception of Tryon and Columbus towards being more pedestrian- and bicycle-friendly. For example, a more visible safe routes to school program with monthly walk and roll to school days supported by crossing guards at key locations and strong media coverage reaches people of all ages. Public art and crosswalk design will engage other parts of the community and can be funded through foundation grants or a '1% arts' line item in the Towns' operating budgets.

Municipalities that are most successful in receiving grants to support their transportation system have the organizational capacity to track funding opportunities and apply for grants. This work is often done by staff in the Town Manager's Office or by Town Council staff, coordinating with a designated staff person in streets or engineering, planning, or parks and recreation. Some of the funding sources available to the Towns are summarized below.

### BUILD Discretionary Funds

Started in 2018 in place of the Transportation Investment Generating Economic Recovery (TIGER) grant program, the Better Utilizing Investments to Leverage Development (BUILD) grant program is a highly competitive Federal program that aids in funding multimodal, multi-jurisdictional projects that are often difficult to fund with traditional funding strategies. BUILD grants can be used for capital projects that generate economic development and improve access to safe and affordable transportation alternatives. The BUILD grant requires local match from award recipients.

### NCDOT Strategic Mobility Formula

NCDOT receives and allocates federal funding using their Strategic Mobility Formula, established by the Strategic Transportation Investments law passed in 2013. The Strategic Mobility Formula is a data-driven and performance-based process of prioritizing projects for federal and state funding, and it updates NCDOT's 10-year State Transportation Improvement Program (STIP) every two years. Projects in the first five years of the STIP have been committed for funding and construction, while projects in the last five years of the STIP are reevaluated every two years using the Strategic Mobility Formula. In the Strategic Mobility Formula, transportation projects are grouped into three separate funding categories: division needs, regional impact, and statewide mobility. All bicycle projects are considered division needs and are only eligible for funding that has been allocated for division needs projects. The Towns can coordinate with the Isothermal RPO to submit bicycle facility projects for prioritization for funding. Sidewalks, greenways, and bicycle infrastructure identified in this Bicycle and Pedestrian Plan are eligible for Strategic Mobility Formula Funding.

## Powell Bill Funds

North Carolina's State street-aid program, also known as the Powell Bill program, provides funding for eligible municipalities based on population and mileage of locally-maintained roadways. The primary function of the Powell Bill program is to assist municipalities in funding resurfacing local streets, but the funds may also be used for planning, constructing, and maintaining bikeways, greenways and sidewalks. Powell Bill funds could be pursued as a match for future updates of this Plan. In fiscal year 2018, Tryon received approximately \$67,000 and Columbus received approximately \$33,000 in Powell Bill funding.

## Capital Improvement Program

While each Town has expended funds annually in the past for improvements to crossings or sidewalk construction matches, neither Town's annual budget has a set dollar amount proposed for sidewalk or bicycle facility construction. Projects from this plan can be included as a separate allocation in future years.

## Parks and Recreation Trust Fund Grants (PARTF)

Each year the North Carolina General Assembly funds PARTF at different levels. Local governments can apply for PARTF grants each year through a competitive process and if selected is a dollar-for-dollar match. PARTF has helped build and maintain parks, greenways, and trails across the state.

## Transportation Bonds

Transportation bonds generate revenue from a tax increase on property values. In North Carolina, bond referendums must be approved by the local council and then included on the ballot to be voted on by residents. Transportation bonds can include roadway, bicycle facility, and sidewalk projects.

## Non-Profit Organizations

Non-profit organizations, such as Polk County Health & Wellness Coalition, bicycle advocacy organizations, and community funds, are potential sources of funding for bicycle facilities. PeopleForBikes awards grants through their Community Grant Program. Grant amounts can be up to \$10,000 per project, can't be more than 50% of the project cost, and can be awarded to local governments or non-profit organizations. This has been used successfully in some communities to complete small-scale projects, such as wayfinding, bike-rack installation, or improvements to existing trails and sidewalks.

## Design Guidelines

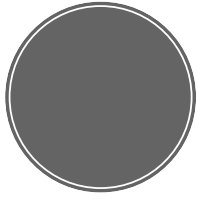
Several guidance documents exist to assist Town staff in the design of pedestrian and bicycle facilities. The guidance documents that the Towns should reference when implementing the facility recommendations of this plan are summarized below. Most of the guides below and many others can be accessed at <https://connect.ncdot.gov/projects/BikePed/Pages/Guidance.aspx>

National Guidelines

State Guidelines

TABLE 6: DESIGN GUIDELINES

Resource	Author
Guide for the Development of Bicycle Facilities, 4th Edition	AASHTO 2012
Guide for the Planning, Design, and Operation of Pedestrian Facilities, 1st Edition	AASHTO 2004
Manual on Uniform Traffic Control Devices	FHWA 2012
Separated Bike Lane Planning and Design Guidance	FHWA 2015
Achieving Multimodal Networks	FHWA 2016
Small Town and Rural Multimodal Networks	FHWA 2016
Urban Bikeway Design Guide, 2nd Edition	NACTO 2014
Urban Street Design Guide	NACTO 2013
ADA and ABA Accessibility Guidelines	US Access Board 2004
2009 NC Supplement to MUTCD	NCDOT 2009
Statewide Pedestrian and Bicycle Plan	NCDOT 2013
NCDOT Complete Streets	NCDOT 2019
Evaluating Temporary Accommodations for Pedestrians	NCDOT N/A
NC Local Programs Management Handbook	NCDOT 2009
Traditional Neighborhood Development Guidelines	NCDOT 2000



# APPENDIX

- Field Inventory Tables
- Online Survey #1
- Meeting and Survey Advertisement
- Cost Estimates for Priority Projects

# Tryon Field Inventory

US 176/Trade Street						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	Bike Route NC 8 Sidewalks along 1 side	20 - 35 MPH	25'-40'	2,400 to 6,800 vpd	NCDOT
Melrose Avenue						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	Sidewalks along both sides until Laurel Avenue	25 MPH	20'	Not available	NCDOT
Howard Street						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	Sidewalk 1 side from Tryon F.D. to Grady Avenue	25 MPH	20'	Not available	Tryon
Chestnut Street						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	Sidewalks both sides	25 MPH	18'-22'	Not available	NCDOT/ Tryon
Carolina Drive						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	No bike/ped facilities	25 MPH	18'	Not available	NCDOT/ Tryon
School Street						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	Sidewalk along 1 side	25 MPH	30'	Not available	Tryon
Markham Road						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	Sidewalk along 1 side until Pine Street	Not posted	20' 24'	Not available	Tryon



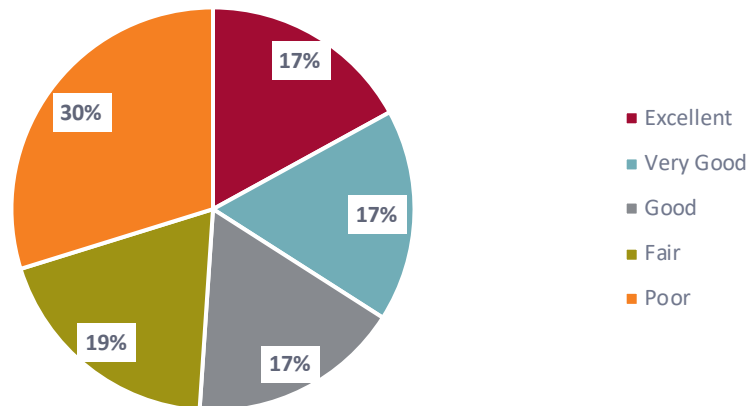
# Columbus Field Inventory

NC 108/Mills Street						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2 - 4	Undivided/Two-way left turn lane/On-street parking between Walker Street and Blanton Street	Sidewalks along both sides	25 - 35 MPH	Varies	5,000 to 20,000 vpd	NCDOT
NC 108/ Lynn Road						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	No bike/ped facilities	35 - 45 MPH	25' - 32'	7,000 to 7,800 vpd	NCDOT
Park Street						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	No bike/ped facilities	Not posted	16' - 20'	Not available	Columbus
Walker Street						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	Sidewalk along both sides until Ward Street; sidewalks along 1 side from Ward to Peniel Road	25 MPH	20 - 35 ft	2,000 to 5,000 vpd	NCDOT
Blanton Street						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	No bike/ped facilities	25 - 35 MPH	15 - 20 ft	Not available	NCDOT / Columbus
Peniel Road						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	Sidewalk along 1 side between Walker Street and Holly Hill Drive	35 MPH	30 - 35 ft	2,000 to 5,000 vpd	NCDOT
Shuford Drive						
Lanes	Median Type	Bike/Ped Treatment	Posted Speed Limit	Paved Width	AADT	Maintained By
2	No median	No bike/ped facilities	35 MPH	20' - 25'	Not available	NCDOT

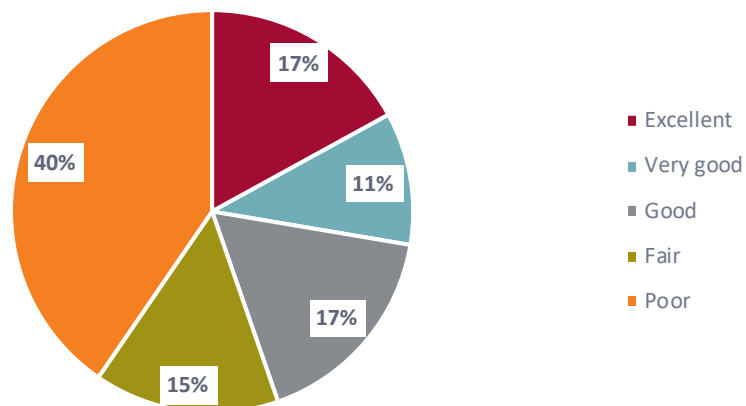
# Online Survey #1 Results

The following pages highlight the results of the first online survey. All public comments were left in their original state with no revisions for grammar, spelling, or clarity.

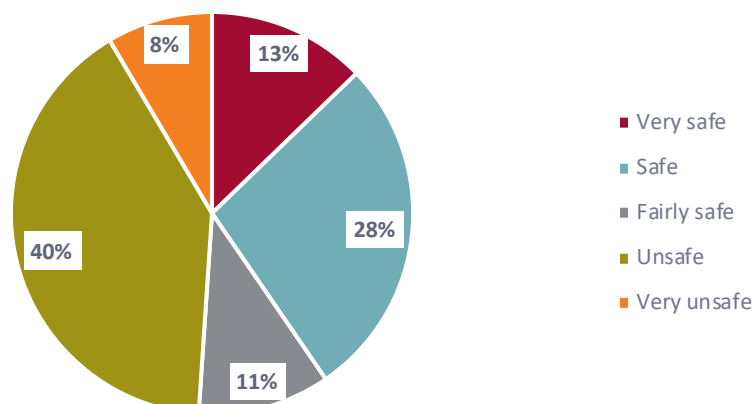
Rate the overall quality of the existing pedestrian network in Tryon and Columbus.

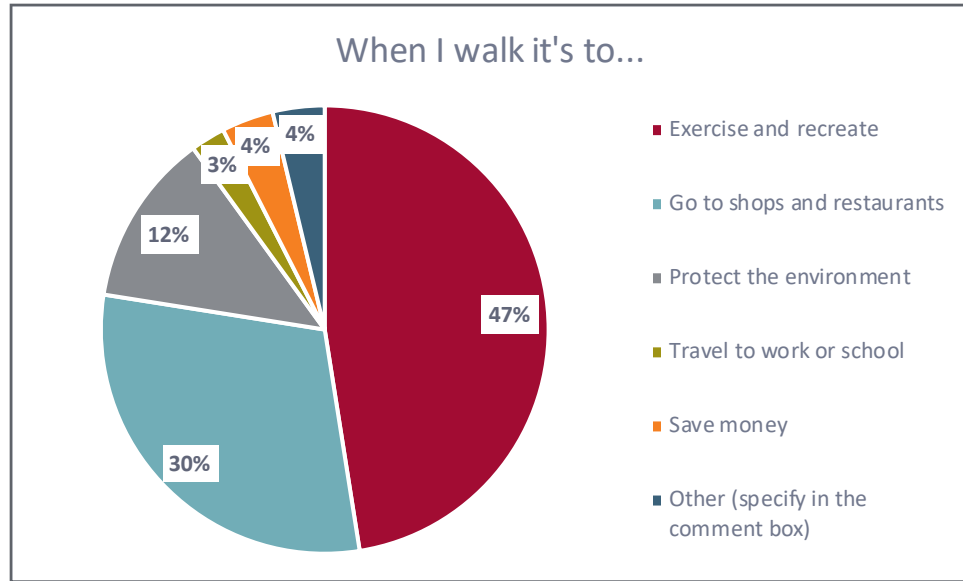


Rate the overall quality of the existing bicycle network in Tryon and Columbus.



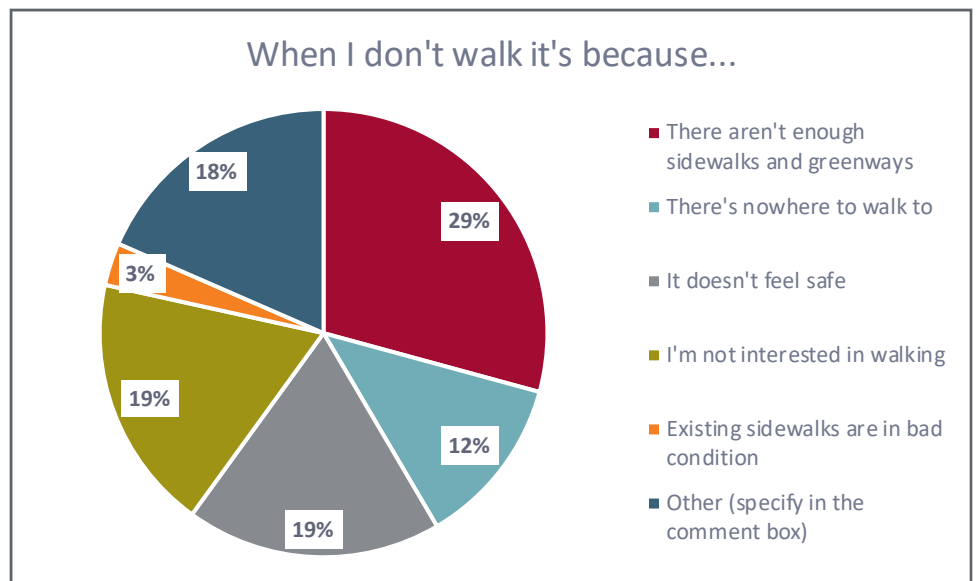
As a whole, the bicycle and pedestrian transportation network in Tryon and Columbus is:





### Comment Box Responses

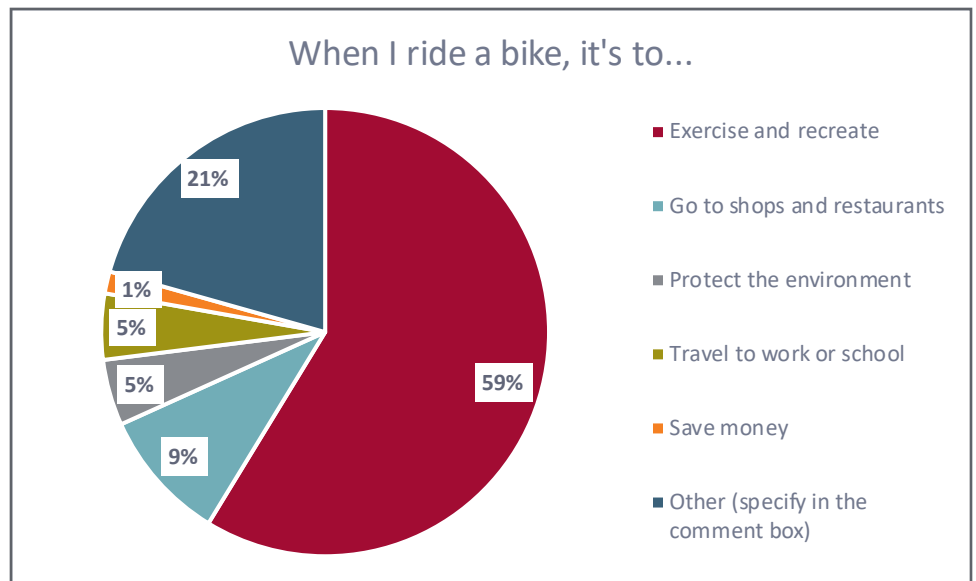
- Distance
- I don't have a reason
- Too far
- Not home
- I don't walk along rural roads with no nearby shops. I do hike along their interior trails, however.
- We don't need bike lanes!! Keep Polk county rural area!!
- Weather plays a part in walking for me. I walk daily in my neighborhood, not in downtown Columbus.
- Everything is too far.
- I'm sleeping



- I drive
- I don't have time!
- I don't want to walk

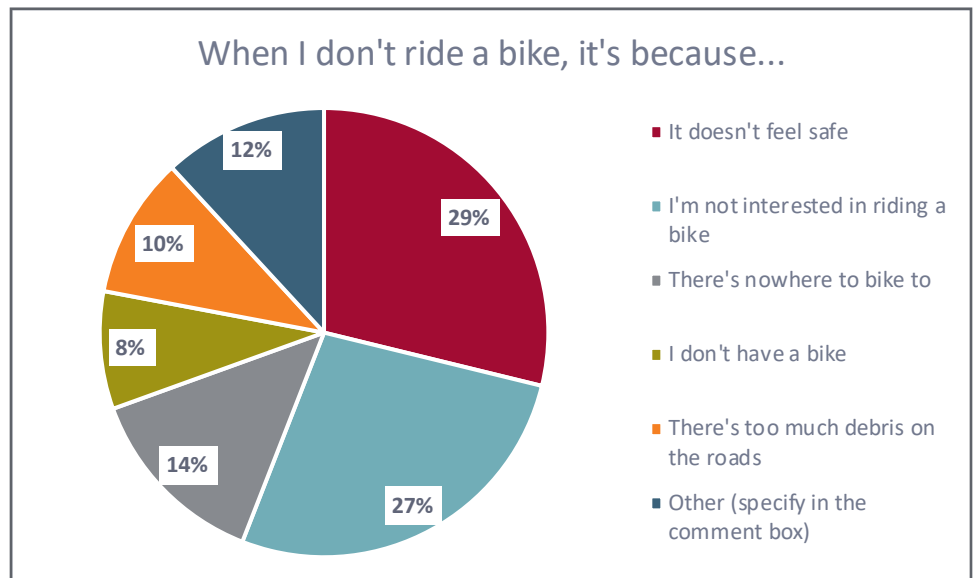
## Comment Box Responses

- Don't have a bike
- Biking is for children
- Go to appropriate locations
- Enjoy the scenery
- Why do you insist on wasting money on these privalaged projects when families and individuals in the county are struggling with everyday life.
- I don't ride bikes. Keep Polk county small and nice rural area!!!
- I would bike everywhere if it were safe to do so.
- Just started riding bike to work.
- Too old



## Comment Box Responses

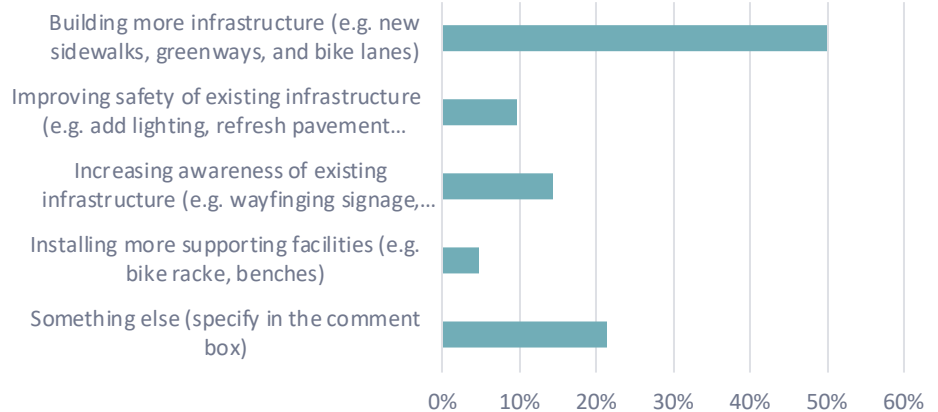
- loose dogs and no enforcement by Sheriff's Dept.
- Riding within small cities and long the Blue Ridge Parkway are more preferable.
- No bike lanes needed !!
- Unsafe roads from my house to nearby towns
- Weather or meetings.
- Don't have time
- Dont ride bikes
- I don't have time!
- I don't want to ride a bike



## Comment Box Responses

- voting out of office people who refuse to support enforcement of 'leash law' provisions of the Polk County animal control ordinance
- We don't need ro
- Being children again
- People that want to bike..DO! There is no policing of them! They do not obey traffic rules either.
- Most residents of the county don't want this. Money can be spent better elsewhere like education, supporting families needs, research etc.
- We do not need bike lanes!! Or more sidewalks no no no.
- not enough people interested in this activity. terrain is not suitable for a lot of people
- greenspace & parks for this purpose

### What would most encourage people to bike or walk in Tryon and Columbus?

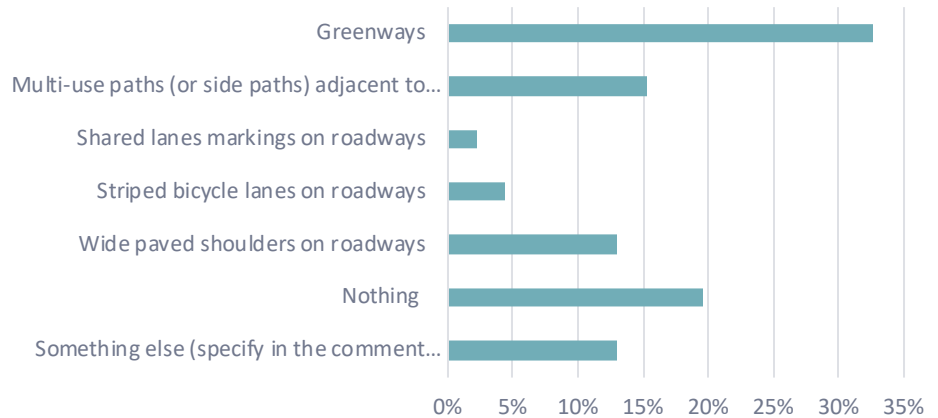


- Nothing no need to bike
- There's no need to encourage people to bike or walk.
- Do NOT destroy our cozy towns with more concrete

## Comment Box Responses

- Mtn bike trails also
- None!
- Don't bike, no idea
- The tiny % of bike riders are owed no special privileges
- Leave our existing roads alone! We have mountainous roads that are unsafe for biking and the MAJORITY of citizens here do not bike!
- dont encourage bikes on 108 or peniel. there are already too many as it is.
- Smaller footprints to promote greener living and education and enforcement of existing NC cyclist laws that already work.
- Stop trying to make Polk county something it's not.
- Polk county does not need bike lanes!!!!
- Don't ride on the road

### What is your preferred type of infrastructure for bicycling?



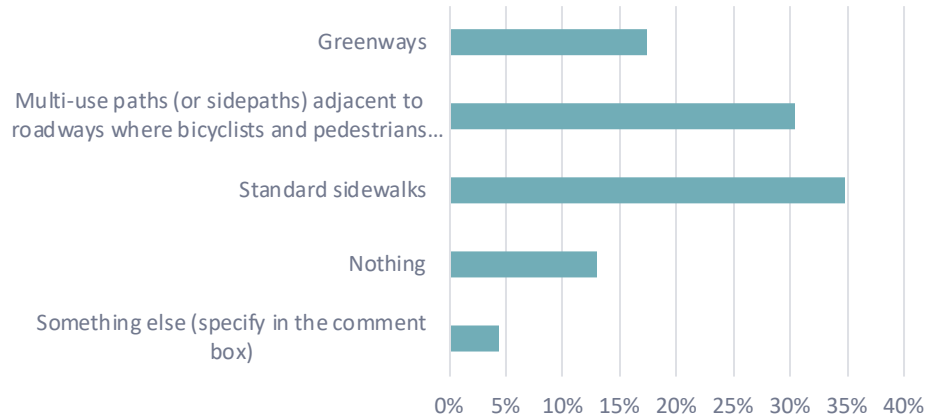
- nothing new is required - maintain the current roads properly
- Bikes are allowed to same privileges as motorized vehicles on the road.
- Create bike paths somewhere other than our roadways. Too dangerous to be together.



## Comment Box Responses

- Harmon Field is fine
- Sidealks within city limits. Lower speed limits where pedestrians walk along rural roads.
- We do not need more sidewalks
- people within walking distances need better sidewalks and lighting.along those sidewalks. many of them have uneven cracks and areas that are not well lit at night
- within city limits
- Walk where is safe and don't walk in traffic
- current road/shoulder maintainence

### What is your preferred type of infrastructure for pedestrians?

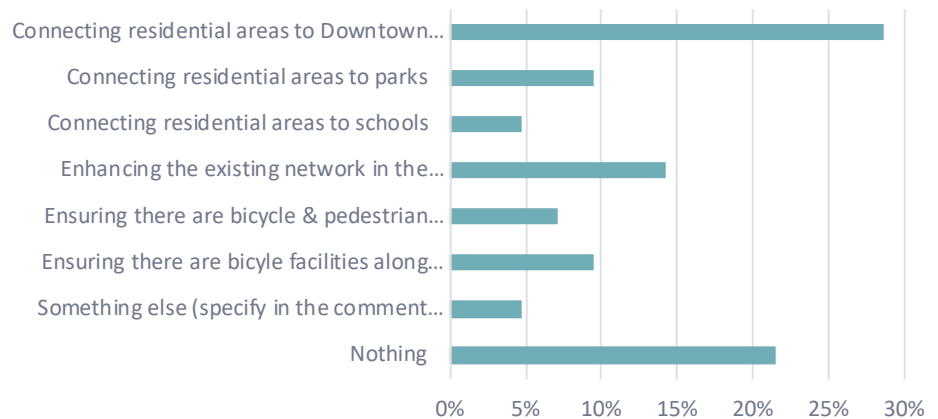


- Side of the road
- I rarely see anyone walking on the roadways. Go to Harmon field or Polk Middle? Lots of walkers in those areas OFF THE ROADS

## Comment Box Responses

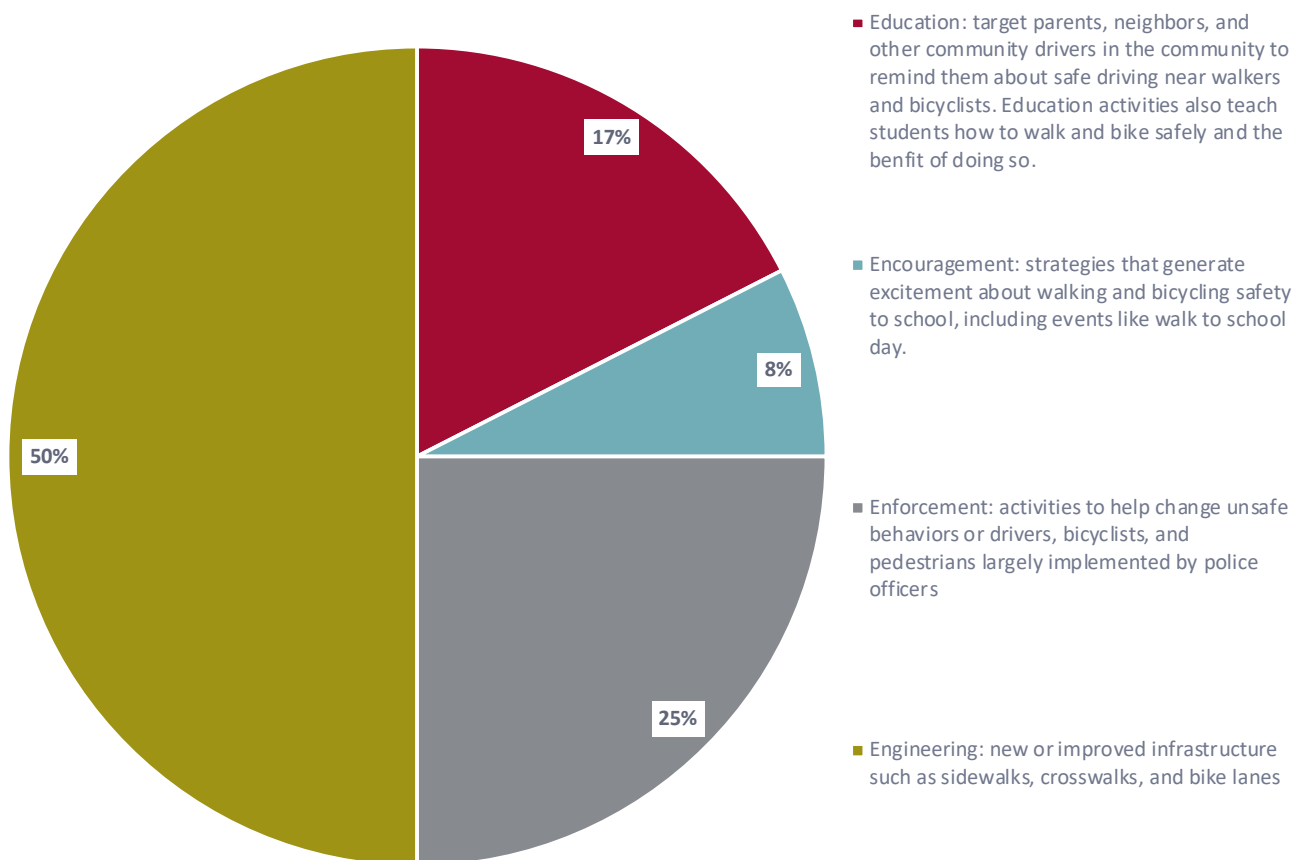
- changing attitudes about loose dogs and the threat they pose to both pedestrians and bicyclists
- None!
- Leave our historic towns as is!
- encourage walking and biking WITHIN the towns. dont encourage biking and walking BETWEEN the towns.
- Tryon and Columbus are retirement and resort communities. Better public transportation to reduce the footprint will keep those communiites green and more attractive to visitors. Slapping down more pavement will do the opposite.
- Our sidewalks are adequate. We don't want more bicycles. Really can you not support the citizens, education,?
- Polk county does not need or want bike lanes or more sidewalks
- why are you pushing for new facilities? The sidewalks and current facilities need to be taken care of before pushing for new projects.
- Leaving us ALONE

### What should be the highest priority for new bicycle and pedestrian facilities?



- better signage to advise drivers of their presence
- Nothing
- Don't need them
- once again current roads/shoulders and sidewalks need to be maintained properly
- No new bicycle or pedestrian facilities are needed or wanted.
- NO SHARED ROADWAYS. It's too dangerous and you're asking for a lawsuit with all of our curves.

Bicycle and pedestrian planning uses "the five E's" to plan for successful infrastructure, policies, and programs. Which "E" is most needed in Tryon and Columbus?



## What do you think the biggest opportunity for increasing biking and walking in Tryon and Columbus is?

- As a bicyclist, I find most motorists are very courteous (there are exceptions). Bicyclists are often less considerate of motorists, riding out in the roadway farther than they should, riding two and three abreast, and blocking the way when stopping to rest. I've lived in New Jersey, Florida, California, Illinois, and North Carolina. North Carolina is, by far, the worst place I've ridden in terms of the danger posed by loose dogs. The animal control enforcement effort is half-hearted at best and pitifully ineffective."
- Bike and ped improvements can increase the quality of life for all residents. By having a better system, the towns can attract more residents to better grow the town.
- Bike paths in parks and trails
- Biking and walking should be encouraged within the towns and nearby houses. Don't encourage people to walk and bike to get from Tryon to Columbus. It is too far for almost anyone and traffic will be worse if you add bikes.
- Connecting residential areas to public amenities like parks, libraries, schools, etc.
- connectivity from Downtown to Harmon Field and neighborhoods (Tryon)
- Converting the existing RR tracks to a rail trail
- create mountain biking/hiking trails on public property
- Creating and investing in additional infrastructure to encourage biking, walking and jogging.
- creating bike and walking paths
- decent greenways, bike paths or even wide shoulders - currently there is no way to ride without getting on a roadway with no shoulder.
- Doing nothing
- Enforcing bikers to be more courteous and adhere to the law.
- Find another town to modernize. We like it the way it is
- Gaining support from the community.
- Having DOT support so that when roads are refurbished, they increase shoulders for bikers and/or walkers. Also need for DOT to use smooth surface material when regrading (in the past on some of the more rural roads that lead into Tryon and Columbus, they have used cheaper materials that are rough and difficult to bike on).
- I don't think we need to be increasing either
- Improved health of citizens
- In Tryon if could get a rail trail from Landrum to Tryon, that would be the first step in getting the community to see the importance of a Greenway.
- Incorporating biking into every day shopping and errands.
- Increase it in safe places away from ANY roadway.
- "Make walking and biking activities more visible to the community and the traffic.  
There are not any "Share The Road" signs on the road (Hwy 108) between Columbus and Tryon."
- More greenway spaces like Harmon Field
- More sidewalks and bike lanes.
- Need wider roads that allow for bike lanes. What set of idiots decided to forgo the Route 108 modernization???
- No new plans regarding bicycling or walking are needed or wanted in Tryon or Columbus.  
Everything is going fine and we don't need or want anyone imposing plans to change things.
- People that wish to bike do. There are many areas NOT APPROPRIATE FOR BICYCLISTS.  
Maybe do outside of Columbus toward Equestrian center.

- The area is the biggest opportunity
- There is not one because this plan is not needed
- To maintain the green space and the rural character of those cities. No one wants to drive down a 6 lane to go dine in quaint Tryon or Columbus. They can enjoy urban sprawl in now-ruined Buncombe County and Hendersonville. What people come for? The quaint old homes, the old growth forests, the traditional farms, the slower life. Engineers know one thing--engineering. Expanding the pavements ruin all of that. North Carolina has a green small footprint initiative to protect tourism and the environment. This should be heavily factored into any future planning. It is called the Green Growth Toolbox: [www.ncwildlife.org/greengrowth](http://www.ncwildlife.org/greengrowth)
- Use existing infrastructure. Stop trying to change the area you claim to love so well.
- We do not need any more sidewalk and we sure do NOT need bike lanes. Keep Polk county small and rural!!
- We don't need to increase biking and walking on any major roads. A large bike park is being built. We need to allow bikes at Harmon field and other local parks. We need safe sidewalks in town. These bike paths and connecting sidewalks are only encouraging growth we don't want
- We have minimal people in this community who are interested in increasing biking opportunities. We are a county of 20000 with a median age of well over 40. Walking opportunities are varied. We have freedom to use Harmon Field or the high school track if you want to. The overall terrain is fairly strenuous for the general population in Tryon when it comes to using the sidewalks or streets. Columbus has a better/more flat terrain for just walking on sidewalks or streets. Tryon Estates has an extensive area of walking paths. we have community hikes scheduled thru the year for those who are interested and those are free.
- Work with the railroad to convert to rails to trails. They don't use or need the rail line anymore. Let's recycle it!!!

What do you think is the biggest constraint to increasing biking and walking in Tryon and Columbus?

- As long as the current roads/shoulders and current sidewalks are NOT maintained properly then there are some unsafe areas to walk/ride.  
Even as a driver of a car - there are unsafe areas as there are places where there are 6" or more drop from a crumbling pavement to a shoulder of washed out stone. One cannot expect pavement to stay in perfect condition for ever. Please maintain the roads, shoulders and sidewalks."
- attitudes
- biking/walking should not be encouraged near/on roadways. Inattentive drivers are a big problem for other drivers. Mixing them with bikers/walkers is a recipe for disaster!
- Curvy roads and old people who don't have quick reactions. Or young drivers who claim the entire roads. You will not believe how many times a day I come around a curve with someone over the line in my lane. Do NOT add people on a bike or walking on these roads as well. We have enough problems sharing the roads with all the deer.
- Drivers don't want on main roads.
- Even the best plans will face tough opposition. It is up to the municipalities to work to educate the citizens on the benefits of such a plan.
- Having an RPO that keeps shoving this stuff down our throats.
- Hills!
- It is not needed. We do not have the target population for these to justify the cost or disruption to

the general population. There is only one elementary school in Tryon. It goes up to grade 5. Parents would be hesitant to have their young children walking or biking to school because of the terrain and distance most of them travel. There is no close school to Columbus. The nearest is about 1 mile outside and it is the high school. How many high school students do you think you are going to get to walk or bike to school? you're kidding, right?

- It's Not needed
- Lack of bike paths.
- lack of paths
- Lack of suitable space for pedestrians and cyclists
- Lack of support from the community.
- Losing our small town feel! We enjoy quaint back home feel
- "More people would walk if there was shade. No one wants to walk down a hot concrete sidewalk in the sun.

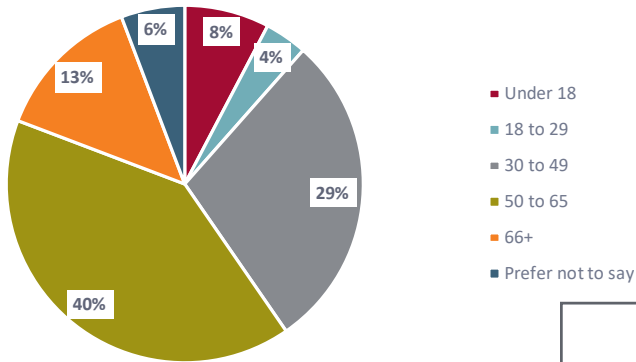
Lots of people walk in Tryon because there are stores and restaurants to walk to. People don't walk in Columbus because there aren't things to walk to. The town will become even less friendly to walkers if the developers get their way and put a bojangles in across from Larkins."

- No lanes for bikes.
- No place to safely bike
- Old town where existing layout precludes increasing road/pathways for use.
- Overcoming vocal community members that do not want any improvements to be made in the community.
- People not caring
- People who are resistant to improvement of facilities
- Please return to where you came from and build your own utopia there. Stop wasting money on changing our beautiful area and towns.
- Public opposition to new infrastructure, divisiveness.
- Rural population not wanting to change.
- Safety
- Someone is so delusional they refuse to listen to the people who live here
- Speaking from personal experience, the unwillingness of law enforcement to enforce the 'leash law' provisions of the Polk County animal control ordinance is the biggest constraint to my riding. Dispatchers and law enforcement officers have even denied the existence of those provisions. It routinely takes years of repeated complaints before officials act effectively. Even the judiciary in Polk County seems biased in favor of the 'let 'em run free' dog lobby.
- The destruction of the very elements of the rural community that would bring people here in the first place. No one wants to drive down a 6 lane to go dine in quaint Tryon or Columbus. They can enjoy urban sprawl in now-ruined Buncombe County and Hendersonville. What people come for? The quaint old homes, the old growth forests, the traditional farms, the slower life. Engineers know one thing--engineering. Expanding the pavements ruin all of that. North Carolina has a green small footprint initiative to protect tourism and the environment. This should be heavily factored into any future planning. It is called the Green Growth Toolbox: [www.ncwildlife.org/greengrowth](http://www.ncwildlife.org/greengrowth)
- The width of the road and the poor condition on the right side of the lane.
- This is a HISTORIC TOWN and retirement area as well. We do not need to create more obstacle on our roadways! Those that wish to bike do! Our mountainous area and roads are not suitable!

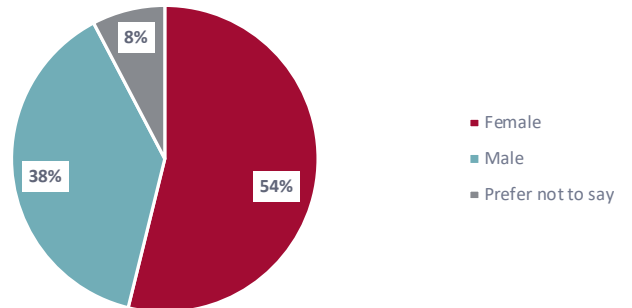


- This is a rural area, we enjoy the natural environment and do not want to see it over developed. Any plans to develop must not encroach upon the history and beauty of why we live here. Thoughtful Greenways, not road expansion, connecting townships to towns and schools would be the best way to support bicycles and pedestrians.
- Topography. Leave it alone. This survey is skewed!
- Unsafe roads, traffic, ride and reckless drivers.
- Unsafe shoulders or alternate paved or gravel path to bike and walk. There is no real need to discuss education and encouragement (even enforcement) until engineering and infrastructure supports the desired activity.  
Also, not mentioned much was the wellness and benefit to our county's overall fitness (and lowering obesity) in the county"
- We do not need bike lanes or sidewalks!!!
- We don't want it!
- We DON'T WANT to increase biking or walking in Tryon or Columbus. Neither Tryon nor Columbus are places where biking or walking is a practical way of getting around. They are RURAL areas. Biking and walking are fine for getting around an urban village setting, but NOT HERE The plan being presented has not come from the people who live here. We DON'T WANT IT. If we change our minds, we'll let you know!
- You people that are trying to make plans when no plan is needed.

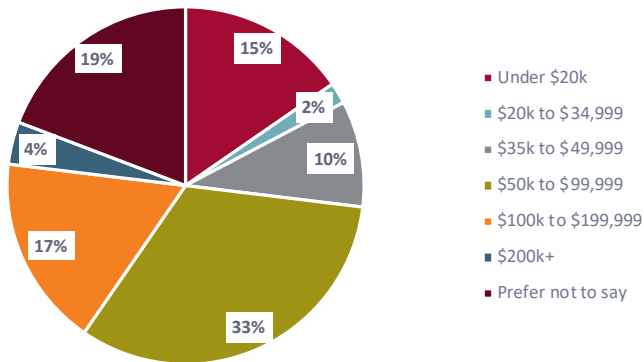
What is your age?



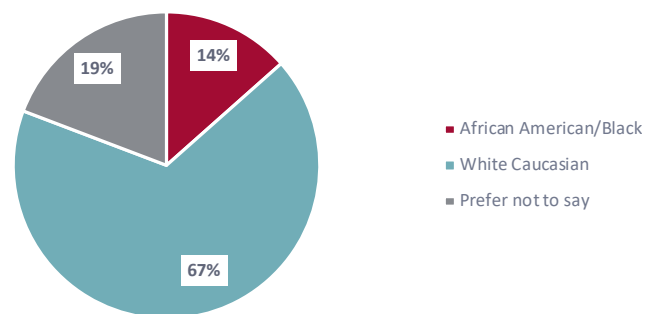
What is your gender?



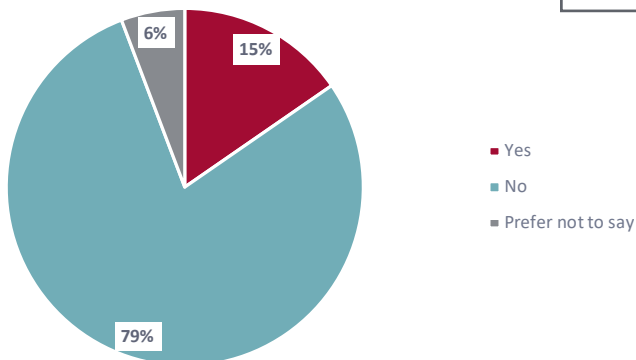
What is your income?



What is your race?



Are you of Hispanic or Latino ethnicity?





# TRYON - COLUMBUS

B I C Y C L E & P E D E S T R I A N P L A N

## Join Us!

The Towns of Tryon and Columbus are developing a joint bicycle and pedestrian plan and need your input!

Drop in any time to share your ideas and help the project team plan and map recommendations to improve biking and walking.



### PUBLIC WORKSHOP



**4:00 PM to 7:00 PM (drop in)**  
Monday, May 14, 2018



**Town of Columbus Council Chambers**  
95 Walker Street  
Columbus, NC 28722

## **Town of Columbus to Hold Public Workshop on Tryon and Columbus's Bicycle and Pedestrian Future**

Columbus, NC – April 30, 2018 – The Town of Columbus will hold a public workshop on Monday May 14th as part of the Tryon-Columbus Bicycle and Pedestrian Plan to set the direction for the future of biking and walking in and around the Towns.

Residents are encouraged to participate in the plan by attending the public workshop, completing an online questionnaire available in May, and engaging in social media. Information will be posted on both Towns' Facebook accounts in advance of major milestones and outreach events.

The May 14th public workshop will provide community members the opportunity to interact with the project team, learn about the planning process, and provide feedback to guide the development of the plan. Interested residents can attend the workshop at the Town of Columbus Council Chambers, located at 95 Walker Street, Columbus, NC. The meeting will be held from 4-7 PM, set up as a drop-in format.



# TRYON - COLUMBUS

BICYCLE & PEDESTRIAN PLAN

## Share your thoughts!

The Towns of Tryon and Columbus are developing a joint bicycle and pedestrian plan and need your input!

Our online survey is now live and we are ready to hear from you!


### Scan Me!



#### SURVEY URL

<http://wikimapping.com/wikimap/Tryon-Columbus-Bicycle-and-Pedestrian-Plan.html>





SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name

NC 108 Sidewalks

SPOT ID

NA

Project Type:

Sidewalk

1

Total Project Length

5,280

feet

2

Proposed Facility Width (Default is 5 feet)

6

feet

3

Project Located on Both Sides of the Road

YES

NO

4

County

Polk

5

City

Columbus

6

Surrounding Development Type

Commercial

7

Registered Historic District

YES

NO

8

Existing Curb & Gutter within Project Area

YES

NO

9

Number of Stream Crossings

1

10

Percentage of ROW Area Needed

Minimal (15%-25%)

11

Impact to Active Railroad Track or Railroad ROW

YES

NO

12

Roadways Intersected

Number of Existing Bridges

Interstate	1	1
Freeway	0	0
Major Arterial	0	0
Arterial	0	0
Major Collector	0	0
Collector	0	0
Local Road	4	0
Total	5	1

13

Signalized Intersections Crossed

(Number within Total Roadways Intersected)

0

15

Submitted by

Kimley-Horn

Date:

2/25/2020

Generate Cost

Clear

Go to Calculation Tab

Print PDF

Cost Estimate Summary

Total	\$	5,000,000
Design	\$	805,000
ROW	\$	15,000
Utilities	\$	180,000
Construction	\$	4,000,000

Enter Any Desired Notes in the Box Below

Includes construction of curb and gutter. Assumed commercial with minimal ROW needed. Assumes 6-ft sidewalk for increased pedestrian comfort along major NC route.

Disclaimers

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


This tool assumes established ecoregion typologies, construction market regions, and average land values specific to North Carolina. They are determined within the tool based on user inputs for project location. This location-based information is used in ROW, construction, and environmental mitigation calculations.

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SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name

NC 108 (E Mills Street) Sidewalk

SPOT ID

NA

Project Type:

Shared-Use Path, Multi-Use Path, Rail-Trail, or Sidewalk

1

Total Project Length

2,000

feet

2

Proposed Facility Width (Default is 10 feet)

10

feet

3

Project Located on Both Sides of the Road

☐ YES
 ☒ NO

4

County

Polk

5

City

Columbus

6

Surrounding Development Type

Commercial

7

Registered Historic District

☐ YES
 ☒ NO

8

Existing Curb & Gutter within Project Area

☒ YES
 ☐ NO

9

Number of Stream Crossings

0

10

Percentage of ROW Area Needed

Minimal (15%-25%)

11

Impact to Active Railroad Track or Railroad ROW

12

Roadways Intersected

Interstate	0
Freeway	0
Major Arterial	0
Arterial	0
Major Collector	0
Collector	0
Local Road	2
Total	2

13

Signalized Intersections Crossed

(Number within Total Roadways Intersected)

0

14

Number of Existing Bridges

Interstate	0
Freeway	0
Major Arterial	0
Arterial	0
Major Collector	0
Collector	0
Local Road	0
Small Stream	0
Medium Stream	0
Large Stream	0
Railroad	0
Total	0

15

Submitted by

Kimley-Horn

Generate Cost

Clear

Date:

2/25/2020

Go to Calculation Tab

Print PDF

Cost Estimate Summary

Total

\$

1,090,000

Design

\$

175,000

ROW

\$

5,000

Utilities

\$

35,000

Construction

\$

875,000

Enter Any Desired Notes in the Box Below

Disclaimers

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SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name

Palmer Street Sidewalk

SPOT ID

N/A

Project Type:

Sidewalk

1 Total Project Length

675 feet

2 Proposed Facility Width (Default is 5 feet)

5 feet

3 Project Located on Both Sides of the Road

☐ YES
☒ NO

4 County

Polk

5 City

Tryon

6 Surrounding Development Type

Downtown

7 Registered Historic District

☐ YES
☒ NO

8 Existing Curb & Gutter within Project Area

☐ YES
☒ NO

9 Number of Stream Crossings

0

10 Percentage of ROW Area Needed

None (0-15%)

11 Impact to Active Railroad Track or Railroad ROW

☐ YES
☒ NO

12 Roadways Intersected

Interstate	0	Number of Existing Bridges	0
Freeway	0		0
Major Arterial	0		0
Arterial	0		0
Major Collector	0		0
Collector	0		0
Local Road	0		0
Total	0		0

13 Signalized Intersections Crossed

(Number within Total Roadways Intersected)

0

15 Submitted by

Kimley-Horn

Generate Cost

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Date:

3/6/2020

Go to Calculation Tab

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Cost Estimate Summary

Total	\$	200,000
Design	\$	70,000
ROW	\$	5,000
Utilities	\$	10,000
Construction	\$	115,000

Enter Any Desired Notes in the Box Below

Disclaimers

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SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name

Park Street Sidewalk

SPOT ID

NA

Project Type:

Sidewalk

1 Total Project Length

1,500 feet

2 Proposed Facility Width (Default is 5 feet)

5 feet

3 Project Located on Both Sides of the Road

☐ YES
☒ NO

4 County

Polk

5 City

Columbus

6 Surrounding Development Type

Rural

7 Registered Historic District

☐ YES
☒ NO

8 Existing Curb & Gutter within Project Area

☐ YES
☒ NO

9 Number of Stream Crossings

0

10 Percentage of ROW Area Needed

None (0-15%)

11 Impact to Active Railroad Track or Railroad ROW

☐ YES
☒ NO

12 Roadways Intersected

Interstate	0	Number of Existing Bridges	0
Freeway	0		0
Major Arterial	0		0
Arterial	0		0
Major Collector	0		0
Collector	0		0
Local Road	0		0
Total	0		0

13 Signalized Intersections Crossed

(Number within Total Roadways Intersected)

0

15 Submitted by

Kimley-Horn

Generate Cost

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Date:

2/25/2020

Go to Calculation Tab

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Cost Estimate Summary

Total	\$	360,000
Design	\$	100,000
ROW	\$	5,000
Utilities	\$	25,000
Construction	\$	230,000

Enter Any Desired Notes in the Box Below

Assumes installation of curb and gutter

Disclaimers

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SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name

Peak Street Sidewalk

SPOT ID

NA

Project Type:

Sidewalk

1

Total Project Length

550 feet

2

Proposed Facility Width (Default is 5 feet)

5 feet

3

Project Located on Both Sides of the Road

☐ YES
☒ NO

4

County

Polk

5

City

Columbus

6

Surrounding Development Type

Suburban

7

Registered Historic District

☐ YES
☒ NO

8

Existing Curb & Gutter within Project Area

☐ YES
☒ NO

9

Number of Stream Crossings

0

10

Percentage of ROW Area Needed

None (0-15%)

11

Impact to Active Railroad Track or Railroad ROW

☐ YES
☒ NO

12

Roadways Intersected

Interstate

0

Freeway

0

Major Arterial

0

Arterial

0

Major Collector

0

Collector

0

Local Road

2

Total

2

13

Signalized Intersections Crossed

(Number within Total Roadways Intersected)

0

14

Number of Existing Bridges

Interstate

0

Freeway

0

Major Arterial

0

Arterial

0

Major Collector

0

Collector

0

Local Road

0

Small Stream

0

Medium Stream

0

Large Stream

0

Railroad

0

Total

0

15

Submitted by

Kimley-Horn

Date:

2/25/2020

Generate Cost

Clear

Go to Calculation Tab

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Cost Estimate Summary

Total

\$

175,000

Design

\$

65,000

ROW

\$

5,000

Utilities

\$

10,000

Construction

\$

95,000

Enter Any Desired Notes in the Box Below

Noted as Suburban due to residential nature - more appropriate classification would be Rural Town Center. Assumes installation of curb and gutter

Disclaimers

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SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name

Saluda Grade Rail Trail (Tryon Town Limits)

SPOT ID

N/A

Project Type:

Shared-Use Path, Multi-Use Path, Rail-Trail, or Sidewalk

1 Total Project Length

8,150 feet

2 Proposed Facility Width (Default is 10 feet)

10 feet

3 Project Located on Both Sides of the Road

☐ YES
☒ NO

4 County

Polk

5 City

Tryon

6 Surrounding Development Type

Rural

7 Registered Historic District

☐ YES
☒ NO

8 Existing Curb & Gutter within Project Area

☐ YES
☒ NO

9 Number of Stream Crossings

0

10 Percentage of ROW Area Needed

None (0-15%)

11 Impact to Active Railroad Track or Railroad ROW

☒ YES
☐ NO

12 Roadways Intersected

Interstate	0	Number of Existing Bridges	0
Freeway	0		0
Major Arterial	0		0
Arterial	1		0
Major Collector	0		0
Collector	0		0
Local Road	2		0
Total	3		0

13 Signalized Intersections Crossed

(Number within Total Roadways Intersected)

0

15 Submitted by

Kimley-Horn

3/6/2020

Date:

Generate Cost

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Go to Calculation Tab

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Cost Estimate Summary

Total

\$

4,540,000

Design

\$

1,250,000

ROW

\$

10,000

Utilities

\$

140,000

Construction

\$

3,140,000

Enter Any Desired Notes in the Box Below

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SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name

US 176/Chestnut Street Sidewalks

SPOT ID

N/A

Project Type:

Sidewalk

1

Total Project Length

700 feet

2

Proposed Facility Width (Default is 5 feet)

5 feet

3

Project Located on Both Sides of the Road

☐ YES
 ☒ NO

4

County

Polk

5

City

Tryon

6

Surrounding Development Type

Rural

7

Registered Historic District

☐ YES
 ☒ NO

8

Existing Curb & Gutter within Project Area

☐ YES
 ☒ NO

9

Number of Stream Crossings

0

10

Percentage of ROW Area Needed

None (0-15%)

11

Impact to Active Railroad Track or Railroad ROW

☐ YES
 ☒ NO

12

Roadways Intersected

Number of Existing Bridges

Interstate

0

Freeway

0

Major Arterial

0

Arterial

0

Major Collector

0

Collector

0

Local Road

0

Total

0

13

Signalized Intersections Crossed

(Number within Total Roadways Intersected)

0

15

Submitted by

Kimley-Horn

Date:

3/6/2020

Generate Cost

Clear

Go to Calculation Tab

Print PDF

Cost Estimate Summary

Total

\$

180,000

Design

\$

65,000

ROW

\$

5,000

Utilities

\$

10,000

Construction

\$

100,000

Enter Any Desired Notes in the Box Below

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SIT 3: On-Road Designated Bicycle Facility

Start Over

Project Name

US 176 Bike Lanes

SPOT ID

N/A

Project Type:

Bicycle Lane

1

Total Project Length

2,750

feet

2

Proposed Facility Width (Default is 5 feet)

7

feet

3

Project Located on Both Sides of the Road

☒ YES

☐ NO

4

County

Polk

5

City

Tryon

6

Surrounding Development Type

Rural

7

Registered Historic District

☐ YES

☒ NO

8

Existing Curb & Gutter within Project Area

☐ YES

☒ NO

9

Number of Stream Crossings

1

10

Percentage of ROW Area Needed

None (0-15%)

11

Impact to Active Railroad Track or Railroad ROW

☐ YES

☒ NO

12

Roadways Intersected

14

Number of Existing Bridges

☐ YES

☒ NO

Interstate	0	0
Freeway	0	0
Major Arterial	0	0
Arterial	0	0
Major Collector	1	0
Collector	0	0
Local Road	7	0
Total	8	0

13

Signalized Intersections Crossed

1

(Number within Total Roadways Intersected)

15

Submitted by

Kimley-Horn

Date:

3/6/2020

Generate Cost

Clear

Go to Calculation Tab

Print PDF

Cost Estimate Summary

Total

\$

1,425,000

Design

\$

365,000

ROW

\$

5,000

Utilities

\$

95,000

Construction

\$

960,000

Enter Any Desired Notes in the Box Below

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SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name

US 176 Sidewalks

SPOT ID

N/A

Project Type:

Sidewalk

1

Total Project Length

800

feet

2

Proposed Facility Width (Default is 5 feet)

5

feet

3

Project Located on Both Sides of the Road

☐ YES
 ☒ NO

4

County

Polk

5

City

Tryon

6

Surrounding Development Type

Rural

7

Registered Historic District

☐ YES
 ☒ NO

8

Existing Curb & Gutter within Project Area

☐ YES
 ☒ NO

9

Number of Stream Crossings

1

10

Percentage of ROW Area Needed

None (0-15%)

11

Impact to Active Railroad Track or Railroad ROW

☐ YES
 ☒ NO

12

Roadways Intersected

Number of Existing Bridges

0

Interstate	0
Freeway	0
Major Arterial	0
Arterial	0
Major Collector	0
Collector	0
Local Road	0
Total	0

13

Signalized Intersections Crossed

Number within Total Roadways Intersected)

0

15

Submitted by

Kimley-Horn

Generate Cost

Clear

Date:

3/6/2020

Go to Calculation Tab

Print PDF

Cost Estimate Summary

Total	\$	235,000
Design	\$	105,000
ROW	\$	5,000
Utilities	\$	15,000
Construction	\$	110,000

Enter Any Desired Notes in the Box Below

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