



TOWN OF MURFREESBORO
PEDESTRIAN PLAN
2021



Integrated Mobility Division
N.C. DEPARTMENT OF TRANSPORTATION

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EXECUTIVE SUMMARY

WALKING IN MURFREESBORO

Murfreesboro is a small town with historic charm sitting on the banks of the Meherrin River. It is compact, relatively flat, with a moderate year-round climate and variety of attractions. The Town has solid foundations to become a place where people want to walk more, but there are barriers to walking that need to be addressed.

This plan is a blueprint to address some of the barriers to walking. It focuses on creation of a connected network of sidewalks and paths that feels comfortable and safe. The document provides recommendations for infrastructure, programs and policies, and strategies for successful implementation.

KEY RECOMMENDATIONS

Stakeholders said it is important to connect desired destinations, and to create a complete pedestrian network. They also want to improve comfort and safety for pedestrians and make walkability a catalyst for economic development and tourism.

Along with objective measures like crash history these factors influenced the decision-making process that selected priority projects. Some projects are easy to implement—adding sidewalk panels in gaps where there is existing right-of-way and curb and gutter. The remainder are key connections that are missing and need to be completed to form a robust pedestrian network to safely connect to desired destinations.

PROJECT TIMELINE



RIVERSIDE PARK PLAYGROUND



TOWN OF MURFREESBORO PLAN RECOMMENDATIONS

Many of the existing sidewalks are located within residential areas or along major corridors. As conveyed in the map, however, there are many gaps that result in an incomplete pedestrian network. The recommendations seek to fill the gaps and create a unified network.

LEGEND

- Shared Use Path Recommended
- Sidewalk Recommended
- Existing Sidewalk
- Existing Shared Use Path
- CTP-Sidewalk Recommended
- Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University



ITALIAN RESTAURANT

Welcome to
Multi-Cultural
Home of
COOWAN
UNIVERSITY

LI PIZZA
Restaurant



DOWNTOWN MURFREESBORO

01 INTRODUCTION



INTRODUCTION

In 2019, the Town of Murfreesboro applied for a Bicycle and Pedestrian Planning Grant from the NCDOT Integrated Mobility Division and was awarded funding in 2020 to develop this comprehensive pedestrian plan. This Pedestrian Plan provides a framework for town staff, residents, NCDOT, developers, and regional partners to improve pedestrian travel throughout town. It guides policy and programming recommendations that strengthen and expand the pedestrian network throughout town.

PLAN PURPOSE

Murfreesboro desires to make safe, accessible walking a part of the Town's identity while maintaining its historic small-town charm. Leveraging the Town's inherent strengths such as the waterfront and presence of a university is key to creating a quality of life that will attract economic development. Creating a safer, more connected pedestrian environment in Murfreesboro is an important component of a larger vision for quality of life in the community.



COMMUNITY VISION

The Town of Murfreesboro is a community that offers a variety of attractive natural and cultural destinations that are part of a well-connected network of safe and comfortable pedestrian facilities that can be enjoyed by all.

WHERE DO PEOPLE WANT TO WALK?

Citizens enjoy visiting the preserved historic scenery and architecture that is showcased throughout the downtown area. Visiting the local shops and historic sites are a favorite pastime for residents and visitors. People travel to Murfreesboro to visit the parks along the Meherrin River and the local museum. Destinations in Murfreesboro also include a variety of local dining establishments. Several of these points of interest are identified on the map on page 40.

HOW DO WE CONNECT THOSE PLACES?

There is a basic network of existing sidewalks in the Town's street grid, but it is incomplete as shown on the map on page 27. Several existing sections are in disrepair and need improvement, such as the section of sidewalk on the eastern end of Main Street. Other destinations in Town, such as Hertford County Middle School located south of downtown on Highway 258, are not currently served by any existing sidewalks or multi-use paths for pedestrians.

HOW DO WE BUILD THE NETWORK?

In the short term Highway Safety Improvement projects, and the installation of ADA-compliant curb ramps with resurfacing or other roadway improvements are the easiest to implement. Those are followed by recommendations that have existing curb and gutter and adequate right-of-way for a simple sidewalk to be installed. Other projects have a longer timeline to find funding opportunities.

HOW DO WE BUILD A PEDESTRIAN-FRIENDLY COMMUNITY?

Work with local civic and faith-based groups to have regular walking events. Partner with other organizations and take advantage of national days that recognize pedestrians like Walk to School Day or White Cane Day.

GOALS

As Murfreesboro aims to attract more visitors and business, developing a well-connected network of pedestrian facilities will help establish a high quality of life and maintain the small-town character that contribute to Murfreesboro’s charm. This plan positions the Town to achieve its vision with these five goals:



GOAL 1: INCREASE PEDESTRIAN SAFETY

Address safety needs of users of all ages and abilities in the development of Murfreesboro’s pedestrian network and propose safety improvements at critical intersections and access points.



GOAL 2: INCREASE PEDESTRIAN MOBILITY + ACCESSIBILITY

Ensure that Murfreesboro’s active transportation network expands access for pedestrians to shopping, essential services, neighborhoods, and employers.



GOAL 3: PROMOTE EQUITABLE TRANSPORTATION OPTIONS

Prioritize the development of a pedestrian network that meets the active transportation needs of all community members, through public engagement, project delivery, and investment.



GOAL 4: FOSTER ECONOMIC PROSPERITY

Economic opportunity is intertwined with quality of life and creating a place people want to be. Providing a great pedestrian experience creates opportunities for recruiting employers and attracting tourists.



GOAL 5: IMPROVE QUALITY OF LIFE

Active transportation has many benefits including improved overall health by encouraging people to move more. Creating comfortable places to walk also creates economic benefits, further improving the quality of life.



ACTIVE TRANSPORTATION BENEFITS

ENVIRONMENTAL

Bicycle and pedestrian facilities contribute to a reduction in greenhouse gas emissions, reduction in vehicle miles traveled (VMT), preserves wildlife habitats and natural areas, and improves water quality.

SAFETY

Bicycle and pedestrian facilities contribute to a reduction in bicycle and pedestrian crashes and lead to an increase in biking and walking as a result of safety enhancements.

ECONOMIC

Bicycle and pedestrian facilities contribute to increased tourism, increased sales revenue, and increased property values, which lead to job creation and business growth.

TRANSPORTATION

Bicycle and pedestrian facilities contribute to an increase in multi-modal network connectivity and modes shifts to bicycle and pedestrian commuting and travel.

HEALTH

Bicycle and pedestrian facilities provide access to biking and walking, which lead to increased physical activity, improved mental well-being, decreased risks of chronic disease, and a reduction in healthcare costs.

EQUITY

Bicycle and pedestrian facilities contribute to a reduction of household transportation costs; expand access to jobs, services, and recreation; and provide first and last mile connections to transit.

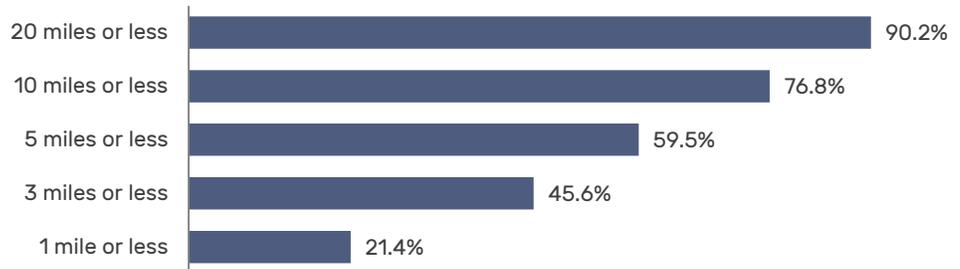


TRANSPORTATION CONTEXT

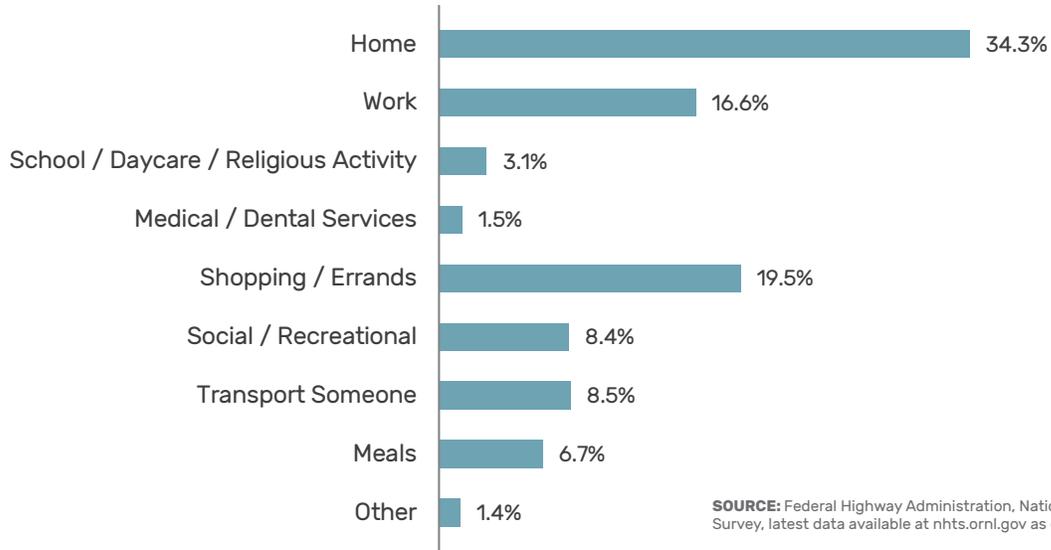
Short trips represent the best opportunity for getting people to walk. In non-urban areas (as defined by the Census), 20% of trips are 1 mile or less, 30% are 2 miles or less, and 37% are 3 miles or less. In urban areas, 30% of all trips are 1 miles or less, 44% are 2 miles or less, and 53% are 3 miles or less.

Source: NHTS 2009, FHWA Office of Policy

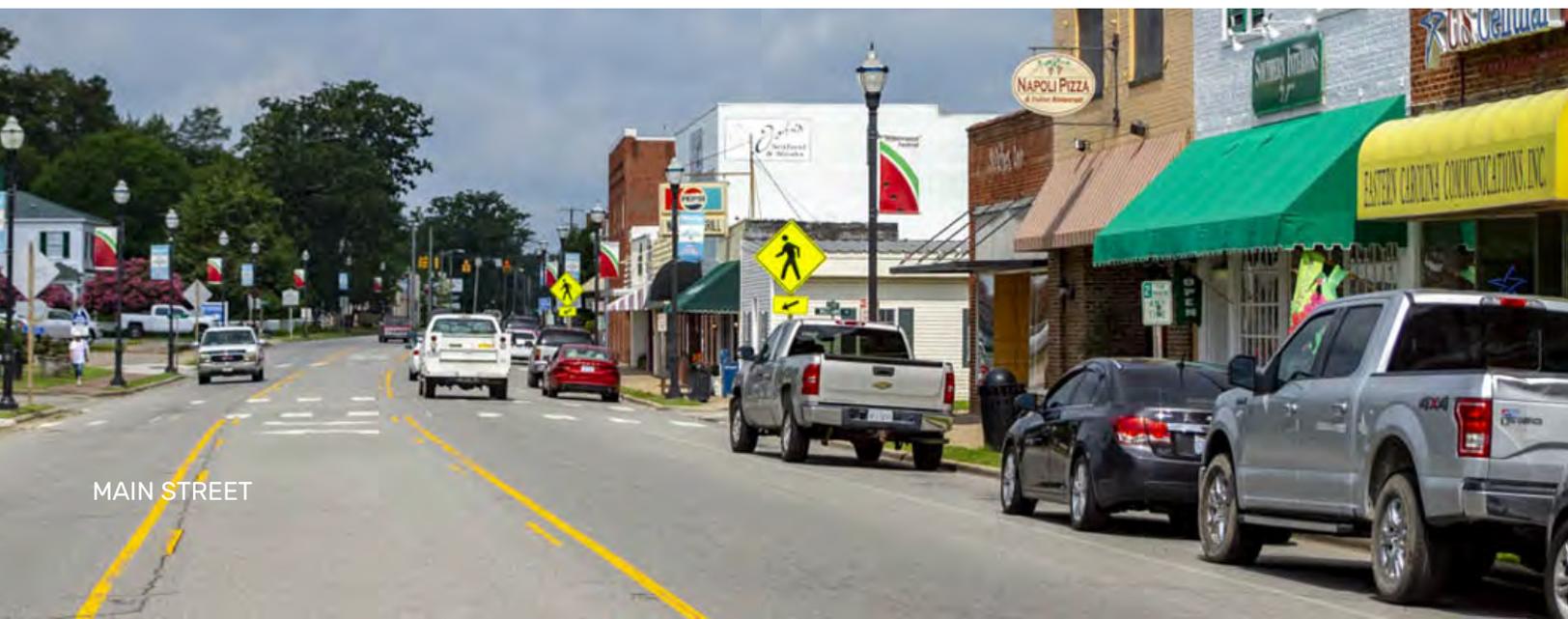
PERCENTAGE OF DAILY DRIVING TRIPS BY DISTANCE (ALL AREAS)



PERCENTAGE OF DRIVING TRIPS BY TRIP PURPOSE



SOURCE: Federal Highway Administration, National Household Travel Survey, latest data available at nhts.ornl.gov as of February 2017.



MAIN STREET

SAFETY

The lack of bicycle and pedestrian infrastructure in communities across North Carolina poses safety risks for those who commute by active modes. In 2019 alone, there were 3,275 pedestrian crashes that resulted in 237 fatalities and 914 bicycle crashes that resulting in 20 fatal collisions. Factors that contribute to unsafe road conditions for bicyclists and pedestrians include the lack of separation from vehicular traffic, unprotected intersections, and poor bicycle and pedestrian connectivity.

When transportation networks are designed for all modes, bicyclists and pedestrians become less vulnerable to collisions with motorists and rates of bicycling and walking increase. In a NACTO study of seven cities that expanded their bikeway networks by 50% between 2007–2014, ridership more than doubled while risk of death and serious injury to people biking was halved.



PEDESTRIAN + BICYCLE FACILITIES WITH CRASH COUNTERMEASURES

DESIGN TREATMENT	CRASH REDUCTION RATE
Provide minimum 4' paved shoulder to avoid walking along roadway	71% (pedestrian crashes)
Install sidewalk to avoid walking along roadway	65-89% (pedestrian crashes)
Install pedestrian refuge islands	56% (pedestrian crashes)
Install raised median + crosswalk	46% (pedestrian crashes)
Improve lighting at intersections	42% (pedestrian injury crashes)
Add exclusive pedestrian phasing to signalized intersection	34% (pedestrian crashes)
Restrict parking near intersections	30% (pedestrian crashes)
Convert unsignalized intersection to roundabout	27% (pedestrian crashes)
Improve/install pedestrian crossing	25% (pedestrian crashes)
Install pedestrian countdown signal heads	25% (pedestrian crashes)
Provide bike lanes	36% (bicycle crashes)
Provide a bicycle box (advance stop bar to leave space for cyclists)	35% (bicycle crashes)

HEALTH

North Carolina has the 19TH highest adult obesity rate in the nation according to the Center for Disease Control (CDC). In 2019, the obesity rate was 34.0%, increasing from 20.9% in 2000 and from 12.3% in 1990. Nationwide, obesity spending has been estimated at \$147 billion annually, and obesity-related health issues account for \$17.6 billion in annual healthcare costs in North Carolina.

Bicycle and pedestrian facilities can significantly improve the ability of residents to live healthier lifestyles. By providing simple exercise options, a safe pedestrian environment helps entice people to move more. In addition to reducing obesity rates, the CDC states that increased physical activity helps adults stay mentally fit and reduces the risk of coronary heart disease, stroke, diabetes, cancer, and high blood pressure.



ECONOMIC

Northeastern North Carolina has economic challenges rooted in globalization and the mechanization of agriculture adversely impacting traditional mainstays of the local economy. Pedestrian facilities are low-cost economic generators that create an environment for communities to expand their ability to attract tourists, attract workers, and support local businesses.

Studies show that creating a walkable place is important to attracting and retaining businesses and workers. Walkable shopping areas are positioned to be economically successful. Improved walkability generally increases commercial and residential land values, and people demonstrate a desire to live within walking distances of commercial services. These places help attract tourists, who seek an experience connecting with places that feel human-scale. Walkability extends to the attraction and retention of people and families to work and shop in the community.

In addition to sidewalks, shared use paths are also an important part of a pedestrian network. In the 2018 NCDOT generated a report on the impact of shared use paths in North Carolina. The study found that greenways provide significant economic benefits to communities. Trail users along the four trails studied spent an estimated \$19.5 million annually which supported 261 jobs each year. As an investment, the study found for every \$1 spent on trail construction, the return of investment from those benefits is \$1.72 annually.



RETURN ON INVESTMENT: Every **\$1.00** of trail construction supports **\$1.72 annually** from local business revenue, sales tax revenue, and benefits related to health and transportation.



MEHERRIN RIVER

ENVIRONMENTAL

The transportation sector is largest contributor to greenhouse gas emissions in the US. Between 1990 and 2018, greenhouse gas emissions due to transportation increased more than any other sector. Twenty-eight percent of all emissions are attributed to transportation-related activities. Passenger cars and trucks account for 60% of those emissions.

Reducing barriers to walking and bicycling is a first and important step to replacing short car trips with a walk or bike trip. This leads to a reduction in vehicle miles traveled and related pollution. In a 2018 report on the impact of shared use paths in North Carolina, researchers found that the change in travel behavior on the three study sites led to an annual reduction of 53.7 million pounds of CO2 emissions and 686,000 pounds of motor vehicle emissions, resulting in an annual environmental cost savings of \$707,000.

It also takes less space to park a bicycle, and even less to park a pair of shoes--no space at all in the latter. By reducing the need for parking and the paved surfaces associated with it, local water quality is improved by less runoff.

EQUITY

Making sure that everyone has equal access to jobs, shopping, medical services, and other everyday activities is a linchpin of pedestrian planning. Not everyone can afford a car. Not everyone is physically able to operate a car. Sidewalks fill this gap if they are properly connected and designed. Once sidewalks and other pedestrian facilities are built, they need to be maintained so that they remain passable for all users year round.



Equity is often framed by where vulnerable people live. There are federally protected categories of people that the law wants transportation projects to address specifically: Minority race or ethnic origin, Low to moderate income, limited English proficiency, disability, gender, and age. Initially the laws sought to avoid discrimination based on these categories, but recent guidance says that we must do better. Our transportation system should actively seek to address past disinvestment that still affects these communities today. Making sure our sidewalks and paths are accessible to people of all ages and abilities and can get them where they want to go is a key part of this plan. That access includes not only connecting to under served areas, but also making sure sidewalks are clear of obstructions and curb ramps are consistent and have features for the visually impaired.

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MEHERRIN RIVER FROM US 258

02 EXISTING CONDITIONS

EXISTING CONDITIONS

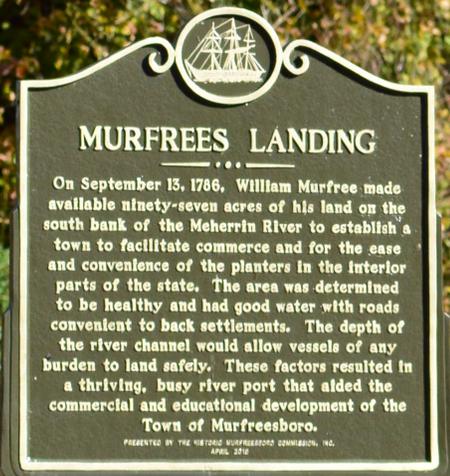
STUDY AREA PROFILE

The Town of Murfreesboro has a rich history that is shaped and influenced by its strategic location on the banks of the Meherrin River. The area was initially inhabited by a succession of several Native American peoples including the Nottoway, Meherrin, and Chowanoke. These indigenous peoples were eventually expelled from the area after warring with the English in 1675-76.

The first European settlers became permanently established in the area as early as 1710. On the banks of the Meherrin River, King's Landing was established as a port of call by an Irish immigrant named William Murfree. King's Landing was the northernmost point of navigation on the Meherrin River for boats going inland. Seagoing vessels could navigate inland from the Albermarle Sound to trade goods from New England, West India, and Europe and access the agricultural products of eastern North Carolina.

King's Landing was eventually renamed Murfree's Landing in honor of William Murfree who donated ninety-seven acres of land for the incorporation of a new town, Murfreesboro, also named after him.

The Town of Murfreesboro is in North Carolina's inner coastal plain between Raleigh and Virginia Beach. Murfreesboro is defined by its location on the Meherrin River, which shaped its history and culture. This plan leverages the Town's history and resources by recommending connections that link important destinations including the historic waterfront and downtown.





DEMOGRAPHICS

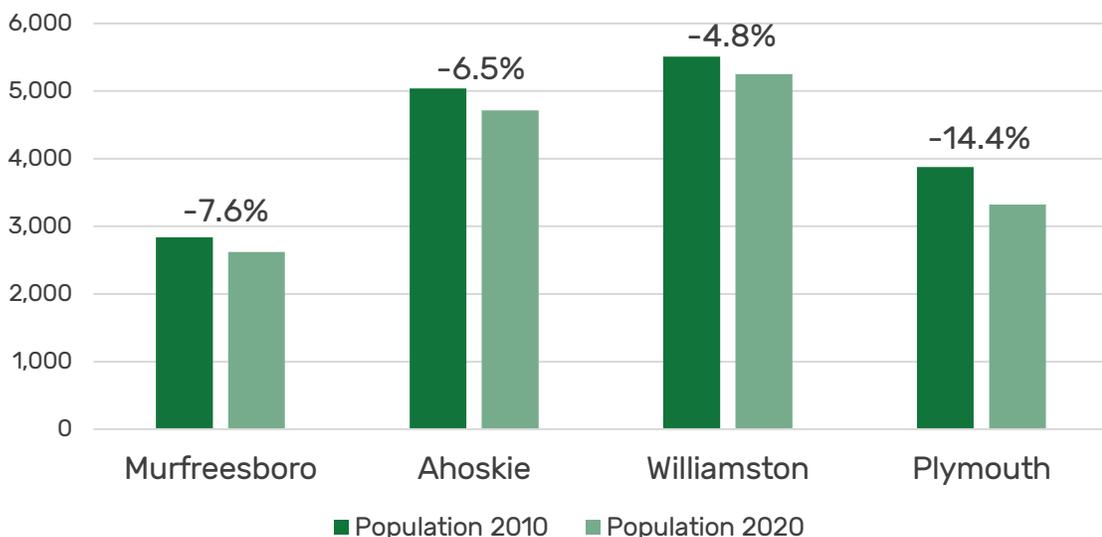
Demographic Comparative Summary

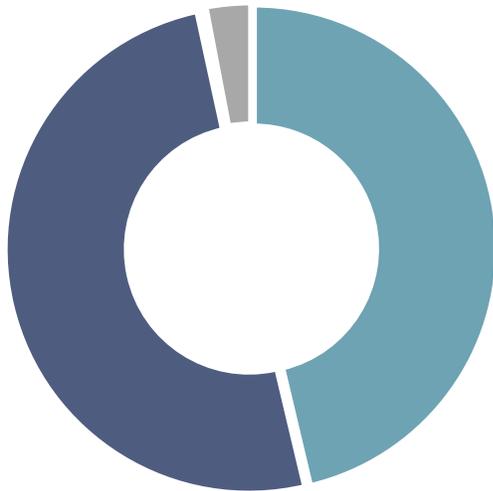
The Town of Murfreesboro is a community rooted in agriculture like many small towns in eastern North Carolina. One standout that sets Murfreesboro apart from its peers is Chowan University. The University is a major employer in Murfreesboro and can easily be walked to by many residents. Murfreesboro also has a younger population compared to the state of North Carolina. While the region overall wrestles with negative trends like population loss and lower incomes compared to the rest of the state, it also has positives like lower housing costs. Overall, Murfreesboro is in the middle of the pack in terms of population change compared to similar towns east of Interstate 95.

Population

Murfreesboro has a population of 2,835 with a population density of roughly 1,230 residents per square mile. Comparatively, the total population of the peer communities of Ahoskie, Williamston, and Plymouth are 4,713, 5,248, and 3,320, respectively. All of these communities experienced population loss between the 2010 and 2020 Census.

Population Change 2010-2020
US Census Bureau Decennial Census Data





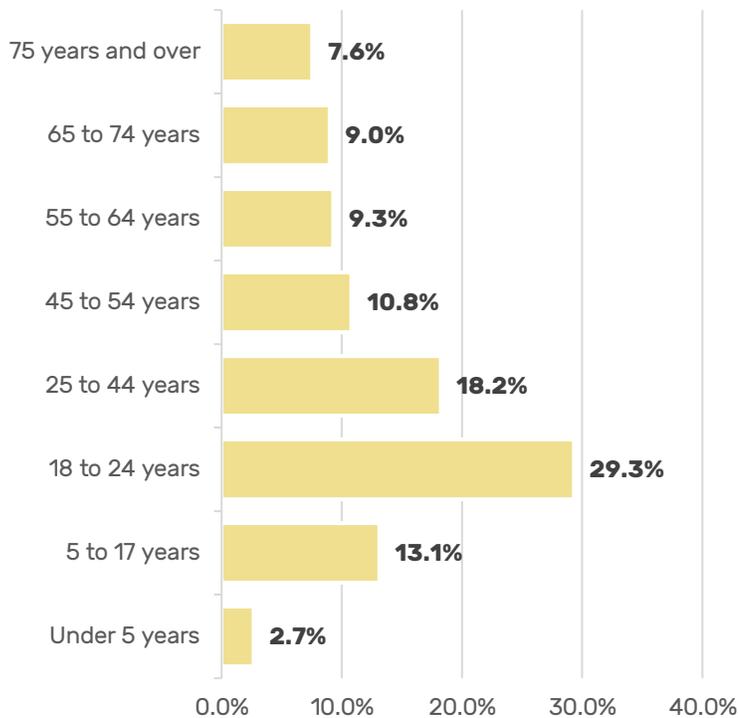
- White (46.3%)
- Black or African American (50.3%)
- American Indian + Alaska Native (0.0%)
- Asian (0.4%)
- Native Hawaiian + Other Pacific Islander (0.0%)
- Some other race (0.0%)
- Two or more races (3.0%)



- Hispanic or Latinx origin of any race (2.4%)
- White alone, not Hispanic or Latinx (45.1%)
- Minority race alone, not Hispanic or Latinx (52.5%)

Race + Ethnicity

In North Carolina overall, approximately 66% of residents identify as “White alone”, and 22% of residents identify as “Black alone”. Murfreesboro is “majority minority,” with 46.3% of the town identifying as “White alone” and approximately 50.3% of the population identifies as “Black alone”. Only 2.4% of Murfreesboro residents identify as “Hispanic or Latinx of any race,” which is lower than North Carolina, in which 10% of the population identifies as “Hispanic or Latinx of any race”.



Age

Murfreesboro residents are younger on average than North Carolina overall, likely influenced by the University. The median age in Murfreesboro is 29.5, while North Carolina has a median age of 38.9. Approximately 15.8% of the population is under the age of 18, and 16.6% of the population is over the age of 65. Therefore, 67.6% of the population is between the ages of 18 and 64.

Education

About a quarter of Murfreesboro residents have a bachelor’s degree or graduate degree. The University likely influences that number. Likewise the 43 percent with “some college or associates degree” shows the effect of the University since that category captures current students.



- Less than high school graduate (13.0%)
- High school graduate (18.9%)
- Some college or associate's degree (43.0%)
- Bachelor's degree (12.2%)
- Graduate or professional degree (12.9%)

Household Income

Murfreesboro is a rural community with 77.8% of the population having an annual household income less than \$75,000. The median income of households within the Town is \$38,201 while the median income of North Carolina households is \$51,844. Nearly a quarter of the population (23%) are at or below the federal poverty threshold.

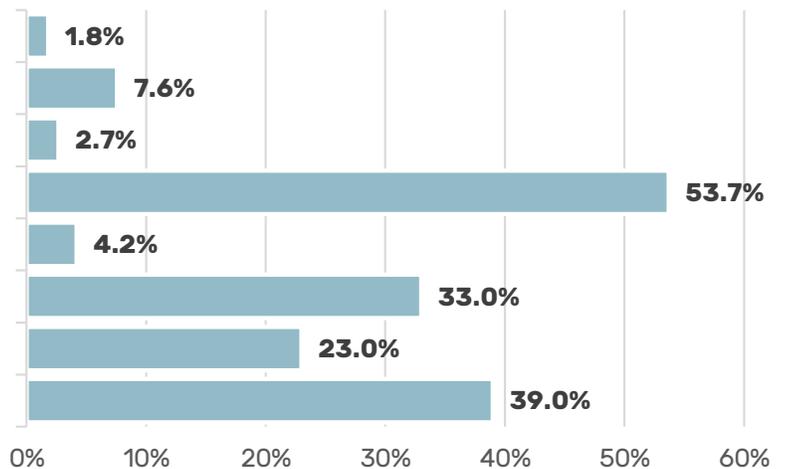


- Less than \$14,999 (25.7%)
- \$15,000 to \$24,999 (11.4%)
- \$25,000 to \$34,999 (8.2%)
- \$35,000 to \$49,999 (14.4%)
- \$50,000 to \$74,999 (18.1%)
- \$75,000 to \$99,999 (8.9%)
- \$100,000 to \$149,999 (11.3%)
- \$150,000 or more (2.0%)

Vulnerable Residents

The shortfalls of the current transportation network disproportionately impact vulnerable populations. People who rely on public transit, biking, and walking live in areas that often lack access to safe and convenient sidewalks or multi-use paths. The lack of these facilities diminishes access and opportunity to employment, services, and recreation. The recommendations in this plan include consideration of how the Town can serve transportation needs of all communities.

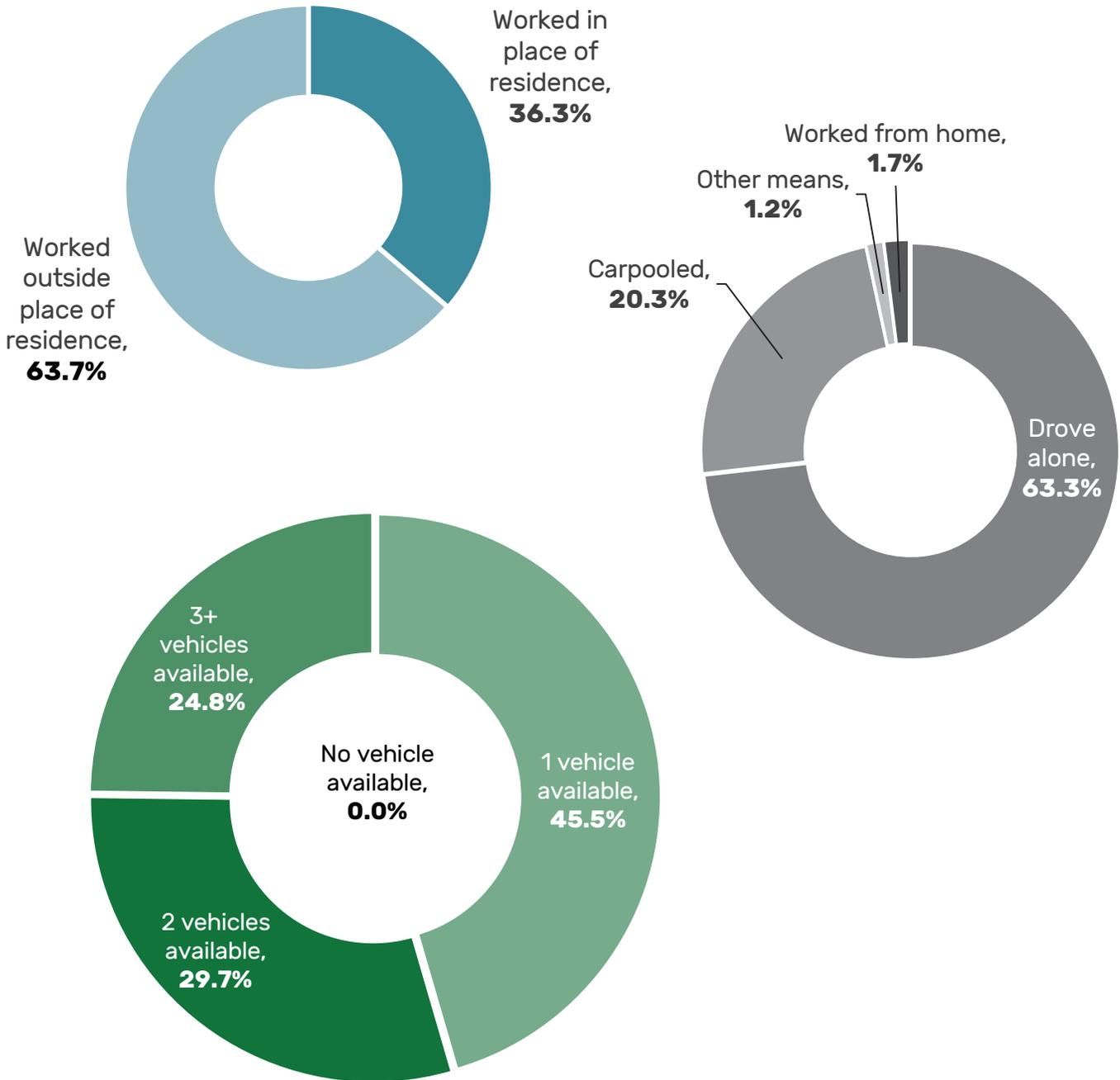
- Residents with Limited English Proficiency
- Seniors 75 and Older
- Children under 5
- Minority Populations
- Unemployed Workers
- Food Stamps/SNAP Benefit Recipients
- Population Below Poverty Level
- Persons with a Disability



Commuting (Trip to Work)

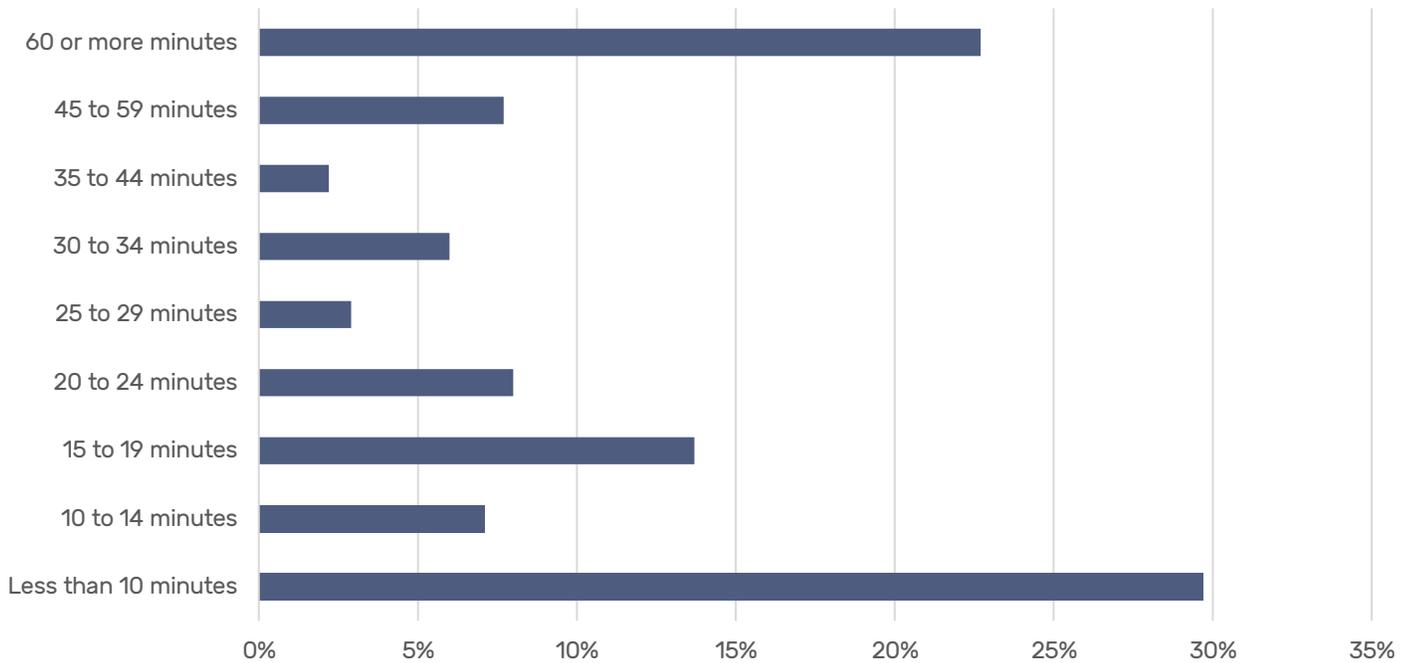
Murfreesboro commuters travel by single-occupancy vehicle, with 63.3% of them driving alone to work--far below the state average of over 90%. Often University towns see a lower share of car commuters, and this is likely a contributing factor in Murfreesboro.

There is a strong correlation between investments in multi-modal transportation and higher active commute mode shares; development of Murfreesboro's sidewalk network can increase active transportation commute rates for the 36% of residents who work within town limits, and especially for the 45.5% of households who only have access to one vehicle and may have limited commuting options.





Travel Time to Work



EXISTING FACILITIES

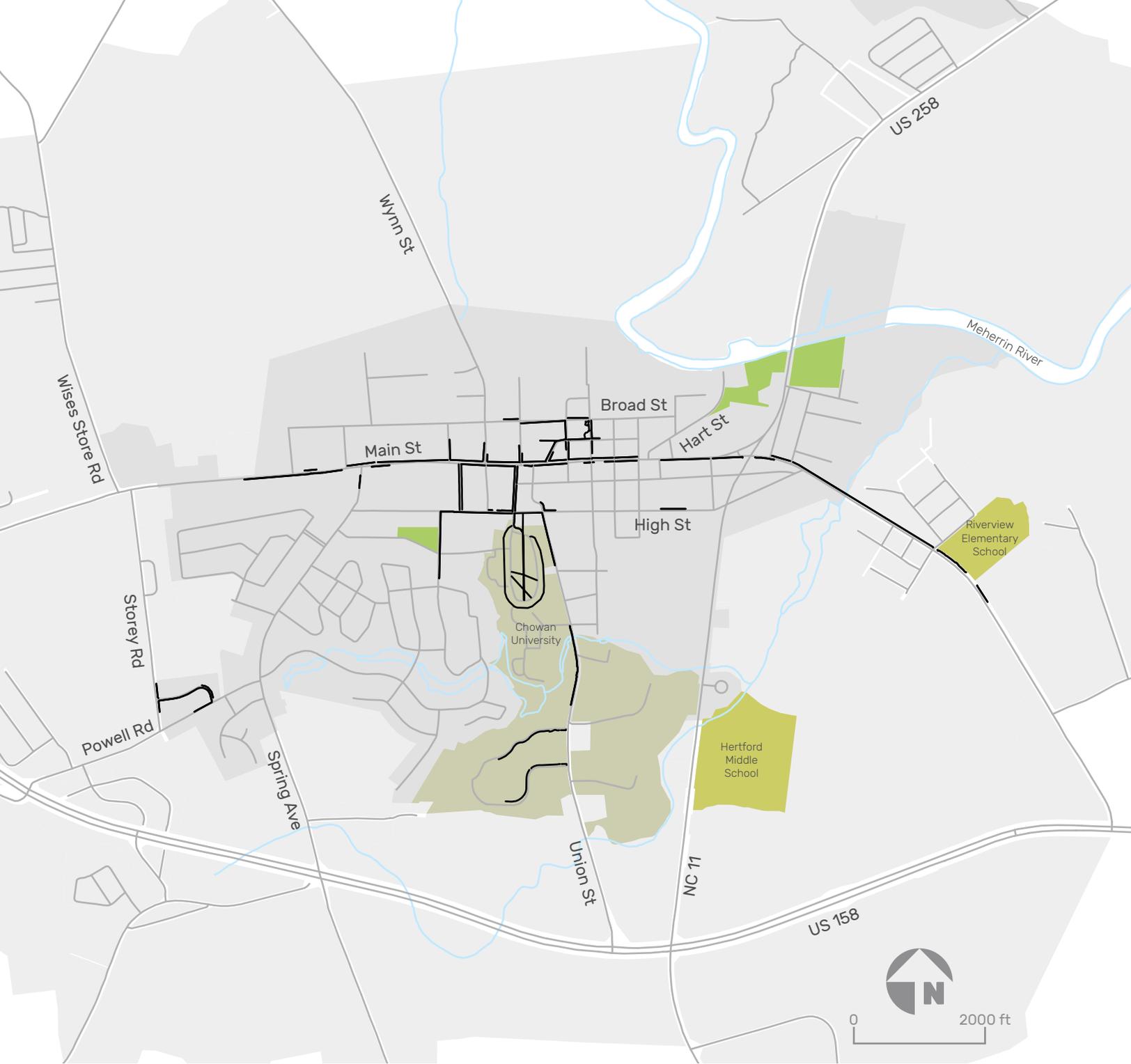
As a livable, walkable place, Murfreesboro has a solid foundation with a connected grid and scale. With a variety of destinations and a relatively small land area, Murfreesboro has potential to become even more walkable by connecting existing sidewalks in the downtown grid and expanding to connect schools, parks, and shopping outside of the core of town.

However, much of the existing sidewalk network is in a poor state of repair or too narrow. In the downtown sidewalks are not on both sides of the street and often lack marked crossings or ramps that meet current standards. These conditions create barriers for pedestrians, especially those with disabilities or are not otherwise “fully-abled.”

In spite of this missing or aging infrastructure, there are bright spots to note like the new mid-block crosswalks in the heart of downtown and updated curb ramps being opportunistically installed with other projects.



The photo on the left is an example of a well-maintained sidewalk entering the Historic District with wayfinding (the sign pointing the way to the district), potential shade, curb and gutter, parked cars buffering walkers from moving traffic, and a grassy buffer to allow parked cars to open passenger side doors. The photo on the right shows the need for a pedestrian facility so that pedestrians do not have to walk in the motor vehicle travel lane. Above right is an updated curb ramp.

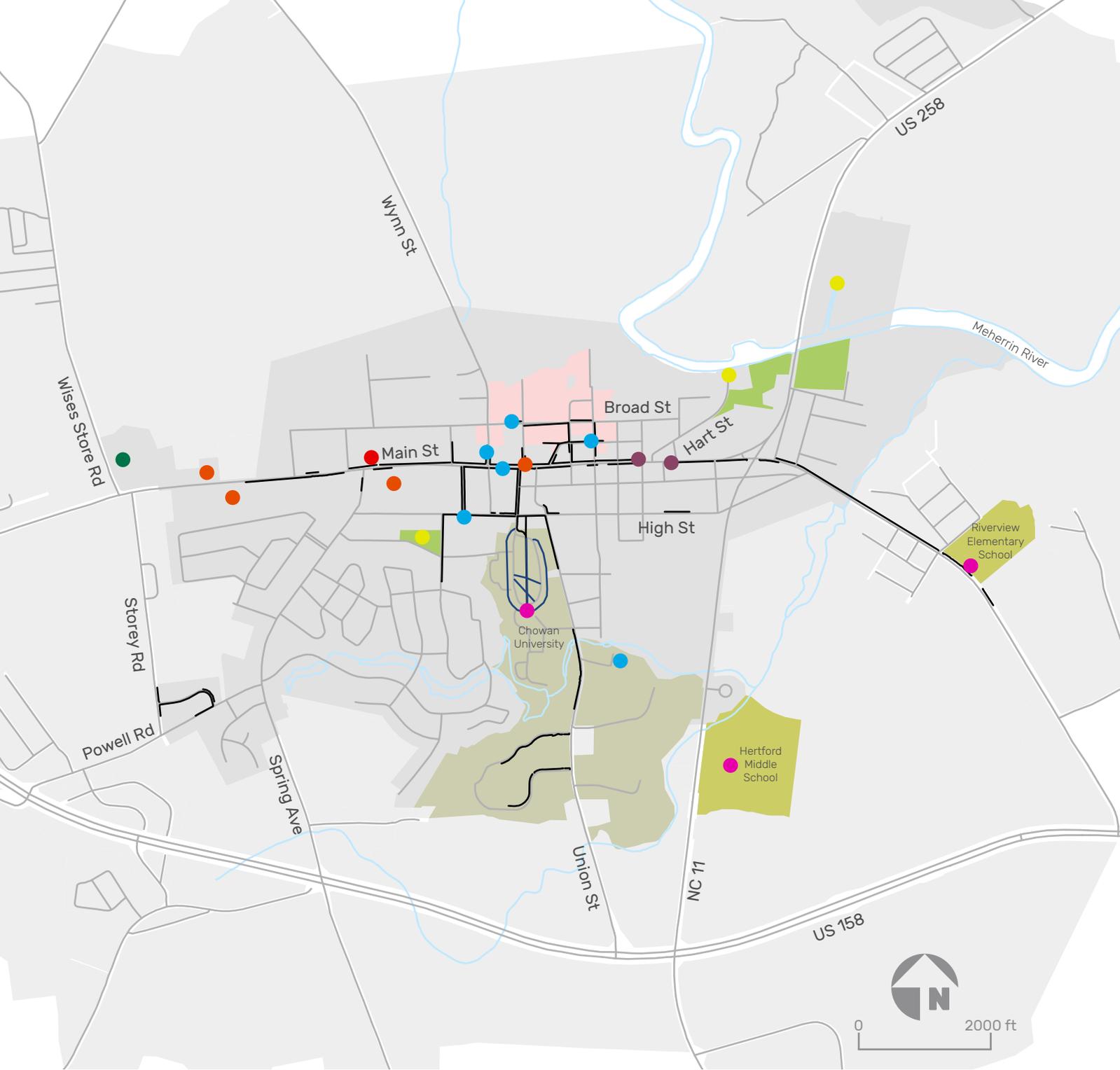


**TOWN OF MURFREESBORO
EXISTING PEDESTRIAN FACILITIES**

Existing pedestrian facilities include 3.5 miles of street and five total miles of sidewalks (accounting for both sides). Many of the existing sidewalks serve the Main Street corridor, and many sections need rehabilitation or repair.

LEGEND

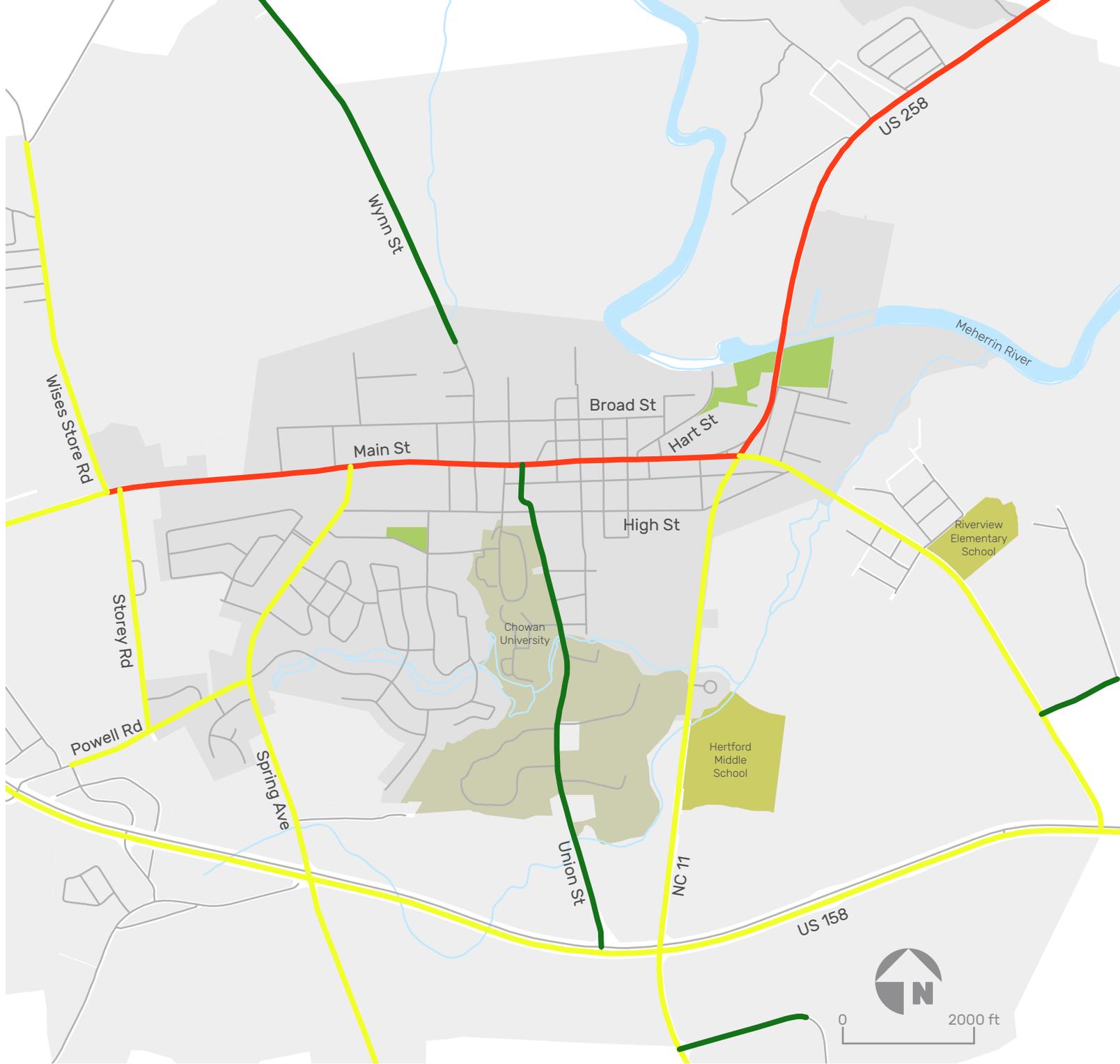
- Existing Sidewalks & Paths
- Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University



TOWN OF MURFREESBORO DESTINATIONS

The highest concentration of destinations are within close proximity of the Main Street corridor, with schools to the south and east and a grocery store to the west.

- | | |
|--------------------|--------------------------|
| ● Neighborhoods | — Existing Multiuse Path |
| ● Schools | — Existing Sidewalks |
| ● Medical Services | — Roadways |
| ● Civic Services | — Parks |
| ● Grocery Stores | — Streams + Lakes |
| ● Restaurants | — Town Limits |
| ● Parks | — Murfreesboro ETJ |
| ● Shops + Banks | — K-12 School |
| | — University |

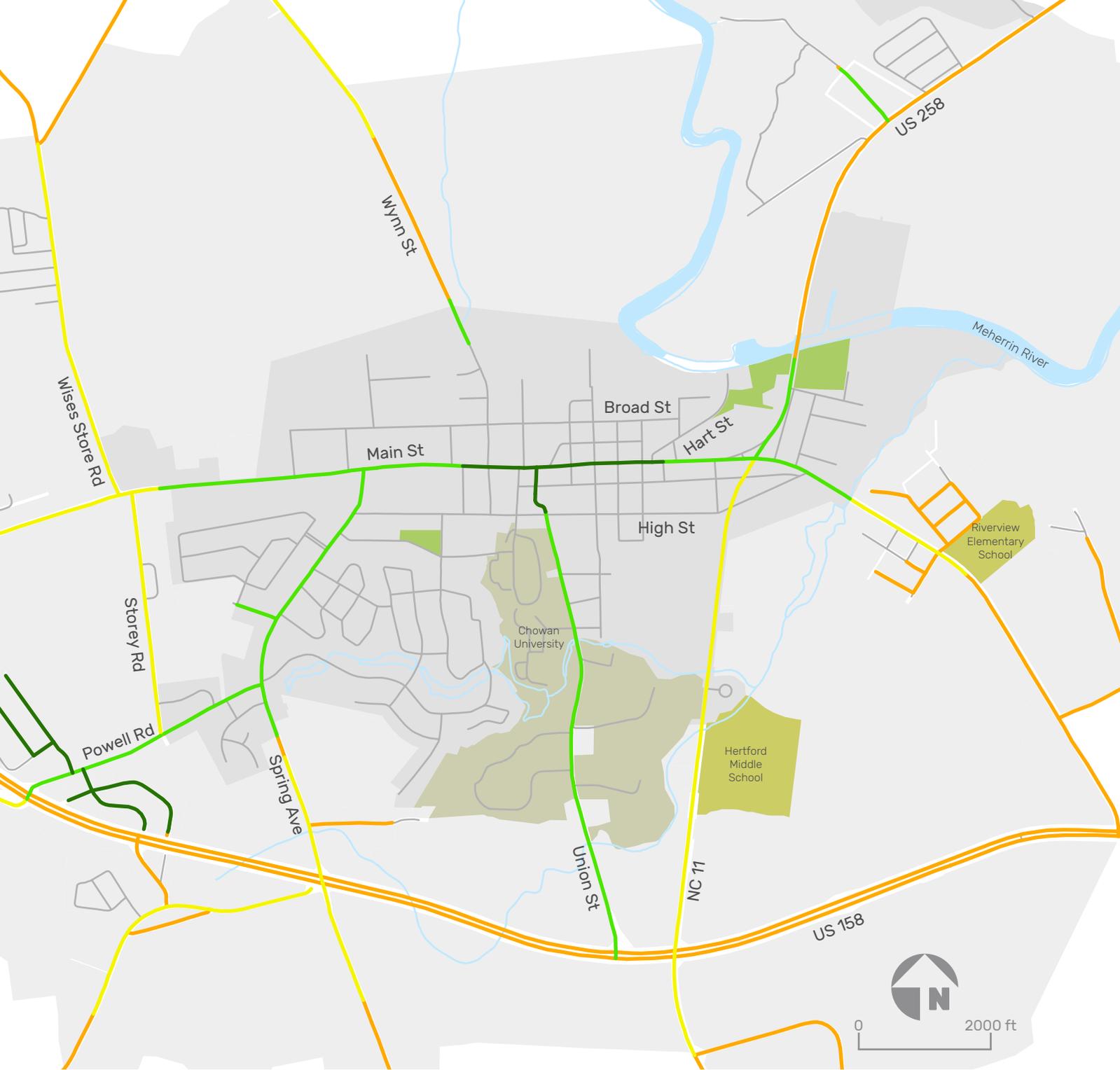


**TOWN OF MURFREESBORO
AVERAGE DAILY TRAFFIC**

Crashes involving vulnerable road users showed one significant cluster at the west end of Main Street. Main Street also accounted for three out of five total serious injury or fatality classified incidents.

LEGEND

- 0-1,000 Vehicles
- 1,001-5,000 Vehicles
- 5,001-10,000 Vehicles
- Roadways-No Counts
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University



**TOWN OF MURFREESBORO
POSTED SPEED LIMIT (MPH)**

Note that Town-maintained streets are not included in the NCDOT data and are set at 35 miles per hour unless otherwise posted.

LEGEND

- 25mph or less
- 30mph - 35mph
- 40mph - 45mph
- 50mph - 60mph
- Other Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University

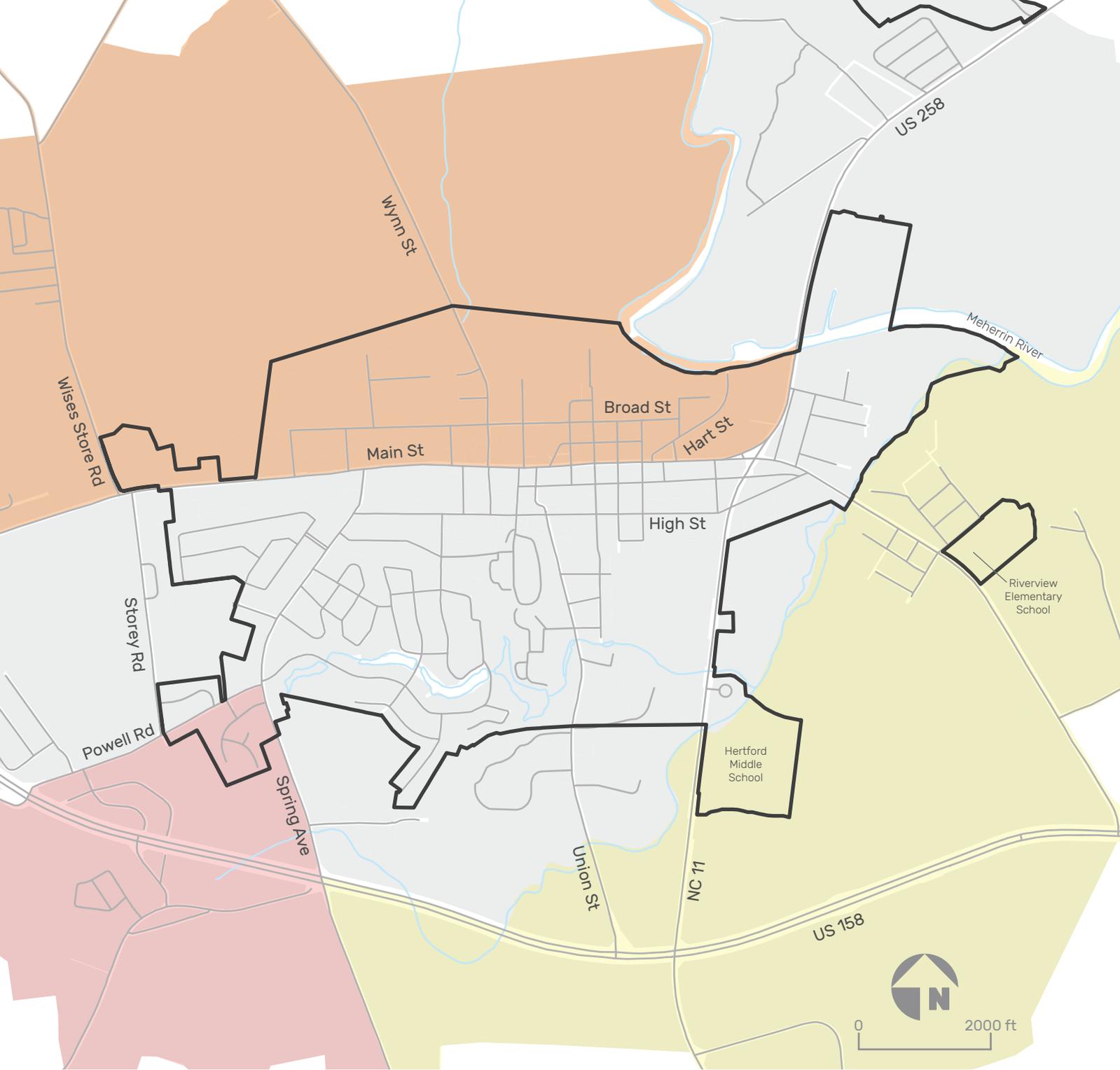


**TOWN OF MURFREESBORO
BICYCLE & PEDESTRIAN CRASHES**

Crashes involving vulnerable road users showed one significant cluster at the west end of Main Street. Main Street also accounted for three out of five total serious injury or fatality classified incidents.

LEGEND

- Ped-Fatal/Serious
- Other Ped
- Bike-Fatal/Serious
- Other Bike
- Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University



**TOWN OF MURFREESBORO
VULNERABLE POPULATIONS**

This map uses American Community Survey data from the US Census at the Block Group geography. Using the 19 Block Groups in Hertford County each protected class is rank ordered by the percentage of people or households in that Block Group who qualify. The 5 Block Groups with the highest values in the county for each class are then shown on the map. Murfreesboro has one area that triggers for minority status (red), one that triggers for poverty status (yellow), and one that triggers for both (orange).

LEGEND

- Roadways
- Not Above Threshold
- Streams + Lakes
- Top Quartile Both
- Top Quartile Minority
- Top Quartile Poverty
- Town Limit

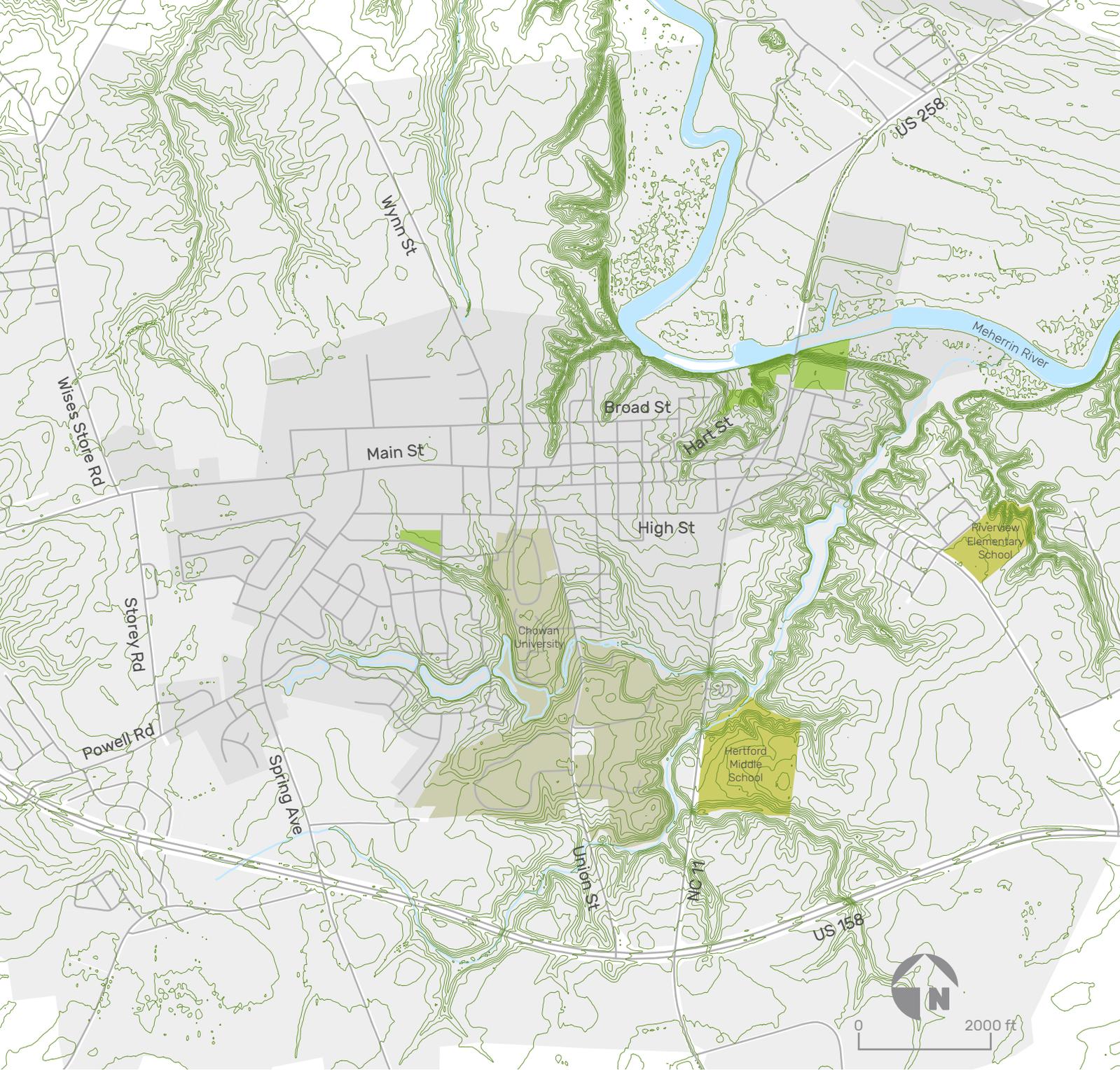


TOWN OF MURFREESBORO FLOODPLAIN AREAS

There are multiple FEMA regulated floodplains in Murfreesboro, including the Meherrin River located on the northeast side of Town. Hare's Branch / Worrell Mill Swamp is also regulated and extends from Hertford Middle School north to its confluence with the Meherrin River.

LEGEND

- 100-Year Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University



TOWN OF MURFREESBORO TOPOGRAPHY

While the region is generally flat, the banks of Hare’s Branch / Worrell Mill Swamp and its tributaries are deeply furrowed and steep. This creates barriers at key crossing points for projects on Main Street and US 258. The northern section of Hart Street is also affected topographically.

- LEGEND**
- 20’ Elevation Contour
 - Roadways
 - Parks
 - Streams + Lakes
 - Town Limits
 - Murfreesboro ETJ
 - K-12 School
 - University



**TOWN OF MURFREESBORO
ADOPTED COMPREHENSIVE TRANSPORTATION PLAN
PEDESTRIAN ELEMENT**

The Town adopted the 2015 Hertford County Comprehensive Transportation Plan (CTP) in conjunction with NCDOT. The pedestrian recommendations in the CTP serve as a starting point for this plan.

LEGEND

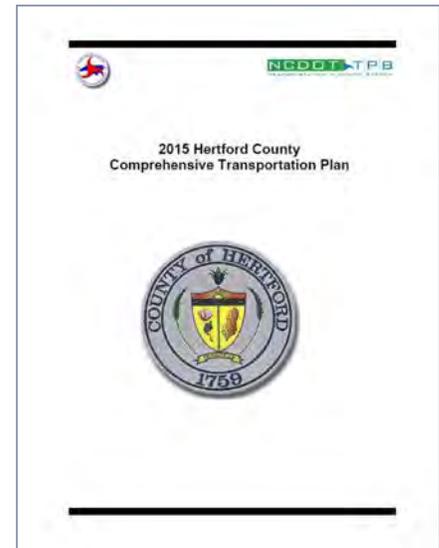
-  Roadways
-  Parks
-  Streams + Lakes
-  Town Limits
-  Murfreesboro ETJ
-  K-12 School
-  University
-  Sidewalk-Recommended
-  Existing/Needs Improvement Sidewalks

PREVIOUS PLANNING EFFORTS

Over the past decade, the Town, the County, and the State all adopted plans that compliment and support the improvement of pedestrian facilities. A 2018 workshop sponsored by a private non-profit focused on economic development but included recommendations that included the creation of a cultural path through the Town. The following section summarizes the overarching goals and objectives of these plans and seeks to recognize common planning themes while minimizing redundancies in recommendations which can lead to mismanagement of community resources.

HERTFORD COUNTY COMPREHENSIVE TRANSPORTATION PLAN (2015)

A Comprehensive Transportation Plan (CTP) is developed to ensure that the progressively developed transportation system will meet the needs of the region for the planning period. The CTP serves as an official guide to providing well-coordinated, efficient and economical transportation system for the future of the region. Transportation decisions are based on criteria related to existing conditions, safety concerns, current roadway volumes and capacity, and travel demand. As part of this analysis, pedestrian conditions were also analyzed, and several recommendations were made for sidewalk improvements and expansion for each township. The CTP pedestrian recommendations for Murfreesboro have been incorporated into the recommendations of this plan.



MURFREESBORO, NORTH CAROLINA CPNI WORKSHOP REPORT (2019)

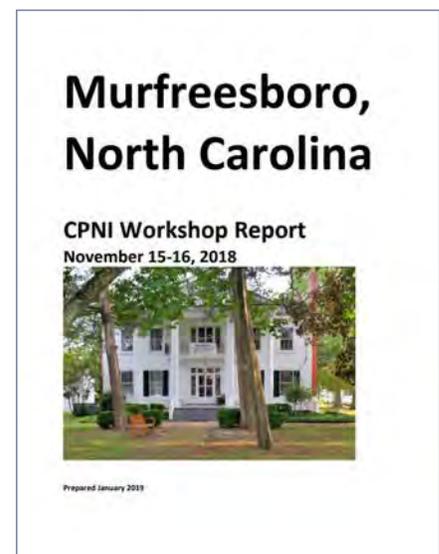
This report was prepared in January 2019, based on a workshop that was conducted November 15-16, 2018 in Murfreesboro. CPNI is an independent research institution focused on the construction industry and founded by the Construction Professional Network of North Carolina (CPN). While the purpose of this workshop and its recommendations are focused primarily on the construction industry and economic development, the identified community assets and opportunities, as well as several of the recommendations are related to walkability.

Community Assets:

- Historic District: private homes, museums, shops and offices associated with the historic river port;
- Riverfront: town-owned property on the Meherrin River at the location of an old fertilizer plant;
- Riverside Park: five-acre park with playground, ball fields, basketball court, and river access;
- Chowan University: approximately 1,500 students and 50 faculty members within ½ mile of downtown; and
- Main Street: commercial area with restaurants, grocery store, bookstore, barber shop, etc.

Recommendations:

- Create a 20-25 Year Master Plan for the Town of Murfreesboro;
- Build a historical trail/path through Murfreesboro;
- Increase lodging opportunities for Murfreesboro visitors; and
- Develop a stronger partnership between Chowan University and Murfreesboro.



TOWN OF MURFREESBORO COMPREHENSIVE RECREATION PLAN (2019)

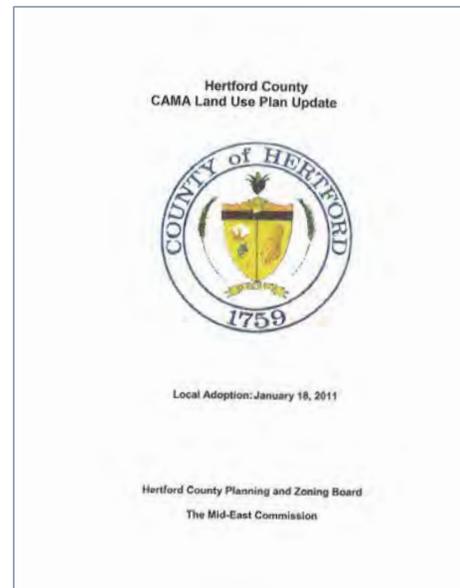
This plan’s vision to encourage active, healthy living and environmental preservation through the provision of parks, facilities, programs, and special events to citizens and visitors alike is well aligned with the vision of this pedestrian plan. Purpose, analysis, and recommendations are very relevant to walkability. Some of the recommendations are for specific town-owned site (e.g., Lakeview and Harrell Field, Murfree’s Landing, and Riverside Park), while others are general recommendations, highlighted below:

- Cooperation with Chowan University Sports Studies and Physical Education Program;
- Cooperation with local schools and churches;
- Cooperation with neighboring community recreation programs and leagues;
- Enhancement/development of waterfront recreational opportunities;
- Development of safe pedestrian system;
- Promotion of Historic Murfreesboro;
- Promotion/addition of adult & senior programs;
- Town funding for recreation facilities/ programs; and
- Market facilities and programs offered.



HERTFORD COUNTY CAMA LAND USE PLAN UPDATE (2011)

The Hertford County Coastal Area Management Act (CAMA) Land Use Plan Update details land use, population characteristics, economic conditions, development, and natural features throughout the County. While these themes certainly are important to assess and do have an overall impact on pedestrian conditions, minimal discussion about walkability and pedestrian access in Murfreesboro is included.



POLICY REVIEW

This table provides a summary of key federal, state, and local policies from FHWA, NCDOT, and the Town of Murfreesboro that may guide or affect the development of the Town of Murfreesboro Pedestrian Plan.

Existing Policy	Key Takeaways to Guide/Impact Development of Pedestrian Facilities
Hertford County Subdivision Ordinance, Section 10 Recreation Facilities, October 1999	As outlined in Article V. Improvements Required and Minimum Standards of Design, "Subdivisions containing less than twenty-five (25) lots, any of which front on a waterway, shall provide a twenty (20) feet easement, located along a property line, to provide private pedestrian access for owners of non-waterfront lots within the subdivision[1]."
Hertford County Zoning Ordinance, Section 9.03 Signs Permitted, June 2021	As outlined in Design Standards and Regulations for Signs, projecting signs "shall not be less than 10 feet above the sidewalk nor less than 15 feet above a driveway or alley[2]."
NCDOT Complete Streets Policy, 2019	The NCDOT Complete Streets Policy Update was adopted by the Board of Transportation in August 2019. This policy requires NCDOT to consider and incorporate multimodal facilities in the design and improvement of all transportation projects in North Carolina. The adopted Comprehensive Transportation Plan (CTP) is considered the controlling plan for the identification of non-motorized facilities to be evaluated as part of a roadway project. The CTP may include and/or reference locally adopted plans for public transportation, bicycle and pedestrian facilities, and greenways. Bicycle, pedestrian, and public transportation facilities that appear in the CTP directly or by reference will be included as part of the proposed roadway project, and NCDOT is responsible for the full cost of the project. Bicycle, pedestrian, and transit facilities incidental to a roadway project where a need has been identified through the project scoping process but not identified in an adopted plan may be included in the project. Inclusion of these incidental facilities requires the local jurisdiction to share the incremental cost of constructing the improvements based on population thresholds. The policy also establishes maintenance responsibility for active transportation facilities. Bicycle, pedestrian, and transit improvements inside a municipal boundary are subject to local maintenance. For bicycle, pedestrian, and transit improvements outside of a municipal boundary where a county maintenance agreement is not executed to maintain the facility, NCDOT will maintain the facility after construction if the bicycle or pedestrian facility lies within NCDOT right-of-way. Projects that have not completed environmental review prior to August 2019 are subject to the Complete Streets Policy.
NCDOT Roadway Design Manual, 2018	The Roadway Design manual provides general design information, design criteria, and plan preparation guidance for NCDOT roadways. Guidance on clear zones can be referenced in Part 1, Chapter 1-4N. Guidance states that the recommended clear zone range for flat, level terrain adjacent to a straight section of a 60mph highway with an average daily traffic of 6000 vehicles is a width of 30 to 32 feet. For steeper slopes on a 70-mph roadway, the clear zone range increases to 38 to 46 feet. Additional clear zone guidance is provided for roadway facilities based on design speed, design ADT, and roadside slope.

Existing Policy**Key Takeaways to Guide/Impact Development of Pedestrian Facilities****NCDOT
Proposed Right of
Way, Permanent Utility
Easement and Utility
Pole/Fixed Object
Placement Memo, 2011**

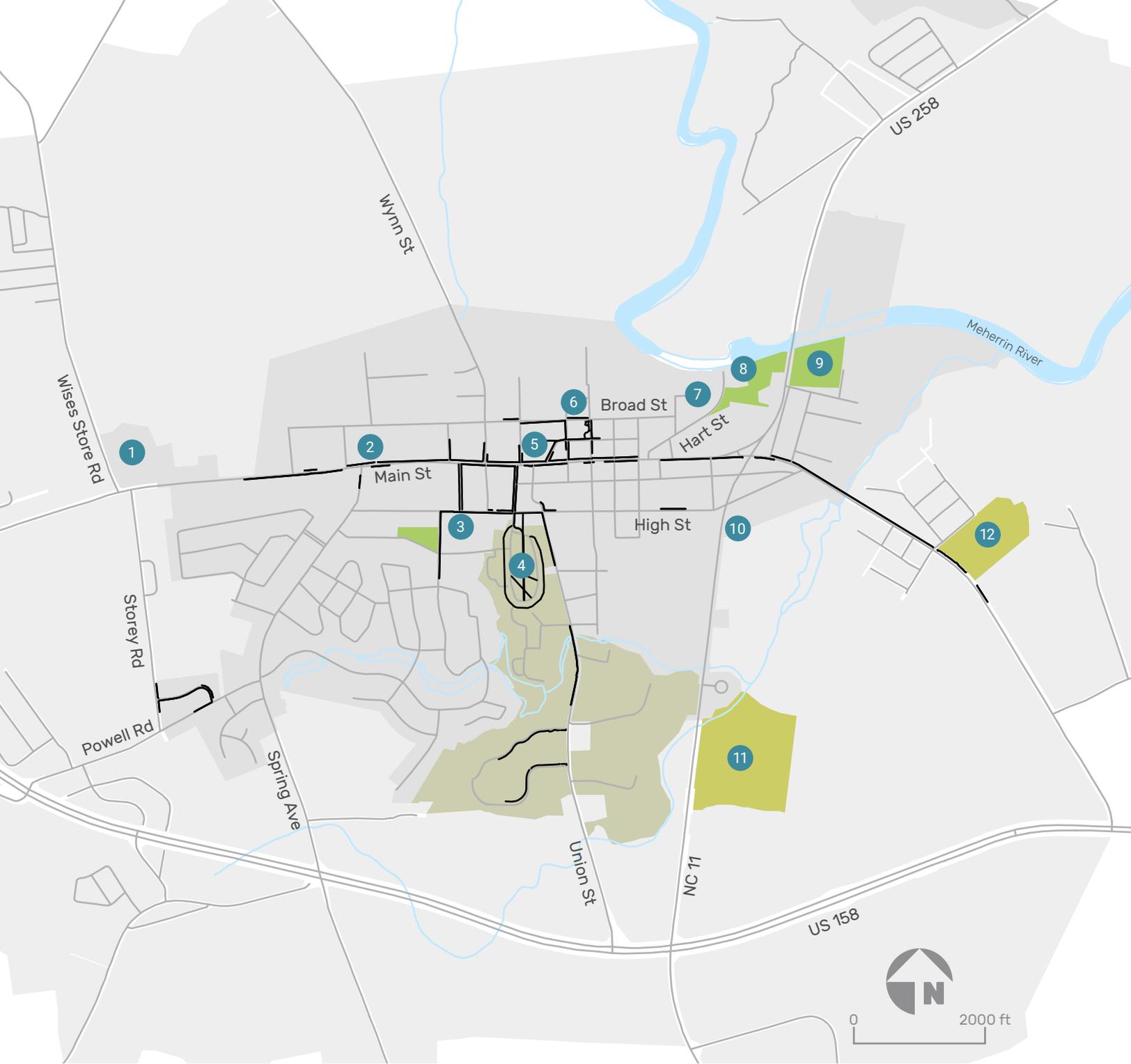
This memo serves as a technical guidance regarding proposed Right of Way, Permanent Utility Easement, and utility pole/fixed object placement along but not limited to Transportation Improvement Program (TIP) projects. For a curb and gutter section posted at 45 mph, the clear zone is defined as 12 feet. For a curb and gutter section posted at 35 mph, the clear zone is defined as 10 feet. For a curb and gutter section posted at 25 mph, the clear zone is defined as 8 feet. Proposed Right of Way of a shoulder section with limited or full control of access should be set at a dimension that includes the project footprint and encompasses the clear zone as defined by the AASHTO Roadside Design Guide. AASHTO guidance states that clear zones are dependent on design speed, design ADT, and roadside slope. Site specific constraints such as insufficient right of way available, prohibitive slopes, and other factors may make implementation of the full clear zone not feasible. In such cases good engineering judgment should be used. The Proposed Design Criteria sheet created by the roadway design engineer for each TIP project will list the appropriate clear zone. Additional guidance on clear zones can be referenced in the NCDOT Roadway Design Manual, Part 1, Chapter 1-4N.

**NCDOT
Policy on Street and
Driveway Access
to North Carolina
Highways, 2003**

This policy establishes uniform criteria regulating the location, design, and operation of access streets and driveways to North Carolina highways. A Street and Driveway Access Permit is required by NCDOT for street and driveway connections to the state highway system and is issued by the District Engineer. All Permit applications shall be accompanied by complete and detailed site plans. This policy includes guidelines for permit submission and site plans and design criteria for street and driveway access. Some locations require local government approvals.

**NCDOT
Bridge Policy, 2000**

This policy establishes design elements of new and reconstructed bridges on the North Carolina Highway System. Vertical clearances for new structures shall be designed above all sections of pavement including the usable shoulder. Future widening and pavement cross slope will be considered in design clearance. Vertical clearances for facilities are as follows: over interstates, freeways, and arterials: 16'-6" to 17'-0"; over local and collector roads and streets: 15'-0" to 15'-6"; over all railroads: 23'-0" to 23'-6" or less if approved by Railroads; pedestrian overpasses and sign structures vertical clearance: 17'-0" to 17'-6". When a bikeway is required on a bridge, the structure shall be designed in accordance with AASHTO standard design accommodations to give safe access to bicycles. A minimum handrail height of 54" is required where bicyclist will be riding next to the handrail. Sidewalks shall be included on new bridges with curb and gutter approach roadways that are without control of access. A minimum handrail height of 42" is required.



TOWN OF MURFREESBORO POINTS OF INTEREST

This map showcases a selection of the points of interest identified during the planning process.

LEGEND

- Point of Interest
- Existing Sidewalks & Paths
- Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University



1

GROCERY STORE



7

RIVERSIDE CEMETERY



2

PHARMACY



8

MURFREE'S LANDING AT MEHERRIN RIVER



3

BRADY C. JEFCOAT MUSEUM



9

RIVERSIDE PARK



4

CHOWAN UNIVERSITY CAMPUS



10

MURFREESBORO PRIMARY CARE



5

DOWNTOWN RETAIL/RESTAURANTS/LIBRARY



11

HERTFORD COUNTY MIDDLE SCHOOL



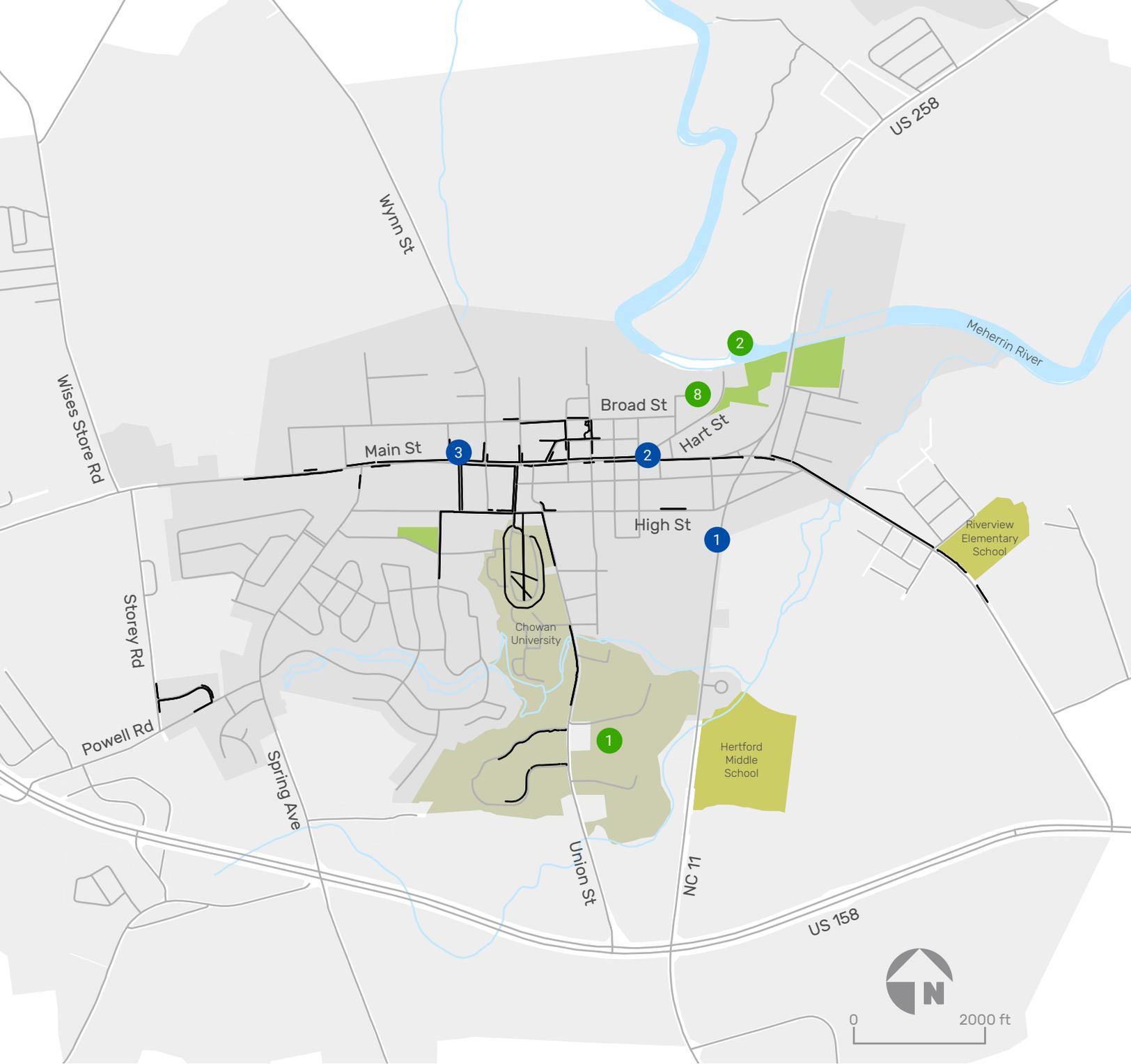
6

MUNICIPAL BUILDING



12

RIVERVIEW ELEMENTARY SCHOOL



TOWN OF MURFREESBORO OPPORTUNITIES AND CONSTRAINTS

Not all of the opportunities and constraints listed on the facing page lend themselves to mapping. This map showcases a few of the opportunities and constraints identified during the planning process.

LEGEND

- Opportunities
- Constraints
- Existing Sidewalks & Paths
- Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University



CHOWAN UNIVERSITY CAMPUS

OPPORTUNITIES

1. Chowan University has sidewalks in good condition.
2. Meherrin riverfront area could be catalyst for economic development and tourism.
3. Some youth are engaged and aware of pedestrian access issues.
4. Wide roads and low traffic volume in some area have ample room for bike/ped facilities.
5. Some natural areas that provide opportunities to build nature trails and connections to destinations.
6. Historic District has sidewalks and an organized walking tour and could be leveraged.
7. Walk to school event (Fall/Spring 2019) was very well attended and successful.
8. Minimal distance between downtown and riverfront access and park makes walking viable.

CONSTRAINTS

1. Hwy 258 bisects town and creates a pedestrian barrier to access schools and parks on east side of town.
2. Existing sidewalks are in disrepair and are not wheelchair friendly.
3. Incomplete network of sidewalks (i.e., not on both sides or road and/or end abruptly).
4. Narrow shoulders on roads result in uncomfortable and unsafe walking conditions.
5. Some existing sidewalks are too narrow to accommodate more than one person.
6. Insufficient safe road crossings (i.e., limited signalized crossings and crosswalks).



MURFREE'S LANDING AT MEHERRIN RIVER



03 COMMUNITY ENGAGEMENT

COMMUNITY ENGAGEMENT

PUBLIC ENGAGEMENT APPROACH

Community input is an essential part of any planning process. The most effective plans are firmly rooted in the realities and visions of the communities that created them. This plan uses a combination of input from community members, Steering Committee members, Town of Murfreesboro staff, and elected officials to inform the community engagement portion of the information-gathering process.

The project team designed the public engagement process to maximize opportunities for input and feedback from community members and Town staff and elected officials. The process is equitable and inclusive, offering a variety of input opportunities and methods for all community members to have a comfortable platform for expressing their input.



Due to the COVID-19 pandemic and associated restrictions and comfort level for public gatherings, the engagement process was adapted to remove in-person events and shifted to virtual engagement platforms. The process ultimately included the following elements:



*3 VIRTUAL
STEERING
COMMITTEE
MEETINGS*



*2 ONLINE
COMMUNITY
INPUT
SURVEYS*



*2 VIRTUAL
PUBLIC
WORKSHOPS*

STEERING COMMITTEE MEETINGS

The Town of Murfreesboro Pedestrian Plan Community Input process included three Steering Committee meetings to solicit feedback on the needs and wants of the community. The meetings were held the beginning, middle, and the towards the end of the process. The project team held the steering committee meetings virtually. The virtual meetings were structured similarly to the in-person meeting, although different tools and techniques were required. All meetings were well represented and resulted in meaningful discussions and feedback.

STEERING COMMITTEE MEMBERS:

Alexius Farris, NCDOT IMD
Craig Midgett, NCDOT Division 1 Planning Engineer
Hal Thomas, Town of Murfreesboro Mayor
David Griffith, Town of Murfreesboro Police Chief
Dell Aycock, Civic Group
Kay Thomas, Chowan University
Carolyn Brown, Town of Murfreesboro
Jamie Heath, Mid-East Commission RPO
Cat Parker, Community Member
Doug Deats, Murfreesboro Historical Association
Brunet Parker, County School District

STEERING COMMITTEE MEETING #1

LOCATION - DATE: Virtual - February 16, 2021

PURPOSE: To identify critical issues associated with the creation of a town-wide pedestrian plan, review and finalize the public participation approach, set a refined project schedule, and overview various physical factors within the Town. Steering Committee Members were asked to identify the biggest challenges and opportunities, and how to define success for this plan.

KEY TAKEAWAYS:

Defining Success

- Greater connectivity to destinations
- Promote safety and healthy living
- Enhanced quality of life
- Creates funding opportunities

Challenges

- Existing sidewalks are in poor condition
- Destinations are not connected via sidewalks
- Unsafe conditions; little awareness for pedestrians
- Lack of crosswalks and signalized crossings

Opportunities

- Chowan University has some nice sidewalks
- Natural + historic destinations, especially along riverfront
- Right-of-ways on some roads are wide enough for pedestrian and bike facilities
- Town-owned property near river and downtown

STEERING COMMITTEE MEETING #2

LOCATION - DATE: Virtual - June 22, 2021

PURPOSE: To provide steering committee members with an opportunity to comment on the draft network recommendations of the town-wide pedestrian plan. The project team presented the results of the community survey, discussed the guiding principles for developing the recommendations and solicited feedback on those recommendations.

KEY TAKEAWAYS:

- Connectivity to destinations is key
- Parks are a primary destination in town
- Safe routes to school are needed

STEERING COMMITTEE MEETING #3

LOCATION - DATE: Virtual - October 19, 2021

PURPOSE: To provide steering committee members with an opportunity to comment on the priority project recommendations of the town-wide pedestrian plan. The project team presented the list and maps for the priority projects and solicited feedback on those recommendations.

KEY TAKEAWAYS:

- Positive feedback for recommendations
- Evaluate Spring Street for prioritization

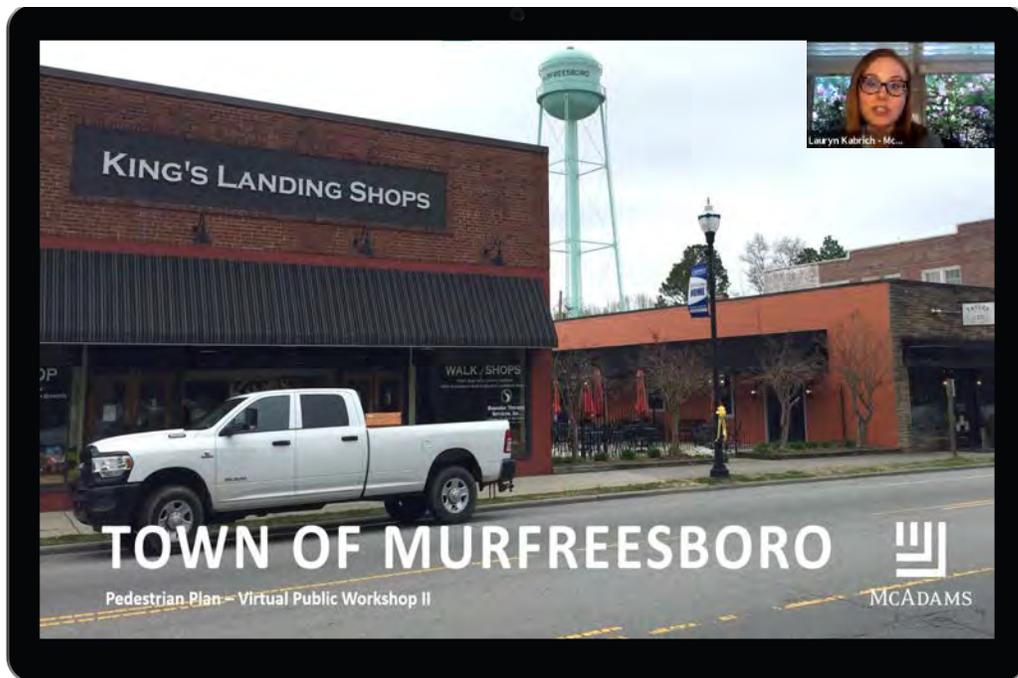
PUBLIC WORKSHOP #1

LOCATION - DATE: Virtual - May 5, 2021.

PURPOSE: To present to the public on the benefits of pedestrian plans, planning process, project schedule, survey review, and next steps. Participants were engaged via an interactive mapping exercise, a preview to the project survey, and a question-and-answer session.

KEY TAKEAWAYS:

- Desire to walk to commercial areas, in addition to park/schools
- Pedestrian facilities need to accommodate people of all ages and abilities
- Education and enforcement of pedestrian laws and safety important



PUBLIC WORKSHOP #2

LOCATION - DATE: Virtual - September 9, 2021

PURPOSE: To provide the public a progress update on the planning process, present draft plan recommendations, and solicit feedback for prioritization of projects. Participants were engaged via an interactive mapping exercise and a question-and-answer session.

KEY TAKEAWAYS:

- Positive feedback for recommendations
- Sidewalks desired on the east side of US 258 / NC 11

COMMUNITY INPUT SURVEY #1

DATES: May 6 - June 21

PURPOSE: To solicit feedback regarding the community's walking habits, satisfaction with current walking conditions, desired walking destinations, and where pedestrian improvements are needed most.

SUMMARY: The survey was available online from May 6 to June 21 and was distributed via the Town of Murfreesboro website, the Town's Facebook page, Nextdoor, etc. There were 84 survey responses. Of the respondents that chose to provide optional demographic information, the sample population accurately represents the demographic composition of the county at large. A summary of survey results are shown below and on the following pages.



MURFREESBORO PEDESTRIAN PLAN PUBLIC SURVEY



The Town of Murfreesboro is developing a pedestrian plan to ensure equitable, accessible, and safe pedestrian routes of all community members. Pedestrian plans provide an overview of a community's pedestrian network and identify improvements that will contribute to a more walkable place.

Watch the video of the first public workshop on-demand at: <https://townofmurfreesboro.com/>

We want to hear from YOU!

Please take a few minutes to complete the short survey using the link below or the QR code.

<https://www.surveymonkey.com/r/M9ZRTKQ>

Survey closes June 11, 2021 – spread the word!



KEY TAKEAWAYS:

High Priority Destinations

- Main St
- Chowan University
- Historic District
- Riverside Park
- Neighborhoods

32%

of participants suggested Main Street is in most need of pedestrian improvements

39%

of participants indicated they walk a few times a week

52%

of participants rated the current walking conditions in Murfreesboro as "Fair"

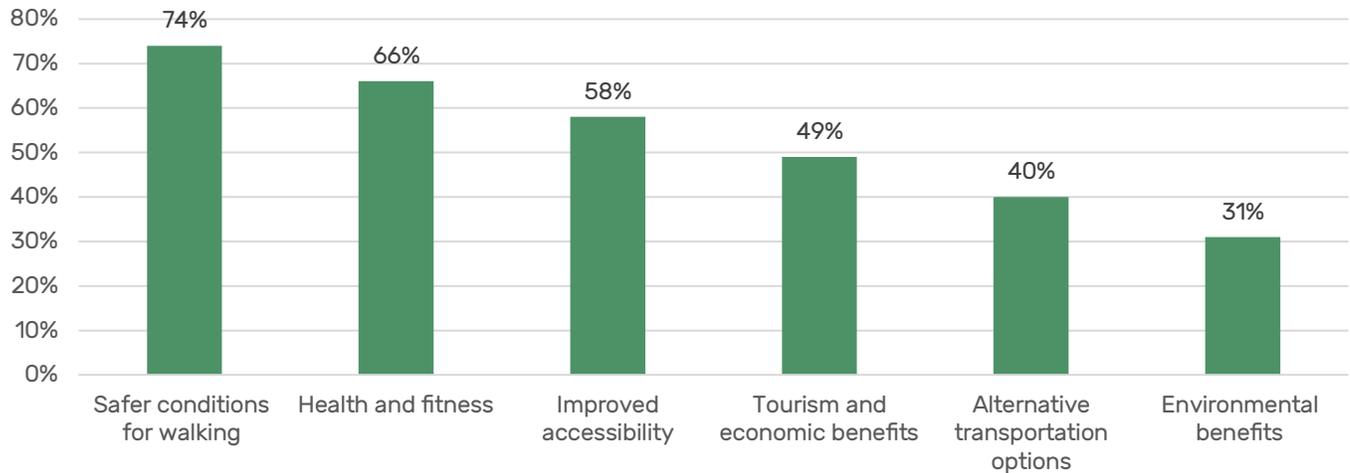
72%

of participants noted their main reason for not walking was a lack of sidewalks or greenways

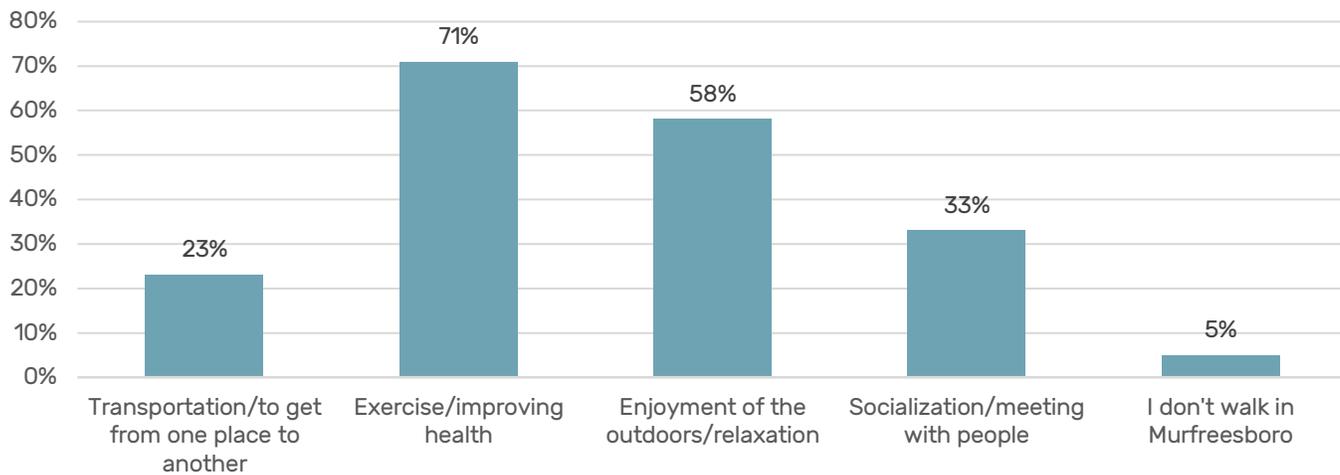
71%

of participants stated their main reason to walk was for exercise and/or improving health

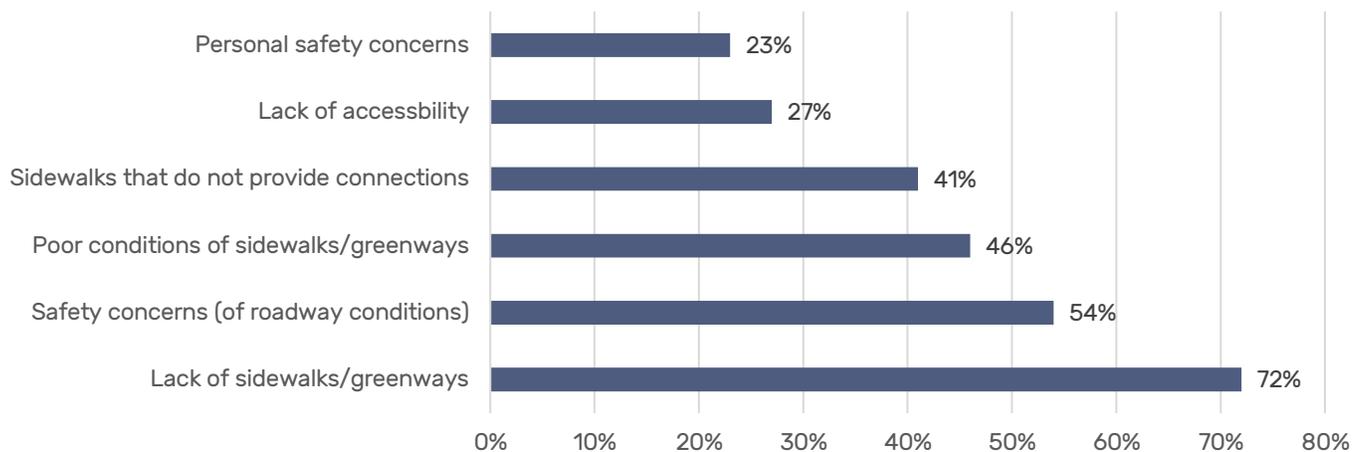
To best benefit the Murfreesboro community, what should be the focus and/or goal of this pedestrian plan? Select all that apply.



What are the primary reasons that you or members of your household walk in Murfreesboro? Please select all that apply.



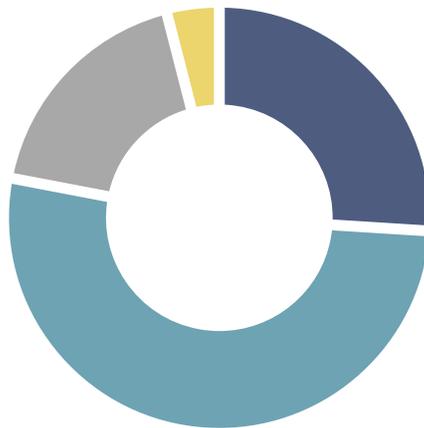
What factors most discourage walking in Murfreesboro? Please select all that apply.





How frequently do you walk in Murfreesboro?

- Daily (30%)
- A few times a week (39%)
- A few times a month (16%)
- A few times a year (12%)
- Never (2%)



How do you rate current walking conditions in Murfreesboro?

- Poor (26%)
- Fair (52%)
- Good (18%)
- Excellent (4%)



Which area of Murfreesboro needs pedestrian improvements most?

- Main St (32%)
- High St (19%)
- Spring Ave (18%)
- Broad St (6%)

COMMUNITY INPUT SURVEY #2

DATES: October 20 - November 30

PURPOSE: To solicit feedback regarding the draft plan recommendations and prioritization of projects.

SUMMARY: The survey was available online from October 20 to November 30 and was distributed via the Town of Murfreesboro website and the Town’s Facebook page. Additionally, hard copies of the survey were made available at Town Hall and the Murfreesboro Public Library. There were nine survey responses, which were taken into consideration for the prioritization of projects.

OVER 170 YEARS OF

Faith in Your Future



CHOWAN
UNIVERSITY



04 NETWORK RECOMMENDATIONS

NETWORK RECOMMENDATIONS

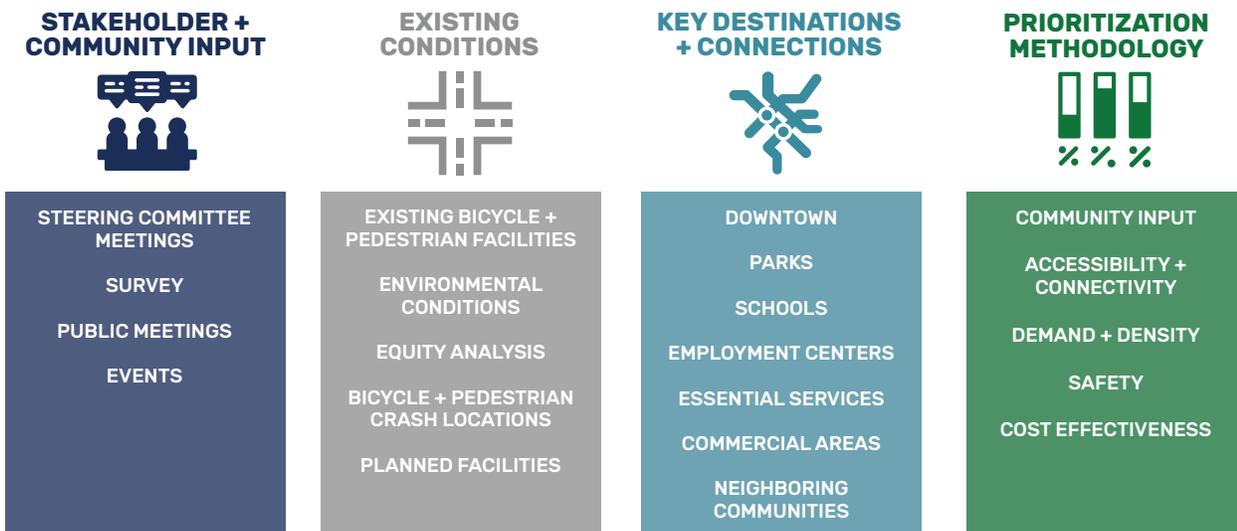
OVERVIEW

This chapter provides the overall network recommendations, priority projects, and the methodology used to select priority projects. There are examples of facility types for both pedestrian and mixed bicycle and pedestrian facilities and intersection enhancements that can be implemented to improve pedestrian conditions. The plan highlights six priority projects that are either easy to implement or would be a catalyst for additional connections. The specific inputs used to determine priority projects include community input, connectivity, demand, safety, and cost effectiveness. Additional details and project sheets for priority projects will aid in implementation.

KEY RECOMMENDATION GUIDANCE

The adopted Comprehensive Transportation Plan along with stakeholder and community input were the basis for creating a pool of projects to evaluate. After a review of existing conditions, the inputs mentioned above were used to identify 12 recommended projects. Of these projects, six were identified as priority projects. Some of these projects are implementable in the very near term, notably those with existing curb and gutter and within the existing right-of-way. These are High Street, Broad Street, and Spring Avenue. Main Street has potential in the near term, but due to scale it may require additional time to secure funding. Hart Street and US 258 are catalyst projects and will require more time for funding and implementation.

NETWORK RECOMMENDATION INPUTS



FACILITY TYPES

Choosing a facility type is a function of context and appropriateness. This pedestrian plan assumes recommends three types of facilities:

- A traditional sidewalk, generally behind curb and gutter;
- A sidepath—a wider facility adjacent to the street but which shares the travel way with bicycles; and
- An off-road path that shares the travel space with bicycles, commonly called a greenway or shared use path.

There are alternative treatments available when a constraint does not allow for a standard facility. These are detailed as options in the recommendations where appropriate.



GREENWAY / SHARED USE PATH

A greenway, or shared use path, provides a travel area separate from motorized traffic for bicyclists, pedestrians, wheelchair users, skaters, joggers, and other users. Greenways offer network connectivity opportunities beyond the roadway network, as they are often located along streams, in utility corridors and parks.

CONTEXT CONSIDERATIONS

ROADWAY SPEED + VOLUME:

Greenways operate independently of roadway corridors and are fully separated from traffic. However, when selecting bicycle and pedestrian facilities, greenways and shared use paths should be considered as multimodal alternatives for roadway corridors that exceed traffic volumes of 6,000 vehicles per day and speed limits higher than 35 miles per hour.

NETWORK CONNECTIVITY + ADJACENT LAND USE:

Greenways may provide network alternatives to arterial and collector roadway connections and are appropriate in low-density areas as well as high-density areas to serve as a corridor connection.



Open Space | 10-12'



SIDEPATH

A sidepath is a bidirectional shared use path located adjacent and parallel to a roadway. Sidepaths offer a low-stress experience for bicycle and pedestrians along network routes with high-speed or high-volume traffic.

CONTEXT CONSIDERATIONS

ROADWAY SPEED + VOLUME:

Sidepaths are used along roads with high volumes that exceed 6,000 vehicles per day and moderate to high speeds over 35 miles per hour.

NETWORK CONNECTIVITY + ADJACENT LAND USE:

Sidepaths are used along arterial and collector roadways and are generally recommended in high-density areas to provide dedicated space for bicyclists and pedestrians.



Travel Lane | 5' | 10-12'



SIDEWALK

A sidewalk is a bi-directional path that provides a dedicated travel area for pedestrians in the transportation network. Sidewalks are physically separated from the roadway by a curb or unpaved buffer space.

CONTEXT CONSIDERATIONS

ROADWAY SPEED + VOLUME:

Sidewalks are recommended on all but the most low-speed and low-volume roadways. Sidewalks should be considered for roadway corridors that exceed traffic volumes of 2,000 vehicles per day and speed limits higher than 10 miles per hour.

NETWORK CONNECTIVITY + ADJACENT LAND USE:

Sidewalks are recommended for all types of roadways where pedestrian activity is likely. Sidewalks are also appropriate in areas with a variety of land uses and may best serve short-distance travel along roadways with pedestrian-generating development, such as neighborhoods, schools, and employment centers.



Travel Lane | 5-6'



TOWN OF MURFREESBORO PLAN RECOMMENDATIONS

Many of the existing sidewalks are located within residential areas or along major corridors. As conveyed in the map, however, there are many gaps that result in an incomplete pedestrian network. The recommendations seek to fill the gaps and create a unified network.

LEGEND

- ● Shared Use Path Recommended
- ● Sidewalk Recommended
- Existing Sidewalk
- Existing Shared Use Path
- ■ CTP-Sidewalk Recommended
- Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University

RECOMMENDED PROJECTS

PROJECT ID	PROJECT DESCRIPTION
Main Street	A combination of sidepaths on the ends of Main Street and filling gaps in the existing sidewalk network in the central downtown area.
High Street	A sidewalk on the south side of High Street in between Moore Street and Spring Avenue will improve and expand upon existing sidewalks. This project provides important east-west connectivity for faculty and students of Chowan University and local neighborhoods. It also expands pedestrian access to the Brady C. Jefcoat Museum, a popular destination for visitors.
Spring Ave	A sidewalk on the east side of Spring Avenue will connect Main Street with the southwest side of Murfreesboro. While the ultimate recommendation is to reach the existing sidewalks on South Drive, this priority section will extend to Meherrin Lane. This project will connect multiple neighborhoods to a pharmacy, hardware store, convenience stores, and other Main Street destinations.
Hart Street	A sidewalk on the east side of Hart Street connecting Main St to Murfree's Landing will provide access from Main Street destinations to the Meherrin River.
Broad Street	A sidewalk on the south side of Broad Street between Wynn Street and East Street will fill gaps in the existing sidewalk network and provide connections to the Murfreesboro Municipal Building, Historic District, and Riverside Cemetery.
US 258	A sidepath on the east side of Hwy 258 connecting Hertford County Middle School to River St. This project provides a safe route to school for students and also connects Fox Ridge Apartments to Main St and Riverside Park.
Historic District	Update maintenance agreement with higher standards for routine maintenance of existing sidewalks and fill gaps to complete a more robust network.
Union Street	A sidewalk on the west side of Union Street that extends existing sidewalks to provide a connection to Chowan University sporting facilities.
Wynn Street	A sidewalk on the east side of Wynn Street between Broad Street and High Street that will help create a more robust network of sidewalks.
Meherrin River Greenway	A boardwalk on the banks of the Meherrin River and under the US 258 bridge connecting Murfree's Landing and Riverside Park.
Murfree's Landing Natural Surface Trail	Utilizing approximately 22 acres of town-owned property at Murfree's Landing, this natural surface trail could provide an alternate connection between Main Street and the Meherrin River. If constructed as a loop, it may become a desirable recreational destination of its own.
Intersection Improvements	The following intersections are recommended for improvements including marked crosswalks and advance warning signage as appropriate: Main Street/US 258; Main Street/Wynn Street; Main Street/Spring Avenue; High Street/Union Street; and High Street/University Drive. Ideally, each of these intersections would be improved as part of the associated project above, but could be bundled and implemented independently as a standalone town-wide intersections improvement project.

PRIORITIZATION METHODOLOGY

There are limited resources to implement pedestrian infrastructure. A chronic gap between identified projects and available funding means prioritizing the project list. Prioritization that balances resource constraints with the hopes and needs of the Town resulted in a set of general criteria that were further refined by local knowledge and stakeholder consensus. Starting with foundational inputs such as existing infrastructure and crash history, the Steering Committee created a project list to refine.

There was additional prioritization input from Town staff and the public that included the desire to:

- Connect to important destinations, notably Murfree’s Landing and Downtown;
- Create more complete network of pedestrian facilities by filling gaps;
- Improve safety for pedestrians; and
- Make walkability an economic catalyst and tourist attraction.

The resulting method to create the short list of priority projects is outlined below.



PRIORITIZATION CRITERIA #1 - Community Input

The Steering Committee and two virtual meetings demonstrated community support and narrowed down project selection for the first cut of project prioritization. Economic development, specifically at leveraging existing amenities like the Meherrin River waterfront was a concern.



PRIORITIZATION CRITERIA #2 - Accessibility / Connectivity

This was a primary consideration of the Steering Committee, and taken together the Main Street and US 258 Projects would connect the middle and elementary schools to downtown. The Hart Street project and the US 258 project also connect waterfront assets to the downtown.



PRIORITIZATION CRITERIA #3 - Demand / Density

Main Street is the axis of retail activity in the town, and other services are just off the corridor, like the Post Office on Wynn Street. Priority recommendations for Main Street directly address this demand and the parallel recommendations on Broad and High Street complement it.



PRIORITIZATION CRITERIA #4 - Safety

Giving people a safe place to walk out of the roadway is a key concern and applies to all projects. The Main Street project would address locations responsible for half of the reported pedestrian crashes in the Town.



PRIORITIZATION CRITERIA #5 - Cost Effectiveness

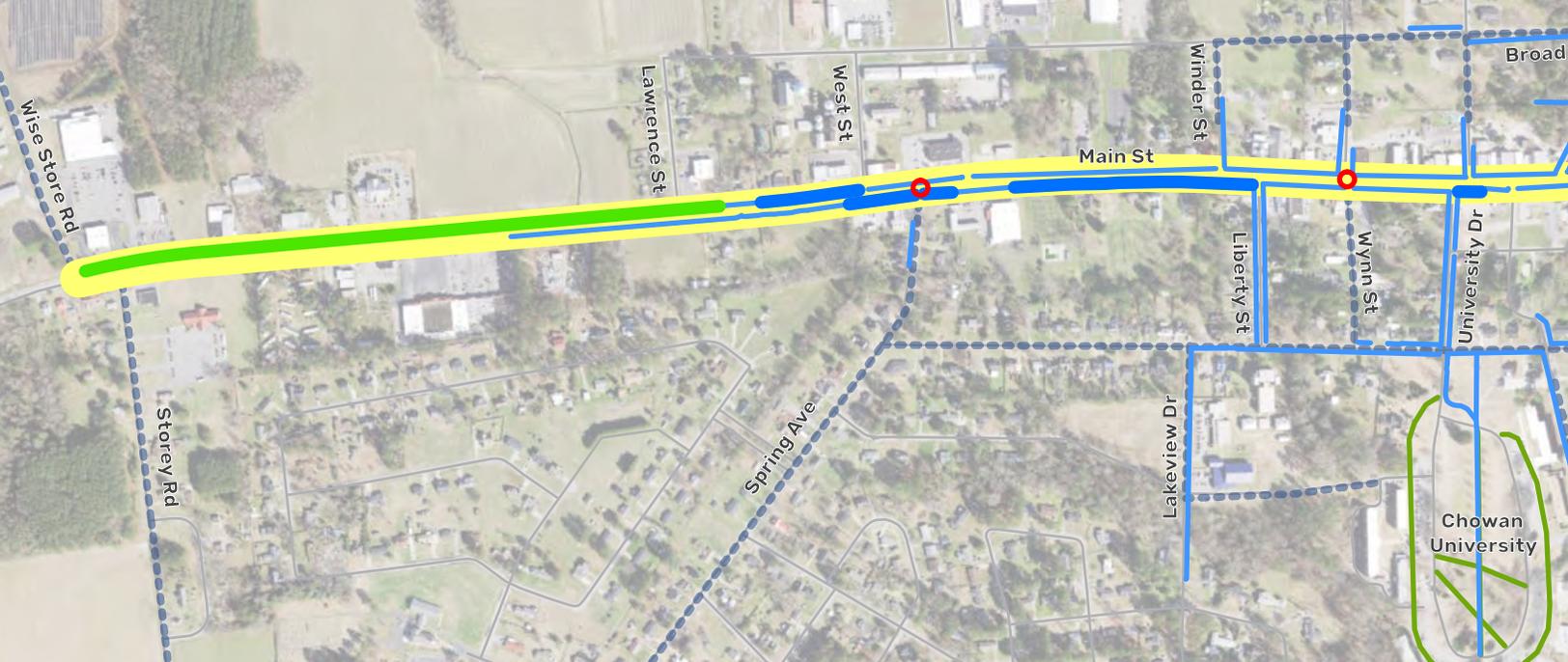
The plan looks for sections where existing right of way, existing curb and gutter, and flat topography without utility or structure conflicts correspond with project locations. The High Street and Broad Street priority projects are examples of this strategy. Costs shown are planning-level estimates, see Appendix C for cost estimate methodology.



**TOWN OF MURFREESBORO
PRIORITY RECOMMENDATIONS**

LEGEND

- Shared Use Path Priority
- Sidewalk Priority
- Existing Sidewalk
- Existing Shared Use Path
- Sidewalk Recommended
- Shared Use Path Recommended
- Roadways
- Parks
- Streams + Lakes
- Town Limits
- Murfreesboro ETJ
- K-12 School
- University



PRIORITY PROJECT: MAIN STREET

WEST (Wise Store Road to Lawrence Street): Sidewalk should be the primary consideration for new sections on the north side of Main Street from Wises Store Road to Lawrence Street. The sidewalk can transition into sidewalk 600' west of Lawrence Street where the right-of-way shrinks from 80' to 60'. The sidewalk can be brought closer to the street until it meets the brick sidewalk in front of the Captain L.C. Lawrence House at 624 West Main.

CENTRAL (Lawrence Street to 1st Street): The street grid through the downtown and existing land uses/buildings lend themselves to a complete sidewalk network. A sidepath implies bicycle and pedestrian mixing and bikes potentially going against traffic on that side. In a downtown grid setting this creates user conflicts that may not be appropriate. Therefore gaps on both sides of Main Street should be built as sidewalk to a width that is in context for adjacent buildings and land uses. Accommodations for any outdoor dining and retail signs or other uses shall be provided as appropriate in this section.

EAST 1 (First Street to Boyette Street): The north side of Main Street along with the intersection of US 258 should be considered for a sidepath. Topography and right-of-way width constrain this section and a non-traditional cross section may be considered. The south side of Main Street was also considered in order to avoid multiple slip lane crossings at US 258. If the facility were to remain on the south side of Main Street east of US 258, a standalone crossing near Riverview Elementary School and some form of stop control or crossing guard would be required.

EAST 2: (Boyette Street to Riverview Elementary): Options for this section include widening the existing sidewalk, or as noted above constructing a new sidepath on the south side of Main Street with a crossing at the school. The causeway across Worrell Mill Swamp has width constraints and alternative treatments may be needed through the bottleneck. Constructing a small missing section of sidewalk will connect the last gap to existing sidewalk in front of First Baptist Church.

PROJECT LENGTH: 2.4 miles (2 miles new/improved facilities)

ESTIMATED COST (BUILD YEAR): WEST - \$1,400,000 (FY 2026)
CENTRAL - \$1,790,000 (FY 2026)
EAST - \$4,805,000 (FY 2031)

IMPLEMENTATION PARTNERS:

NCDOT, Peanut Belt Rural Planning Organization, Town of Murfreesboro



LEGEND

- Project Extent
- Recommended Multi-Use Path
- Recommended Sidewalk
- Sidewalk to Multi-Use Path Widening
- Other Sidewalk Recommendation
- Other Multi-Use Path Recommendation
- Intersection Improvement
- Existing Sidewalk
- Existing Multi-Use Path



BEFORE



MAIN STREET FACING WEST

AFTER



MAIN STREET FACING WEST

DESIGN CONSIDERATIONS:

This is a constrained corridor with steep fill slopes just west of the ABC Store as shown in the photo to the left. Constructing a sidepath at the back of existing curb with a fill wall and safety rail on the backside will minimize construction limits and right-of-way required. As a cost-effective way to separate sidepath users from motorized traffic, a portion of the existing pavement may be painted as a curb extension. This would avoid the need to shift the existing curb line and associated drainage structures.

Downtown is also constrained by zero-setback buildings, utilities, and on-street parking. Alternatives to a sidepath may be required between 4th and Winder Streets to maintain the downtown character. Interim treatments may be a cost-effective way to connect through topographically-constrained sections where motor traffic volumes and existing pavement widths allow.

Intersection improvements including ADA-compliant curb ramps and striped crosswalks are proposed at intersections with Spring Avenue, Wynn Street, and US 258.

ILLUSTRATIVE STREET CROSS SECTIONS:



The sections at both the east and west ends of the Main Street project have ample right-of-way to accommodate pedestrian facilities. The existing sidewalk on the north side of the east section could be widened to create a sidepath. The western section also has existing sidewalk on much of the south side to connect to the shopping destinations.



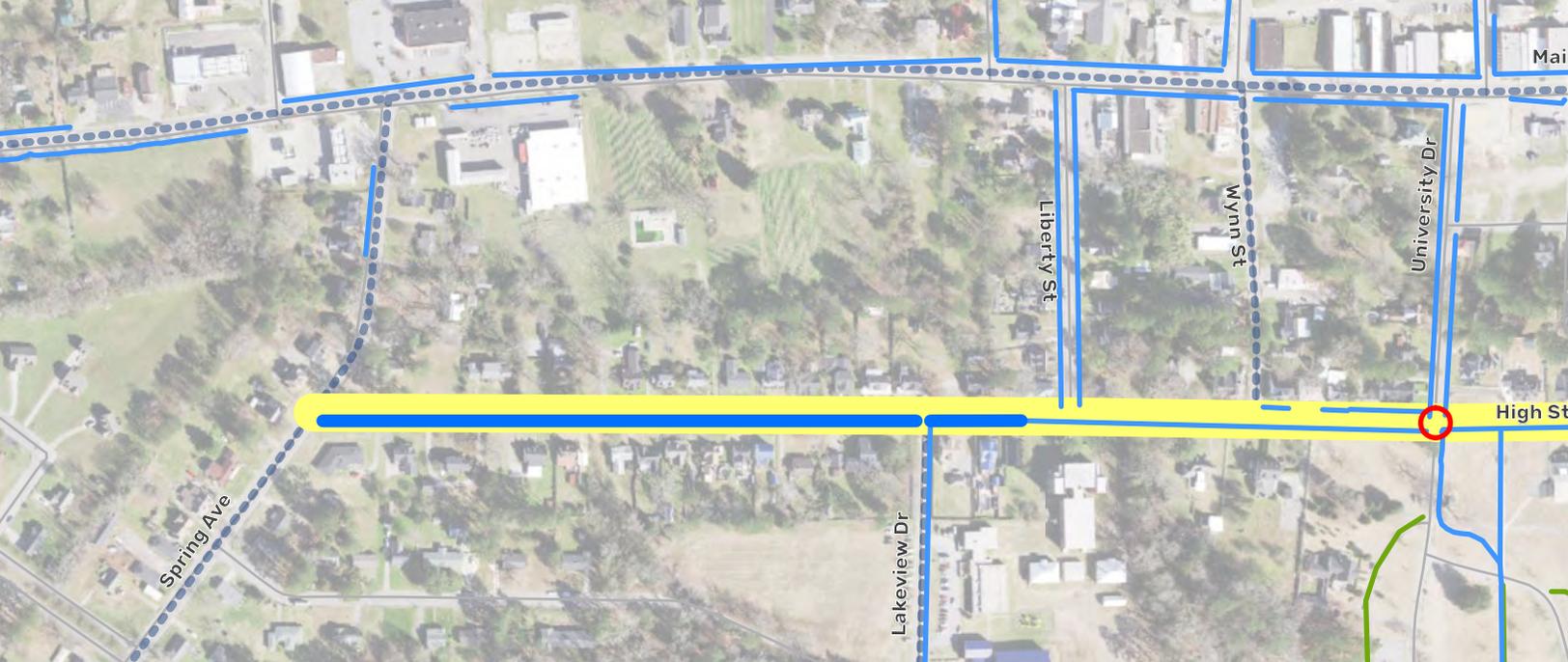
The section from First Street to the crossing of Worrell Mill Swamp has 60' to 65' of right of way and constraints from both structures and topography. In order to economically fit a sidepath in the existing section one option to consider is a narrowing of the travel lanes and shifting the center of the street to the south to allow the sidepath to fit on the north side. Pictures from a similar shift being constructed (Gorman Street in Raleigh) are shown above.

No changes are recommended for the existing central section other than to fill gaps in the existing network and widen sections over time to a context-appropriate width that meets or exceeds ADA requirements.

DESIGN ALTERNATES:

Emerging design alternatives include shifting the motor vehicle travel lanes (where volumes and pavement width allow) and separating the pedestrian space with some form a vertical element. The example on the right shows a 2' painted buffer with flexpost delineators. In sections with existing sidewalk, adding additional sidewalk panels or bending around constraints may be cost-effective solutions as shown below.





PRIORITY PROJECT: HIGH STREET

A sidewalk on the south side of High Street in between Moore Street and Spring Avenue will improve and expand upon existing sidewalks. This project provides important east-west connectivity for faculty and students of Chowan University and local neighborhoods. It also expands pedestrian access to the Brady C. Jefcoat Museum, a popular destination for visitors.

PROJECT LENGTH: 1 mile (0.75 miles of new sidewalk)

ESTIMATED COST (BUILD YEAR): \$1,275,000 (FY 2026)

IMPLEMENTATION PARTNERS:

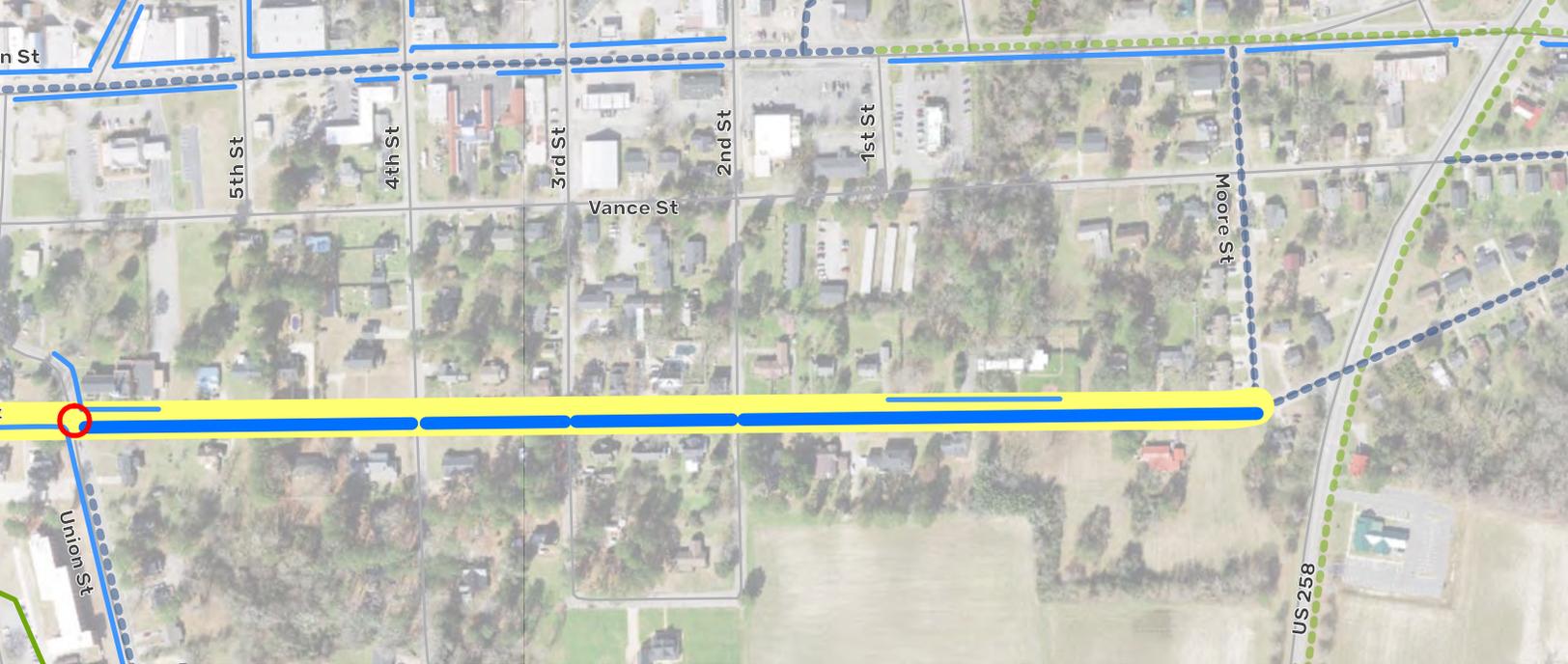
NCDOT, Peanut Belt Rural Planning Organization, Town of Murfreesboro



PROPOSED INTERSECTION IMPROVEMENTS AT HIGH STREET / UNION STREET

ILLUSTRATIVE STREET CROSS SECTION:





LEGEND

- Project Extent
- Other Multi-Use Path Recommendation
- Other Sidewalk Recommendation
- Existing Sidewalk
- Intersection Improvement
- Existing Multi-Use Path



BEFORE



DESIGN CONSIDERATIONS:

The High Street corridor is relatively flat with few physical constraints. Considerations include potential impacts to trees and other plantings, which may be overcome by bending the sidewalk around these features or in some cases removal and replacement.

Intersection improvements including ADA-compliant curb ramps and striped crosswalks are proposed at intersections with University Drive and Union Street.

Building upon approximately 1300' of existing sidewalk on the south side of High Street, this project will construct 0.75 miles of new sidewalk and provide one mile of continuous sidewalk.

AFTER



PRIORITY PROJECT: SPRING AVENUE

A sidewalk on the east side of Spring Avenue will connect Main Street with the southwest side of Murfreesboro. While the ultimate recommendation is to reach the existing sidewalks on South Drive, this priority section will extend to Meherrin Lane. This project will connect multiple neighborhoods to a pharmacy, hardware store, convenience stores, and other Main Street destinations.

PROJECT LENGTH: 0.5 miles

ESTIMATED COST (BUILD YEAR): \$930,000
(FY 2026)

IMPLEMENTATION PARTNERS:

NCDOT, Peanut Belt Rural Planning Organization,
Town of Murfreesboro



LEGEND

-  Project Extent
-  Recommended Sidewalk
-  Other Multi-Use Path Recommendation
-  Other Sidewalk Recommendation
-  Existing Sidewalk
-  Existing Multi-Use Path

BEFORE



DESIGN CONSIDERATIONS:

This section of Spring Avenue is relatively flat with existing curb and gutter. The east side of Spring Avenue is preferred as it connects to a larger neighborhood with a greater number of residents than the west side.

Marked crossings and advance warning signage are recommended at Helen Circle and Meherrin Lane to connect to residents to the west. A reduction in the posted speed for this section from 35 MPH to 25 MPH or other traffic calming measures may also be considered as part of the crossings implementation.

AFTER



ILLUSTRATIVE STREET CROSS SECTION:





LEGEND

- Project Extent
- Other Multi-Use Path Recommendation
- Existing Sidewalk
- Other Sidewalk Recommendation
- Existing Multi-Use Path



PRIORITY PROJECT: HART STREET

A sidewalk on the east side of Hart Street connecting Main St to Murfree’s Landing will provide access from Main Street destinations to the Meherrin River.

PROJECT LENGTH: 0.4 miles

ESTIMATED COST (BUILD YEAR): \$585,000 (FY 2026)

IMPLEMENTATION PARTNERS:

NCDOT, Peanut Belt Rural Planning Organization, Town of Murfreesboro



HART STREET FACING NORTH AT MURFREE’S LANDING

BEFORE



HART STREET FACING NORTH

DESIGN CONSIDERATIONS:

To avoid impacts to Riverside Cemetery located on the west side of Hart Street, sidewalk along the east side is recommended. Installing curb and gutter and locating the sidewalk at the back of curb will minimize impacts to utility poles and reduce the amount of grading/earthwork required for construction.

The southern terminus at Main Street will need to address the continuous driveway cut to reduce pedestrian/motor vehicle conflict points.

AFTER



HART STREET FACING NORTH

ILLUSTRATIVE STREET CROSS SECTION:





LEGEND

- Project Extent
- Other Multi-Use Path Recommendation
- Recommended Sidewalk
- Other Sidewalk Recommendation
- Existing Sidewalk
- Existing Multi-Use Path



PRIORITY PROJECT: BROAD STREET

A sidewalk on the south side of Broad Street between Wynn Street and East Street will fill gaps in the existing sidewalk network and provide connections to the Murfreesboro Municipal Building, Historic District, and Riverside Cemetery.

PROJECT LENGTH: 0.5 miles

ESTIMATED COST (BUILD YEAR): \$825,000 (FY 2031)

IMPLEMENTATION PARTNERS:

NCDOT, Peanut Belt Rural Planning Organization, Town of Murfreesboro



MUNICIPAL BUILDING + VETERANS MEMORIAL

BEFORE



BROAD STREET FACING WEST

DESIGN CONSIDERATIONS:

This would extend the 700' existing section between 5th Street and Sycamore Street in either direction for approximately 2000' of new sidewalk. The sidewalk should be located behind the utility poles, but may be shifted to back of existing curb in constrained areas with smaller building setbacks or to avoid impacts to mature trees or other landscaping.

This project should also consider addressing the gaps it will create to existing sidewalks on Wynn Street and Sycamore Street to complete the network into downtown.

AFTER



BROAD STREET FACING WEST

ILLUSTRATIVE STREET CROSS SECTION:



BROAD STREET FACING WEST



PRIORITY PROJECT: HIGHWAY 258

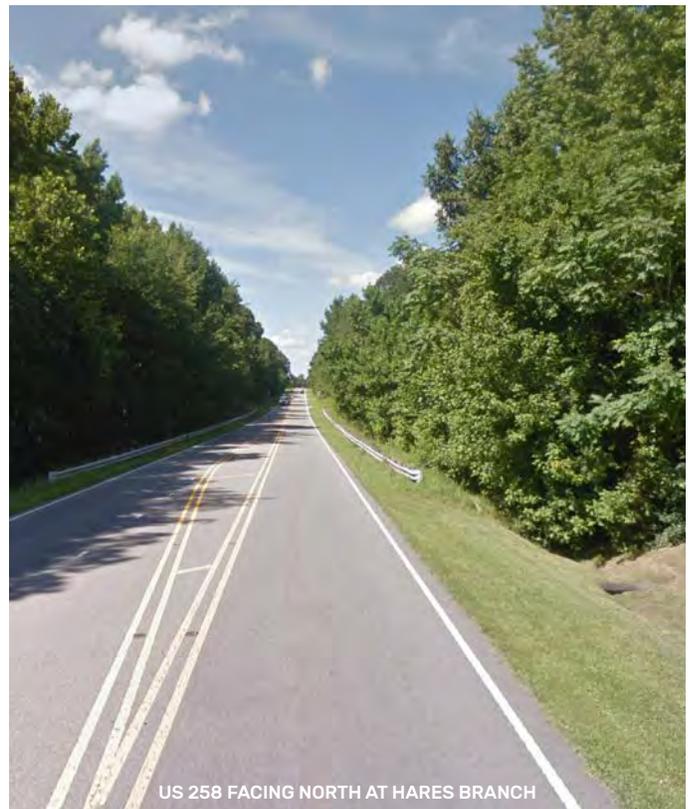
A sidepath on the east side of Hwy 258 connecting Hertford County Middle School to River St. This project provides a safe route to school for students and also connects Fox Ridge Apartments to Main St and Riverside Park, two important destinations.

PROJECT LENGTH: 1.25 miles

ESTIMATED COST (BUILD YEAR): \$4,575,000 (FY 2031)

IMPLEMENTATION PARTNERS:

NCDOT, Peanut Belt Rural Planning Organization, Town of Murfreesboro



US 258 FACING NORTH AT HARES BRANCH



0 800 ft

LEGEND

- Project Extent
- Recommended Multi-Use Path
- Other Multi-Use Path Recommendation
- Other Sidewalk Recommendation
- Existing Sidewalk
- Existing Multi-Use Path

BEFORE



US 258 FACING NORTH

DESIGN CONSIDERATIONS:

The east side of US 258 is preferred to provide direct connection to the Middle School and Fox Ridge Apartments without the need for mid-block crossings. To stay in the existing right-of-way and minimize impacts to the existing drainage ditch, widening the existing pavement to the east to provide a buffer separated sidepath with flexpost delineators is recommended. The sections crossing jurisdictional streams Hares Branch and College Branch just north of the Middle School are constrained with guard rail and steep fill slopes. For these sections, an elevated boardwalk could be constructed outside the guardrail within the existing right-of-way.

AFTER



US 258 FACING NORTH

If traffic impact analysis supports, the northbound right turn lane between High Street and Main Street could be repurposed as a separated, in-street shared use path to avoid removing a number of street trees and reduce cost as compared to constructing a sidepath behind the existing curb. The section from Main Street to River Street is constrained by street trees and structures. Shifting accommodation on the northern end of this section to Diamond Street may be favorable to make the connection to Riverside Park.

ILLUSTRATIVE STREET CROSS SECTION:



US 258 FACING NORTH



Murfreeboro
Chamber of Commerce
Welcomes You

1176



ROBERTS-VAUGHAN HOUSE

05 PROGRAMS + POLICIES

PROGRAMS + POLICIES

PROGRAMS OVERVIEW

Bicycle and pedestrian programs encourage and strengthen culture for walking and bicycling within a community. Investments in these programs, when coupled with infrastructure improvements, frequently lead to an increase in walking and biking. A summary established multi-modal programs and initiatives are provided below.

EDUCATIONAL PROGRAMS



WATCH FOR ME NC

Watch for Me NC is a comprehensive statewide safety and awareness campaign administered by NCDOT geared toward bicycle and pedestrian safety, education, and enforcement. Combining multimedia with public engagement, Watch for Me NC promotes safety messages at local events, followed by targeted enforcement in areas with heightened risk of crashes involving bicyclists and pedestrians. A key component of the program includes training law enforcement officers on existing laws and how to enforce them.

<https://www.watchformenc.org/>



LET'S GO NC

Let's Go NC! A Pedestrian and Bicycle Safety Skills Program for Healthy, Active Children is an NCDOT sponsored, all-in-one package of lesson plans, materials, activities and instructional videos for instructors to teach and encourage children to practice and develop safe pedestrian and bicycle behaviors while promoting healthy transportation choices and active lifestyles that can be carried into adulthood.

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



SAFE ROUTES TO SCHOOL

Through the NC Safe Routes to School program, NCDOT works to make walking and riding a bicycle to school safe for all children. The program facilitates the planning, development and implementation of projects and activities to improve safety and reduce traffic, fuel consumption and air quality near schools. The program includes several direct initiatives: Active Routes to School, Let's Go NC, and the Safe Routes to School Non-Infrastructure Transportation Alternatives Program.

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

ENCOURAGEMENT PROGRAMS

BICYCLE + PEDESTRIAN NETWORK MAP AND/OR MOBILE APP

Bicycle and Pedestrian network maps and mobile apps are developed to guide bicyclists and pedestrians along preferred routes with existing multimodal facilities or routes that are suitable for bicyclists and pedestrians of all skill levels. Maps and mobile apps are also helpful resources that assist new residents and visitors to safely navigate the transportation network via preferred routes.



WAYFINDING SIGNAGE

Bicycle and pedestrian wayfinding systems consist of comprehensive signing and/or pavement markings to guide bicyclists and pedestrians to their destinations along preferred bicycle and walking routes. Signs are typically placed at decision points along bicycle and walking routes – typically at the intersection of two or more bikeways and walking paths and at other key locations leading to and along designated routes. There are three types of wayfinding signs: confirmation signs, turn signs, and decision signs. Pavement markings can also be installed to help reinforce routes and directional signage and to provide route branding benefits.

<https://globaldesigningcities.org/publication/global-street-design-guide/designing-streets-people/designing-for-pedestrians/wayfinding/>



MICROMOBILITY AND/OR BIKE SHARE

Bike share and shared micromobility have rapidly emerged as new transportation options that can increase bicycling and walking, improve mobility, and bolster public transit usage. These systems can also play an important role in communities' safety, livability, and sustainability efforts by making it easier for people to get around without a personal vehicle.

<https://nacto.org/program/bike-share-initiative/>



WALK / BIKE TO SCHOOL DAY EVENTS

Walk to School Day and Bike to School Day are energizing events that remind adults and students alike of the health and environmental benefits of walking or bicycling to school. For many communities, these events lead to more walking and bicycling throughout the school year, sometimes because the event draws attention to safety concerns that need to be addressed or because children and families get inspired to use their feet for the school commute more often. International Walk to School Day takes place every October and National Bike to School Day occurs in May as part of Bike Month.



PROJECT BASED PROGRAMS

POP-UP DEMONSTRATIONS / PILOT PROJECTS

Pop-up demonstrations or pilot projects for proposed multi-modal facilities, such as pedestrian plazas, parklets, and pop-up bike lanes create an action-based approach to transforming the local bicycle and pedestrian network by using short-term, low-cost, and scalable interventions to propel long-term change. Demonstrations or pilot projects can be led by the Town or local advocates and residents to experiment with and gather input on potential street design improvements.

<http://tacticalurbanismguide.com/about/>



OPEN STREETS EVENTS

Open streets initiatives temporarily close streets to automobile traffic, so that people may use them for other activities, such as walking, jogging, bicycling, skating, and dancing. Inspired by the “Ciclovias” in Central and South America, open streets events are designed to encourage residents to rethink public spaces, understanding that our streets can have a multitude of uses.

<https://openstreetsproject.org/>



WALK / BIKE TO WORK DAY EVENTS

Bike to Work Day and Walk to Work Day are annual events that promote bicycling and walking as options for commuting to work. Bike to Work Day is held in May during Bike Month, and Walk to Work Day is held in April. Bike and Walk to Work Day events usually include pit stops along popular biking and walking routes to provide commuters with free breakfast, prizes, and education materials on active transportation. For many communities, these events lead to an increase in walking and bicycling for transportation and recreation.



THEMED WALKING + BIKING EVENTS

Walking and biking events encourage active transportation and present opportunities for residents to socialize over shared experiences. Local advocacy groups and/or the Town can promote walking and biking by hosting themed walks or bike rides. Events can be centered around holidays, local festivals, or coincide with national events such as Earth Day and National Trails Day. For many communities, these events lead to regularly scheduled walks and bike rides.



BICYCLE / WALK FRIENDLY COMMUNITY DESIGNATION

The Bicycle Friendly Community and Walk Friendly Community programs provide a roadmap to improving conditions for bicycling and walking and guidance to help make a community's vision for a better, bikeable and walkable community a reality. The Bicycle Friendly Community program is sponsored by the League of American Bicyclists and the UNC Highway Safety Research Center sponsors the Walk Friendly Community program. Applications for both programs are accepted twice a year.

<https://www.bikeleague.org/community>

<https://walkfriendly.org/>



PAINT THE PAVEMENT PROGRAM

Paint the Pavement programs allow mural painting on public streets to encourage community building and public art as a means to transform roadway public space into neighborhood assets. Street murals implemented as part of the program also serve as an important traffic calming solution in residential neighborhoods. Paint the Pavement programs are sponsored by governmental agencies, but mural design and painting are led by volunteers.



SHARED STREETS PROGRAM

Shared streets provide pedestrians with the right-of-way and remove the formal distinctions between spaces dedicated to pedestrians, cyclists, and motorized vehicles. During the COVID-19 pandemic, shared streets pilot programs were initiated by municipalities to help people find safe, healthy ways to enjoy outdoor activities while supporting social distancing. Most programs implement soft street closures on designated residential streets to allow for residents to safely walk and bike in their neighborhood.



EVALUATION PROGRAMS

BICYCLE + PEDESTRIAN COUNT PROGRAM

Bicycle and pedestrian count programs provide non-motorized user information for roadways, paths, and intersections. Count programs assist municipalities to understand existing bicycle and pedestrian traffic and plan for future non-motorized infrastructure needs. Agencies who show clear evidence of use are more likely to receive funding for projects. NCDOT sponsors the North Carolina Non-Motorized Volume Data Program, which is managed by NC State University.

<https://itre.ncsu.edu/focus/bike-ped/nc-nmvdpl/>



BIKE / WALK AUDITS

Walking and bicycling audits are processes that involve the systematic gathering of data about environmental conditions that affect walking and bicycling. Audits are typically performed by personnel with experience in local pedestrian and bicycle issues and focus on a school site, a corridor popular for bicycling or walking, or an intersection that residents find unsafe. Guidance on conducting walking and bicycling audits is provided by the Safe Routes to School Online Guide.

http://guide.saferoutesinfo.org/engineering/walking_and_bicycling_audits.cfm



311 SERVICE / SEE-CLICK-FIX

311 service is a governmental program that allows citizens to report maintenance issues, such as street debris in bike lanes, potholes, damaged sidewalks, or malfunctioning traffic signals. Similarly, See-Click-Fix is an online platform and mobile app that allows residents to report maintenance issues via interactive map to precisely pinpoint and describe the issue. Municipalities can partner with See-Click-Fix as their local 311 provider.

<https://seeclickfix.com/>



POLICIES

STATE BICYCLE AND PEDESTRIAN TRANSPORTATION POLICY

The NCDOT Integrated Mobility Division website includes references and links to state and federal policies that support the integration of pedestrians as part of the transportation system.

COMPLETE STREETS POLICY AND GUIDELINES

This policy directs the department to consider and incorporate several modes of transportation when building new projects or making improvements to existing infrastructure. In August 2019, new Complete Streets policy was passed and NCDOT updated the Complete Streets Implementation Guide, effective January 3, 2020, and will continue to update periodically as processes and procedures are refined .

PEDESTRIAN POLICY AND GUIDELINES

"NCDOT policy and guidelines for planning, designing, building, maintaining and operating pedestrian facilities and accommodations."

ADMINISTRATIVE ACTION TO INCLUDE GREENWAY PLANS

"NCDOT administrative guidelines for considering greenways and greenway crossings during the highway planning process to ensure that critical corridors for future greenways are not severed by highway construction."

BRIDGE POLICY

"NCDOT policy establishing design elements for new and reconstructed bridges on the state's road system, including requirements for sidewalks and bicycle facilities on bridges."

ADA CURB RAMP INSTALLATION COMPLIANCE FOR HIGHWAY PROJECTS

The United States Department of Justice (USDOT) and the Federal Highway Administration (FHWA) published a Briefing Memo regarding curb ramp additions or retrofits that are required for resurfacing type projects. Based on the joint ruling from USDOT/FHWA, installation of new curb ramps and/or retrofit of existing, non-standard curb ramps is required when the curb section is connected to a pedestrian walkway with a prepared surface for pedestrian use. Existing curb ramps built to the 1991 standard or later are not required to be retrofitted.

HERTFORD COUNTY ZONING ORDINANCE (JUNE 21, 2021) (ARTICLE IX. SECTION 9.03)

As outlined in Design Standards and Regulations for Signs, projecting signs "shall not be less than 10 feet above the sidewalk nor less than 15 feet above a driveway or alley ."

RECOMMENDATION: The County should establish street design standards for all types of pedestrian facilities: 5-foot minimum sidewalk width, 8 to 10-foot minimum side path width, and 10 to 12-foot minimum greenway width. One or more of these facilities should be applied to all new development and also include connectivity requirements for new sidewalks, curb, and gutter.

HERTFORD COUNTY SUBDIVISION ORDINANCE (OCTOBER 18, 1999) (ARTICLE V. SECTION 10)

As outlined in Improvements Required and Minimum Standards of Design, "Subdivisions containing less than twenty-five (25) lots, any of which front on a waterway, shall provide a twenty (20) feet easement, located along a property line, to provide private pedestrian access for owners of non-waterfront lots within the subdivision ."

RECOMMENDATION: The Town should establish a maintenance fund to assist with maintaining and replacing existing and new pedestrian facilities.

HERTFORD COUNTY
— **MIDDLE SCHOOL** —

WELCOME

BACK

HOME OF THE



BEARS



06 IMPLEMENTATION

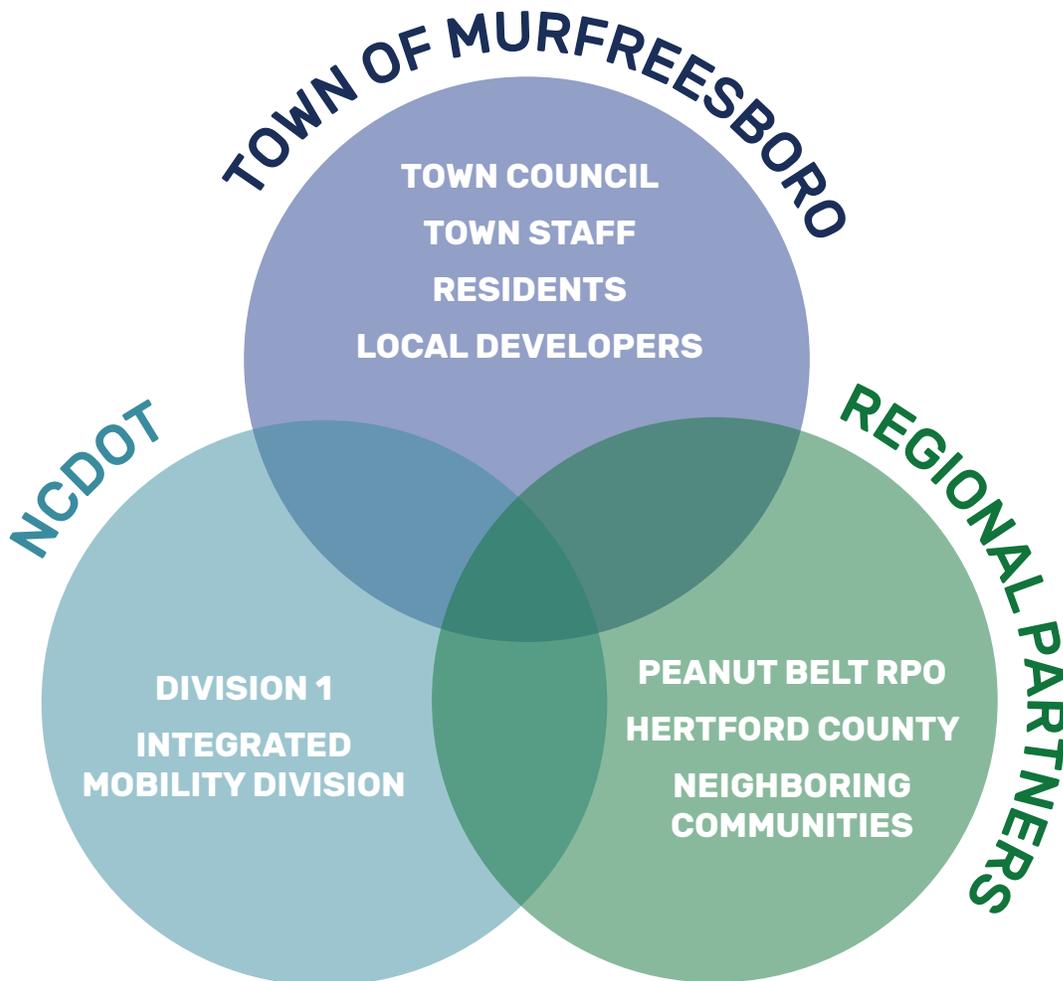
IMPLEMENTATION

OVERVIEW

As a living document, the pedestrian plan and recommendations may evolve with changing conditions and funding opportunities.

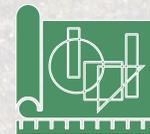
For priority projects, the Town will look for ways to fund and implement projects. Some may be incremental over time, like using Powell Bill funding to fill in small sidewalk gaps, or NCDOT updating sidewalk ramps with annual resurfacing. Other projects will need additional development to be eligible for outside funding. These projects require feasibility studies for more detailed cost estimates and identification of obstacles. The feasibility study is the next step toward making a project “shovel-ready” so it can complete for funding.

Successful implementation of the pedestrian plan will require a coordinated effort of many parties working together. These agencies include the Town, Hertford County, the Peanut Belt Rural Planning Organization (PBRPO), other local municipal agencies, NCDOT Division 1, and the Federal Highway Administration. Private sector organizations are also key players, as they have influence and capacity to garner additional community support.





PROJECT FEASIBILITY
 COMMUNITY ENGAGEMENT
 ENVIRONMENTAL ANALYSIS
 ROUTE ALIGNMENT ANALYSIS
 COST ESTIMATES



DESIGN
 COMMUNITY ENGAGEMENT
 ENVIRONMENTAL DOCUMENTATION
 30% DESIGN
 FULL DESIGN



RIGHT OF WAY
 ROW AUTHORIZATION
 LAND ACQUISITION / EASEMENTS
 COMMUNITY ENGAGEMENT



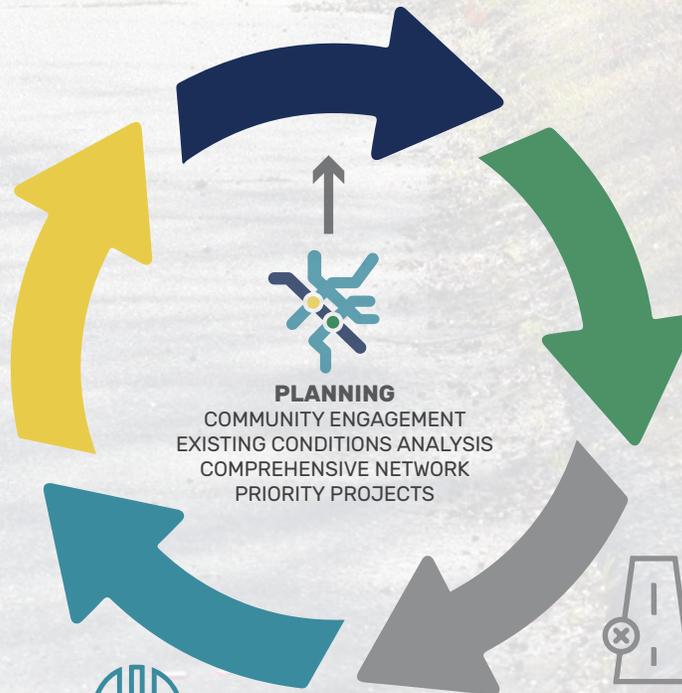
CONSTRUCTION
 PERMITTING
 BIDDING & PROCUREMENT
 COMMUNITY ENGAGEMENT
 CONSTRUCTION



OPERATIONS + EVALUATION
 COMMUNITY ENGAGEMENT
 MAINTENANCE PLAN
 PROGRAMMING
 USER COUNTS



PLANNING
 COMMUNITY ENGAGEMENT
 EXISTING CONDITIONS ANALYSIS
 COMPREHENSIVE NETWORK
 PRIORITY PROJECTS



ACTION PLAN TABLE

<i>Action</i>	<i>Description</i>	<i>Lead</i>	<i>Support</i>	<i>Timeline</i>
Adopt the Town of Murfreesboro Pedestrian Plan	Present the plan to the Town of Murfreesboro Mayor and Town Council for adoption.	Town staff	Town council members and mayor	Short-term
Establish a Bicycle and Pedestrian Advisory Committee (BPAC)	Form an advisory committee or appoint an individual who will be responsible for overseeing the implementation of the plan.	Steering committee members	Town staff and town council members	Short-term
Coordinate with NCDOT Division 1 and planned Strategic Transportation Improvement Plan (STIP) projects to include side paths and/or sidewalks	Hold an initial meeting with NCDOT Division 1 to discuss how the plan's pedestrian recommendations may be incorporated in upcoming transportation projects, including roadway resurfacing projects.	Town staff	NCDOT Division 1 and Peanut Belt Rural Planning Organization (RPO)	Ongoing
Update County Comprehensive Transportation Plan (CTP) to include recommended network from this plan	Ensure that the recommendations from this plan are incorporated into the County Comprehensive Transportation Plan when that is updated again.	Hertford County Planning & Zoning Department	Town staff	Short-term
Strengthen partnership with Peanut Belt Rural Planning Organization (RPO)	Meet with RPO to provide an overview of the plan's recommendations and identify opportunities for collaboration.	Town staff	Peanut Belt RPO	Ongoing
Modify existing or create new Memorandum of Understanding (MOU) with Murfreesboro Historical Association	Work with Murfreesboro Historical Association to develop an MOU that established standards and clear expectations for the maintenance of sidewalks in the Historic District.	Town staff	Murfreesboro Historical Association	Short-term
Include requirements for pedestrian facilities in town ordinances and policies	Draft amendments to town ordinances and policies following the recommendations of this plan for pedestrian infrastructure in existing and new development.	Town staff	Town council members	Short-term
Identify eligible funding sources and apply for the plan's priority projects	Refer to the funding sources identified in this chapter; apply for funds; and coordination with STIP process to implement projects.	Town staff	Steering committee members	Ongoing
Conduct feasibility studies along priority corridors and acquire easement or property if necessary	Identify the highest priority of the recommended projects and conduct feasibility studies to determine design and construction details and steps.	Town staff	Town council members	Medium-term
Leverage greater pedestrian fundraising dollars through town match and budget planning	Establish a fund to use for local match requirements.	Town staff	Town council members	Medium-term
Implement educational programs like Watch for Me NC to increase safety awareness	Develop a safety and educational program in Murfreesboro that follows the guidelines of established programs like Watch for Me NC.	Town staff	NCDOT	Short-term

KEY PARTNERS IN IMPLEMENTATION

ROLE OF THE MURFREESBORO TOWN COUNCIL

The Murfreesboro Town Council will be responsible for adopting this plan and supporting the action steps required to implement it. By adopting the plan, the Council communicates their belief in the value of pedestrian infrastructure and greater walkability throughout Murfreesboro. They also demonstrate their intent to support the efforts of other key partners, such as NCDOT and Town departments.

ROLE OF THE TOWN OF MURFREESBORO PUBLIC WORKS DEPARTMENT

The Murfreesboro Public Works Department is responsible for the maintenance of town-owned buildings and grounds, streets, fleet, and sanitation services and administration. The Department is responsible for maintaining all streets, alleys and sidewalks within the Town. Public Works staff should be prepared to:

- Coordinate with other town departments and the Bicycle and Pedestrian Advisory Committee (BPAC) on priority pedestrian projects.
- Become familiar with the design standards set forth in Appendix B of this plan, as well as additional state and national standards for pedestrian facility designs.

ROLE OF THE TOWN OF MURFREESBORO PARKS AND RECREATION DEPARTMENT

Murfreesboro Parks and Recreation staff will take primary responsibility for the design and programming of any new pedestrian facilities within town-owned parks (with support from the Public Works Department). The Parks and Recreation staff should be prepared to:

- Communicate and coordinate with the public works department (and Town Council) on the development of conceptual plans for future town-owned properties.
- Coordinate with other town departments, BPAC, school district, etc. on implementing pedestrian programs and events.

ROLE OF THE HERTFORD COUNTY PLANNING AND ZONING DEPARTMENT

The Hertford County Planning and Zoning Department is responsible for planning, zoning, and code enforcement issues. As a key stakeholder, the Planning and Zoning Department will coordinate closely with future plans and development to ensure they support and align with recommendations from this plan. The Planning and Zoning Department will refer to the design guidelines in Appendix B and the funding sources in Appendix A when pursuing new opportunities to enhance the pedestrian network.

ROLE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) DIVISION 1

NCDOT Division 1 is responsible for the construction and maintenance of pedestrian facilities on NCDOT-owned and maintained roadways in the Town of Murfreesboro or is expected to allow for the Town to do so with encroachment agreements. NCDOT Division 1 should be prepared to:

- Recognize this plan as an adopted plan of the Town of Murfreesboro AND an approved plan of NCDOT.

ROLE OF THE TOWN OF MURFREESBORO POLICE DEPARTMENT

The Town of Murfreesboro Police Department is responsible for enforcing state and local laws, enhancing the quality of life in Murfreesboro, and exhibiting professionalism while serving the needs of the citizens. Regarding this plan, the Police Department should be prepared to:

- Become familiar with pedestrian-related laws in North Carolina (www.ncdot.gov/bikeped/lawspolicies/laws/) and enforce them.
- Coordinate with Town departments and participate in pedestrian-related education programs.



ROLE OF DEVELOPERS

Developers can play an important role in facility development whenever a project requires the addition and/or improvement of pedestrian facilities such as sidewalks, trails or crossing facilities. Developers should be prepared to:

- Become familiar with the design standards in Appendix B of this plan, as well as additional state and national standards for pedestrian facilities.
- Be prepared to include pedestrian facilities in future developments that also provide connections to the overall pedestrian network in Town.

ROLE OF LOCAL & REGIONAL STAKEHOLDERS

Local and regional stakeholders have an important role in the implementation of this plan. Local and regional stakeholders should be prepared to:

- Become familiar with the recommendations of this plan coordinate with the Town on the various action and implementation steps.
- Ensure that the recommendations of this plan are also reflected in the next update of the Cumberland County Comprehensive Transportation Plan (CTP) and any other relevant planning documents.

ROLE OF LOCAL RESIDENTS, CLUBS AND ADVOCACY GROUPS

Citizens, local clubs, and advocacy groups have an important voice in the community and play a critical role in the success of this plan. They should be prepared to:

- Continue engaging in action and implementation steps of this plan, offer input regarding pedestrian and bicycling issues in Murfreesboro, and participate in pedestrian and bicycle programs or events.

PERFORMANCE MEASURES AND METHODS

GOAL 1: IMPROVE PEDESTRIAN SAFETY IN ALL AREAS OF MURFREESBORO.



Objective: Emphasize Complete Streets design standards that accommodate all users along the street and at intersections.

Performance Evaluation: (1) Number of annual pedestrian related crashes; (2) Number of intersections with crosswalks and signalized crossings.

Examples of Progress Achieved: (1) Reduction in annual pedestrian related crashes in a specific period of time; (2) Increase in number of intersections with crosswalks/signalized crossings in a specific period of time.

GOAL 2: INCREASE MOBILITY + ACCESSIBILITY BY CREATING A MORE COMPLETE PEDESTRIAN NETWORK.



Objective: Establish a well-connected network of pedestrian facilities that connects desired destinations and enables residents and visitors to choose to walk or bike for shorter distance trips.

Performance Evaluation: (1) Miles and relative value of pedestrian facilities constructed. (2) ADA ramps installed or improved.

Examples of Progress Achieved: (1) Miles of pedestrian facilities constructed in a specific period of time or a net increase in connected length—building 200 feet of gap results in 2,000 feet of continuous facility for a net of ten to one connection value; (2) number of ADA ramps installed or upgraded over some period of time.

GOAL 3: PROMOTE SOCIOECONOMIC EQUITY THROUGH TRANSPORTATION OPTIONS.



Objective: Emphasize equal distribution of pedestrian facilities across town, particularly in areas with higher concentrations of lower income households and households with no access to vehicles.

Performance Evaluation: (1) Construct new/upgraded pedestrian facilities that connect directly to schools, parks, and commercial areas.

Examples of Progress Achieved: (1) Number of newly constructed or upgraded facilities annually.

GOAL 4: FOSTER ECONOMIC PROSPERITY BY ATTRACTING TOURISM THROUGH PLACE MAKING.



Objective: Develop walkable places that attract tourism and promote increased visitor spending.

Performance Evaluation: (1) Number of car-free and small business events in downtown; (2) Establishment of a walking loop that connects to major destinations and attracts tourism.

Examples of Progress Achieved: (1) Number of downtown events; (2) Walking loop maps available; associated wayfinding implemented.

GOAL 5: IMPROVE QUALITY OF LIFE THROUGH ACTIVE LIFESTYLE OPPORTUNITIES + ACCESS TO NATURE.



Objective: Create a pedestrian network that provides safe connections to parks and natural areas for increased outdoor recreation.

Performance Evaluation: (1) Number of parks and green space connected by pedestrian facilities; (2) Number of households/neighborhoods with safe pedestrian connections to parks & green space.

Examples of Progress Achieved: Number of residents with pedestrian connections to parks and green space in a specific period of time.

D. A. BARNES HOUSE





APPENDICES

APPENDIX A: FUNDING

Below are several funding sources that can be leveraged to provide the necessary dollars to plan, design, and/or construct bicycle, pedestrian, and greenway facilities. The following sources of funding have been instrumental in the successful development of bicycle and pedestrian networks in North Carolina communities.

FEDERAL FUNDING

North Carolina communities have partnered with Federal agencies to build multi-use paths, greenways, sidewalks, bike lanes and improve crossings. Federal funding is primarily distributed to municipalities through state agencies and Metropolitan Planning Organizations (MPO), as well as through discretionary grant programs.

The Fixing America's Surface Transportation (FAST) Act authorizes transportation funding for highway, transit, rail, bicycle and pedestrian, and safety programs and infrastructure. FAST Act funding is administered by the Federal Highways Administration (FHWA). FHWA distributes funding to NCDOT and directly to MPOs through the Locally Administered Projects Program (LAPP). Communities wishing to access Federal funding must submit their candidate projects to their MPO or RPO to then be entered into the NCDOT's Strategic Transportation Investment (STI) Mobility Formula. This formula ranks projects and identifies those to be funded in the State Transportation Improvement Program (STIP). These funds require a 20% match from the municipality. Federal transportation funds for bicycle and pedestrian projects are primarily distributed through four programs: Transportation Alternatives (TA), Congestion Mitigation & Air Quality (CMAQ), Recreational Trails Program, (RTP), and Highway Safety Improvement Program (HSIP).

Additional federal funding sources for bicycle and pedestrian projects are administered through the Department of Housing and Urban Development (HUD) with the Community Development Block Grant (CDBG) Program, and several discretionary grant programs administered by the US Department of Transportation (USDOT), National Park Service (NPS), and the National Endowment for the Arts (NEA).

STATE & MPO ADMINISTERED FUNDING

TRANSPORTATION ALTERNATIVES (TA)

Transportation Alternatives provides federal funds for community-based projects that expand travel choices and enhance the transportation experience by integrating modes and improving the cultural, historic, and environmental aspects of our transportation infrastructure. In North Carolina, TA funds are administered by NCDOT. Program-eligible projects must be submitted through STI and require a 20 percent local match.

Project types include:

- On and off-road pedestrian and bicycle facilities;
- Infrastructure projects for improving non-driver access to public transportation and enhanced mobility;
- Community improvement activities;
- Environmental mitigation;
- Safe routes to school projects;
- Streetscape improvements;
- Refurbishment of historic transportation facilities; and
- Other investments that enhance communities.

NCDOT has created a bicycle and pedestrian scoping guidance document for local governments that have been awarded Transportation Alternatives funding. The Bike/Ped Project Scoping Guidance for Local Governments provides an overview of the four scoping tools used for locally managed, federally funded transportation projects in North Carolina. The document provides guidance on the project delivery process, scoping, identifying project risks, and project cost estimation. The document is available at the link below.

<https://connect.ncdot.gov/projects/BikePed/Documents/BikePed%20Project%20Scoping%20Guidance%20for%20Local%20Governments.pdf>

https://www.fhwa.dot.gov/environment/transportation_alternatives/

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

The purpose of the North Carolina Highway Safety Improvement Program (HSIP) is to provide a continuous and systematic procedure that identifies and reviews specific traffic safety concerns throughout the state. The goal of the HSIP process is to reduce the number of traffic crashes, injuries, and fatalities by reducing the potential for these incidents on public roadways. Areas with bicycle and pedestrian safety concerns are primarily analyzed based on bicycle and pedestrian crash data.

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

RECREATIONAL TRAILS PROGRAM (RTP)

The Recreational Trails Program provides funds to state agencies to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. RTP is an assistance program of the Department of Transportation's Federal Highway Administration (FHWA). In North Carolina, the Recreational Trails Program is a \$1.5 million grant program that funds trails and trail-related recreational needs identified by the Statewide Comprehensive Outdoor Recreation Plan. Grant funding is available for trail planning, construction of new trails; maintenance and repair of existing trails; land acquisition; purchase of trail tools; and legal, environmental, and permitting costs. RTP is a reimbursement grant program. Municipalities must provide project funds upfront and are reimbursed upon completion of deliverables. Eligible applicants are state, federal, or local government agencies or qualified nonprofit organizations. Grants range from \$10,000 - \$100,000 and require a 25% match by the municipality.

https://www.fhwa.dot.gov/environment/recreational_trails/

<https://trails.nc.gov/trail-grants>

COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)

The Community Development Block Grant Program provides annual grants on a formula basis to states, cities, and counties to develop viable urban communities by providing decent housing, suitable living environments, and expanding economic opportunities for low- and moderate-income persons. The program is authorized under Title 1 of the Housing and Community Development Act of 1974. CDBG funds are allocated at the federal level by HUD and at the state level by the NC Department of Commerce. All municipalities are eligible to receive State CDBG funds except for entitlement communities, which receive funds directly from HUD. North Carolina's 24 entitlement municipalities are: Asheville, Burlington, Cary, Chapel Hill, Charlotte, Concord, Durham, Fayetteville, Gastonia, Goldsboro, Greensboro, Greenville, Hickory, High Point, Jacksonville, Kannapolis, Lenoir, Morganton, New Bern, Raleigh, Rocky Mount, Salisbury, Wilmington, and Winston-Salem. In addition, all counties are eligible to receive State CDBG funds except Mecklenburg County, Wake County, Union, and Cumberland County, which have been designated by HUD as urban entitlement counties.

CDBG funds may be used for activities which include, but are not limited to:

- Acquisition of real property;
- Relocation and demolition;
- Rehabilitation of residential and non-residential structures;
- Construction of public facilities and improvements, such as water and sewer facilities, streets, neighborhood centers, and the conversion of school buildings for eligible purposes;
- Public services, within certain limits;
- Activities relating to energy conservation and renewable energy resources; and
- Provision of assistance to profit-motivated businesses to carry out economic development and job creation/retention activities.

https://www.hud.gov/program_offices/comm_planning/communitydevelopment

DISCRETIONARY GRANTS

REBUILDING AMERICAN INFRASTRUCTURE WITH SUSTAINABILITY AND EQUITY (RAISE)

The 2021 Consolidated Appropriations Act appropriated \$1 billion to be awarded by the Department of Transportation (DOT) for National Infrastructure Investments, formerly known as TIGER and BUILD Grants and now as Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grants. RAISE Grants are for capital investments in surface transportation that will have a significant local or regional impact. Since this program was created, \$8.9 billion has been awarded for capital investments in surface transportation infrastructure over 12 rounds of competitive grants. The FY2021 RAISE Notice has been updated to reflect the current Administration's priorities for creating good-paying jobs, improving safety, applying transformative technology, and explicitly addressing climate change and advancing racial equity. Consistent with the FY 2021 Appropriations Act requirement, the Secretary shall award projects based solely on the selection criteria. The primary selection criteria are safety, environmental sustainability, quality of life, economic competitiveness, and state of good repair, and the secondary selection criteria are partnership and innovation. The Federal share of project costs may not exceed 80 percent for a project located in an urban area. The Secretary may increase the Federal share of costs above 80 percent for projects located in rural areas and for planning projects located in areas of persistent poverty.

Project Awards:

- Total Funding: \$1 billion.
- Minimum Project Awards: Urban Projects: \$5 million, Rural Projects: \$1 million.
- Planning Grants: No project minimum required.
- Maximum Awards: Urban/Rural Projects: \$25 million, Per State: \$100 million.
- Geographic Distribution: 50% of total funds (\$500 million) awarded to both urban and rural projects.

<https://www.transportation.gov/RAISEgrants>

FEDERAL LANDS ACCESS PROGRAM (FLAP)

The Federal Lands Access Program (FLAP) provides funds for projects to improve Federal Lands Access Transportation Facilities that provide access to, are adjacent to, or are located within federal lands. This can include public roads, bridges, paved trails, or transit systems that are owned and/or maintained by the state, county, town, township, tribal, municipal, or local government. Funds may be used for the costs of transportation planning, research, engineering, preventive maintenance, rehabilitation, restoration, construction, and reconstruction of transportation facilities located on or adjacent to, or that provide access to, federal lands. Applicable activities include parking areas; acquisition of scenic easements or historic sites; bicycle and pedestrian provisions; environmental mitigation; public safety; and roadside rest areas. Other eligible activities include the operation and maintenance of transit facilities, and any transportation project that is within, adjacent to, or provides access to federal land. The program requires a minimum 20% local match.

<https://highways.dot.gov/federal-lands/programs-access/nc>

FEDERAL LAND AND WATER CONSERVATION FUND (LWCF)

The Land and Water Conservation Fund was established by Congress in 1964 to fulfill a bipartisan commitment to safeguard natural areas, water resources and cultural heritage, and to provide recreation opportunities to all Americans. The LWCF program is divided into the “State Side” which provides grants to State and local governments for the acquisition and development of public outdoor recreation areas and facilities, and the “Federal Side” which is used to acquire lands, waters, and interests therein necessary to achieve the natural, cultural, wildlife, and recreation management objectives of federal land management agencies. State Side funds are distributed by the State and Local Assistance Programs Division of the National Parks Service. Funding is available as 50/50 matching grants to states and territories to plan, acquire, and develop public lands for outdoor recreation. Projects are selected by states and submitted to NPS for approval. In North Carolina, grants are selected by the Parks and Recreation Division in the NC Department of Cultural and Natural Resources. To be eligible for LWCF assistance, every state must prepare and regularly update a statewide comprehensive outdoor recreation plan (SCORP). Applicants can request a maximum grant of \$500,000. An applicant must match the grant with a minimum of 50 percent. Due to a federal share cap of \$500,000, a greater match is required for projects that exceed total costs of \$1 million.

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

<https://www.ncparks.gov/more-about-us/grants/lwcf-grants>

RIVERS, TRAILS, AND CONSERVATION ASSISTANCE PROGRAM (RTCA)

The National Parks Service (NPS) Rivers, Trails and Conservation Assistance Program supports community-led natural resource conservation and outdoor recreation projects across the nation. Although RTCA is not a traditional funding program, NPS staff provide planning, design and technical expertise for trails and outdoor recreation projects. Depending on the project scale, RTCA can invest up to four years of planning and project development assistance. Eligible entities include community groups, nonprofit organizations, tribes, and governments.

Technical Assistance Services:

- Define project vision and goals.
- Set priorities and build consensus.
- Inventory and map community resources.
- Identify funding strategies.
- Identify and analyze key issues and opportunities.
- Design community outreach, participation, and partnerships plans.
- Create project management and strategic action plans.
- Develop concept plans for trails, parks, and natural areas.

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

NATIONAL ENDOWMENT FOR THE ARTS (NEA) OUR TOWN PROGRAM

Our Town is the National Endowment for the Arts’ creative placemaking grants program. Through project-based funding, the NEA supports projects that integrate arts, culture, and design activities into efforts that strengthen communities by advancing local economic, physical, and/or social outcomes. These projects require a partnership between a local government entity and nonprofit organization, one of which must be a cultural organization; and should engage in partnership with other sectors (such as agriculture and food, economic development, education and youth, environment and energy, health, housing, public safety, transportation, and workforce development). Cost share/matching grants range from \$25,000 to \$150,000, with a minimum cost share/match equal to the grant amount.

<https://www.arts.gov/grants/our-town>

STATE FUNDING

North Carolina communities have partnered with state agencies to build bicycle and pedestrian facilities. State agency funding sources for bicycle and pedestrian planning, infrastructure, and programs are administered primarily through the North Carolina Department of Transportation (NCDOT), North Carolina Department of Natural and Cultural Resources, and North Carolina Department of Commerce. Discretionary grant programs focusing on public health and community development are administered by the North Carolina Department of Health and Human Services (DHHS), North Carolina Department of Environmental Quality (NCDEQ), and the North Carolina Department of Agriculture when funding is available.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT)

STRATEGIC TRANSPORTATION INVESTMENTS (STI)

The Strategic Transportation Investments law, passed in 2013, establishes the Strategic Mobility Formula, which allocates available funding based on data-driven scoring and local input. The Strategic Mobility Formula is used to develop the State Transportation Improvement Program (STIP), which identifies projects that will receive funding during a 10-year period. The STIP is state and federally mandated and updated by NCDOT every 2 years. The Strategic Mobility Formula groups projects in three categories: Division Needs, Regional Impact, and Statewide Mobility.

FUNDING CATEGORY	FUNDING DISTRIBUTION	OVERVIEW
Division Needs	30%	Funding in this category is shared equally between NCDOT's 14 transportation divisions. Project scores are based 50% on data and 50% on rankings by MPOs and RPOs and the NCDOT Divisions.
Regional Impact	30%	Projects on this level compete within regions made up of two NCDOT Divisions with funding based on population. Project scores are based 70% on data and 30% on rankings by MPOs and RPOs and the NCDOT Divisions.
Statewide Mobility	40%	Projects in this category are of statewide significance and are based 100% on data.

Independent bicycle and pedestrian projects are programmed in the Division Needs category. Eligible bicycle and pedestrian projects submitted for prioritization must be included in a locally adopted plan and have a minimum project cost of \$100,000. Eligible activities include right-of-way acquisition, design, and construction. Additionally, the STI law prohibits the use of state funding for bicycle and pedestrian projects, requiring municipalities to provide the 20% match for federally funded projects.

Bicycle and Pedestrian STI Prioritization Qualitative Scoring:

Local input points represent 50% of the scoring for bicycle and pedestrian projects. 25% of local input points are assigned by MPOs and RPOs, which are determined by municipal and county project priorities and public comment. The remaining 50% of the local input points are assigned by NCDOT Division Engineers.

CRITERIA	MEASURE	DIVISION NEEDS (50%)
Safety	(Number of crashes x 40%) + (Crash severity x 20%) + (Safety risk x 20%) + (Safety benefit x 20%)	20%
Accessibility / Connectivity	Points of Interest pts + Connection pts + Route pts	15%
Demand / Density	# of households and employees per square mile near project	10%
Cost Effectiveness	(Safety + Accessibility / Connectivity + Demand / Density) / Cost to NCDOT	5%

Project Bundling:

Multiple bicycle and pedestrian projects can be bundled to better compete with other projects submitted in the Division Needs category. Bundled projects are allowed across s geographies and project types. Projects do not have to be contiguous or related, and projects can be in a single or multiple jurisdictions. Bundled projects must be under one project manager, which must be a TAP eligible entity.

<https://www.ncdot.gov/initiatives-policies/Transportation/stip/Pages/strategic-transportation-investments.aspx>

INCIDENTAL BICYCLE AND PEDESTRIAN FACILITIES WITH ROADWAY PROJECTS

The NCDOT Complete Streets Policy Update was adopted by the Board of Transportation in August 2019. This policy requires NCDOT to consider and incorporate multimodal facilities in the design and improvement of all transportation projects in North Carolina. The adopted Comprehensive Transportation Plan (CTP) is considered the controlling plan for the identification of non-motorized facilities to be evaluated as part of a roadway project. The CTP may include and/or reference locally adopted plans for public transportation, bicycle and pedestrian facilities, and greenways. Bicycle, pedestrian, and public transportation facilities that appear in the CTP directly or by reference will be included as part of the proposed roadway project, and NCDOT is responsible for the full cost of the project. Bicycle, pedestrian, and transit facilities incidental to a roadway project where a need has been identified through the project scoping process but not identified in an adopted plan may be included in the project. Inclusion of these incidental facilities requires the local jurisdiction to share the incremental cost of constructing the improvements based on population thresholds. Projects that have not completed environmental review prior to August 2019 are subject to the Complete Streets Policy.

<https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx>

STATEWIDE PROJECTS FUNDS

Small Construction Funds: These funds were established in 1985 to fund small projects in and around cities and towns that could not be funded in the Statewide Transportation Improvement Program (STIP). Funds are allocated equally to each of 14 Transportation Divisions. Funds can be used on a variety of transportation projects for municipalities, counties, businesses, schools, and industries throughout the State. Funds projects up to \$250,000 per fiscal year, unless otherwise approved by the Secretary of Transportation. Right-of-way and utility relocations should be provided and accomplished at no cost to NCDOT. Funding requests should be submitted to the Division Engineer providing technical information such as location, improvements being requested, and project timeline.

Statewide Contingency Funds: These funds were created for statewide rural or small urban highway improvements and related transportation enhancements to public roads/public facilities, industrial access roads, and spot safety projects. The President Pro Tempore of the Senate, the Speaker of the House, and the Secretary of Transportation sponsor project requests from this fund. \$12 million in funds are administered by the Secretary of Transportation. Requests can be submitted from municipalities, counties, businesses, schools, citizens, legislative members, and NCDOT staff. Request should include a clear description and justification of the project.

Economic Development Funds: These funds were created to expedite transportation projects that promote commercial growth as well as either job creation or job retention. \$2500 per job (new & retained) allowed unless waived by the Secretary of Transportation. Funds projects up to \$400,000 per fiscal year, unless otherwise approved by the Secretary of Transportation. New access roads must be approved by NCDOT and serve multiple property owners or government owned property; roads will become part of the State Highway System or serve as public roads maintained by a government agency.

High Impact / Low-Cost Funds: This program provides funds complete low-cost projects with high impacts to the transportation system including intersection improvement projects, minor widening projects, and operational improvement projects. Funds are allocated equally to each of 14 Transportation Divisions. Each Division is responsible for selecting their own scoring criteria for determining projects funded in this program. At a minimum, Divisions must consider all of the following in developing scoring formulas: (1) The AADT of a roadway and whether the proposed project will generate additional traffic. (2) Any restrictions on a roadway. (3) Any safety issues with a roadway. (4) The condition of the lanes, shoulders, and pavement on a roadway. (5) The site distance and radius of any intersection on a roadway. Funds projects up to \$1.5 million per fiscal year, unless otherwise approved by the Secretary. Projects are expected to be under contract within 12 months of funding approval by the BOT.

<https://connect.ncdot.gov/projects/planning/Economic%20Development/Small%20Project%20Fund%20Request.docx>

SPOT SAFETY PROGRAM

The Spot Safety Program is used to develop smaller improvement projects to address safety and potential safety and operational issues. The program is funded with state funds and currently receives approximately \$9 million per fiscal year. Other monetary sources (such as Small Construction or Contingency funds) can assist in funding Spot Safety projects, however, the maximum allowable contribution of Spot Safety funds per project is \$400,000. A Safety Oversight Committee (SOC) reviews and recommends Spot Safety projects to the Board of Transportation (BOT) for approval and funding. Criteria used by the SOC to select projects for recommendation to the BOT include, but are not limited to, the frequency of correctable crashes, severity of crashes, delay, congestion, number of signal warrants met, effect on pedestrians and schools, division and region priorities, and public interest.

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

STATE PLANNING & RESEARCH FUNDS (SPR)

The State Planning and Research Program funds States' statewide planning and research activities. This program funds metropolitan and statewide planning for future highway programs and local public transportation systems. The FAST Act expanded the statewide transportation planning process' scope of consideration to include projects, strategies, and services that will improve transportation system resiliency and reliability; reduce (or mitigate) the stormwater impacts of surface transportation; and enhance travel and tourism. In 2017, NCDOT extended the use of SPR funds to Rural Planning Organizations (RPOs) by establishing an annual call for proposals to fund planning and research projects for rural communities. Since the program expansion, RPOs have used SPR funds for a range of transportation planning activities, including to develop greenway and trail feasibility studies. SPR funding requires a 20% local match. However, the local match is 5% for Tier 1 Counties with NCDOT contributing 15% of the local match and 10% for Tier 2 Counties with NCDOT contributing 10% of the local match. RPOs must administer the funds.

<https://connect.ncdot.gov/projects/planning/Pages/Transportation-Planning-Program-and-Services.aspx>

SAFE ROUTES TO SCHOOL (NON-INFRASTRUCTURE TRANSPORTATION ALTERNATIVES PROGRAM)

NCDOT's Safe Routes to School (SRTS) Program was established in 2005 through SAFETEA-LU as a federally funded program to provide an opportunity for communities to improve conditions for bicycling and walking to school. The SRTS Program has set aside \$1,500,000 per year of Transportation Alternative Program (TAP) funds for non-infrastructure programs and activities over a three-year period. Funding requests may range from a yearly amount of \$50,000 to \$100,000 per project. Projects can be one to three years in length. Funding may be requested to support activities for community-wide, regional, or statewide programs.

<https://connect.ncdot.gov/projects/BikePed/Pages/Non-Infrastructure-Alternatives-Program.aspx>

POWELL BILL FUNDS

The State Street Aid to Municipalities Program, also known as Powell Bill Funds, assists local governments with transportation system improvements. The Powell Bill requires municipalities to use the money primarily for street resurfacing, but it can also be used for the construction and maintenance of roads, bridges, drainage systems, sidewalks, and greenways.

Funding amounts for each municipality are based on a formula set by the N.C. General Assembly, with 75 percent of the funds based on population, and 25 percent based on the number of locally maintained street miles.

NORTH CAROLINA DEPARTMENT OF NATURAL AND CULTURAL RESOURCES

PARKS AND RECREATION TRUST FUND (PARTF)

PARTF provides dollar-for-dollar matching grants to local governments for parks and recreational projects to serve the public. PARTF is the primary source of funding to build and renovate facilities in the state parks as well as to buy land for new and existing parks.

<https://www.ncparks.gov/more-about-us/parks-recreation-trust-fund/parks-and-recreation-trust-fund>

NORTH CAROLINA LAND & WATER FUND (NCLWF)

The NCLWF (formerly known as the Clean Water Management Trust Fund) was created in 1996 by the General Assembly to conserve North Carolina's streams, rivers, and open space. The NCLWF funds land acquisition, stream restoration, stormwater, and planning projects that protect and conserve riparian buffers for the purpose of providing environmental protection for surface waters and urban drinking water supplies and establishing a network of riparian greenways for environmental, educational, and recreational uses. NCLWF also funds mini grants of up to \$25,000 for donated property or the value of the conservation donation to pay transaction costs associated with the donation of property in fee simple, or a permanent conservation agreement. NCLWF has one grant cycle per year. Applications are available in early December and close in February. Final award decisions are made in the fall.

<https://nclwf.nc.gov/apply>

NORTH CAROLINA DEPARTMENT OF COMMERCE

MAIN STREET SOLUTIONS FUND

The Main Street Solutions Fund supports small businesses in designated micropolitan areas located in Tier 2 and Tier 3 counties or designated North Carolina Main Street communities. The grants assist planning agencies and small businesses with efforts to revitalize downtowns by creating jobs, funding infrastructure improvements and rehabilitating buildings.

<https://www.nccommerce.com/grants-incentives/downtown-development-funds>

RURAL INFRASTRUCTURE PROGRAM

The Rural Economic Development Division provides grants and loans to local government units to support economic development activity that will lead to the creation of new, full-time jobs. The program gives priority to projects located in the 80 most distressed counties in the state; and resident companies as defined in N.C.G.S. 143B-472 (a) 4. The Rural Infrastructure Program funding is available for publicly owned infrastructure including water, sewer, electric, broadband, rail, and road improvements that will lead to the direct creation of new, full-time jobs. Eligible applicants are units of local government with priority given to the Tier 1 and Tier 2 counties. A cash match equivalent to at least 5% of the grant amount is required for all projects.

Eligible project activities include:

- Construct public infrastructure improvements;
- Upgrade or repair of public drinking water or wastewater treatment plants;
- Upgrade, extensions, or repair of public water or sewer lines;
- Publicly owned natural gas lines (requires an executed Pipeline Construction, Operating and Resale Agreement);
- Installation or extension of public broadband infrastructure;
- Construction of public rail spur improvements; and
- Construction of publicly owned access roads not funded or owned by the Department of Transportation.

<https://www.nccommerce.com/grants-incentives/public-infrastructure-funds/infrastructure-state-rural-grants>

NORTH CAROLINA NEIGHBORHOOD REVITALIZATION PROGRAM

The NC Neighborhood Program offers non-entitlement municipalities and counties the opportunity to tailor a project to meet the community development needs specific and most critical to their locality, primarily for their low- and moderate-income residents. NC Neighborhood Program projects must incorporate at least one of the following three livability principles as an area of focus:

- Promote equitable, affordable housing. Expand location and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- Support existing communities. Target federal funding toward existing communities - through strategies like transit-oriented, mixed-use development, and land recycling - to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.
- Value communities and neighborhoods. Enhance the unique characteristics of all communities by investing in health, safe, and walkable neighborhoods - rural, urban, or suburban.

All municipalities are eligible to receive State CDBG funds except for entitlement communities, which receive funds directly from HUD. The maximum grant amount is \$750,000 per grantee with some restrictions for specific activities. There is no minimum grant amount, and the program does not have a matching fund requirement.

<https://www.nccommerce.com/grants-incentives/community-housing-grants#neighborhood-revitalization-/-federal-cdbg>

LOCAL FUNDING

BONDS

Wake County, City of Raleigh, City of Wilmington, Town of Chapel Hill, Town of Cornelius, and City of Greenville have all passed bonds to protect open space corridors and build greenway networks. Multi-use paths and greenways are also frequently included in municipal transportation bond packages. Successful bond campaigns require a well-defined plan with specific projects supported by the community. Bond campaigns should be well organized with a community's public affairs department and thoroughly coordinated across all internal departments. Public outreach during the campaign is essential to educate residents about the benefits of infrastructure investment and to understand which projects garner the highest community support.

DEVELOPER BUILT TRAILS/IN-LIEU FEES

The Town of Cary built its first greenway 40 years ago and now has more than 80 miles of greenway trails. A significant portion of their network development has been the result of developer-built trails. The Town of Cary requires developers to set aside important open space providing trail connectivity, wildlife habitat corridors, and water quality protection. Per the Cary Land Use Ordinance, developers must dedicate land or make payment in-lieu of public park and/or greenway development to serve the recreational needs of residents. Land dedications for greenways are required for both residential and commercial development for those locations indicated in the Town's greenway master plan.

IMPACT FEES

Impact fees represent financial payments made to a local government by a developer to fund certain off-site capital improvements needed to accommodate future growth. Many communities impose impact fees for transportation, parks and recreation, and open space facility needs. The City of Durham imposes transportation impact fees to fund for a portion of the costs for new streets and sidewalks, paving, grading, resurfacing, and widening of existing streets, traffic control signals and markings, lighting, and crosswalks. The City's development fees for open space and parks and recreation are used for the acquisition of park land and the provision of facilities, including athletic fields, parks, playgrounds, courts, recreation centers, shelters, stadiums, arenas, swimming pools, lighting, trail construction, and bike paths.

CAPITAL IMPROVEMENT PROGRAM (CIP)

A Capital Improvement Program (CIP) is one element in a municipality's long-term planning process. It is a bridge between the municipality's Comprehensive Plan and short-term planning for infrastructure and operations. A Capital Improvement Program analyzes major facility and equipment needs, establishes priorities, estimates fiscal resources, and schedules the development of funded projects. The City of Raleigh funds parks, greenways, and active transportation facilities through the city's Capital Improvement Program. The Parks, Recreation and Cultural Resources Department's CIP primary sources of funding come from Parks and Recreation Bonds, Facility Fees, General Fund (Tax Base), grants, and donations.

MUNICIPAL SERVICE DISTRICTS (MSD)

Municipal Service Districts provide an equitable method for funding special improvements to public right-of-way areas because property owners share in the cost. The Town of Morrisville uses Municipal Service Districts in several neighborhoods to perform pavement, curb and gutter, and sidewalk enhancements and repairs on the public streets throughout neighborhoods in the MSD.

PUBLIC/PRIVATE PARTNERSHIPS

The City of Greensboro is leading North Carolina in leveraging public-private partnerships to complete their Downtown Greenway Loop. Through the Action Greensboro Foundation, the project has raised over \$10 M in private funds by working with foundations and private givers. This money leverages over \$21 M in local and federal funds.

PRIVATE FUNDING

NORTH CAROLINA LAND TRUSTS AND CONSERVANCIES

North Carolina land trusts partner with landowners and local communities to permanently protect natural resources with agricultural, cultural, recreational, ecological, and scenic value across the state. In Watauga County, the Blue Ridge Conservancy is leading the effort to develop the Middle Fork Greenway along the Middle Fork New River to connect Boone and Blowing Rock via trail. The Blue Ridge Conservancy has purchased property and easements along the Middle Fork New River to preserve the corridor and develop the greenway in partnership with Watauga County, the Town of Blowing Rock, and the Town of Boone. The conservancy is also leading planning, design, and construction of each phase of the greenway's development.

Provided below is a list of Land Trusts & Conservation Organizations active in eastern North Carolina:

- Conservation Trust for North Carolina;
- Land Trust for Central North Carolina;
- NC Coastal Land Trust; and
- Tar River Land Conservancy.

<https://www.presnc.org/nc-land-trusts-conservation-organizations/>

NORTH CAROLINA COMMUNITY FOUNDATION (NCCF)

The NCCF is the statewide community foundation serving North Carolina and sustains more than 1,200 endowments established to provide long-term support of a broad range of community needs, nonprofit organizations, institutions, and scholarships. The NCCF partners with a network of affiliate foundations to provide local resource allocation and community assistance across the state. NCCF's community grantmaking programs are advised by its network of affiliate foundations. Each affiliate is advised by a local board who help to assemble resources through their unique knowledge and understanding of local needs and opportunities. Organizations must be qualified as tax-exempt public charities under Section 501(c)(3) of the Internal Revenue Code or be classified as a unit of local government or public school.

<https://www.nccommunityfoundation.org/apply/grants>

THE CONSERVATION FUND

The Conservation Fund works with public, private, and nonprofit partners to protect land and water resources through land acquisition, sustainable community and economic development, and leadership training. The City of Durham partnered with the Conservation Fund to assist with negotiations to purchase the Durham Belt Line rail corridor from Norfolk Southern to convert the rail line into an urban trail. In 2017 the Conservation Fund successfully purchased the property as the interim owner while the city secured the necessary funding. The property was transferred to the City of Durham in 2018, which allowed for the rail-trail's development.

<https://www.conservationfund.org/where-we-work/north-carolina>

BLUE CROSS BLUE SHIELD OF NORTH CAROLINA FOUNDATION

The Blue Cross Blue Shield of North Carolina Foundation funds a range of programs from targeted, mini grants to multi-year partnerships. Their grantmaking supports initiatives that focus on early childhood, healthy communities, healthy food, and oral health. The Foundation does not operate regular grant cycles. Instead, the Foundation invites applications based on specific strategic objectives or announces broader opportunities to apply for funding on a periodic basis.

<https://www.bcbsncfoundation.org/grants-programs/grantmaking-overview/>

NATIONAL ASSOCIATION OF REALTORS SMART GROWTH AND PLACEMAKING GRANTS

The National Association of Realtors (NAR) funds placemaking and smart growth grants to make communities better places to live by transforming unused or underutilized sites into welcoming destinations accessible to everyone in a community.

Smart Growth Grants: Smart Growth Grants fund efforts to engage in local land-use, growth, and transportation policy issues with other stakeholders and elected officials. Eligible projects include Better Block events, placemaking visioning processes, charettes, pop-up workshops, project mock-ups, developer open houses, public open houses, utility roundtables, Main Street analysis, walkable community workshops/audits, assistance with updating land use ordinances and codes and community plans, and hosting conferences and webinars. Applications can only be submitted by a state or local REALTOR® association, and grants provide up to \$5,000 per award.

Placemaking Grants: Placemaking Grants fund the creation of new, outdoor public spaces and destinations in a community. Funds can be used for amenities such as street furniture, paint, signage, materials, landscaping, murals, site preparation, and artist fees. Applications can only be submitted by a state or local REALTOR® association, and grants provide up to \$5,000 per award.

<https://realtorparty.realtor/community-outreach/>

GOLDEN LEAF FOUNDATION

The Golden LEAF Foundation is a nonprofit organization established in 1999 to receive a portion of North Carolina's funding received from the 1998 Master Settlement Agreement with cigarette manufacturers. Golden LEAF works to increase economic opportunity in North Carolina's rural and tobacco-dependent communities through leadership in grantmaking, collaboration, innovation, and stewardship as an independent and perpetual foundation. Golden LEAF's grantmaking focuses on the following priorities: Job creation and economic investment; workforce preparedness; agriculture; and community competitiveness, capacity, and vitality. Golden LEAF has two standard programs open to eligible entities seeking grants: Open Grants Program and Economic Catalyst Program. These programs complement other ongoing initiatives of the Foundation, such as the Community-Based Grants Initiative.

Open Grants Program: The Open Grants Program is open to all governmental entities and 501(c)(3) organizations that propose projects in Golden LEAF's priority areas. This program funds economic development projects aligned with the Golden LEAF priority areas. Most awards will be for \$200,000 or less.

Economic Catalyst Program: The Economic Catalyst process is open to governmental entities and 501(c)(3) organizations with projects that will create jobs at risk without Golden LEAF funding. Grants include funds for public infrastructure, job training, upfit for buildings owned by governmental or nonprofit entities, or equipment acquisition where the building or equipment will be leased or sold at fair-market value to a company creating jobs. Grants are available only for projects that include a specific company's commitment to create full-time jobs in NC.

Community-Based Grants Initiative: Each year, the Golden LEAF Foundation invites organizations from counties from a different Prosperity Zone to participate in the Community-Based Grant Initiative (CBGI). The process is competitive, but organizations from all counties within the Prosperity Zone will have an opportunity to apply. The CBGI is designed to identify projects with the potential to have a significant impact. It is a focused process with grants targeted toward investments in the building blocks of economic growth. Funds are limited to projects that address economic development, agriculture, workforce preparedness, infrastructure, and capital costs necessary to create health care jobs. County managers serve a key role in the process. Each county manager will submit a slate of up to four projects for consideration. Applicants must be 501(c)(3) organizations or governmental entities (county and municipal governments, community colleges, universities, etc.) Funds do not have to be administered or implemented by the county government. Awards are limited to no more than three projects per county and will total no more than \$1.5 million per county.

<https://www.goldenleaf.org/>

AARP COMMUNITY CHALLENGE GRANT

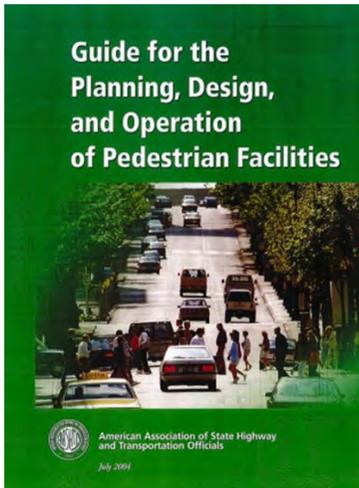
The AARP Community Challenge provides small grants to fund quick-action projects that can help communities become more livable for people of all ages. Applications are accepted for projects to improve public spaces, housing, transportation, civic engagement, coronavirus recovery, diversity, and inclusion, and more. Project types include those that provide permanent physical improvements in the community, temporary demonstrations that lead to long-term change, and innovative programming or services. The program is open to 501(C)(3), 501(C)(4) and 501(c)(6) nonprofits and government entities. Grants can range from several hundred dollars for smaller, short-term activities to several thousand or tens of thousands of dollars for larger projects.

<https://www.aarp.org/livable-communities/community-challenge/info-2021/2021-challenge.html>

APPENDIX B: DESIGN RESOURCES

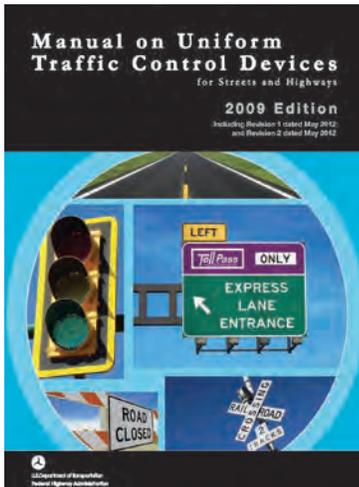
OVERVIEW

Below are several design resources that can be used to inform bicycle and pedestrian design decisions. Organizations such as Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), National Association of City Transportation Officials (NACTO), and North Carolina Department of Transportation (NCDOT) offer general guidelines and project-specific tools to help professionals make design decisions. These guidelines promote flexibility to ensure context-sensitive applications.



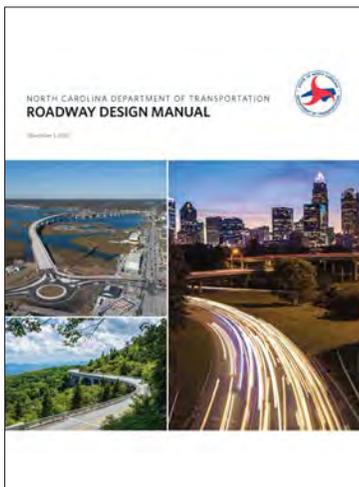
AASHTO GUIDE FOR THE PLANNING, DESIGN AND OPERATION OF PEDESTRIAN FACILITIES

The AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities provides guidance for pedestrian facilities along streets and highways. The primary audiences for this manual are planners, roadway designers, and transportation engineers, whom make decisions on a daily basis that affect pedestrians. The guide focuses on identifying effective measures for accommodating pedestrians on public rights-of-way, and it recognizes the profound effect that land use planning and site design have on pedestrian mobility and addresses these topics as well.



MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

The MUTCD contains the national standards governing all traffic control devices. All public agencies and owners of private roads open to public travel across the nation rely on the MUTCD to bring uniformity to the roadway. The MUTCD plays a critical role in improving safety and mobility of all road users.



NCDOT ROADWAY DESIGN MANUAL

The NCDOT Roadway Design Manual is intended to provide flexibility in the design process while still maintaining uniformity and predictability by using common design practices. The guidance in this manual is provided in narrative form, with charts, tables, and figures. Because all the design concepts presented cannot be covered exhaustively, references to additional literature will be provided for additional guidance. References to other North Carolina Department of Transportation (NCDOT or the Department) policies or other publications are made for any design criteria not included in this manual in narrative or chart format.



NORTH CAROLINA
Department of Transportation

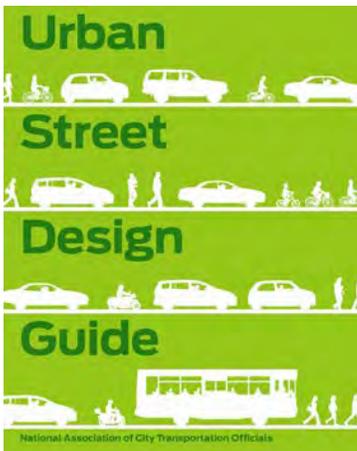


Complete Streets Policy Update: What You Need to Know

February 2020

NCDOT COMPLETE STREETS IMPLEMENTATION GUIDANCE

The North Carolina Department of Transportation (NCDOT) Complete Streets Implementation Guide is designed to assist NCDOT staff engineers, project managers and designers in implementing the Complete Streets Policy as adopted by the NCDOT Board of Transportation. This document provides comprehensive guidance for incorporating a complete streets approach into NCDOT's planning, programming, design, and maintenance processes. Elements of this Guide include Planning, Project Development, Resurfacing and Maintenance Activities, Work Zone Accommodations Related Policies, Cost Share, and Design Guidance.



NACTO URBAN STREETS DESIGN GUIDE

The Urban Street Design Guide charts the principles and practices of the nation's foremost engineers, planners, and designers working in cities today. A blueprint for designing 21st century streets, the guide unveils the toolbox and the tactics cities use to make streets safer, more livable, and more economically vibrant. The Guide outlines both a clear vision for complete streets and a basic road map for how to bring them to fruition.

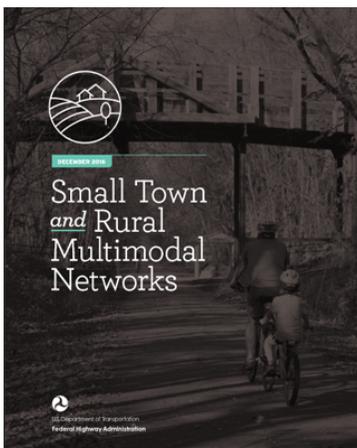
<https://nacto.org/publication/urban-street-design-guide/>



NACTO URBAN STREET STORMWATER GUIDE

The Urban Street Stormwater Guide advances the discussion about how to design and construct sustainable streets. The guide provides cities with national best practices for sustainable stormwater management in the public right-of-way, including core principles about the purpose of streets, strategies for building inter-departmental partnerships around sustainable infrastructure, technical design details for siting and building bioretention facilities, and a visual language for communicating the benefits of such projects. The guide sheds light on effective policy and programmatic approaches to starting and scaling up green infrastructure, provides insight on innovative street design strategies, and proposes a framework for measuring performance of streets comprehensively.

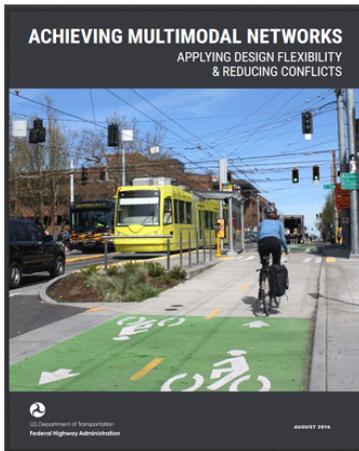
<https://nacto.org/publication/urban-street-stormwater-guide/>



FHWA SMALL TOWN & RURAL MULTIMODAL NETWORKS

This guide is a resource for transportation ideas in small towns and rural communities. It applies recognized design standards in a rural setting and highlights small town and rural case studies. It addresses challenges specific to rural areas. It recognizes how many rural roadways are operating today and focuses on opportunities to make incremental improvements while balancing financial and demographic challenges many rural communities face. This will help to ensure that conversations about design flexibility and multimodal networks also address rural conditions and meet the needs of everyone.

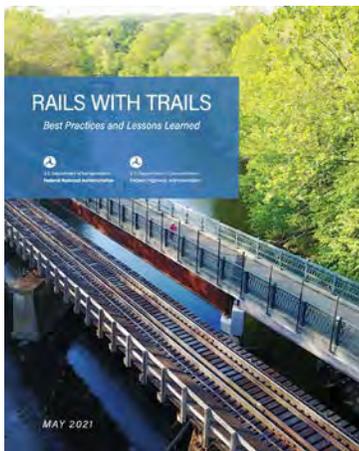
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/



FHWA ACHIEVING MULTIMODAL NETWORKS: APPLYING DESIGN FLEXIBILITY AND REDUCING CONFLICTS

This publication is a resource for practitioners seeking to build multimodal transportation networks. It focuses on reducing multimodal conflicts and achieving connected networks so that walking and bicycling are safe, comfortable, and attractive options for people of all ages and abilities. This resource includes 24 design topics, organized into two themes. Part 1 focuses on design flexibility and Part 2 focuses on measures to reduce conflicts between modes.

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks



RAILS TO TRAILS CONSERVANCY (RTC) RAIL WITH TRAILS: BEST PRACTICES AND LESSONS LEARNED

In 2002, the U.S. Department of Transportation (DOT) published its first Rails-with-Trails: Lessons Learned report, which summarized the state of the practice and lessons learned regarding the development, construction, and operation of rails-with-trails. This updated Rails-with-Trails: Lessons Learned report documents how the state of the practice, perspectives, and context for rails-with-trails have evolved since 2002 and includes updated effective practices.



ADA STANDARDS FOR ACCESSIBLE DESIGN

The Americans with Disabilities Act (ADA) is a federal civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public. The purpose of the law is to make sure that people with disabilities have the same rights and opportunities as everyone else. The ADA gives civil rights protections to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications.

https://www.ada.gov/2010ADASTandards_index.htm



US ACCESS BOARD PUBLIC RIGHT WAY ACCESSIBILITY GUIDELINES (PROWAG)

The US Access Board developed both the 2010 ADA Standards and PROWAG. The ADA Standards were initially developed with an emphasis on buildings and do not always readily apply to the public right of way.

Sidewalks, street crossings, and other elements in the public right-of-way can pose challenges to accessibility. The Board's ADA and ABA Accessibility Guidelines focus mainly on facilities on sites. While they address certain features common to public sidewalks, such as curb ramps, further guidance is necessary to address conditions and constraints unique to public rights-of-way. The new guidelines will cover pedestrian access to sidewalks and streets, including crosswalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

<https://www.access-board.gov/prowag/>

APPENDIX C: COST ESTIMATES

Cost estimates were generated for each of the priority projects using the NCDOT SPOT P6 Bicycle-Pedestrian Cost Estimation Tool, available here:

<https://connect.ncdot.gov/projects/planning/Prioritization%20Data/Forms/AllItems.aspx?RootFolder=%2fprojects%2fplanning%2fPrioritization%20Data%2fPrioritization%206%2e0%2fNEW%20BikePed%20Cost%20Estimation%20Tool&FolderCTID=0x012000CA62F9E9CF9B92488FB244C43A53A538>

The construction cost estimates generated by the tool were projected to a fiscal year of probable construction (5 or 10 years into the future) to account for inflation using a linear compound interest formula. This build year construction cost estimate was then added to the SPOT P6 design, right-of-way, and utilities cost estimates to determine the total estimated cost. Detailed output from the NCDOT SPOT P6 may be found on the following pages. Please note these are planning-level cost estimates and should be refined as more detailed information becomes available throughout the design process.

PROJECT ID	(A) SPOT P6 Design Cost Estimate	(B) SPOT P6 ROW Cost Estimate	(C) SPOT P6 Utilities Cost Estimate	(D) SPOT P6 Construction Cost Estimate	(E) # of Years to Build Year	(F) Rate of Escalation	(G) Build Year Construction Cost Estimate	Total Estimated Cost (A)+(B)+ (C)+(G)
Main Street West	\$190,000	\$5,000	\$35,000	\$960,000	5	4%	\$1,170,000	\$1,400,000
Main Street Central	\$270,000	\$5,000	\$85,000	\$1,175,000	5	4%	\$1,430,000	\$1,790,000
High Street	\$190,000	\$5,000	\$70,000	\$830,000	5	4%	\$1,010,000	\$1,275,000
Spring Avenue	\$150,000	\$5,000	\$45,000	\$595,000	5	4%	\$730,000	\$930,000
Hart Street	\$120,000	\$5,000	\$30,000	\$350,000	5	4%	\$430,000	\$585,000
Broad Street	\$140,000	\$5,000	\$40,000	\$430,000	10	4%	\$640,000	\$825,000
US 258	\$565,000	\$5,000	\$95,000	\$2,640,000	10	4%	\$3,910,000	\$4,575,000
Main Street East	\$510,000	\$5,000	\$90,000	\$2,835,000	10	4%	\$4,200,000	\$4,805,000
Intersection Improvements	\$60,000	\$15,000	\$5,000	\$410,000	10	4%	\$610,000	\$690,000



SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name: US 158 Main St West

SPOT ID: unknown2030

Project Type: Shared-Use Path, Multi-Use Path, Rail-Trail, or Sidepath

1 Total Project Length: 2,030 feet

2 Proposed Facility Width (Default is 10 feet): 10 feet

3 Project Located on Both Sides of the Road: YES NO

4 County: Hertford

5 City: Murfreesboro

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: 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	Interstate	0
Major Arterial	0	Freeway	0
Arterial	0	Major Arterial	0
Major Collector	0	Arterial	0
Collector	0	Major Collector	0
Local Road	0	Collector	0
Total	0	Local Road	0
Signalized Intersections Crossed	0	Small Stream	0
(Number within Total Roadways Intersected)	0	Medium Stream	0
		Large Stream	0
		Railroad	0
		Total	0

15 Submitted by: peb Date: 12/31/2021

Generate Cost Clear

Cost Estimate Summary

Total	\$	1,190,000
Design	\$	190,000
ROW	\$	5,000
Utilities	\$	35,000
Construction	\$	960,000

Go to Calculation Tab

Print PDF

Enter Any Desired Notes in the Box Below

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.

This tool assumes a project impact area for ROW and environmental mitigation calculations based on chosen SIT, project type, project length, and project facility width.

This tool is limited in accuracy by user inputs and the complexity of questions presented for each project. If the inputs are incorrect, the tool's accuracy will be diminished.

This tool does not estimate costs associated with the purchase or taking of buildings within its ROW estimate calculations. It is assumed that projects would require land acquisition only.

Estimates for the construction of new and/or the modification of existing structures (bridges or tunnels) have been simplified to estimate an assumed width of each structure based on the type of feature crossed and other factors. The construction of new and/or modification of existing structures can be exponentially complex based on project specifications. A separate feasibility study is highly recommended to address the high variability associated with structure costs.



Start Over

SIT 7: Protected Linear Pedestrian Facility

Project Name:

SPOT ID:

Project Type: Sidewalk

1 Total Project Length: feet

2 Proposed Facility Width (Default is 5 feet): feet

3 Project Located on Both Sides of the Road: YES NO

4 County:

5 City:

6 Surrounding Development Type:

7 Registered Historic District: YES NO

8 Existing Curb & Gutter within Project Area: YES NO

9 Number of Stream Crossings:

10 Percentage of ROW Area Needed:

11 Impact to Active Railroad Track or Railroad ROW: YES NO

12 Roadways Intersected: Number of Existing Bridges

Interstate	<input type="text" value="0"/>	<input type="text" value="0"/>
Freeway	<input type="text" value="0"/>	<input type="text" value="0"/>
Major Arterial	<input type="text" value="0"/>	<input type="text" value="0"/>
Arterial	<input type="text" value="0"/>	<input type="text" value="0"/>
Major Collector	<input type="text" value="0"/>	<input type="text" value="0"/>
Collector	<input type="text" value="0"/>	<input type="text" value="0"/>
Local Road	<input type="text" value="7"/>	<input type="text" value="0"/>
Total	<input type="text" value="7"/>	<input type="text" value="0"/>

13 Signalized Intersections Crossed (Number within Total Roadways Intersected):

15 Submitted by: Date:

Generate Cost

Cost Estimate Summary

Total	\$	1,535,000
Design	\$	270,000
ROW	\$	5,000
Utilities	\$	85,000
Construction	\$	1,175,000

Enter Any Desired Notes in the Box Below

This tool assumes only new location sidewalk. Any existing sidewalk is not covered in this estimate. A 5' standard width was used because most of the missing sections are west of Wynn Street.

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.

This tool assumes a project impact area for ROW and environmental mitigation calculations based on chosen SIT, project type, project length, and project facility width.

This tool is limited in accuracy by user inputs and the complexity of questions presented for each project. If the inputs are incorrect, the tool's accuracy will be diminished.

This tool does not estimate costs associated with the purchase or taking of buildings within its ROW estimate calculations. It is assumed that projects would require land acquisition only.

Estimates for the construction of new and/or the modification of existing structures (bridges or tunnels) have been simplified to estimate an assumed width of each structure based on the type of feature crossed and other factors. The construction of new and/or modification of existing structures can be exponentially complex based on project specifications. A separate feasibility study is highly recommended to address the high variability associated with structure costs.



Start Over

SIT 7: Protected Linear Pedestrian Facility

Project Name: US 158 Main St East
 SPOT ID: unknown2030

Project Type: Shared-Use Path, Multi-Use Path, Rail-Trail, or Sidepath

- 1 Total Project Length: 5,290 feet
- 2 Proposed Facility Width (Default is 10 feet): 10 feet
- 3 Project Located on Both Sides of the Road: YES NO
- 4 County: Hertford
- 5 City: Murfreesboro
- 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: 2
- 10 Percentage of ROW Area Needed: Minimal (15%-25%)

- 11 Impact to Active Railroad Track or Railroad ROW: YES NO
- 12 Roadways Intersected

Interstate	0	Number of Existing Bridges	0
Freeway	0	Interstate	0
Major Arterial	1	Freeway	0
Arterial	0	Major Arterial	0
Major Collector	0	Arterial	0
Collector	0	Major Collector	0
Local Road	4	Collector	0
Total	5	Local Road	0
- 13 Signalized Intersections Crossed (Number within Total Roadways Intersected): 1

Submitted by: peb
 Date: 1/6/2022
 Generate Cost
 Clear

Cost Estimate Summary

Total	\$	3,440,000
Design	\$	510,000
ROW	\$	5,000
Utilities	\$	90,000
Construction	\$	2,835,000

Go to Calculation Tab

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Enter Any Desired Notes in the Box Below

Disclaimers

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Start Over

SIT 7: Protected Linear Pedestrian Facility

Project Name: High Street

SPOT ID: 000000

Project Type: Sidewalk

1 Total Project Length: 3,950 feet

2 Proposed Facility Width (Default is 5 feet): 5 feet

3 Project Located on Both Sides of the Road: YES NO

4 County: Hertford

5 City: Murfreesboro

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	Number of Existing Bridges	0
Freeway	0	Interstate	0
Major Arterial	0	Freeway	0
Arterial	0	Major Arterial	0
Major Collector	1	Arterial	0
Collector	0	Major Collector	0
Local Road	4	Collector	0
Total	5	Local Road	0
		Small Stream	0
		Medium Stream	0
		Large Stream	0
		Railroad	0
		Total	0

13 Signalized Intersections Crossed (Number within Total Roadways Intersected): 1

15 Submitted by: peb

Date: 1/10/2022

Generate Cost

Clear

Cost Estimate Summary

Total	\$	1,095,000
Design	\$	190,000
ROW	\$	5,000
Utilities	\$	70,000
Construction	\$	830,000

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Enter Any Desired Notes in the Box Below

This estimate assumes the existing sidewalk between Union Street and Lakeview Drive does not need replacement and the length of the existing sidewalk is not included in this estimate.

Disclaimers

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Start Over

SIT 7: Protected Linear Pedestrian Facility

Project Name: Spring Avenue

SPOT ID: 000000

Project Type: Sidewalk

1 Total Project Length: 2,650 feet

2 Proposed Facility Width (Default is 5 feet): 5 feet

3 Project Located on Both Sides of the Road: YES NO

4 County: Hertford

5 City: Murfreesboro

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	Number of Existing Bridges	0
Freeway	0	Interstate	0
Major Arterial	0	Freeway	0
Arterial	1	Major Arterial	0
Major Collector	0	Arterial	0
Collector	0	Major Collector	0
Local Road	5	Collector	0
Total	6	Local Road	0
Signalized Intersections Crossed	1	Small Stream	0
(Number within Total Roadways Intersected)		Medium Stream	0
		Large Stream	0
		Railroad	0
		Total	0

13 Submitted by: peb

14 Date: 1/6/2022

Generate Cost

Clear

Cost Estimate Summary

Total	\$	795,000
Design	\$	150,000
ROW	\$	5,000
Utilities	\$	45,000
Construction	\$	595,000

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Start Over

SIT 7: Protected Linear Pedestrian Facility

Project Name: Hart St

SPOT ID: 000000

Project Type: Sidewalk

1 Total Project Length: 1,850 feet

2 Proposed Facility Width (Default is 5 feet): 5 feet

3 Project Located on Both Sides of the Road: YES NO

4 County: Hertford

5 City: Murfreesboro

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	Number of Existing Bridges	0
Freeway	0	Interstate	0
Major Arterial	0	Freeway	0
Arterial	0	Major Arterial	0
Major Collector	0	Arterial	0
Collector	0	Major Collector	0
Local Road	0	Collector	0
Total	0	Local Road	0
		Small Stream	0
		Medium Stream	0
		Large Stream	0
		Railroad	0
		Total	0

13 Signalized Intersections Crossed (Number within Total Roadways Intersected): 0

15 Submitted by: peb

Date: 1/4/2022

Generate Cost Clear

Cost Estimate Summary

Total	\$	505,000
Design	\$	120,000
ROW	\$	5,000
Utilities	\$	30,000
Construction	\$	350,000

Go to Calculation Tab

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SIT 7: Protected Linear Pedestrian Facility

Start Over

Project Name: Broad Street

SPOT ID: 000000

Project Type: Sidewalk

1 Total Project Length: 2,200 feet

2 Proposed Facility Width (Default is 5 feet): 5 feet

3 Project Located on Both Sides of the Road: YES NO

4 County: Hertford

5 City: Murfreesboro

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: 1

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

13 Signalized Intersections Crossed (Number within Total Roadways Intersected): 0

Date: 1/4/2022

Submitted by: peb

Generate Cost

Clear

Cost Estimate Summary

Total	\$	615,000
Design	\$	140,000
ROW	\$	5,000
Utilities	\$	40,000
Construction	\$	430,000

Go to Calculation Tab

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Enter Any Desired Notes in the Box Below

This estimate assumes the existing sidewalk between Fifth Street and Sycamore Street does not need replacement and the length of the existing sidewalk and the stream crossing are not included in this estimate.

Disclaimers

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Start Over

SIT 7: Protected Linear Pedestrian Facility

Project Name:
 SPOT ID:

Project Type: Shared-Use Path, Multi-Use Path, Rail-Trail, or Sidepath

1 Total Project Length: feet
 2 Proposed Facility Width (Default is 10 feet): feet
 3 Project Located on Both Sides of the Road: YES NO
 4 County:
 5 City:
 6 Surrounding Development Type:
 7 Registered Historic District: YES NO
 8 Existing Curb & Gutter within Project Area: YES NO
 9 Number of Stream Crossings:
 10 Percentage of ROW Area Needed:
 11 Impact to Active Railroad Track or Railroad ROW: YES NO

12 Roadways Intersected: Number of Existing Bridges

Interstate	<input type="text" value="0"/>	Interstate	<input type="text" value="0"/>
Freeway	<input type="text" value="0"/>	Freeway	<input type="text" value="0"/>
Major Arterial	<input type="text" value="1"/>	Major Arterial	<input type="text" value="0"/>
Arterial	<input type="text" value="0"/>	Arterial	<input type="text" value="0"/>
Major Collector	<input type="text" value="0"/>	Major Collector	<input type="text" value="0"/>
Collector	<input type="text" value="0"/>	Collector	<input type="text" value="0"/>
Local Road	<input type="text" value="3"/>	Local Road	<input type="text" value="0"/>
Total	<input type="text" value="4"/>	Small Stream	<input type="text" value="0"/>
13 Signalized Intersections Crossed (Number within Total Roadways Intersected)	<input type="text" value="1"/>	Medium Stream	<input type="text" value="0"/>
		Large Stream	<input type="text" value="0"/>
		Railroad	<input type="text" value="0"/>
		Total	<input type="text" value="0"/>

Date: 12/31/2021

Submitted by:

Generate Cost

Clear

Cost Estimate Summary

Total	\$	3,305,000
Design	\$	565,000
ROW	\$	5,000
Utilities	\$	95,000
Construction	\$	2,640,000

Go to Calculation Tab

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SIT 8: Multi-Site Pedestrian Facility

Start Over

Project Name: Intersection Improvements

SPOT ID: 000000

Project Type: Multi-Site Pedestrian Facility

- 1 Total Number of Accessible Pedestrian Signals
- 2 Total Number of Crossing Islands
- 3 Total Number of Curb Extensions
- 4 Total Number of Curb Ramps
- 5 Total Amount of Lighting
- 6 Total Number of Marked Crosswalks
- 7 Total Number of Mid-Block Crossings
- 8 Total Number of Pedestrian Hybrid Beacons
- 9 Total Number of Pedestrian Signals
- 10 Total Number of Rectangular Rapid Flashing Beacons
- 11 Total Number of Wayfinding Stations

Submitted by: peb Date: 1/4/2022

Generate Cost Clear

Cost Estimate Summary

Go to Calculation Tab

Total	\$	490,000
Design	\$	60,000
ROW	\$	15,000
Utilities	\$	5,000
Construction	\$	410,000

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Empty text box for notes.

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