

# Town of Nashville Bicycle and Pedestrian Plan

## June 2023











#### Acknowledgements

Thank you to the Steering Committee and residents of the Town of Nashville for their involvement and support in this planning process and commitment to pedestrian and bicycle planning. This Plan was funded through the North Carolina Department of Transportation (NCDOT) Integrated Mobility Division (IMD) Bicycle and Pedestrian Planning Grant Initiative.

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Comprehensive Bicycle and Pedestrian Plan Town of Nashville









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## **Executive Summary**

The Town of Nashville Bicycle and Pedestrian Plan (the Plan) is the culmination of a planning process to improve pedestrian and bicycle safety, connectivity, community health, and wellbeing through recommended bicycle and pedestrian infrastructure projects and community policies and programs. This effort was led by the North Carolina Department of Transportation's (NCDOT) Integrated Mobility Division (IMD), the Town of Nashville, AECOM as the project consultant, and the locally appointed Steering Committee.

#### Brief History and Overview of the Community

#### Past Planning Efforts

The Town of Nashville has had multiple planning efforts that have guided the growth and development of the Town and provided input on infrastructure development. The following documents were reviewed to understand the land use and regulatory environment in the Town and region:

- Rocky Mount Urban Area Comprehensive Transportation Plan (2016)
- Town of Nashville, North Carolina, Comprehensive Pedestrian Plan (2008)
- Town of Nashville Economic Vitality Study
- Town of Nashville Municipal Service District Plan
- Town of Nashville Parks, Recreation + Cultural Resources Comprehensive Master Plan
- Town of Nashville Zoning Ordinance
- Town of Nashville Future Land Use Map

The preservation of recreational resources and dedication to quality of life are common themes in past planning efforts. This contributes significantly to the dedication the Town of Nashville has to the protection of its natural resources and to promoting active transportation.

#### Purpose and Process of this Plan

The purpose of this Plan is to evaluate the existing pedestrian and bicycle conditions within Nashville and recommend programmatic and infrastructure projects to improve safety, connectivity, and wellbeing. This effort was led by the NCDOT IMD, a project consultant, and a Steering Committee. The Steering Committee was formed by the Town and included residents, local business owners, and representatives from the IMD and the Rocky Mount Urban Area Metropolitan Planning Organization (MPO). Through the planning and development of this Plan, the Committee approved goals and objectives that guided the set of recommendations for infrastructure projects, policies, and programs. A public survey was distributed to residents and stakeholders to provide input on planning efforts, and all stages included close coordination with NCDOT Division 4 and Rocky Mount Urban Area MPO.

The following vision statement and Plan goals were formed in collaboration with the Steering Committee with the desired outcome of implementing bicycle and pedestrian projects, policies, and programs in Nashville.

#### Nashville Bicycle and Pedestrian Plan Vision Statement

The Town of Nashville will be a place where people of all ages and diverse backgrounds have access to bicycle and pedestrian facilities and programs that promote the following: alternative transportation modes, exercise and wellbeing, safety, connectivity, and celebration and discovery of Nashville's culture and history.

## Plan Goals

- O Provide multimodal transportation choices beyond vehicular transportation modes to the residents of Nashville.
- O Improve mobility by creating and providing safe pedestrian and bicycle networks, removing barriers to walking and bicycling, and enhancing connections between community origins and destinations such as schools, stores, houses of worships, and other institutions.
- O Improve safety for pedestrians and bicyclists through strategic, consistent, and connected pedestrian and bicycle facility improvements, education, and enforcement strategies.
- O Recognize the environmental and public health benefits of walking and biking by providing active living environments with safe, connected, accessible facilities along with programs that encourage walking and bicycling.
- O Provide economic benefits by creating more attractive walkable and bikeable communities and savings to households associated with having access to low-cost, non-motorized transportation, and increased market access to local providers of goods and services.
- O Educate the community as to the benefits of bicycle and pedestrian activity and applicable rules and regulations.

## Key Findings and Recommendations

The planning process identified pedestrian and bicyclist safety and access to recreational activities as important issues facing the Town of Nashville. The Town center follows a grid pattern that lends itself to walking, but segments of various roadways are missing sidewalks, creating safety and access challenges. The community would like to improve access to destinations like the Nashville Farmers' Market, local parks, and the Stoney Creek Environmental Park and its trail system. Many of these sites are located along high-traffic and high-speed roadways that do not have adequate active transportation accommodations. The lack of pedestrian and bicycle infrastructure throughout the community results in a challenge to the mobility of residents and visitors alike. Infrastructure projects, policies, ordinances, and programs have been recommended to address these issues and achieve the vision of this Plan.

#### Recommended Infrastructure Projects

The existing bicycle and pedestrian conditions of Nashville were analyzed and prioritized according to project corridors. Prioritization was based on stakeholder input and demand, safety needs, connectivity contributions, and potential ease of implementation. Corridor improvement projects consisting of sidewalks, crosswalks, shared use paths, bicycle pavement markings, and signage are recommended based on each corridor's needs. The corridors are listed in Table ES-1 in priority order:

Ranking	Corridor	Projects
1	Washington St	Sidewalks, crosswalks, crossing island, shared use path, sharrows, bike rack
Western Ave 2-3*		Sidewalks, crosswalk, sharrows
2 0	Alston St	Sidewalk, crosswalks, shared use path, sharrows, bike rack
4	First St	Sidewalk, crosswalks, shared use path, sharrows
5	Barnes St	Sidewalk, crosswalks, sharrows, bike rack
6	Stoney Creek Trail	Shared use paths
7	Clarendon Dr	Sidewalks, railroad crossing improvements
8-9	Brooklyn Blvd	Sidewalks
0.5	Sixth St	Sidewalks
10	JW Glover Park	Shared use path, bike racks
11	Eastern Ave	Sharrows, crosswalk
12-13	Cross St	Crosswalk, sharrows
12 10	Church St	Crosswalks, sharrows, bike rack
	Elm St	Sidewalk
14-17	Fort St	Sidewalk
14 17	Birchwood Dr	Sidewalk, crosswalks
	Womble Rd	Sidewalk
18-21	Vernon St	Sidewalk
10-21	Brake St	Sidewalk

Table ES-1. Corridors Rankings and Recommended Projects

Ranking	Corridor	Projects
	Aviation Ave	Sidewalk
	Old White Oak Rd	Sidewalks, railroad crossing improvements
	Southside Dr	Sidewalk
22-23	Womble and First St Connector	Shared use path
24-25	Birchwood and Woodfield Connector	Shared use path
	Barnes and Boddie Connector	Shared use path
26	Aviation and N First Connector	Shared use path
	Virginia Ave	Crosswalks
27-30	Green St	Crosswalk
	Boddie St	Crosswalk
	Lumber St	Curb ramp

\*Corridors with the same prioritization score are grouped and ranked as a flexible range.

Nature-based and/or green infrastructure is recommended for all large, shared use paths to address flooding and promote resiliency in the community. Wayfinding signage and lighting are also recommended throughout the Town as a strategy to encourage walking and bicycling by making the Town easier to navigate. It would also enhance the Town's brand and identity and perceptions of safety.

#### Policies and Programs

Policies, ordinances, and programs that complement infrastructure projects are critical to a successful bicycle and pedestrian plan. Safety is dependent on physical elements, such as linear and spot improvements,<sup>1</sup> as well as program and policy changes, such as active transportation-friendly ordinances, educational programs, reduction of speed limits, and enforcement of laws.

A comprehensive set of recommendations for code and ordinance updates can be found in Section 4.5: Recommended Active Transportation Policies and Programs. This section includes a table of existing code/ordinances and recommended amendments or updates. High-level recommendations were made to areas related to the following regulations and sections: The Nashville Setback Chart, Establishment of Districts, Flood Damage Prevention Ordinance, Signs, Off-Street Parking, Sidewalks and Walking Facilities, Visual and Environmental Landscape Standards of Existing Trees and Vegetation, and Other Utility Requirements.

This Plan also makes several programmatic recommendations to improve safety, encourage physical activity, and enhance the local aesthetics of Nashville. Whereas infrastructure projects can be expensive to construct, programs are comparatively inexpensive to implement and can provide a tremendous benefit to the community. Other programmatic recommendations include creating an Active Transportation Advisory Committee (ATAC); safety campaigns to educate pedestrians, active transportation users, and drivers; enhancing safe access to schools; open street and walking events; public art and environmental education; and educating citizens on existing drive laws and speed limits.

<sup>&</sup>lt;sup>1</sup> Linear improvements are located along a portion of roadway or over a certain distance (i.e., sidewalk) while spot improvements are at a specific location (i.e., a crosswalk).

### Key Action Steps

The success of this Plan depends on its implementation. The newly created ATAC would be entrusted with overseeing the implementation of the Plan with assistance from Town staff and participation by the stakeholders. The ATAC would be responsible for establishing a meeting schedule to receive updates and guide progress on the action steps. It would also author the annual progress update submitted to the Town Council on multimodal conditions in Nashville. The key action steps for accomplishing the goals and objectives of this Plan are summarized in Table ES-2 and recommended projects are depicted on Figure ES-1.

Table ES-2. Key Steps	to Implementation
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Action	Description	Stakeholder	Timeline
Adopt the Nashville Bicycle and Pedestrian Plan	Present the Plan to the Nashville Town Council for adoption.	Town Council and Town Staff	Winter/Spring 2023
Create an Active Transportation Advisory Committee (ATAC)	Create a formal advisory committee that will be responsible for overseeing the implementation of the Plan.	Town Council and Town Staff	Summer 2023
Strengthen partnerships with the Rocky Mount Urban Area MPO and NCDOT Division 4	Hold an initial meeting with the stakeholders to provide an overview of the Plan's recommendations and identify opportunities for collaboration.	Rocky Mount Urban Area MPO, NCDOT Division 4, and Town Staff	Summer 2023/ ongoing
Apply for Watch for Me NC	Apply to participate in NCDOT's Watch for Me NC campaign to raise awareness and provide educational resources to promote bicycle and pedestrian safety to residents, drivers, and law enforcement.	ATAC and Town Staff	Summer/Fall 2023/ Ongoing
ldentify potential funding sources during town budget planning	Identify potential funding sources for pedestrian programs, projects, and maintenance in the Town's budget such as Powell Bill funds. Begin to accumulate funds that can be used for the local match required for most projects.	ATAC, Town Council, and Town Staff	Summer/Fall 2023/ Ongoing
Apply for alternative funding sources for the Plan's projects and programs	Refer to the funding sources identified in this Plan in Appendix E; apply for funds in addition to the STIP process to implement programs and projects. Establish a fund to use for local match requirements.	ATAC and town staff	Ongoing
Include requirements for bicycle and pedestrian facilities in city ordinances and policies	Draft amendments to Town ordinances and policies following the recommendations of this Plan and NCDOTs Complete Street Policy for bicycle and pedestrian infrastructure in existing and new development.	Town Council and Town Staff	Fall 2023/ Winter 2024
Coordinate with Active Routes to School Coordinator	Begin meeting with the Active Routes to School Coordinator to establish and develop policy for implementation and/or training or programs for Nashville's schools.	ATAC, Town Staff, NCDOT, NC Division of Public Health	Fall 2023/ Winter 2024
Partner with local artists, businesses, and the parks department	Partner with local artists, businesses, and the parks department to work on placemaking projects.	Local artists, art organizations, and Town Staff	Fall 2023/ Winter 2024

Action	Description	Stakeholder	Timeline
Prepare the Nashville Comprehensive Bicycle and Pedestrian Plan Annual Report/Memo	Prepare the first Nashville Bicycle and Pedestrian Plan Annual Report or memo assessing progress made over the past year using the performance and evaluation measures included in this Plan.	ATAC and Town Staff	Spring 2024



Figure ES-1. Recommended Projects

## 1.0 Introduction and Project Overview

### 1.1 Background

The Town of Nashville is dedicated to improving its bicycle and pedestrian infrastructure through a comprehensive planning effort. The focus of the Bicycle and Pedestrian Plan (the Plan) is to define the vision and goals, outline recommendations, and identify programs and policies for implementing active transportation infrastructure and amenities that increase multimodal connectivity, safety, and quality of life. The Plan has been funded by the North Carolina Department of Transportation (NCDOT) Integrated Mobility Division (IMD) grant program with matching funds from the Town of Nashville. The grant provides funding for local governments to develop comprehensive transportation plans focused on active transportation infrastructure.

#### Town History

In 1777, Nash County was formed from Edgecombe County. Nestled between the edges of the coast and the Piedmont, the Town was named after Revolutionary War officer Francis Nash. After years of migrant settlement, the area around Nash Court House was incorporated, and Nashville became the first town in the county, later becoming the county seat.

The Town of Nashville is in a county notable for its agricultural productivity. Tobacco, cotton, and corn were among the major crops of the area. However, it was not until after the Civil War that the Town and county experienced notable growth. One of the state's highways passed from Rocky Mount through the main street of Nashville, and the Town's connectivity further improved with the construction of the Nashville Branch of the Wilmington and Weldon Railroad in 1887. Major points of interest within the Town included an opera house, tavern, and barrooms along the Town's main street. Nashville's proximity to the Tar River aided its import and export of goods.

The original Nash Court House, Rose Hill and the Bissette-Cooley House stand as major cultural landmarks in the area. Rose Hill was the manor house of the Rose Hill Plantation, owned by "The Father of Nash County," Nathan Boddie. Today, the site serves as a wedding venue and cattle farm. The Bissette-Cooley House was originally built by Nashville entrepreneur George Bissette in 1911 and was designed by architect John C. Stout. The home was turned over to Congressman Harold Cooley in 1945. This neoclassical estate resides in Nashville's Historic District.

Today, the Town of about 5,500 residents also boasts the annual Nashville Blooming Festival, put on by Nashville's Chamber of Commerce. Over two days, downtown Nashville hosts artists, musicians, a carnival, a parade, and the annual "Mom of the Year" coronation. U.S. Route 64 runs along the northern border of the Town, connecting it to the city of Raleigh about 50 miles southwest. The Town of Nashville notes that Nashville is the fastest growing town in Nash County.

## 1.2 Community Vision and Goals

In the Town's grant application, Nashville's stated vision is to improve bicycle and pedestrian transportation to connect all areas of Nashville through an extensive sidewalk and trail system. Actions that have been set to achieve this goal include:

- Adding bicycle lanes or shared use paths to existing access points of Nashville, including West Washington Street, Red Oak Road, Old Spring Hope Road, and Womble Road.
- Developing a greenway along Stoney Creek from Western Avenue all the way into Rocky Mount.
- Extending existing sidewalks outward along existing arterial roadways.

 Improving crosswalk facilities at intersections, providing high visibility crosswalks, and mid-block crossings where intersections are farther apart.

## 1.3 Plan Goals and Objectives

A series of goals were developed by the Plan's Steering Committee through the planning process. These goals form the foundation of objectives and strategies that guide the creation and implementation of the Plan, while also forming a strategic framework for developing and improving active transportation mobility in the Town of Nashville. In alignment with the North Carolina Statewide Bicycle and Pedestrian Plan, *WalkBikeNC*, these goals, objectives, and strategies were developed to further encourage consistency with key state and local active transportation initiatives and facilities.

#### Goals of the Plan

- Provide multimodal transportation choices beyond vehicular transportation modes to the residents of Nashville.
- Improve mobility by creating and providing safe pedestrian and bicycle networks, removing barriers to walking and bicycling, and enhancing connections between community origins and destinations such as schools, stores, houses of worships, and other institutions.
- Improve safety for pedestrians and bicyclists through strategic, consistent, and connected pedestrian and bicycle facility improvements, education, and enforcement strategies.
- Recognize the environmental and public health benefits of walking and biking by providing active living environments with safe, connected, accessible facilities along with programs that encourage walking and bicycling.
- Provide economic benefits by creating more attractive walkable and bikeable communities and savings to households associated with having access to low-cost, non-motorized transportation, and increased market access to local providers of goods and services.
- Educate the community as to the benefits of bicycle and pedestrian activity and applicable rules and regulations.

## 1.4 Purpose and Scope of the Plan

The purpose of this Plan is to evaluate the existing bicycle and pedestrian conditions within the Town of Nashville and recommend programmatic and infrastructure projects to improve safety, connectivity, and well-being. This effort was led by NCDOT's IMD, AECOM as the project consultant, and the locally appointed Steering Committee. Public meetings were also conducted for Town residents to provide input on planning efforts. Engineering studies and construction were not included in the scope.

The scope of the Plan included the following tasks:

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

## 1.5 Benefits of a Walkable and Bikeable Community

There are many benefits of active transportation planning and the resulting programs and infrastructure projects. By working to develop walkable and bikeable communities, municipalities are investing in an increased sense of community through the promotion of improved health, economic resources and activity, sustainable transportation systems, and environmental consciousness. There are currently two existing trails in the Town of Nashville that allow citizens to engage with the local environment along Stoney Creek Environmental Park and JW Glover Park. The Walkable Commercial Corridor also allows pedestrians to travel through Town's major corridors. However, the Town seeks to further improve community health and curb diseases linked to sedentary lifestyles and increase access to major events such as the Blooming Festival via a more extensive bicycle and pedestrian network.

Planning and developing active transportation facilities also creates a valuable resource for future generations to use and expand upon. *WalkBikeNC*, the statewide bicycle and pedestrian plan, established a vision for North Carolina centered around the following five key benefits: safety, health, economic, mobility, and stewardship. The statistics and benefits discussed in this section were compiled from several sources: the *WalkBikeNC* plan; the Pedestrian and Bicycle Information Center based at the University of North Carolina Highway Safety Research Center; the Center for Disease Control's (CDC) Nutrition, Physical Activity, and Obesity Report; and the North Carolina Pedestrian Crash Facts Summary Report by the NCDOT IMD.



#### Health

Active transportation infrastructure such as sidewalks, shared use paths, and trails promote active living and improve health by providing residents with opportunities to exercise and integrate physical activity into their daily lives. Programs such as Active Routes to School provide education and encouragement for more physical activity. Improving health is of critical importance in North Carolina where 35.6 percent of adults are overweight, and 34 percent of adults are obese according to data from the CDC. According to Nash County's 2020 State of the County Health Report, heart disease is the leading cause of death in the county and 47 percent of surveyed respondents reported that they were classified by their physicians as overweight or obese. The CDC also reported data that shows the percentage of North Carolina students in grades 9 to 12 who are obese jumped from 12.5 percent in 2013 to 16.4 percent in 2015 and has stayed above 15 percent since. This shows an undesired positive trend in obesity rates. In 2019, 15.4 percent and 16 percent of students in grades 9 to 12 were classified as obese or overweight, respectively. This indicates that the need to decrease these numbers and promote active and healthy lifestyles remains imperative in North Carolina.<sup>2</sup>



#### Economic Competitiveness

Investing in pedestrian infrastructure returns economic benefits to communities through increased property values, patronage of local businesses, and tourism. Improving transportation choices in a community encourages better connectivity between people and places and is closely tied to public health, access to jobs and resources, and business opportunities. Providing access to and connectivity between local businesses are important incentives for economic development, as convenient and appealing active transportation facilities can encourage the movement of people and increase their access to economic resources.



#### Safety

The need to improve safety for pedestrians is urgent. Between 2010 and 2019, an average of 2,997 pedestrian crashes occurred across the state, annually, for a total of almost 30,000 pedestrian crashes. In the same timeframe, an average of 194 of these crashes caused fatal injury per year and an average of 227 of these crashes likely caused serious injury per year.<sup>3</sup> In 2020, Nash County reported 2,458 crashes, 19 of which involved pedestrians and 6 that were bicycle crashes. Fortunately, none of the bicycle crashes were fatal; however, one of the pedestrian crashes sadly resulted in a fatality.<sup>4</sup>

<sup>&</sup>lt;sup>2</sup> Center for Disease Control and Prevention (2019), Nutrition, Physical Activity, and Obesity: Data, Trends and Maps -North Carolina Category: Obesity / Weight Status. Retrieved from

https://nccd.cdc.gov/dnpao\_dtm/rdPage.aspx?rdReport=DNPAO\_DTM.ExploreByLocation&rdRequestForwarding=Fo\_rm

<sup>&</sup>lt;sup>3</sup> North Carolina Bicycle and Pedestrian Crash Data Tool

<sup>&</sup>lt;sup>4</sup> Connect NCDOT, Crash Data and Maps. 2020 Nash County Crash Profile



#### Mobility

Mobility describes the effectiveness of the transportation system, which includes roads, rail, public transit, and bicycle or pedestrian facilities, to move people and goods safely and quickly. As roads become increasingly congested, one way that communities can improve transportation efficiency is by offering active transportation alternatives to automobiles and designing 'Complete Streets' that accommodate all modes of transportation. Providing the most appropriate types of transportation facilities can also improve transportation efficiency. In areas with multiple resources within proximity of one another, providing active transportation facilities can reduce the number of short motor vehicle trips.



#### Sustainability

As of 2019, transportation is responsible for 37 percent of carbon dioxide emitted nationally, of which 40.5 percent of emissions for the sector are attributed to passenger cars.<sup>5</sup> Active transportation infrastructure encourages stewardship of our natural resources by providing residents with a fossil fuel-free mode of transportation. Results of facilitating and encouraging bicycling and walking as a standard mode of transportation include the following: fostering an appreciation for nature and protecting natural resources, reducing fossil fuel consumption and vehicle emissions, and encouraging overall energy conservation and land use planning that promotes diverse modes of transport and mix of land uses.

While reducing vehicle miles travelled in general yields environmental benefits, shorter trips are more polluting than long trips on a per-mile basis. This is due to the high levels of emissions caused by "cold starts" and the first few minutes of travel before pollution control devices work effectively, which are responsible for 60 to 80 percent of emissions that occur while the vehicle is operating.<sup>6</sup> Therefore, consolidating the number of vehicle trips is an important environmental goal (U.S. Pedestrian and Bicycle Information Center, 2015).



### Quality of Life

Quality of life is influenced by factors that include but are not limited to the following: commute options, access to recreation including parks and trails, safety, and economic competitiveness. Bicycle and pedestrian amenities positively contribute to the overall quality of life of a community as such amenities encourage residents and visitors to be active, social, and enjoy more travel choices.

<sup>5</sup> Environmental Protection Agency, 2019. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019
<sup>6</sup> Tarulescu, Radu & Tarulescu, Stelian & Olteanu, Ciprian. (2014). Vehicle Pollution for Cold Engine Functioning. Annals

of the Oradea University. Fascicle of management and Technological Engineering. XIII(XXIII). 10.15660/AUOFMTE.2014-1.3015.

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## 2.0 Existing Conditions

### 2.1 Demographics

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

Datasets studied include the following: population, age, race characteristics, Hispanic/Latino and minority populations, poverty rates, limited English proficiency (LEP) populations, and zero car households. The demographic analysis was based on 2010 and 2020 U.S. Decennial Census data and 2005 to 2009 and 2015 to 2019 American Community Survey (ACS) 5-Year estimate data. This information was used to conduct analyses at the place, county, and state levels. All information is based on data collected by the U.S. Census Bureau unless noted otherwise.

#### Population and Age

Based on ACS data, the population of the Town was 4,509 from 2005 to 2009. Between 2015 and 2019, this number grew to 5,516, an increase of 22.3 percent (2.0 percent annualized). During the same timeframes, Nash County's population grew from 92,814 to 94,030, an increase of 1.3 percent (0.1 percent annualized growth). By comparison, North Carolina grew by 13.5 percent, or 1.3 percent annualized (ACS 2015-2019). A continuous dedication to quality-of-life benefits, such as active transportation infrastructure, may help attract both people and business to the area and promote further growth.

The median age is 43.6 in the Town of Nashville, while Nash County is younger with a median age of 41.7. The state's median age is 38.7 (see Figure 2-1 for a comparison of age groups). This data suggests that Nashville has a large proportion of working-age individuals. Improved multimodal infrastructure can help to retain or attract a more diverse population, while also serving the current population in the Town who may be interested in different modes of transportation. The residents living in the community can gain health benefits from active transportation facilities while also benefitting from a greater quality of life.



Figure 2-1. Age Groups

#### Race and Ethnicity

The minority population<sup>7</sup> in the Town of Nashville is approximately 51.9 percent of the total population (5,516 people). The minority population for Nash County is slightly lower at 47.9 percent (out of 94,030 people).

The Town's demographics include a slight plurality of white residents (48.1 percent), followed by a similar percentage of Black/African American (47.1 percent), and residents who identify as two or more races (4.7 percent) (see Figure 2-2). In Nash County, the demographic composition is predominantly white (52.1 percent) with a lower Black/African American (39.3 percent) population. The remainder of its population is defined as American Indian/Alaska Native (0.6 percent), Asian (0.9 percent), Native Hawaiian/Pacific Islander (0.1 percent), some other race (4.1 percent), and two or more races (3.0 percent). In the state of North Carolina, the white (68.7 percent) and Black/African American (21.4 percent) populations define the majority with the remainder of the population defined as American Indian (1.2 percent), Asian (2.9 percent), Hawaiian/Pacific Islander (0.1 percent), some other race (3.1 percent), or two or more races (2.7 percent).

#### **Regional Poverty Rates**

Individuals living below the poverty line in the Town of Nashville comprise approximately 14.4 percent of the population. This is lower than both the Nash County rate at 15.2 percent and the state's rate of 14.7 percent (see Figure 2-3).

#### Limited English Proficiency (LEP)

None of the population of adult individuals aged 18 and older in the Town of Nashville speak English "less than very well". In Nash County, LEP populations are approximately 2.3 percent. Of those that speak English "less than very well," Spanish is the predominant language, making up 2.1 percent of the adult population over 18 years of age.



Figure 2-2. Racial Composition of Nashville





<sup>&</sup>lt;sup>7</sup> Calculated by subtracting White, Non-Hispanic population totals from the Total Population based on 2015-2019 ACS data.

#### Vehicles per Household

In the Town of Nashville, 10 percent of households have no vehicle available; 28 percent of households have one vehicle available, and 62 percent of households have two or more vehicles available. In Nash County, 7.9 percent of households have no vehicle available, 29 percent of households have one vehicle available, and 63.1 percent of households have two or more vehicles available. Statewide, 5.8 percent of households have no vehicle available, 31.6 percent of households have one vehicle available, and 62.5 percent of households have two or more vehicles available (see Figure 2-4). Active transportation infrastructure projects would particularly benefit residents who do not have access to vehicles or share vehicles within a household.



Figure 2-4. Vehicles per Household

#### Means of Transportation to Work<sup>8</sup>

An overwhelming majority of the Town's residents (95.5 percent) commute alone to work using a car. Approximately 3.2 percent of residents commute by carpool, while none of the population uses public transportation. Roughly 1.3 percent of residents commute by another mode of transportation that does not include automobiles, public transport, bicycling, or walking. The Town's average travel time to work is 23.9 minutes.

These figures are comparable to Nash County and the state of North Carolina, where 88.3 percent and 85.9 percent commute alone by auto, respectively. In Nash County, 8.9 percent of workers carpool, while 9.7 percent of the state uses a similar mode of transportation. In the county, 0.5 percent of the population uses public transportation, 1.2 percent commute by bike or walking, and 1.1 percent uses another mode to commute. Statewide, 1.1 percent of the population uses public transportation, 2.1 percent walks or bikes to work, and 1.2 percent uses another mode to commute. The mean commute time for the county is 23



Figure 2-5. Means of Transportation to Work

minutes and the state is slightly higher at about 25 minutes.

<sup>&</sup>lt;sup>8</sup> NCDOT Demographic Snapshot Tool, 2021

These statistics show a higher dependency on vehicle usage in the Town, which aligns with the county and statewide figures (see Figure 2-5). Supporting the development and use of transportation networks for active modes may provide an opportunity for a variety of commuting options to work, as well as enabling workforce participation by people with limited access to vehicles.

## 2.2 Existing Planning Efforts

The Town of Nashville has been involved in multiple planning efforts that emphasize the importance the Town places on the development of an active transportation network. The following plans are included in this section:

- Rocky Mount Urban Area Comprehensive Transportation Plan (2016)
- Town of Nashville, North Carolina, Comprehensive Pedestrian Plan (2008)
- Town of Nashville Economic Vitality Study
- Town of Nashville Municipal Service District Plan (2022)
- Town of Nashville Parks, Recreation + Cultural Resources Comprehensive Master Plan (2022 Draft)
- Town of Nashville Zoning
- Town of Nashville Future Land Use

#### Rocky Mount Urban Area MPO Comprehensive Transportation Plan (2016)

The Rocky Mount Urban Area Metropolitan Planning Organization (MPO) consists of the Towns of Rocky Mount, Nashville, Sharpsburg, and some parts of Nash County and Edgecombe County within the MPO planning area. The *2016 Rocky Mount Urban Area Comprehensive Transportation Plan* is a long-range multimodal transportation plan that covers transportation needs through 2040. Modes of transportation evaluated as part of this plan include highway, public transportation, rail, bicycle, and pedestrian recommendations.

Below is a list of additional facilities identified for sidewalks or sidewalk improvements for the MPO that are not included in Nashville's Plan (Figure 2-6). According to the Comprehensive Transportation Plan (CTP), the following sidewalk recommendations refer to having sidewalks on both sides of the road unless otherwise noted:

#### MPO Non-Municipal Areas:

- Eastpointe Road and Extension, NASH0112, NASH0014-H: from Eastern Avenue (SR 1770) to Oak Level Road (SR 1700)
- North Old Carriage Road (SR 1603), NASH0113-P: from North Central High School to Nash Community College
- Red Oak Road (SR 1003) Extension, NASH0020-H: from Eastern Avenue (SR 1770) to Oak Level Road (SR 1700)
- North Aviation Avenue, NASH0115-P: from US 64 Business (East Washington Street) to north of Cuddington Lane
- South Fort Street, NASH0116-P: add sidewalks on the east side from US 64 Business (East Washington Street) to just north of East Center Street and add sidewalks to both sides of South Fort Street from just north of East Center Street to East Church Street.

• Tar River Trail Extension to Nashville, NASH00010-M: from the Tar River Trail near Minges Street and River Drive, following west along the Tar River and then Stoney Creek to the west side of the town of Nashville, meeting with an existing trail and continuing to I-495/US 64.

CTP projects listed as 'needs improvements' or 'recommended' were largely carried forward in this Plan as recommendations.



Figure 2-6. Rocky Mount Urban Area MPO CTP Pedestrian Infrastructure Recommendations

Bicycle infrastructure and recommendations are shown along with shared use path recommendations in Figure 2-7 in inset A for the Town of Nashville.



Figure 2-7. Rocky Mount Urban Area MPO CTP Bicycle Infrastructure Recommendations

#### Town of Nashville Pedestrian Plan (2008)

The Nashville Pedestrian Plan was conceived to address the contemporary gaps and issues with the pedestrian system in the Town. By bridging isolated stretches of sidewalks and developing infrastructure in key areas to alleviate problems such as pedestrian-vehicle crashes, the Town hoped to improve safety, viability of alternate modes of transportation, traffic congestion, air quality, community health, and aesthetic value.

This Pedestrian Plan was the first of its kind for the Town of Nashville and was created with five concrete goals in mind:

- 1. Identification of adequate funding for existing and future pedestrian improvements, programs, and projects.
- 2. Educate pedestrians, motorists, and bicyclists about pedestrian safety and the benefits of walking through a variety of communication formats and other activities sponsored by the Town as well as civic groups.
- 3. Create an interconnected network of pedestrian facilities that is accessible by all members of the community that links pedestrians with destinations throughout the Town and to other modes of transportation.
- 4. Establish development and construction policies to ensure pedestrian facilities are included in all new public and private projects in Nashville.
- 5. Keep a well-maintained pedestrian network through sound program and project development.

At the time of the Plan's writing, most of the pedestrian facilities existed downtown, with pedestrian network connectivity decreasing as distance from downtown increased. However, even in downtown, there was variability in the condition and serviceability of pedestrian facilities. High priority targets for connection to the existing pedestrian network included the three public schools in the Town, two recreational facilities, and ease of access between residential and commercial areas. The map below (Figure 2-8) shows the resulting planned Walkable Commercial Corridor along with priority points of interest. These priority corridors include Washington Street, Alston Street, Western Avenue, First Street, Eastern Avenue, and South Brake Street. The focus areas are the stretches of West Washington and Western Avenue that run past US-64 out of the Town, as well as the length of East Old Springs Hope Road running between Boone Lane and Oak level Road.

Various programs and policies were put forth as recommendations to emphasize the importance of walking in a community. These included consistent maintenance, a designated pedestrian transportation coordinator, child activity enforcement zones, and pedestrian education and safety classes. Regional, state, and national programs and agencies were identified as potential funding sources along with local potential partner organizations.



Figure 2-8. Town of Nashville Pedestrian Plan (2008) Walking Opportunities

#### Town of Nashville Economic Vitality Study

The Town of Nashville conducted an economic vitality study for its downtown area. The goal of this project is to strengthen the downtown through place-making, business assistance and recruitment, and property redevelopment. This Plan lists the walkable core near residential areas as an asset for the Town. Two challenges identified in the study include a high percentage of retired households and a growing number of commuters that do not have connections to the Town. The Town identified the following items that will help strengthen placemaking in downtown Nashville:

- Unify Barnes, Washington, Boddie, and Church Streets
- Identify infill opportunities
- Install new wayfinding signage
- Create a parking management program
- Improve alleys
- Install curbs and gutters

New placemaking that results in walkable areas will be a key component to this study and support active transportation throughout the Town of Nashville.

#### Town of Nashville Municipal Service District Plan

The Town of Nashville developed the Municipal Service District (MSD) Plan to guide future improvements to the downtown. The plan outlines economic development strategies as well as enhancements to the sidewalks, furnishing, utilities, and green spaces to create a vibrant town center for residents and visitors. The proposed improvements to the public realm and active transportation network align with and will complement the bicycle and pedestrian projects recommended in this Plan. The Municipal Service District Plan identifies priority design elements include the following:

- Safe pedestrian crossings
- Sidewalk connections on all streets
- Street trees, green streets, and landscaping
- Greenway/park connections

Additionally, Barnes Street is identified as a location where additional pedestrian infrastructure is needed and crossing improvements are recommended to connect the Stoney Creek trail across West Washington Street.

#### **Downtown Revitalization Municipal Service District**



Figure 2-9. The Nashville Municipal Service District Boundary from the MSD Plan

#### Town of Nashville Parks, Recreation + Cultural Resources Comprehensive Master Plan

The Town of Nashville Parks, Recreation + Cultural Resources Comprehensive Master Plan charts a path to improve parkland as well as recreation facilities, programming, operations, and maintenance. The plan considers population growth projections and outlines a 10-year framework to meet growing demand for outdoor recreational spaces.

The Parks, Recreation + Cultural Resources Comprehensive Master Plan identifies the Farmers market pavilion and Greenway trails as the two most important facilities/amenities according to a community survey. The plan recommends improved pedestrian connectivity to park amenities and highlights the importance of greenway networks.

This plan complements the bicycle and pedestrian recommendations within this Plan, which seek to connect residents to local parks, trails, and other outdoor spaces while also proposing improvements to active transportation paths such as shared use paths.

#### Zoning

Figure 2-10 below shows a zoning map of the Town. Most of the Town's periphery is zoned as Agricultural district with some portions allotted to light industry along the edges. The Town's center is largely medium density residential, with most of the office and general business districts situated around East Washington Street, including the central business district of downtown.



Figure 2-10. Town of Nashville Official Zoning Map

#### Land Use and Development

Future land use plans (Figure 2-11) show an intention to convert the outer perimeter of the Town into lowand high-density residential areas, preserving northeast of US-64 and the western edge of the municipal boundary as agricultural and the eastern edge as commercial. Outside of downtown, the Town's interior will largely be devoted to low density residential area with open space interspersed throughout.



Figure 2-11. Town of Nashville Future Land Use Map

## 2.3 Programmed Projects

There are several programmed NCDOT State Transportation Improvement Program (STIP) projects in Nashville, all roadway and bridge projects. These projects are discussed below and shown on Figure 2-12 on the following page.

- I-6045 is a pavement rehabilitation from South Old Franklin Road to Old Carriage Road along US-64. Construction began in 2020.
  - **I-6045A** is a bridge rehabilitation effort along this length of roadway. Construction began in 2021.
- **R-5720** is a road widening project for SR 1770 (Eastern Avenue) from Red Oak Road to Old Carriage Road between Rocky Mount and Nashville. Construction began in 2020.
- U-6149 will be an upgrade of the US-64 overpass from NC 58 (Washington Street), Exit 459, to SR 1233 (Thomas Road) to interstate standards. Construction will begin after 2029.



Figure 2-12. Programmed NCDOT 2020-2029 STIP Projects

## 2.4 Community Features

The Town of Nashville has several community features that provide important services and enrich the quality of life for its residents. These features serve as potential bicycle and pedestrian origins and destinations. The Steering Committee voiced support for bicycle and pedestrian access to parks and recreation facilities in the Town, and in the surrounding towns. By improving connectivity between these locations and the Town's neighborhoods, residents would be more likely to bicycle and walk. All community features identified by the Steering Committee are listed in Table 2-1 and mapped on Figure 2-13.

Name	Туре	Address
Nashville Town Hall	Civic	499 S Barnes St.
Nash County Courthouse	Civic	508 W Washington St.
Nashville Community Center	Civic	403 S Alston St.
Nash County Senior Center	Civic	103 N Alston St.
Nash Arts Center	Civic	100 E Washington St.
Nash County Parks, Recreation, and Cultural Resources	Civic	200 Boddie St.
Nash County Agricultural Center	Civic	1006 Eastern Ave.
Harold D. Cooley Library	Civic	114 W Church St.
Nashville Elementary School	School	209 E Virginia St.
Nash Central Middle School	School	1638 S First St.
Stoney Creek Environmental Park	Recreational	455 W Washington St.
JW Glover Park	Recreational	1434 S First St.
Forest Hills Cemetery	Recreational	350 N First St.
Oakland Cemetery	Recreational	S Brooklyn Blvd.
Nashville Farmers' Market	Recreational	723 S Barnes St.



Figure 2-13. Key Community Features
## 2.5 Infrastructure

The Town of Nashville is located in Nash County, immediately east of Momeyer and west of Rocky Mount. US-64 runs along the northern edge of the Town and the center of the Town is located approximately 4.5 miles west of Interstate 95. US-64 merges with US-264 at the edge of the Town of Zebulon about 25 miles southwest. This route continues west, providing access to Raleigh, Durham, Cary, and the Research Triangle area, which are located approximately 50 miles west of the Town of Nashville.

### Roads

The road network in the Town of Nashville grew and expanded around the railroad and the Town's earliest buildings, including the courthouse and other structures within the Nashville Historic District. The core of the Town sits to the north of the rail lines and is made up of a grid network of local roads. NC-58 passes through the downtown and connects to major roadways like US-64 and I-95. Other arterial roads radiate from the gridded core. As the Town has grown to the south and east, the street pattern follows a more traditional suburban pattern, with neighborhood streets and cul-de-sacs. Currently there are 46.5 miles of roadways in the Town of Nashville. The Town maintains most of the local streets, while NCDOT maintains roadways that include NC-58, Alston Street, First Street, and Barnes Street. A roadway inventory is included in Appendix C (note that the pavement widths do not include gutter pans).

The speed limits vary between 20 miles per hour (mph) in residential areas to 55 mph on roads outside of the Town center. For the purpose of later prioritization and cost estimation work, roadway rights-of-way were estimated using aerial photography and Nash County parcel data. These estimates would need to be verified during the feasibility and engineering phases of future projects.

### Railroads

A single active railroad runs through the Town, a short line branch of the Carolina Coastal Railway (CLNA). This line runs roughly east to west, running under US-64 and intersecting the roads from there through SR 1700. There are two small rail yards used by the railway; one rail yard is between where South Alston Street meets the intersection of East Railroad Street and East Cross Street, and the other rail yard is west of Circle Drive.

There are several at grade railroad crossings in the Town of Nashville:

- Old White Oak Road south of West Railroad Street
- South Alston Street close to where Circle Drive transitions into East Railroad Street
- South First Street between East Cross Street and East Railroad Street
- South Club Drive just north of where it intersects with Fairfield Road

### Public Transportation

The Town of Nashville does not offer public transportation. However, Rocky Mount offers public transportation via fixed route bus service called the Tar River Transit with transit routes exclusive to Rocky Mount's boundaries. From the downtown Transfer Center, riders can use the Rural General Public Shuttle to reach Nashville among other areas in the surrounding counties. Each route departs four times a day from 8:15 AM to 3:15 PM and the stop for Nashville is at the Nash County Social Services Department downtown. Although public transportation services are limited, as they expand, they will depend on a pedestrian network for transit riders to safely access transit stops. A connected pedestrian network would

support future expansion in public transportation by providing safer access to transit stops on streets and sidewalks. Good pedestrian design should take all users into account. For example, if Tar River Transit were to have a single stop located within the Town, Americans with Disabilities Act (ADA) accommodations for wheelchair users should be considered in the design of a new sidewalk.<sup>9</sup>

### Utilities

Utilities are an important consideration for active transportation planning. Moving or replacing existing utilities to make room for new active transportation infrastructure can be costly and, in some cases, cost prohibitive. Oftentimes, above-ground utilities become barriers to facility improvements. When right-of-way allows, sidewalks and shared use paths are often located on the side of the road where utilities are not present. The exact location of utilities should be surveyed during the engineering phase of each project. Coordination should occur with utility providers before construction.

# 2.6 Existing Bicycle and Pedestrian Facilities

Although the Town of Nashville doesn't have an inventory of existing pedestrian facilities, data from the NCDOT Pedestrian and Bicycle Infrastructure Network (PBIN) shows that there are approximately 5 miles of sidewalk in the Town. Most of the Town's sidewalks are concentrated in the area between Barnes Street and First street and also in the area of Elm Street and Cross Street. While the Town core features sidewalks along most streets, the Rocky Mount CTP notes that many segments need improvement. These sidewalk segments require maintenance to improve both the condition and to be made ADA compliant. Many of the streets also require improvements to pedestrian crossing infrastructure such as mid-block crossings and high-visibility crosswalks – particularly on streets like Washington Street with higher traffic volumes. At present, there are no bicycle facilities in the Town.

Based on input from the Steering Committee, the absence of pedestrian and bicycle facilities – like sidewalk or pavement markings – is notable and creates a dangerous environment for multimodal travel in various locations. The schools are lacking pedestrian crossings for students walking from nearby neighborhoods and outdoor recreational spaces like parks and trails do not have strong multimodal access. In addition, there are many recreational and natural areas in the Town that generate pedestrian activity but have no pedestrian facilities connecting to neighborhood streets. Existing facilities are shown in Figure 2-14.

<sup>&</sup>lt;sup>9</sup> FHWA, Pedestrian Safety Guide for Transit Agencies:

https://safety.fhwa.dot.gov/ped\_bike/ped\_transit/ped\_transguide/ch3.cfm



Figure 2-14. Existing Facilities

# 2.7 Pedestrian and Vehicular Traffic Counts and Crash Data

Pedestrian and traffic counts were conducted using qualitative and quantitative methodology. While specific traffic counts and crash data were available for some roadways, input from the public and Steering Committee was also considered throughout the development of the Plan. No quantitative data were available for pedestrian activity, so local input was used to understand current walking patterns as well as perceived safety concerns throughout the Town.

### Active Transportation Activity

Steering Committee members noted that most of the bicycle and pedestrian activity occurs in and around downtown, and in neighborhoods around the Town. The off-road path around Stoney Creek also attracts significant walkers and bicyclists; however, U.S. Highway 64 acts as a significant barrier to safe, crosstown travel, thereby limiting access to crosstown neighborhoods form the northern point of the downtown area. Many streets in the Town are narrow and are unmarked for bicyclists, resulting in unsafe cycling conditions. Lack of sidewalks and bicycle facilities also limit access to other community features in the Town such as JW Glover Park, Stoney Creek Environmental Park, as well as several grade-level schools.

### NCDOT Annual Average Daily Traffic Counts

NCDOT prepares Annual Average Daily Traffic (AADT) counts for state roads, which represent the daily traffic average over the year at specific points. These counts, in conjunction with field visits and discussions with residents, help identify high traffic areas that may pose safety concerns for pedestrians and bicyclists. Several roads within the Town have traffic counts available. The counts are listed for the most recent year available, 2020. US 64 has the highest traffic levels in the Town, with AADT's between 26,000 and 27,500. NC 58 also has traffic volumes of up to 11,000 AADT. Among local roads, traffic volumes are highest on Eastern Avenue (9,100 AADT) and Barnes Street (4,700 AADT).

### Crash Data

The NCDOT IMD in collaboration with local law enforcement departments developed a dataset for all reported crashes involving pedestrians and/or bicyclists within the state between the years of 2007 and 2020. According to this dataset, there have been 9 pedestrian crashes, one of which was a fatal instance of an individual attempting to cross US-64. Also, during this time period, there was a vehicular crash involving a bicycle, which was not fatal (see Table 2-2).

Table 2-2. Bicycle and Pedestrian Crashes

Type of Crash	Number of Fatalities	Total Crashes
Bike Not on Roadway	0	0
Bike on Roadway	0	1
Pedestrian Not on Roadway	0	0
Pedestrian on Roadway	1	9

The Steering Committee also noted safety concerns regarding Washington Street, the main corridor through the downtown area. Despite the presence of existing crosswalks, the Steering Committee still finds this area of Town to be unsafe. The Committee also noted that this stretch of road is unfriendly to bicyclists.

# 2.8 Existing Active Transportation Programs

There are a number of existing events and programs within the Town of Nashville that encourage walking and bicycling. To promote walking as a means of exercise and rehabilitation for senior populations, the Nashville Senior Center offers brochures with maps and information to highlight an urban "walking trail" through local neighborhoods. The Arthritis Foundation also hosts the Walk With Ease (WWE) program to coordinate walking groups for people with arthritis and other residents who are interested. The program promotes the benefits of regular walking for fitness and arthritis management. The Town also offers annual walking events through groups like the American Heart Association, as well as the Nashville Running Festival and month-long walking challenges that provide pedometers for individuals and families to track their steps.

The Town promotes bicycling through their Bicycle Rodeo hosted by the Police Department and the Parks, Recreation, and Cultural Resources Department. The event lends out bikes, gives attendees a free helmet, and generally promotes bicycle safety and education. The Nashville Chamber of Commerce also hosts an annual Christmas Celebration and Bicycle Parade.

There are also several active transportation programs at the county-level. Nash County hosts Bicycle Safety Clinics through Recreation & Senior Services, Nash County 4-H, and the Sheriff's Office. Nash County also partners with Franklin County to host the Tar River Walking Challenge.

# 2.9 Opportunities and Constraints

In partnership with the Steering Committee, opportunities for improving pedestrian and bicyclist mobility and safety were identified, as well as potential constraints to overcome, which would transform the Town into a community with more active transportation opportunities. The combination of the Town's small size and proximity to community features and resources create opportunities for developing bicycle and pedestrian infrastructure that will greatly improve connectivity within the Town. Constructing new active transportation facilities will enable residents and tourists to explore and experience the small-town charm of the Town of Nashville, while also providing economic benefits to local businesses.

### **Opportunities**

- 1. In coordination with NCDOT, future phases of roadway designs should include additional sidewalks, shared use paths, and crossing opportunities along corridors.
- 2. Strategically selected active transportation infrastructure projects can significantly enhance the connectivity and walkability of the Town given that a few key roadways provide most of the connectivity for the Town and connect to smaller, lower trafficked streets that reach residential areas.
- 3. The proximity of local resources and shops along South Barnes Street and Washington Street provides the opportunity for the Town to be a "park once" community.
- 4. Ample recreational areas, and connectivity between them, provide key destinations primed for improved active transportation assets both within the Town and to regional assets.

### Constraints

- 1. U.S. Highway 64 wraps around the northern portion of the Town, limiting cross town connections.
- 2. An active railroad bisects the middle of Town and will require safety accommodations for active transportation users to cross it.
- 3. A lack of existing active transportation infrastructure, particularly full-width sidewalks, and bicycle facilities. The existing active transportation infrastructure does not form a connected network and results in unsafe conditions for active transportation users.

- 4. Unsafe intersections for accessing key destinations and recreation facilities.
- 5. Existing infrastructure does not incorporate adaptation techniques that could mitigate impacts of potential, future flooding or weather events and should be incorporated in future policies and infrastructure designs.
- 6. The right-of-way challenges throughout the downtown area may result in increased engineering and construction costs for future active transportation infrastructure.

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# 3.0 Community Engagement

The project team gathered community input on the Plan in several ways. A locally appointed Steering Committee guided the development of the Plan and will act as a champion for active transportation throughout the Town following the completion of this Plan. In addition, the project team conducted public outreach through a community survey and one in-person public meeting. This blend of Steering Committee and public engagement helped the project team identify active transportation-related needs and priorities throughout the Town of Nashville. Stakeholder meeting information and survey findings for the Plan are summarized below.

# 3.1 Steering Committee

The Steering Committee that guided this Plan consists of stakeholders, including representatives from the Town's planning staff, residents, local business owners, NCDOT, and the Rocky Mounty Urban Area MPO to guide the Plan development (Table 3-1). The Steering Committee focused on incorporating a diverse range of community perspectives. The Steering Committee met three times throughout the planning process to help shape the Plan by identifying goals and objectives, identifying bicycle and pedestrian constraints and opportunities, and prioritizing proposed projects.

The first Steering Committee meeting took place on March 18, 2022, at the Nashville Recreation Center. During this meeting, the project was introduced to the group, the role of the Steering Committee was discussed, and the schedule, vision, and goals of the project were summarized. The Committee then broke into groups during a working session to define bicycle and pedestrian origins, destinations, area of high activity, as well as areas of concern. The areas of concern were used to start thinking about potential projects, policies, or programs that could help enhance the overall bicycle and pedestrian experience within the Town. The Steering Committee discussed focusing on connectivity, safety, and implementable projects. A survey link was sent after the meeting to provide members of the committee with additional opportunities for comment regarding bicycle and pedestrian facilities and opportunities.

#### Table 3-1. Steering Committee Members

**Steering Committee Members** Lee Brown, Public Works Director Kate Burns, Town Council Member Mary Daughtridge, Chamber of Commerce Thomas Gillespie, Nash County Parks and Recreation Ashley Hamlett, Town of Nashville Parks and Recreation Dwight Jordan, Community Representative Taylor Joyner, Public Works Superintendent Randy Lansing, Town of Nashville Town Manager Shawn Lucas, Town of Nashville Planner Nick Morrison, NCDOT Integrated Mobility Division Sherry Moss, Town of Nashville Planning Director Jordan Reedy, MPO Representative Tim Treanor, Medical Facility Representative Kevin Varnell, Engineering Consultant Luke Whitehead, Bicycle Advocate Koy Worrell, Town of Nashville Parks and Recreation



The second Steering Committee meeting was held on May 20, 2022. Draft bicycle and pedestrian projects were presented to the committee in preparation for a working session. The working session

captured Committee input on the draft infrastructure projects, as well as relevant policies or programs. Specifically, focus was placed on linear facilities and spot improvements, connections and gaps in bicycle and pedestrian infrastructure, and amenities. The feedback gathered during this meeting was used to develop preliminary recommendations.

The third and final Steering Committee meeting took place on January 27, 2023. The Committee reviewed the draft Plan and proposed project and provided feedback on edits to be made before the final Plan is presented to the Town Council for adoption.

# 3.2 Community Survey

The purpose of the survey was to better understand community priorities and needs related to bicycle and pedestrian infrastructure. The survey asked participants to rank bicycle and pedestrian network priorities, rate preferred facility and amenity types, and identify specific locations where enhancements or specific projects could improve active transportation within the Town. The public survey received 65 responses and was available between May 23, 2022 and August 31, 2022. The online survey was promoted on the Town's website and paper copies were also offered for those who may not have access to a computer. Key findings from the survey are outlined below, and full survey results are found in Appendix B.

### Survey Findings

Respondents were asked whether they currently walk or bike in Nashville. While over half of survey participants indicated that they do not bike, nearly all indicated that they currently walk in the Town. Follow-up comments reveal that respondents would be interested in adding and improving pedestrian and bicycle infrastructure to promote active transportation travel for residents in the Town.

Using a mapping activity, respondents identified important destinations, potential constraints, and specific areas with bicycle and pedestrian needs. Key destinations that were frequently highlighted include community spaces like the JW Glover Park, Stoney Creek Trail, Nashville Junction, library, and the overall downtown area. Grocery store and shopping locations like Walmart and Food Lion were also highlighted alongside the post office and Town facilities.

Bicycle needs were identified along major roadways like East Washington Street and South First Street and along the Stoney Creek Trail. Pedestrian needs were noted throughout the Town, with a particular emphasis on the downtown stretch of East Washington Street. The mapping activity suggests unmet demand for bicycle and pedestrian facilities and a potential for greater rates of bicycling and walking.

### **Priority Ranking**

Survey respondents took part in a ranking exercise to identify top priorities related to bicycle and pedestrian improvements. Options included *Health and Well-Being, Multi-Modal Options, Economic Growth, Equity, Connectivity, Environmental Protection, Tourism,* and *Safety.* Among the eight choices, *Safety* was overwhelmingly ranked the top priority. *Health and Well-Being* was also indicated as a strong priority. Though *Tourism* and *Environmental Protection* received the two lowest average rankings.

### **Project Types**

The survey also asked respondents to rate the various project types within the categories of improvements, including *Bicycle Facilities*, *Pedestrian Facilities*, *Amenities*, and *Green Design*.

Within the *Bicycle Facilities*, respondents rated *Multi-Use Paths* as being the most preferred and important facility type, while *Sharrows* were rated the least preferred. *Multi-Use Paths* were also the highest rated option among *Pedestrian Facilities*, followed by *Sidewalks*. While to a slightly lesser extent, spot improvements like *Crosswalks* and *Curb Ramps* were also rated highly. The facility choices and comments reinforce a desire for safe infrastructure that dedicates space for walking and bicycling. Some comments did, however, question whether the Town would have enough right-of-way for the desired facilities.

The survey also asked respondents to rate potential *Amenities*. *Lighting* received the highest average rating, though comments indicate a desire for lighting solutions that are environmentally conscious and minimize light pollution. *Wayfinding Signage* and *Benches* were also indicated as priorities. Within *Green Design* considerations, the most preferred elements were *Street Trees* and *Native Plantings*. Finally, *Public Art* and *Dog Relief Stations* are other preferred improvements. *Water Fountains* were also rated highly, but respondents highlighted potential maintenance and public health challenges.

# 3.3 Public Open House

The public open house was held on Thursday, December 8, 2022 at the Nashville Town Council Chambers. The event took place from 3 PM to 7 PM, allowing flexibility for people to drop in, review the recommended projects, and share any feedback. Attendees were able to examine poster board maps and a Google Earth projection with all of the proposed projects. Copies of the draft plan were also available for review. Project consultants were present to answer any questions and to document feedback to incorporate into an updated draft plan.

The open house was attended by the Town of Nashville's planning director, project consultants, and 19 members of the public. Feedback was largely positive with comments that the recommended projects captured many of the community's bicycle and pedestrian needs. Attendees were particularly excited about the proposed Stoney Creek shared use paths and sidewalks to connect residential areas to the town center. Attendees also shared additional insights and recommendation, including the following:

- Sharrows on Eastern Ave would support cross-town travel on bicycles.
- Even with marked crosswalks on Washington St, it can be difficult to see pedestrians. Signals or signage would warn drivers and improve pedestrian safety.
- JW Glover Park is not fully paved, and the gravel surface can be difficult for those using mobility devices.
- New developments are coming to the Clarendon Dr and Birchwood Dr area, so sidewalks are important.
- More people are riding their bicycles in Nashville, so bike infrastructure is greatly needed.
- Sidewalk improvements are needed for segments between Collins St and First St on Washington St.

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# 4.0 Recommendations

Active transportation offers many benefits from shorter journeys, protecting biodiversity, less noise and air pollution, fewer emissions that warm the atmosphere, as well as improved health, and fewer financial commitments from decreased dependency on the automobile. This section describes the infrastructure improvements that are recommended to provide the Town of Nashville with a safe, accessible, and connected bicycle and pedestrian network. Section 4 proposes infrastructure and programmatic recommendations for achieving the goals and objectives of the Plan based on the review of existing conditions and input from public involvement.

# 4.1 Facility Types

Various types of active transportation facilities that improve accessibility, connectivity, and safety for pedestrians and bicyclists are listed below. These facilities fall into two main categories: spot improvements at specific locations and linear improvements along a portion of roadway or over a certain distance.

### Spot Improvements

Spot improvements address bicycle and pedestrian challenges at specific locations, such as intersections, crossings, and short gaps in an active transportation network. These types of improvements are generally low-cost and provide enhancements through surface improvements, signing, access enhancements, or functional upgrades.



### High-Visibility Crosswalk

A crosswalk is the portion of the roadway intended for pedestrians to use for crossing the street and is typically located at roadway intersections. It may be distinctly indicated for pedestrian crossing by lines or other markings on the surface. High-visibility crosswalks are crosswalks marked with diagonal or longitudinal lines parallel to traffic flow, such as the ladder, continental, or bar pair marking pattern.



### Mid-Block Crossing

Midblock crossings are typically located on low-volume, low-speed roadways and provide a safe crossing option indicated by pavement markings and/or signs.



### Rectangular Rapid Flashing Beacon (RRFB)

Rectangular rapid flashing beacons are pedestrian-activated devices used to warn and control traffic at an unsignalized location to assist pedestrians in crossing at a marked crosswalk or mid-block crossing.







### Advance Yield Here Sign and Yield Line

Advance Yield Here To (Stop Here For) Pedestrians signs are placed between 30 and 50 feet in advance of the marked crosswalk along with the stop line or "shark's teeth" yield line.

### Curb Ramp

A curb ramp provides a combined ramp and landing to accomplish a change in level at a curb between the sidewalk and the street. This element provides a transitional access between elevations for pedestrians using wheelchairs, strollers, or other devices with wheels, and must comply with ADA standards.

### Nature Based/Green Infrastructure (G.I.)

Infrastructure that supports water management through protection, restoration, or mimics the natural water cycle. This may include use of existing healthy ecosystems such as existing floodplains, wetlands, or forests or manmade protections such as increased landscaping, permeable pavement, vegetated buffers berms, bioswales, rainwater collection, or retention ponds.



### Wayfinding

Wayfinding includes comprehensive signage and/or markings to guide travelers to their destinations along preferred routes. It usually comprises four types of signs that are informational (e.g., opening hours), directional (e.g., trail route information), identification (e.g., name of a park entrance), or regulatory (e.g., restricted areas).



### Lighting Improvements

Lighting improvements for active transportation typically includes street lighting such as light poles, lampposts, streetlamps, or other raised source of light along a multi-use path or sidewalk. High-quality and well-placed lighting, including supplementing pedestrian-scale lighting at night-time crossing areas, increases safety and security for non-motorized and vehicular users. Dark sky lighting options should also be considered in response to sensitive natural areas and wildlife.

### Wayfinding and Lighting Improvements

Wayfinding signage and lighting is recommended throughout the Town as a strategy to achieve the following objectives:

- Promote the Town as a destination for walking and tourism by highlighting its assets
- Encourage walking by making the town easier to navigate
- Contribute to the Town's development projects and effort to improve walkability
- Improve the safety and overall visibility of the community through installation of lighting

Wayfinding signage should complement the Town's landscape and list nearby destinations with arrows for navigation (Figure 4-1). Walking distances may be included on the signs as space allows to further orient the pedestrian.

Lighting should consider the lamp temperature and be mindful of long-term maintenance and operation costs. Dark sky lighting options may also be an important consideration to protect against light trespass for habitat-sensitive recreation areas.



Figure 4-1. Wayfinding Signage

### Linear Improvements

Linear improvements address active transportation challenges along portions of a roadway such as sidewalks, or in some cases, as separate facilities from the roadway such as multi-use paths. These types of improvements are generally larger infrastructure projects with higher costs and longer implementation timeframes. Together, they form a network of safe transportation choices for the community.





#### Sidewalks

Sidewalks are the portion of a roadway right-of-way, beyond the curb or edge of roadway pavement, which is intended for use by pedestrians. As the primary element of the pedestrian environment, sidewalks are generally constructed of concrete, pavers, or another hard surface. The Federal Highway Administration (FHWA) and Institute of Transportation Engineers (ITE) recommend a minimum width of five feet for a sidewalk (Pedestrian and Bicycle Information Center, n.d.).

#### Shared use Path

A paved shared use path – also known as a multi-use path - is designed to meet ADA standards for use by active transportation users. The shared use path is separated from the roadway by an open space or a physical barrier, or within an independent right-of-way. They are often referred to as greenways when on an independent right-of-way or follow a utility easement.



#### Bike Lanes

Bike lanes are a designated travel lane designed exclusively for bicyclists using pavement markings and signage. Bike lanes are located alongside standard travel lanes and typically flow in the same direction as motor vehicle traffic. Bike lanes provide separation that may be preferred by cyclists; however, cyclists are still permitted to ride in the general travel lane regardless of the presence of bike lanes.



#### Sharrows

Shared lane markings, or "sharrows," are roadway markings used to communicate that the lane is a shared environment for cyclists and motorists. A sharrow communicates the legality and legitimacy of a cyclist riding in the lane and may provide a positioning recommendation for cyclists. Sharrows do not change the right-of-way of a roadway facility as cyclists are permitted to ride on any public roadway aside from highways with full control of access.



### Buffered Bike Facility

Buffered bike facilities consist of a standard bike lane with the addition of a designated buffer space separating the bicycle lane from the adjacent travel or parking lanes, providing additional space for cyclists. The buffer may consist of pavement markings or physical barriers.



### Complete Streets

### Wide Paved Shoulders

Wide paved shoulders provide a space outside of the travel lanes that a cyclist may choose to ride if they wish to ride separately from other traffic. This may result in more predictable riding behavior and increased comfort levels for cyclists and motorists. Space permitting, rumble strips may be placed between the travel lane and paved shoulder to provide greater protection for cyclists.

NCDOT adopted a "Complete Streets" policy in 2009, that was updated in 2019. The Complete Streets Policy considers and incorporates all modes of transportation when building new projects or making improvements to existing infrastructure. Complete Streets are designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists, and individuals of all ages and capabilities.<sup>10</sup> NCDOT has developed the P6.0 Complete Streets Project Sheet, which will require project submitters to note multimodal elements that are to be evaluated as a part of the proposed transportation project. If no multimodal facilities are to be evaluated with the proposed project, the sheet requires the project submitter to document why they are not to be evaluated.

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

<sup>&</sup>lt;sup>10</sup>NCDOT Complete Street Planning and Design Guidelines at <u>https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx</u>

### Green Streets and Nature-Based Solutions

### Green Infrastructure and Resiliency

Developed areas with impermeable surfaces, such as pavement and building materials, prevent rainwater from recharging groundwater and exacerbate stormwater runoff. This direct flow of stormwater into nearby waterbodies can carry pollutants and lead to erosion, flooding, and degradation of aquatic habitat and water quality. Depending on the speed and flow of the runoff, stormwater runoff can also cause property and infrastructure damage. Green infrastructure and nature-based solutions include a range of approaches for protecting and conserving natural areas. Managing stormwater can also have other benefits like lowering temperatures, increasing resilience to flooding, and providing a critical role in the local economy, environmental justice, and the fight against climate change. The approaches that will be applicable to the Plan are briefly described below.

### Street Trees

Street trees are planted in the right-of-way and provide a buffer between the roadway and sidewalk or adjacent development. Street trees reduce stormwater runoff to roads and property as their leaves and branches absorb a portion of the water, while the tree roots and soil absorb and filter pollutants from the captured stormwater.<sup>11</sup> Street trees also provide shade and lower the area temperature, minimizing the urban heat island effect and creating a more pleasant environment for walking and bicycling.

### Native Landscaping

Trees, shrubs, and other plantings that are native to the ecosystem help promote evapotranspiration, which reduces the amount of stormwater runoff or flooding. Landscaping also helps absorb pollutants while providing a habitat for flora and fauna. Native landscaping solutions also enhance the pedestrian experience, providing a buffer between active transportation routes and the roadway.

### Bioswales and Bioretention Cells

Bioswales are low maintenance, linear landscaped depressions or





channels designed to capture and treat stormwater. They are low impact developments that typically contain mulch, native plants, and may feature drought tolerant plants.<sup>12</sup> These bioretention systems

<sup>&</sup>lt;sup>11</sup> EPA: Stormwater Trees Technical Memorandum at <u>https://www.epa.gov/sites/default/files/2016-</u> <u>11/documents/final\_stormwater\_trees\_technical\_memo\_508.pdf</u>

<sup>&</sup>lt;sup>12</sup> EPA: Enhancing Sustainable Communities with Green Infrastructure at <u>https://www.epa.gov/sites/default/files/2016-</u>08/documents/green-infrastructure.pdf

contain gently sloped sides that direct water into the depression for the slow absorption of water and pollutants. They are engineered and constructed to ensure adequate percolation and filtration of captured runoff.

### **Riparian Buffers**

Riparian buffers (also called greenbelts) are undeveloped areas adjacent to bodies of water, typically consisting of native plantings and shrubs. They help capture runoff by increasing stormwater infiltration into soil, stabilizing soils, reducing shoreline erosion, and providing increased wildlife habitat. These are measures that can be taken along active transportation routes that align with the Town's flood-prone areas.

### Permeable Pavement

An environmentally friendly alternative to traditional asphalt or concrete, permeable pavement helps reduce stormwater runoff, recharges groundwater, and traps suspended solids and pollutants. It also reduces the heat island effect as well as the need for traditional engineered infrastructure – or gray infrastructure – like retention basins and water collection areas.<sup>13</sup>

### Recycled Materials

Recycled materials can serve as cost-effective biofilters, which are added to infrastructure like bioswales to filter pollutants out of the stormwater runoff. The recycled materials are not only an affordable solution, but they reduce the carbon footprint of infrastructure improvements.<sup>14</sup>

## 4.2 Prioritization

Proposed projects were developed with input from the Steering Committee, the public, and the Town. Documents reviewed include the Town of Nashville Pedestrian Plan (2008) and Rocky Mount Urban Area Comprehensive Transportation Plan (2016). These plans include projects that were previously recommended but not yet implemented. Proposed projects were vetted through the Steering Committee and public and then prioritized using the methodology below. The prioritization in this Plan should generally be followed as it reflects Steering Committee input and community feedback captured during Steering Committee meetings and the online survey. This should not, however, prevent the Town from implementing pedestrian and bicycle improvements as opportunities present themselves. The prioritization results in this section are meant to serve as a general guide, but there may be opportunities to carry out projects in an order different from how they have been prioritized.

The National Cooperative Highway Research Program (NCHRP) Report 803: Pedestrian and Bicycle Transportation Along Existing Roads - ActiveTrans Priority (APT) Tool Guidebook (2015) was used to identify factors that are often considered when prioritizing pedestrian and bicycle projects. Based on the Town's values and needs, four key factors were selected to prioritize projects: Safety, connectivity, demand, and ease of implementation. Each linear pedestrian and bicycle project received a score indicating a low (1), moderate (2), or high (3) degree of impact and relevance to each prioritization factor (see section 4.1 Facility Types). Table 4-1 outlines the scoring, factors, and variables used to prioritize projects. Spot projects were not scored as many would follow the implementation of linear projects and

<sup>&</sup>lt;sup>13</sup> Green Building Alliance: Permeable Pavement at https://www.go-gba.org/resources/green-building-methods/permeable-pavements/

<sup>&</sup>lt;sup>14</sup> UMN Center for Transportation Studies: Recycled materials are a cost-effective option for stormwater control: https://www.cts.umn.edu/news/2022/february/stormwater

also do not fit within scoring factors like safety or connectivity without being attached to a linear project (i.e., bike racks). Spot projects that are not attached to linear projects should be implemented based on Town capacity and resource availability.

Scores from linear projects were combined to yield a total corridor score, which was used to rank corridors from highest priority to lowest priority. Corridors were prioritized, rather than each individual linear project, to identify high-need areas of the Town; However, high scoring individual projects can be prioritized for implementation within each corridor. A list of all the individual scores for linear project can be found in Appendix D.

Scoring	Factors	Variables
	Safety	<ul> <li>Public feedback</li> <li>Total bicycle/pedestrian crashes</li> <li>Posted speed limits</li> <li>AADT counts</li> </ul>
Low: 1 Moderate: 2	Connectivity	<ul><li>Connection to existing facilities</li><li>Connection to new developments</li><li>Public feedback</li></ul>
High: 3	Demand	<ul> <li>Proximity to community services</li> <li>Steering Committee and public feedback</li> <li>Inclusion in Rocky Mount Urban Area CTP</li> </ul>
	Ease of Implementation (lack of constraints)	<ul><li>Available right-of-way</li><li>Length/scale of project</li><li>Utility relocation</li></ul>

Table 4-1. Prioritization Methodology

### **Prioritization Results**

The results of the prioritization process for all corridors with proposed projects are in Table 4-2. The projects are organized by highest to lowest prioritization score and rank.

Table 4-2. Prioritization Results by Corridor

Ranking	Corridor	Projects	Prioritization Score	
1	Washington St	Sidewalks, crosswalks, crossing island, shared use path, sharrows, bike rack	66	
2-3*	Western Ave	Sidewalks, crosswalk, sharrows	34	
2 0	Alston St	Sidewalk, crosswalks, shared use path, sharrows, bike rack	01	
4	First St	Sidewalk, crosswalks, shared use path, sharrows	26	
5	Barnes St	Sidewalk, crosswalks, sharrows, bike rack	22	
6	Stoney Creek Trail	Shared use paths	16	
7	Clarendon Dr	Sidewalks, railroad crossing improvements	15	

Ranking	Corridor	Projects	Prioritization Score
8-9	Brooklyn Blvd	Sidewalks	14
0.5	Sixth St	Sidewalks	17
10	JW Glover Park	Shared use path, bike racks	13
11	Eastern Ave	Sharrows, crosswalk	11
12-13	Cross St	Crosswalk, sharrows	9
12 15	Church St	Crosswalks, sharrows, bike rack	5
	Elm St	Sidewalk	
14-17	Fort St	Sidewalk	8
14 17	Birchwood Dr Sidewalk, crosswalks		0
	Womble Rd	Sidewalk	
	Vernon St	Sidewalk	
18-21	Brake St	Sidewalk	
	Aviation Ave	Sidewalk	7
	Old White Oak Rd	Sidewalks, railroad crossing improvements	
	Southside Dr	Sidewalk	
22-23	Womble and First St Connector	Shared use path	6
24-25	Birchwood and Woodfield Connector	Shared use path	5
24-23	Barnes and Boddie Connector	Shared use path	5
26	Aviation and N First Connector	Shared use path	4
	Virginia Ave	Crosswalks	
27-30	Green St	Crosswalk	- Not scored as all
27-30	Boddie St	Crosswalk	are spot projects
	Lumber St	Curb ramp	projecta

\*Corridors with the same prioritization score are grouped and ranked as a flexible range.

# 4.3 Cost Estimates

Costs for recommended pedestrian infrastructure projects were primarily estimated using NCDOT's Bicycle and Pedestrian Cost Estimation (BPCE) Tool. The Pedestrian and Bicycle Information Center (PBIC)'s report titled *Costs for Pedestrian and Bicyclist Infrastructure Improvements* and the capital costs from similar projects were used to estimate costs for project types not included in the BPCE tool.<sup>15</sup>

### Data Sources

The BPCE tool was adopted in July 2019 to assist NCDOT divisions, MPOs, and Rural Planning Organizations (RPOs) in developing reasonable and comparable bicycle and pedestrian cost estimates for submittal through the Prioritization 6.0 process. The PBIC report was published in October 2013 with over 1,700 cost figures from construction and engineering bids compiled nationwide to provide cost estimates for over 70 types of bicycle and pedestrian facilities. The report provides the average, median, high, and low-cost estimates for each item. The median estimate was used for the purposes of this Plan as the average estimate may be skewed by outliers.

### Methodology

The BPCE tool was used to estimate costs for sidewalks and shared use paths. The PBIC report was used to estimate costs for crosswalks, railroad crossing improvements, signage, bicycle improvements (linear and spot), and lighting. The linear costs reported in this Plan include design, permitting, utility relocation, and construction. The projects are anticipated to be primarily implemented within existing right-of-way, and the costs associated with any additional right-of-way needed for these projects are estimates.

Estimated costs were adjusted to 2022 dollars by using an annual inflation factor of 3.5 percent. BPCE tool costs were provided in 2019 dollars and PBIC estimates provided in 2013 dollars. The costs are approximate and subject to change based on the current price of materials and labor. They are dependent on the actual conditions which will be determined during the planning and engineering phases. The estimates provided are intended to serve as a relative guide for a rough order of cost magnitude.

Results for the cost estimates can be found in Section 4.4, after each proposed project. Infrastructure projects are recommended for the Town of Nashville to improve pedestrian safety, connectivity, and mobility. These projects contain various land uses, community assets, and roadway characteristics; taken together, the projects proposed within these planning corridors will encourage pedestrian connectivity and improved multimodal access throughout the Town. Project recommendations include improvements such as the installation of sidewalks, shared use paths, pedestrian signage, and pavement markings. In cases where they are not yet implemented, curb ramps compliant with ADA are recommended at intersections and crossings, but due to scale, are not shown on the figures. The projects are organized by corridor and focus on addressing the needs and challenges of the Town's top ranked projects. Pedestrian policies and programs are also recommended and are intended to work in tandem with these infrastructure projects, see Section 4.5.

#### Assumptions and Disclaimers

These estimates are intended for use as an aid to estimating project costs for pedestrian and active transportation projects associated with P6.0. This methodology should not be used to estimate projects of other modes (roadways or other). The tool contains estimations for design services, utilities, rights-of-way, and construction with contingencies based on limited project knowledge and inputs. Due to the conceptual nature of project descriptors, the accuracy of cost estimates will be limited. More accurate

<sup>&</sup>lt;sup>15</sup> PBIC receives funding from FHWA and is part of the University of North Carolina Highway Safety Research Center.

cost estimates would result from an engineering feasibility study project. Estimated cost outputs are designed to assume federal transportation funding is used in compliance with all federal transportation regulations and FHWA-approved NCDOT Local Programs Management Office oversight requirements in place as of the date of this tool's publication.

## 4.4 Recommended Infrastructure Improvements

Figure 4-2 includes all the recommended facilities and improvements for the pedestrian and bicycle network in the Town of Nashville. Recommended facilities include new sidewalks, shared lane bicycle markings (sharrows), shared use paths, and spot projects such as intersection pedestrian improvements and bike racks. These proposed projects were identified through consultation with the Steering Committee, public meetings, surveys, and through GIS analysis of existing sidewalk coverage and pedestrian crash data. All projects are intended to provide safe connections between origins and destinations within the Town while promoting exercise and mobility. All pedestrian and bicycle facility recommendations along NCDOT maintained roadways will require coordination with NCDOT Highway Division 4 as part of implementation.



Figure 4-2. Recommended Projects

### Sidewalk Recommendations

Recommended sidewalk improvements were identified through collaboration with the Steering Committee and public, as well as through a thorough review of documents like the Rocky Mount Urban Area CTP and an analysis of existing conditions and needs. Recommended sidewalks would improve pedestrian connectivity in the Town, providing pedestrian access from neighborhoods to and from community features including downtown, parks, businesses, and areas where businesses are clustered. These recommendations were selected to expand the existing sidewalk network, address safety concerns, and to better connect destinations and neighborhoods.

In addition to the location and extents of the sidewalk recommendations, additional recommendations that relate to all sidewalk recommendations include:

- Sidewalks in Nashville should be at least 5 feet wide, and, where possible, should include a landscaped buffer of 1 foot or 6 feet with trees/shrubs between the sidewalk and roadway.
- Drainage improvements may be necessary additions to a sidewalk project based on engineering assessment and existing conditions and nature-based solutions should be considered.
- Areas of higher pedestrian volume may require greater width. Two people should be able to walk side-by-side and pass a third comfortably. Different walking speeds should be possible.

All sidewalks would be required to meet ADA minimum standards. In addition, NCDOT requires that any sidewalk project that would cross an intersection with signalized intersection would require signal plans to be revised, and that those projects must have funding in place to install the upgraded signalization.

Recommended sidewalks improvements are described in Table 4-3 and shown in Figure 4-3.

Map Label	Street Name	Recommendation	From	То	Length (ft)	Cost
1A	Birchwood Dr	Sidewalk on north side of Birchwood Dr	S First St	Clarendon Dr	6,141	\$1,469,051
2A	Clarendon Dr	Sidewalk on west side of N Clarendon Dr	E Washington St	Red Oak Rd	2,244	\$709,579
2B	Clarendon Di	Sidewalk on east side of S Clarendon Dr	Birchwood Dr	E Washington St	1,098	\$315,985
ЗА		Sidewalk on north side of Western Ave	Lakeview Dr	Barnes St	3,401	\$853,713
ЗB	Western Ave	Sidewalk on north side of Western Ave	US 64E	Lakeview Dr	2,146	\$548,815
ЗC		Sidewalk on south side of Western Ave	Barnes St	W Cross St	356	\$133,046
4A	Barnes St	Sidewalk on east side of Barnes St	W Railroad St	W Cross St	535	\$166,308
5A	Old White Oak Rd	Sidewalk on north side of Old White Oak Rd	Barnes St	-	3,311	\$1,020,020
6A	Elm St	Sidewalk on north side of E Elm St	N Alston St	N Collins St	318	\$127,503
7A	Fort St	Sidewalk on <b>west</b> side of S Fort St	E Church St	Center St	442	\$160,764
8A	Alston St	Sidewalk on west side of S Alston St	Cooke Rd	Sixth St	2,004	\$465,662
9A	Vernon St	Sidewalk on south side of E Vernon St	S Alston St	Brooklyn Blvd	797	\$249,462

Map Label	Street Name	Recommendation	From	То	Length (ft)	Cost
10A	Brooklyn Blvd	Sidewalk on east side of Brooklyn Blvd	Meadow Park Dr	Sixth St	892	\$271,636
10B	BIOOKIYII BIVU	Sidewalk on east side of Brooklyn Blvd	Sixth St	E Railroad St	888	\$266,092
11A	Sixth St	Sidewalk on south side of Sixth St	Brooklyn Blvd	Existing	133	\$88,697
11B	Sixtin St	Sidewalk on south side of Sixth St	Existing	Brooklyn Blvd	396	\$149,677
12A	Brake St	Sidewalk on west side of Brake St	Sixth St	Southside Dr	1,381	\$382,508
13A	Southside Dr	Sidewalk on north side of Southside Dr	Southside Dr	Brake St	184	\$99,785
14A	First St	Sidewalk on west side of N First St	E Washington St	E Elm St	420	\$149,677
15A	Aviation Ave	Sidewalk on east side of Aviation Ave	E Washington St	-	1,732	\$460,118
16A	Washington St	Sidewalk on north side of W Washington St	Evans Dr	US 64	795	\$243,918
16B	Washington St	Sidewalk on north side of W Washington St	US 64	-	986	\$260,549
30A	Womble Rd	Sidewalk on east side of Womble Rd	Mulberry Rd	Cottonwood Rd	2,221	\$576,533

Note that cost estimates are rounded to the nearest dollar



Figure 4-3. Sidewalk Projects

### Sidewalk Repair Recommendations

Completing an analysis of the existing sidewalk network revealed segments that require maintenance. Table 4-4 identifies areas with damage and other challenges that may interfere with safe and comfortable access. The Plan recommends that improvements be made to the identified sidewalk segments as resources allow.

Barnes StW Church StW Washington StCross StBarnes StS Alston StChurch StBarnes StS Boddie StChurch StBarnes StS Boddie StWashington StEvans DrTriangle CtWashington StN Collins StN Lumber StBrnes StN Soddie StN Alston StElm StS Boddie StOak StCollins StOak StE Elm StCollins StE Church StE Cedar StAlston StE Elm StE Railroad StAlston StS Sollins StS Fort StGreen StS Collins StS Fort StJoyner StE Green StS First StPark AveJoyner StS First StFort StCenter StS First StStat Off StS First StFort StScollins StS Firs	Street	From	То
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Church StBarnes StS Boddie StWashington StEvans DrTriangle CtWashington StN Collins StN Lumber StElm StN Boddie StN Alston StElm StCollins StOak StCollins StE Elm StE Cedar StAlston StSixth StE Railroad StAlston StS Collins StS Fort StGreen StS Collins StS Fort StVirginia AveS Alston StS First StPark AveJoyner StS First StFort StConter StS First StFort StConter StS First StFort StSonger StS First StFort StConter StS First StFort StConter StS First StFort StConter StS First StFort StConter StS First StFort StSten StS Fi	Dames St	W Cross St	W Church St
Washington StEvans DrTriangle CtN Collins StN Lumber StHB StN Boddie StN Alston StElm StN Collins StOak StCollins StE Church StE Elm StElm StE Church StE Cedar StAlston StSixth StE Railroad StGreen StS Collins StS Fort StVirginia AveS Alston StS First StPark AveJoyner StSonger StFort StCenter StS First StFort StSonger StS First StFort StSonger StS First StFort StCenter StS First StFort StCenter StE Washington St	Cross St	Barnes St	S Alston St
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Elm StN Collins StOak StCollins StE Church StE Elm StCollins StE Elm StE Cedar StAlston StSixth StE Railroad StAlston StS Collins StW Cedar StGreen StS Collins StS Fort StVirginia AveS Alston StS First StJoyner StL Green StVirginia AvePark AveJoyner StS First StFort StCenter StE Washington St	washington St	N Collins St	N Lumber St
N Collins StOak StCollins StE Church StE Elm StE Church StE Cedar StE Elm StE Cedar StAlston StSixth StE Railroad StM Elm StW Cedar StGreen StS Collins StS Fort StVirginia AveS Alston StS First StJoyner StE Green StVirginia AvePark AveJoyner StS First StFort StCenter StE Washington St		N Boddie St	N Alston St
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Virginia AveS Alston StS First StJoyner StE Green StVirginia AvePark AveJoyner StS First StFort StCenter StE Washington St	AISTON ST	W Elm St	W Cedar St
Joyner StE Green StVirginia AvePark AveJoyner StS First StFort StCenter StE Washington St	Green St	S Collins St	S Fort St
Park AveJoyner StS First StFort StCenter StE Washington St	Virginia Ave	S Alston St	S First St
Fort St Center St E Washington St	Joyner St	E Green St	Virginia Ave
	Park Ave	Joyner St	S First St
	Fort St	Center St	E Washington St
Center St S First St S Fort St	Center St	S First St	S Fort St
W Washington St Vale St	Doddio St	W Washington St	Vale St
Boddie St W Railroad St W Cross St		W Railroad St	W Cross St
Brake St/First St Sixth St Virginia Ave	Brake St/First St	Sixth St	Virginia Ave
First St Galatia St Birchwood Dr	First St	Galatia St	Birchwood Dr
Hillard St E Church St E Washington St	Hillard St	E Church St	E Washington St

Table 4-4. Sidewalk Repair Recommendations

### **Bicycle Recommendations**

Proposed bicycle improvements were identified through work with the steering committee, public input, and through a review of recommendations included in the Rocky Mount Urban Area CTP. The proposed bicycle projects primarily focus on connecting riders to recreational spaces like the JW Glover Park and Stoney Creek Trails, as well as to schools and other destinations within the Town core.

Given right-of-way limitations in the Town center, pavement marking sharrows are recommended to promote driver awareness and greater road safety for bicyclists (see Section 4.1). Sharrows are also recommended on higher traffic and higher speed roads leading in and out of the Town. Where possible, shared use paths have been recommended to accommodate both bicycles and pedestrians. Information on shared use projects can be found in the following section. Recommended bicycle projects are described in Table 4-5 and shown in Figure 4-4.

Map Label	Street	Recommendation	From	То	Length (ft)	Cost
3D	Western Ave	Sharrows on Western Ave	US 64	Barnes St	7,176	\$15,648*
4D	Barnes St	Sharrows on Barnes St	W Cross St	W Washington St	2,089	\$4,555
8C		Sharrows on S Alston St	W Cross St	W Church St	2,052	\$4,475
8D	Alston St	Sharrows on N Alston St	E Washington St	W Cedar St	896	\$1,954
14B	First St	Sharrows on S First St	W Washington St	E Railroad St	2,000	\$4,361
14J	Flist St	Sharrows on S First St	E Railroad St	Glover Park Memorial Dr	4,361	\$9,510
16F		Sharrows on E Washington St	Barnes St	S First St	2,596	\$5,661
16G	Washington St	Sharrows on W Washington St	Stoney Creek	Barnes St	1,407	\$3,068
16Q		Sharrows on E Washington St	Oak St	Macon Dr	3,195	\$6,967
17A	Church St	Sharrows on Church St	Barnes St	S First St	2,532	\$5,521
18A	Cross St	Sharrows on Cross St	Barnes St	S First St	2,586	\$5,639
29A	Eastern Ave	Sharrows on Eastern Ave	Macon Dr	Regency Dr	6,558	\$14,301

#### Table 4-5. Recommended Bicycle Projects

Note that cost estimates are rounded to the nearest dollar

\*All sharrow costs assume markings every 100 feet



Figure 4-4. Bicycle Projects

### Shared Use Path Recommendations

A shared use path is designed to be used by both bicyclists and pedestrians (see Section 4.1). Recommended shared use paths were identified in collaboration with the steering committee and through public engagement. With several additions, the shared use path recommendations within this Plan also align with those included in the Rocky Mount Urban Area CTP. Shared use paths are proposed along the Stoney Creek Trails and in areas where bicycle and pedestrian connections could support safer and more efficient access to destinations across Town.

Recommended shared use path improvements are described in Table 4-6 and shown in Figure 4-5.

Map Label	Street	Recommendation	From	То	Length (ft)	Cost
8A	Alston St	5-foot shared use path on west side of N Alston St	E Cedar St	Stoney Creek Trail	1,598	\$471,205
14C	First St	5-foot shared use path on east side of First St Ext	Indian Trl	-	3,741	\$1,480,138
16C		5-foot shared use path on south side of E Washington St	Club Dr	S Clarendon Dr	1,716	\$670,774
16E	Washington St	5-foot shared use path on south side of E Washington St	Eastern Ave	Club Dr	1,449	\$465,662
19A	-	5-foot shared use path Birchwood and Woodfield Connector	Birchwood Dr	Woodfield Dr	681	\$249,462
20A	-	5-foot shared use path Barnes and Boddie Connector	Barnes St	Boddie St	512	\$205,113
21A	-	10-foot shared use path Aviation and N First Connector	Aviation Ave	N First St	559	\$343,703
23A	Stoney Creek	10-foot shared use path on Stoney Creek Trail to the north of Washington St	Stoney Creek	< Trail	26,337	\$13,498,640
23B	Trail	10-foot shared use path on Stoney Creek Trail to the south of Washington St	Stoney Creek	< Trail	10,005	\$4,939,338
24A	-	10-foot shared use path between Southside Dr and JW Glover Park	Southside Dr	JW Glover Park	1,477	\$753,928
24D	-	10-foot shared use path along JW Glover Park to replace gravel path	-	-	1,306	\$765,015
25A	-	10-foot shared use path between Womble Rd and First Street Ext	Womble Rd	First St Ext	920	\$1,275,026

Table 4-6. Recommended Shared Use Path Projects

Note that cost estimates are rounded to the nearest dollar



Figure 4-5. Shared Use Path Project

### Spot Projects

The purpose of a spot improvement is to address bicycle and pedestrian challenges at specific locations, such as intersections, crossings, and short gaps in a network. These types of improvements are generally low-cost and provide enhancements through surface improvements, signing, access enhancements, or functional upgrades. They can also include recommendations for specific locations of bicycle parking and bicycle repair stations.

The following spot project types are recommended in this Plan:

- Crosswalks
- Signage and signals
- Crossing islands
- Railroad Crossing Improvements
- Bike Racks

Figure 4-6 shows the location of the pedestrian and bicycle spot projects, and Table 4-7 describes the improvements.

All proposed spot improvements would be required to meet ADA standards, including ADA ramps. Any recommended midblock crossing on state roads would need to be approved by NCDOT and would require adequate sight distance to be approved. In addition, recommended crosswalks would need to have receiving sidewalks in place to be approved by NCDOT. While specific locations have not been identified as part of this Plan, pedestrian scale lighting to illuminate the crossings and sidewalks are also recommended. Based on the PBIC report, the median cost of a streetlight is \$4,906 (adjusted to 2022 dollars), but this will vary depending on the design, number, and agreement with the local utility provider.

Map Label	Street	Recommendation	Details	Cost
1B/1C	Birchwood Dr	Crosswalk over Birchwood Dr at Club Drive	Crosswalks over two legs	\$927
2C	Clarendon Dr	Crossing improvements over railroad tracks	At-grade improvements	\$68,145
ЗE	Western Ave	Crosswalk over Western Ave at Sara Dr	High-visibility crosswalk over one leg and Rectangular Rapid Flashing Beacon (RRFB)	\$23,483
4B		Bike Rack on Barnes St	In front of Nashville Town Hall	\$736
4C		Crosswalk over Barnes St at W Washington St	Crosswalk over one leg	\$463
4E	Barnes St	Crosswalk over Barnes St at Curtis St	Crosswalk over one leg and crossing sign	\$763
4F		Crosswalk over Barnes St at W Cross St	High-visibility crosswalks over two perpendicular legs	\$8,368
4G		Crosswalk over Barnes St at Western Ave	High-visibility crosswalks over one leg	\$4,184
5B	Old White Oak Rd	Crossing improvements over railroad tracks	At-grade improvements	\$68,145
8E	Alston St	Bike Rack on S Alston St	In front of Nashville Elementary School	\$736

#### Table 4-7. Spot Improvement Recommendations

Map Label	Street	Recommendation	Details	Cost
8F		Crosswalk over S Alston St at Church St	High-visibility crosswalks over two legs	\$8,368
8G		Crosswalk over S Alston St at E Green St	High-visibility crosswalks over one leg	\$4,184
8H		Crosswalk over S Alston St at E Cross St	High-visibility crosswalks over two perpendicular legs	\$8,368
81		Crosswalk over S Alston St at Virginia Ave	High-visibility crosswalks over two perpendicular legs and crossing sign	\$8,668
14D		Crosswalk over S First St at E Church St	High-visibility crosswalks over two legs	\$8,368
14E		Crosswalk over S First St at E Green St	High-visibility crosswalks over one leg	\$4,184
14F	First St	Crosswalk over S First St at E Washington St	High-visibility crosswalks over one leg	\$4,184
14G	TIISCOL	Crosswalk over N First St at E Washington St	High-visibility crosswalks over one leg	\$4,184
14H		Crossing improvements over railroad tracks	At-grade improvements	\$68,145
141		Crosswalk over S First St at Virginia Ave	High-visibility crosswalks over one leg	\$4,184
16D		Crosswalk over E Washington St at E Church St	High-visibility crosswalk over one leg and Rectangular Rapid Flashing Beacon (RRFB)	\$23,483
16H		Bike Racks (2) on W Washington St	In front of Claude Mayo, Jr. Administration Building	\$1,472
161		Crosswalk over E Washington St at Hilliard St	High-visibility crosswalks over one leg	\$4,184
16J		Crosswalk over W Washington St near Stoney Creek Trail	High-visibility crosswalk over one leg and Rectangular Rapid Flashing Beacon (RRFB)	\$23,483
16K	Washington St	Crosswalk over W Washington St at S Alston St	High-visibility crosswalks over two perpendicular legs	\$8,368
16L		Crossing improvements over railroad tracks	At-grade improvements	\$68,145
16M		Crosswalk over E Washington St at Eastern Ave	High-visibility crosswalks over one leg	\$4,184
16N		Crosswalk over E Washington St at S Clarendon Dr	High-visibility crosswalks over one leg and crossing sign	\$4,484
160		Rapid Rectangular Flashing Beacon (RRFB) over W Washington St at Drake St	Adjacent to existing crosswalk	\$19,299
16P		Crossing island and crosswalk over E Washington St at N Wheeless Dr	High-visibility crosswalks over one leg and crossing island	\$37,739
17B		Bike Racks (2) on W Church St	In front of Harold D. Cooley Library	\$1,472
17C	Church St	Crosswalk over Church St at Barnes St	Crosswalk over one leg	\$463
17D		Crosswalk over Church St at S Boddie St	Crosswalk over two perpendicular legs	\$927
18B	Cross St	Crosswalk over W Cross St at S Boddie St	Crosswalk over two perpendicular legs	\$927

Map Label	Street	Recommendation	Details	Cost
22A	Virginia Ave	Crosswalk over Virginia Ave at S Collins St	Crosswalk over one leg	\$463
22B		Crosswalk over Virginia Ave at Jones St	Crosswalk over one leg	\$463
23C	Stoney Creek Trail	Bike Racks (2)	Near Stoney Creek Trailheads	\$1,472
24B	Glover Park	Bike Rack	Near JW Glover Park	\$736
24C	Memorial Drive	Bike Racks (3)	Near Nash Central Middle School	\$2,208
26A	Green St	Crosswalk over E Green St at S Collins St	Crosswalk over one leg and crossing sign	\$763
27A	Lumber St	Curb ramp at intersection of S Lumber St and E Church St to meet ADA standards	Two curb ramps	\$2,017
28A	Boddie St	Crosswalk over S Boddie St at W Green St	Crosswalk over one leg	\$463
29B	Eastern Ave	Crosswalk over Eastern Ave at S Eastpoint Ave	High-visibility crosswalks over one leg and two pedestrian signals	\$6,855

Note that cost estimates are rounded to the nearest dollar



Figure 4-6. Spot Improvement Projects

### Sample Corridor Projects

The following pages outline four corridors in plan-view concepts and photosimulations, depicting recommended pedestrian and bicycle improvements to enhance mobility, access, and safety for in the Town. The projects are shown at the corridor level and are representative of improvements in different environments throughout the Town (e.g., residential, downtown, highway business). The depicted corridors were also identified as priority areas through public input from the online survey and public involvement event, in consultation with the Steering Committee and Town Staff, and to meet on-going bicycle and pedestrian facility development goals.

The photosimulations and plans represent recommended projects, but feasibility studies and other preparatory work should be done to consider the existing conditions and address any challenges as the projects are further developed for implementation (see Section 5.2).
### Western Avenue

#### **Existing Conditions**

Western Avenue (US Highway 64 Alternate) is one of the more heavily travelled roadways connecting U.S. 64 to the Town center. The 2020 AADT on the minor arterial is 3,400 and the speed limit transitions from 55 mph to 35 mph as the road approaches the Town. Although there is no pedestrian infrastructure, residents from nearby developments reportedly walk along the roadway to reach destinations within the Town core.

#### Challenges

There are several residential driveways and intersecting local roads along the corridor. These factors will need to be taken into consideration when designing pedestrian improvements, including the proposed sidewalks. Existing utility infrastructure and stormwater management needs should also be considered.

#### **Recommended Improvements**

Western Avenue connects several residential developments to the Town center, and active transportation enhancements would promote connectivity, community vibrancy, and health among residents seeking to access popular destinations like the Farmers' Market. Sidewalks are proposed along the corridor from Barnes Street to the US 64 interchange, prioritizing the segment between Lakeview Drive and Barnes Street. These sidewalk recommendations are consistent with those identified in the Rocky Mount Urban Area CTP. A crosswalk at Sara Drive can allow residents on the other side of the roadway to access the sidewalk. Sharrows can alert drivers to potential bicyclists and improve safety for both sides. Improvements to the eastern side of the roadway can be seen in Figure 4-7. The existing conditions and example renderings of recommended improvements can be seen in Figure 4-8 and Figure 4-9, respectively.



Figure 4-7. Western Avenue

# Project Details

Projects	Cost Estimate
Sidewalk on north side of Western Ave between Lakeview Dr and Barnes St	\$853,713
Sidewalk on south side of Western Ave at Barnes St and W Cross St	\$133,046
Sidewalk on north side of Western Ave between US 64E and Lakeview Dr	\$548,815
Sharrows on US 64A/Western Ave from US 64 to Barnes St	\$15,648
Crosswalk over Western Ave at Sara Dr	\$23,483
Total:	\$1,574,705

Note that cost estimates and totals are rounded to the nearest dollar



Figure 4-8. Existing Conditions Along Western Avenue



Figure 4-9. Western Avenue EXAMPLE Rendering

## Barnes Street

### **Existing Conditions**

Barnes Street is a key corridor along the perimeter of Nashville's Town core. A portion of the street is an extension of US Highway 64 Alternate that connects to other major roadways leading into the Town, like West Washington Street/NC 58. The 2020 AADT on the minor arterial portion of the street between Western Avenue and West Washington Street was 4,700. The local road segment from West Railroad Street to Western Avenue had an AADT of 700. The speed limit along the entire road is 35 mph.

The street is lined with government and commercial spaces and is well travelled by pedestrians. While most of the street has sidewalk on the eastern side, several areas require improvement. Furthermore, there is no sidewalk past West Cross Street, despite the segment leading up to the very popular Nashville Farmers' Market.

## Challenges

There may be minimal right-of-way constraints in portions of the project segment. The Farmers' Market driveway and vehicle access will also need to be considered when implementing the project.

#### **Recommended Improvements**

Given the popularity of the Farmers' Market, the sidewalk is proposed to extend the existing infrastructure from West Cross Street to West Railroad Street. In addition, recognizing the street's role as an access point to the Town center, crosswalks are proposed at West Cross Street, Western Avenue, and Curtis Street to ensure pedestrians can safety walk into the Town. Sharrows are recommended along the entire length of Barnes Street to alert drivers to potential bicyclists on the road. The corridor improvements are shown in Figure 4-10. The existing conditions and example renderings of recommended improvements can be seen in Figure 4-11 and Figure 4-12, respectively.



Figure 4-10. Barnes Street

# Project Details

Projects	Cost Estimate
Sidewalk on east side of Barnes St between W Railroad St and W Cross St	\$166,308
Sharrows on Barnes St between W Cross St and W Washington St	\$4,555
Bike Rack on Barnes St	\$736
Crosswalk over Barnes St at W Washington St	\$463
Crosswalk over Barnes St at Curtis St	\$763
Crosswalk over Barnes St at W Cross St	\$8,368
Crosswalk over Barnes St at Western Ave	\$4,184
Total:	\$185,378

Note that cost estimates and totals are rounded to the nearest dollar



Figure 4-11. Existing Conditions along Barnes Street



Figure 4-12. Barnes Street EXAMPLE Rendering

# Washington Street

## **Existing Conditions**

Washington Street is the main thoroughfare that passes through the heart of Nashville. The road connects people to US 64, the downtown, commercial developments and to residential areas. The portion of the roadway that passes through the downtown area has an existing network of sidewalk on both sides and related pedestrian amenities such as crosswalks. The existing sidewalk ends as Washington Street intersects with Eastern Avenue and begins to move into more residential areas. Currently, there is no bicycle infrastructure along the corridor. Speed limits range from 20 mph in the downtown to 55 mph in areas moving out of the Town. The 2020 AADT also varies, ranging from 10,000 in the Town center to 3,300 near the Town limits. Residents report that the roadway still poses a challenge to bicycle and pedestrian activity despite the existing infrastructure.

## Challenges

Washington Street is a long corridor with a range of existing and needed bicycle and pedestrian infrastructure. Each segment has its own unique challenges. The eastern portion of the roadway crosses the railroad tracks, presenting significant right-of-way and safety improvement needs. The western segment of the roadway approaches US 64 and is a four-lane roadway with high traffic counts. Nevertheless, West Washington Avenue also grants access to the Stoney Creek Environmental Park and draws pedestrians seeking to enjoy the park and trails.

#### **Recommended Improvements**

Figure 4-13 highlights recommendations for the western segment of the roadway. Sharrows are recommended to connect residents to the Stoney Creek Environmental Park, sidewalk is recommended to continue the existing network under and across the interchange. Finally, crossing improvements like crosswalks and signage are recommended to protect pedestrians. The existing conditions and example renderings of recommended improvements can be seen in Figure 4-14 and Figure 4-15, respectively.



Figure 4-13. West Washington Street

# Project Details

Projects	Cost Estimate
Sidewalk on north side of W Washington St from US 64	\$260,549
Sidewalk on north side of W Washington St between Evans Dr and across US 64	\$243,918
Shared use path on south side of E Washington St between Eastern Ave and Club Dr	\$465,662
Shared use path south side of E Washington St between Club Dr and S Clarendon Dr	\$670,774
Sharrows on W Washington St between Stoney Creek and Barnes St	\$3,068
Sharrows on E Washington St between Oak St and Macon Dr	\$6,967
Sharrows on E Washington St between Barnes St and S First St	\$5,661
Bike rack on W Washington St and N Boddie St	\$1,472
Crosswalk over E Washington St at E Church St	\$23,483
Crosswalk over E Washington St at Hilliard St	\$4,184
Crosswalk over W Washington St near Stoney Creek Trail	\$23,483
Crosswalk over W Washington St at S Alston St	\$8,368
Crossing improvements over railroad tracks	\$68,145
Crosswalk over E Washington St at Eastern Ave	\$4,184
Crosswalk over E Washington St at S Clarendon Dr	\$4,484
Rapid Rectangular Flashing Beacon (RRFB) over W Washington St at Drake St	\$19,299
Crossing island and crosswalk over E Washington St at N Wheeless Dr	\$37,739
Total:	\$1,851,438

Note that cost estimates and totals are rounded to the nearest dollar



Figure 4-14. Existing Conditions Along West Washington Street



Figure 4-15. West Washington Street EXAMPLE Rendering

# Birchwood Drive

## **Existing Conditions**

Birchwood Drive serves a residential community in the Town of Nashville. The two-lane road is lined by single family homes and green space. Presently, there is no pedestrian infrastructure, but public input indicates a need for sidewalks to accommodate people walking to nearby areas like the JW Glover Park. Data from the NCDOT Bicyclist and Pedestrian Crash Map indicate that there may have been a previous pedestrian injury along the road.

## Challenges

There are many residential driveways along Birchwood Drive. There may be minimal right-of-way and utility relocation needs. Stormwater management should also be considered as more impermeable surfaces are added.

## Recommended Improvements

A sidewalk is recommended along the northern portion of the roadway. Crosswalks are also recommended near Club Drive to ensure that pedestrians can safely cross the intersecting roadway. Recommended improvements are shown in Figure 4-16. The existing conditions and example renderings of recommended improvements can be seen in Figure 4-17 and Figure 4-18, respectively.

Given the existing pedestrian traffic, road markings (sharrows) and signage may be implemented as interim steps to protect bicyclists and pedestrians until sidewalks can be constructed.



Figure 4-16. Birchwood Drive

Project Details

Projects	Cost Estimate
Sidewalk on north side of Birchwood Dr between S First St and S Clarendon Dr	\$1,469,051
Crosswalk over Birchwood Dr at Club Dr	\$463
Crosswalk over Birchwood Dr at Club Dr	\$463
Total:	\$1,469,978

Note that cost estimates and totals are rounded to the nearest dollar



Figure 4-17. Existing Conditions along Birchwood Drive



Figure 4-18. Birchwood Drive EXAMPLE Rendering

# 4.5 Recommended Active Transportation Policies and Programs

In addition to recommended infrastructure and policy improvements, the project team considered policies and programs that, if implemented, could encourage non-motorized transportation usage in the Town and improve safety conditions for bicyclists and pedestrians.

# **Recommended Policies**

The Town of Nashville's Code of Ordinances was reviewed to understand how it influences the planning of active transportation enhancements. One of the most cost-effective strategies for implementing this Plan would be to establish land development regulations and street design policies and standards that promote walkable new development and capital projects.

The consultant team reviewed regulatory and policy language from other communities in North Carolina and used best practices that provide successful land use and active transportation integration, alignment with sustainable nature-based planning in response to flooding, encourage resiliency, and promote Complete Streets. The goal is to encourage safe, alternative options to vehicular use through policy-level planning efforts. These should work in tandem with the infrastructure projects recommended throughout Section 4.4. Including safe alternative options to vehicular use can help encourage residents to walk for both transportation and leisure purposes. Redevelopment and new development permitted in the Town should provide for active transportation facilities. The Town Council can encourage pedestrian activity by adopting the policy updates as listed in Table 4-8.

Code, Ordinance, Regulation	Current Policy or Condition	Recommended Changes and Comments
Nashville Setback Chart	Highway Business (B-1) Districts require a 25- foot minimum front setback	Amend the minimum front setback zoning requirement in Highway Business Districts (B-1) to 15 feet. Require new commercial buildings to be placed close to the sidewalk and require either rear or side parking. The standard setbacks of 25 feet for commercial buildings does not create a pedestrian-friendly environment. In walkable urban environments, buildings placed at the edges of sidewalks and public spaces, rather than being set back, can greatly enhance the character of the pedestrian environment. To promote design that fosters a safe and inviting bicycle pedestrian environment, the adoption of smart growth, performance-based provisions can help create vibrant walkable communities. More information regarding smart growth codes can be found at https://www.epa.gov/smartgrowth/codes-support- smart-growth-development and
		https://formbasedcodes.org/.

Table 4-8. Recommended Policy Updates

Code, Ordinance, Regulation	Current Policy or Condition	Recommended Changes and Comments
Section 18. Division 3. Establishment of Districts	Currently only establishes a WS watershed overlay district	Create an active transportation overlay district along all linear corridors defined and mapped in the Nashville Bicycle and Pedestrian Plan (2022). See "Recommended Infrastructure Improvements" Section 4.4. This regulation is intended to require sidewalk/shared use infrastructure requirements for any new or proposed construction or reconstruction projects throughout the Town.
Section 18. Division 11. Flood Damage Prevention Ordinance	Section 18-306.(a) includes Provisions for Flood Hazard Reduction	Add provision that requires hybrid green/nature-based infrastructure and stormwater infiltration, conveyance, and storage improvements to be included on all roadway upgrades, new construction, or reconstruction to help mitigate impacts from stormwater and nuisance flooding. This may include larger-diameter gray infrastructure and combinations of green and gray infrastructure such as vegetative buffers, street trees, native vegetation, storm sewers, and culverts. This should follow FHWA's <u>Nature-based Resilience for Coastal Highways</u> guidance.
Section 18.	Section 18-137	Add provision for signage that provides wayfinding for active transportation users that should be required on construction of all active transportation facilities including greenways, shared use paths, bicycle facilities, and sidewalks.
Division 5. Signs	Section 18-138.3 outlines directional or informational signs not requiring a sign permit from the zoning administrator	Add sign permit exemption for signage that provides wayfinding for active transportation facilities, including for greenways, shared use paths, bicycle facilities, and sidewalks.
Section 18-165. Off-street parking	New Subsection	Parking lots should be located behind future developments to provide a safer entrance for pedestrians accessing the business.
Section 18-405. Minimum Design Standards: Sidewalks and walking facilities	Requires sidewalks or paved greenways to be installed by the developer on at least one side of all new streets.	Amend this section to require sidewalks or shared use paths along both sides of all new streets.
	New Subsection	Add new sub section that when an existing sidewalk or shared-use path is closed for construction or maintenance reasons – on the walkway itself or on adjacent property – an adequate detour route should be established and signed, if feasible.

Code, Ordinance, Regulation	Current Policy or Condition	Recommended Changes and Comments
Section 18-406. Minimum Design Standards: Visual and environmental landscape standards of existing trees and vegetation	ldentifies three buffer types	Amend to include new buffer type for vegetative buffering along newly constructed, developed, or re-developed sidewalks or greenways to provide increased drainage during storm or flood events, shade, and natural resource protection. Permeable pavement should also be used, where feasible, to increase drainage. This should follow FHWA's <u>Nature-based Resilience for</u> <u>Coastal Highways g</u> uidance.
Section 18-403. Minimum Design Standards: Other utility requirements	(b) Outlines street lighting requirements	Street lighting plan for new developments should require lighting along active transportation routes.

- Town of Nashville Code of Ordinances: <u>https://library.municode.com/nc/nashville/codes/code\_of\_ordinances</u>
- NCDOT Complete Streets: <u>https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx</u>
- AASHTO Guide fort the Planning, Design, and Operation of Pedestrian Facilities: <u>http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(263)</u> FR.pdf
- WalkBikeNC North Carolina Statewide Pedestrian and Bicycle Plan: <u>https://altaplanning.com/wp-content/uploads/WalkBikeNCPlanChapterslowres.pdf</u>
- FHWA Nature-based Resiliency for Coastal Highways: <u>https://www.fhwa.dot.gov/environment/sustainability/resilience/ongoing and current research/green infrastruct</u> <u>ure/implementation\_guide/fhwahep19042.pdf</u>

# **Recommended Programs**

To encourage active transportation in the Town, a series of programs can be administered to familiarize the public to multimodal activities and/or facilities. The focus is to educate both active transportation users and vehicular users while bringing awareness to proposed recommendations. Six programs that would be beneficial to the Town of Nashville are as follows:

- Active Transportation Advisory Committee
- Safety campaigns to educate pedestrians, active transportation users, and drivers
- Enhance safe access to schools
- Open streets and walking events
- Public art and environmental education
- Educate citizens on existing driving laws and speed limits

# Active Transportation Advisory Committee

The Town should consider forming an Active Transportation Advisory Committee (ATAC) to encompass all multimodal activities and for alignment with NCDOT's IMD nomenclature and multimodal directives. This committee would organize and maintain the proposed programs and identify and seek out funding sources that would help the Town achieve its goal of becoming a more walkable community.

The ATAC would serve to research funding opportunities, assist with submission of grant applications, and play a role in selecting and monitoring the work of consultants and contractors hired to design and construct pedestrian and bicyclist infrastructure. It would also serve to form partnerships between schools, businesses, and neighboring municipalities. The ATAC should continue to meet regularly and provide updates to the Town Council. In addition to helping implement proposed projects, the Town Commissioners and ATAC should promote education, safety, encouragement, enforcement and evaluation, events, and beautification programs.

# Safety Campaigns to Educate Pedestrians, Active Transportation Users, and Drivers

Watch for Me NC is a comprehensive campaign aimed at reducing the number of active transportation users hit and injured in crashes with vehicles. The campaign consists of educational messages on traffic laws and safety, and an enforcement effort by area police. With more than 3,000 pedestrians and 850 bicyclists hit by vehicles each year in North Carolina, NCDOT in collaboration with municipalities and universities has launched the Watch for Me NC campaign to reduce crashes through education and enforcement. Educational materials in the form of a website, public service announcements, pamphlets, bus wraps, billboards, and bumper stickers have been developed and distributed to increase awareness of pedestrians and bicyclists and



applicable laws. Many of the materials can be distributed at local festivals, events, and at local businesses. The campaign also provides increased training to law enforcement. Many of these resources are downloadable from Watch for Me NC at: <u>http://www.watchformenc.org/</u>.

# Enhance Safe Access to Schools

Safe Routes to School (SRTS) is a program that enables and encourages children to walk and bike to school. The program helps make walking and bicycling to school a safe and more appealing method of transportation for children. SRTS facilitates the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

Active Routes to School is the North Carolina SRTS project that is supported by a partnership between NCDOT and the Division of Public Health. The goal of the project is to increase the number of North Carolinians that meet the physical activity recommendations by increasing the number of elementary and middle school students who safely walk and bike to or from school. More information on SRTS can be found at: <u>https://www.ncdot.gov/initiatives-policies/safety/safe-routes-school/Pages/default.aspx</u>

In addition to the SRTS, the Town could facilitate its school's participation in the NCDOT program Let's Go NC! — Pedestrian and Bicycle Safety Curriculum. Aimed to instruct children between grades K-5, the program focuses on walking and biking skills to promote safety. To promote healthy and active lifestyles, a curriculum was developed that includes aspects of the SRTS program in addition to classroom, video, and exercise materials.

More information can be found at: <u>https://www.ncdot.gov/initiatives-policies/safety/lets-go-nc/Pages/default.aspx</u>

# Open Street and Walking Events

The Town of Nashville has unique characteristics that can be showcased through outdoor events that could be supported by active transportation facilities. An outdoor festival could be set up along one of the downtown streets, such as Barnes Street or Washington Street. If the proposed active transportation projects are implemented in this Plan, this location could also be surrounded by walkable and inviting streets that would encourage festival attendees to explore the rest of the Town.

# Public Art & Environmental Education

Creating a welcoming and enjoyable walking environment is an important component of developing a walkable community. Local art could be incorporated with sidewalk projects and alongside signage for local businesses and seen as an advertising opportunity to promote economic vitality for local businesses, as well as support environmental awareness and a sense of stewardship for the local flora and fauna. By including a small plaque with the name of the species or artist along with their business name and location, the Town could encourage local artists to donate their art or even pay a small fee to cover installation and maintenance in exchange for the advertising that would result from the public display of their art. The Town may also partner with the Nash County Arts Council on outdoor public art projects.





# Educating Citizens on Existing Driving Laws and Speed Limits

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

Although children aged 5 to 15 years are not yet old enough to drive, it can be expected that the majority will become automobile users. Educating elementary and middle school students (the future driving population) about bicycle and pedestrian safety provides excellent opportunities to make a difference for drivers and active transportation users alike.

Pedestrian safety, as well as how to safely maneuver an automobile while in the presence of pedestrians and bicycles can be an instrumental part of any driver's education program in the Town. This training will allow new generations to be more aware of the simple fact that motorized vehicles do not have sole right to the transportation network, and it is everyone's responsibility to be careful while using roadways.



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

The NC Bicycle and Pedestrian laws can be found at: <u>https://www.ncdot.gov/divisions/integrated-mobility/safety/Pages/bike-ped-laws.aspx</u>

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# 5.0 Implementation

Achieving the vision, goals, and objectives of this Plan will require the commitment of Town officials and staff, the ATAC, the Rocky Mount Urban Area MPO, NCDOT, and the support and leadership from the community and other partner organizations. Guided by the goals, objectives, and strategies, the Town will continue working to improve pedestrian safety and connectivity.

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

- Key Action Steps: Describing actions to help the Town implement the recommendations of this Plan and improve overall bicycle and pedestrian facilities
- Project Development Strategies: Utilizing key action steps to implement specific projects
- Funding Process and Sources: Identifying and mobilizing funding for projects
- Performance Evaluation Measures: Evaluating the effectiveness of projects

Adopting this Plan is a necessary first step for improving pedestrian safety and mobility in the Town. Coordination with NCDOT Division 4 and the Rocky Mount Urban Area MPO will be critical to implementing the infrastructure projects proposed in this Plan.

# 5.1 Key Action Steps

The newly formed ATAC is entrusted with overseeing the implementation of the Plan with assistance from Town staff and participation by the stakeholders. The ATAC would be responsible for meeting regularly to receive updates and guide progress on the action steps. It would also author the annual progress update submitted to the Town Council on multimodal conditions in Nashville.

In addition, all infrastructure recommendations along NCDOT maintained roadways would require review and approval by NCDOT Division 4 prior to implementation. All roadway projects along NCDOT owned roads should be compliant with the NCDOT Complete Streets policy and consider pedestrian and bicycle recommendations in this Plan. The key actions are listed in Table 5-1. The timeline for the action steps is meant as a general guide and can be modified as necessary.

Action	Description	Stakeholder	Timeline
Adopt the Nashville Bicycle and Pedestrian Plan	Present the Plan to the Nashville Town Council for adoption.	Town Council and Town Staff	Winter/Spring 2023
Create an Active Transportation Advisory Committee (ATAC)	Create a formal advisory committee that will be responsible for overseeing the implementation of the Plan.	Town Council and Town Staff	Summer 2023
Strengthen partnerships with the Rocky Mount Urban Area MPO and NCDOT Division 4	Hold an initial meeting with the stakeholders to provide an overview of the Plan's recommendations and identify opportunities for collaboration.	Rocky Mount Urban Area MPO, NCDOT Division 4, and Town Staff	Summer 2023/ ongoing
Apply for Watch for Me NC	Apply to participate in NCDOT's Watch for Me NC campaign to raise awareness and provide educational resources to promote bicycle and pedestrian safety to residents, drivers, and law enforcement.	ATAC and Town Staff	Summer/Fall 2023/ Ongoing

Table 5-1. Key Steps to Implementation

Action	Description	Stakeholder	Timeline
ldentify potential funding sources during town budget planning	Identify potential funding sources for pedestrian programs, projects, and maintenance in the Town's budget such as Powell Bill funds. Begin to accumulate funds that can be used for the local match required for most projects.	ATAC, Town Council, and Town Staff	Summer/Fall 2023/ Ongoing
Apply for alternative funding sources for the Plan's projects and programs	Refer to the funding sources identified in this Plan in Appendix E; apply for funds in addition to the STIP process to implement programs and projects. Establish a fund to use for local match requirements.	ATAC and town staff	Ongoing
Include requirements for bicycle and pedestrian facilities in city ordinances and policies	Draft amendments to Town ordinances and policies following the recommendations of this Plan and NCDOTs Complete Street Policy for bicycle and pedestrian infrastructure in existing and new development.	Town Council and Town Staff	Fall 2023/ Winter 2024
Coordinate with Active Routes to School Coordinator	Begin meeting with the Active Routes to School Coordinator to establish and develop policy for implementation and/or training or programs for Nashville's schools.	ATAC, Town Staff, NCDOT, NC Division of Public Health	Fall 2023/ Winter 2024
Partner with local artists, businesses, and the parks department	Partner with local artists, businesses, and the parks department to work on placemaking projects.	Local artists, art organizations, and Town Staff	Fall 2023/ Winter 2024
Prepare the Nashville Comprehensive Bicycle and Pedestrian Plan Annual Report/Memo	Prepare the first Nashville Bicycle and Pedestrian Plan Annual Report or memo assessing progress made over the past year using the performance and evaluation measures included in this Plan.	ATAC and Town Staff	Spring 2024

# 5.2 Project Development Strategy

The development process to prepare for a project's construction involves six key components described below. This strategy can be used to implement infrastructure projects proposed in this Plan. When applicable, each component of the strategy will incorporate action steps described in Table 5-1, demonstrating how Town officials can implement the project through the following:

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

The project development process will vary depending on whether the project is on-road or off-road on a new location. Roadway re-striping and traffic calming measures, such as speed tables, are on-road improvements typically constructed within the road right-of-way. However, adding sidewalks and bicycle facilities may involve obtaining additional rights-of-way and/or easements from adjacent property owners.

# Identification of Funding Sources

Funding for bicycle and pedestrian infrastructure projects needs to be identified early in project development. Many funding options are presented in Section 5.3 of this Plan. Relevant action steps include the following:

- Coordinate with the Rocky Mount Urban Area MPO to include infrastructure projects in the regional planning process
- Align with Town budget planning
- Apply for alternative funding sources for the Plan's projects and programs. There are many
  competitive and formula grant opportunities through new federal initiatives like the Infrastructure
  Investment and Jobs Act (IIJA) and the Promoting Resilient Operations for Transformative,
  Efficient, and Cost-Saving Transportation (PROTECT) Formula Program.
- Partner with North Carolina Department of Commerce for grants and technical assistance
- Form public-private partnerships

# Scoping Report/Feasibility Study

Regardless of whether the proposed facility is on-road or off-road, the project will require a project scoping report (part of express designs) or a feasibility study (usually part of large corridor projects). A project scoping report or feasibility study would likely be done for each proposed project, a small group of interrelated projects, or an entire project corridor. The study will examine the utility and right-of-way issues associated with a proposed facility and provide concept plans, profiles, and high-level cost estimates. The study will determine utility constraints, and if right-of-way acquisition is necessary for the project. The study should be conducted in consultation with NCDOT when occurring within an NCDOT right-of-way.

Some of the bicycle and pedestrian projects proposed in this Plan would be on-road facilities within NCDOT rights-of-way that require coordination with NCDOT. On NCDOT roads in the Town, roadway restriping to reallocate road space has the potential to be accomplished cost-effectively through NCDOT division resurfacing projects. As identified in the key action steps table, coordination with NCDOT Division 4 should be initiated following the adoption of this Plan. There may be opportunities to include pedestrian and bicycle facilities proposed by this Plan in road repaving and widening projects. An important role for the ATAC would be to monitor the NCDOT Division 4 resurfacing schedule. This could be accomplished through arranging quarterly check-ins with the Division Operations and Maintenance personnel to determine upcoming resurfacing plans or coordinating with the Rocky Mount Urban Area MPO. Although NCDOT communicates with local municipalities concerning upcoming resurfacing plans and the 2019 Complete Streets Policy ensures pedestrian plans be considered in resurfacing projects, coordination with NCDOT is recommended to ensure projects in this Plan can be implemented through resurfacing.

Project scoping reports or a feasibility study could require coordination at multiple levels from the Town to NCDOT. The following actions would assist in coordinating and conducting feasibility studies:

- Adopt the Nashville Bicycle and Pedestrian Plan
- Strengthen partnerships with Nash County and the Rocky Mount Urban Area MPO
- Coordinate with NCDOT Division 4
- Coordinate with the Rocky Mount Urban Area MPO to include infrastructure projects in the regional planning process and in the CTP
- Include in Town budget planning

 Develop partnerships with local and regional businesses to help fund wayfinding, arts, and streetscape elements

# Engineering and Design

In the engineering and design phase, concepts developed in the feasibility study will be developed and advanced using more in-depth engineering to develop a preliminary design. During this phase additional, more specific information on right-of-way and utility constraints will be developed. As with the feasibility study, the planning and design phase should be conducted in consultation with NCDOT if the project falls within an NCDOT right-of-way. Because engineering and design follow feasibility studies closely, many applicable action steps are the same:

- Coordinate with NCDOT Division 4
- Coordinate with the Rocky Mount Urban Area MPO to include infrastructure projects in the regional planning process
- Align efforts with Town budgeting and planning

# Analysis of Affected Property Owners

It is best to develop projects within existing town or NCDOT right-of-way to minimize right-of-way acquisition and costs. Typically, pedestrian infrastructure projects, including those in this Plan, utilize existing roadways, sidewalks, and rights-of-way, as the acquisition of private property would reduce the feasibility of the project. Shared use paths are an example of a project that typically requires right-of-way acquisition. However, if a project requires the acquisition of additional rights-of-way, the feasibility study, engineering, and design would identify property owners who could be impacted by a project's alignment and construction. Once those property owners are identified, town officials should coordinate with NCDOT (if on NCDOT road) on the process to initiate contact with impacted property owners and acquire the right-of-way.

As part of the project selection process, this Plan considered available rights-of-way and based on highlevel analysis, only proposes projects that would fit within the existing rights-of-way. Bicycle and pedestrian projects that could require the acquisition of rights-of-way typically include those that are not using existing roadways or sidewalks.

# Design-level Cost Estimates

A critical component of a project's engineering and design is developing the design-level cost estimates for proposed project alternatives. Detailed cost estimates allow the Town Council to evaluate alternatives, present options to the public, receive public input, and ultimately decide on the alternative that best fits the Town's goals and budget. Design-level cost estimates are generated by the project engineers tasked with designing the project alternatives. Cost estimates include the following details, at a minimum:

- Roadway/path/sidewalk construction
- Utility construction or relocation
- Right-of-way acquisition
- Contingencies that could arise during project construction

## Public Involvement

This is a critical component for soliciting community input on the location, design, and function of the proposed facility. In addition, public involvement is critical in forming partnerships with local advocacy

organizations and educating the community about the overall benefits of active transportation. Public involvement should be included in all phases of project development. Practical action steps include the following:

- Form an Active Transportation Advisory Committee (ATAC)
- Carry out programs that educate residents on the health benefits of active transportation
- Conduct wayfinding and traffic calming studies
- Participate in Watch for Me NC

# 5.3 Funding Sources

This section discusses the state funding process and other potential funding sources. Funding for bicycle and pedestrian projects will likely not come from a single source, and instead will need to be combined with several funding sources that can be used for a variety of activities, including the following: feasibility studies, planning, design, implementation, and maintenance. Although funding is available from outside sources, it is highly recommended that the Town establish a source of local matching funds for potential grants. Even small amounts of local funding are essential for matching and leveraging outside sources. Local matching funds can be achieved through allocations to a reserve fund from the capital budget. In addition, many grants allow in-kind matching (e.g., local staff time).

# State Funding Process for Transportation Improvements

In June 2013, the North Carolina General Assembly overhauled the process for funding state transportation projects with the Strategic Transportation Investments law (House Bill 817). This law establishes the Strategic Mobility Formula to allocate funds through a competitive process based on quantitative criteria and local input. The formula is intended: "to maximize North Carolina's existing transportation funding to enhance the state's infrastructure and support economic growth, job creation and high quality of life." This formula is applied in creating the STIP, which is NCDOT's ten-year transportation improvement plan for the state. The STIP is updated every two years and includes projects across six transportation modes: highway, aviation, bicycle/pedestrian, public transportation, ferry, and rail.

Active transportation projects that are submitted through the NCDOT project prioritization process as part of a roadway project must meet the following requirements based on the latest round of prioritization (Prioritization 6.0):

- Minimum project cost of \$100,000 for stand-alone pedestrian (or bicycle) projects (this does not apply for active transportation elements that are part of a roadway project)
- According to the 2019 Complete Streets Policy, if the bicycle and pedestrian facility is included in an adopted local plan, the Town will not be responsible for the cost. If the pedestrian project component is not included in a plan, the Town will have to provide a local match.
- Must be included in an adopted plan (pedestrian plans, bicycle plans, greenway plans, Safe Routes to School action plans, CTPs, and long-range transportation plans)
- Right-of-way must be secured prior to receiving federal construction funding
- The formula funds projects according to the three following categories:
  - o Division Needs (30 percent)
  - Regional Impact (30 percent)
  - o Statewide Mobility (40 percent)

Bicycle and pedestrian projects that are independent of larger roadway projects are only funded through the Division Needs category. Projects in this category compete equally against all six transportation modes within the division. Selection is based on 50 percent on the quantitative score and 50 percent on local input. Local input is split evenly between the NCDOT division and MPO or RPO. The public may comment on the local input point assignment, which the Division Engineer will review prior to final local input point assignment. The Rocky Mount Urban Area MPO also provides a public comment period.

# **Powell Bill Funds**

The Town may use its allocation of Powell Bill funds from the state to fund pedestrian (and bicycle) infrastructure projects. These funds are generated by the motor fuel sales tax and appropriated annually by the state to qualifying municipalities. According to state statutes, municipalities may use Powell Bill funds to resurface, repair, or widen streets, or for the planning, construction and maintenance of bikeways, greenways, or sidewalks. The use of these funds would be at the discretion of the Town Board.

# North Carolina Main Street and Rural Planning Center

The North Carolina Main Street and Rural Planning Center works in regions, counties, cities, towns, downtown districts, and in designated North Carolina Main Street communities to inspire placemaking through building asset-based economic development strategies that achieve measurable results such as investment, business growth, and jobs. It provides towns across the state with technical assistance for downtown revitalization through its Downtown Associate Community Program.

The center selects communities every other year via a competitive application process. Municipalities with an identifiable traditional downtown business district and a certified population under 50,000 not already designated as an active Main Street or Small-Town Main Street community are eligible to apply to the center for services under the Downtown Associate Community Program. Selected communities will receive up to three years of downtown revitalization technical assistance services from the center and may have the opportunity to move up to Main Street designation upon successful completion of the program. This could be a potential funding source for the pedestrian, active transportation, and streetscape improvements in the Town of Nashville.

# National Endowment for the Arts

The National Endowment for the Arts' Our Town program is a creative placemaking initiative that would likely be appropriate for the Town of Nashville, given the Town's focus on placemaking. The grant requires "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)" (NEA, 2020). Additional information regarding specific grant requirements and the application can be found on the National Endowment for the Arts' website: <a href="https://www.arts.gov/grants/apply-grant/grants-organizations">https://www.arts.gov/grants/apply-grant/grants-organizations</a>.

# Federal Funding from Competitive and Formula Grants

The Infrastructure Investment and Jobs Act (IIJA) – also known as the Bipartisan Infrastructure Law (BIL) was signed into law on November 15, 2021 and authorized \$1.2 trillion for transportation and infrastructure initiatives across the country. The law further designates that \$550 billion of the spending go towards new programs and investments. The law builds on existing Federal funding sources and creates new opportunities for a diversity of transportation projects, including to promote active modes. Detailed information concerning the various funding programs is included in Appendix E: Funding Sources., but the following are sample programs:

- Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant
- Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program
- Congestion Mitigation and Air Quality Improvement Program
- Highway Safety Improvement Program
- Reconnecting Communities Pilot Program
- Surface Transportation Block Grant Program

Note that many of the federal funding sources are distributed by NCDOT through the prioritization process and are not directly attributed to municipalities or MPOs/RPOs.

# **Other Funding Sources**

The Town of Nashville may consider alternative funding sources to augment state funds for pedestrian and bicycle projects, which are limited and competitive. The programs listed below may be used to fund entire projects or be directed towards covering the cost of spot improvements like crosswalks or amenities such as benches and signage. For more information, see Appendix E: Funding Sources.

## State Funding Sources

- Clean Water Management Trust Fund
- Land and Water Conservation Fund
- Parks and Recreation Trust Fund
- Recreational Trails Program
- Safe Routes to School

## Local Funding Sources

- Capital Reserve Fund
- Fees (town wide/local)
- General Obligation Bonds
- Special Tax District
- Tax Increment Financing

## Nonprofit Funding Sources

- Blue Cross Blue Shield of North Carolina Foundation
- Kate B. Reynolds Charitable Trust
- North Carolina Community Foundation
- Robert Wood Johnson Foundation

# Community Crowdfunding

In the last several years the internet has revolutionized fundraising. This new form of fundraising, called crowdfunding enables people all over the world to start a fundraising effort and provides an easy

mechanism for others to make donations. Platforms such as Kickstarter and Indiegogo are online communities that act as funding platforms for a diverse range of projects. Individuals or organizations post projects for a nominal fee and individuals make contributions via credit card. This type of fundraising is likely to be a minor source, but might be useful for funding spot improvements, such as crosswalk markings or benches.

**Kickstarter:** Crowdfunding platform to help artists, musicians, filmmakers, designers, and creators fund new ideas and projects. <u>https://www.kickstarter.com/</u>

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

# 5.4 Performance and Evaluation Measures

In order to evaluate the progress and effectiveness of the Nashville Bicycle and Pedestrian Plan, Table 5-2 lists evaluation criteria and examples of achieved progress that the ATAC and Town Council can use. These criteria and milestones are based on the goals and objectives of this Plan. The table is intended to serve as a general guide—the ATAC should tailor these evaluation criteria to the community by adopting more specific, locally applicable quantitative metrics.

The evaluation of the Plan should occur annually and be published in the form of a memo or report made available to the residents of the Town of Nashville. The report should detail the progress made to date and the priorities for the coming year. This annual report will help to demonstrate the benefits of bicycle and pedestrian infrastructure and programs, as well as generate further support for the ongoing work of the ATAC.

# Table 5-2. Implementation Evaluation Criteria

Goals	Performance Evaluation	Examples of Progress Achieved
Identify and develop bicycle and pedestrian programs and infrastructure projects to improve safety and enhance connectivity within the Town of Nashville that complement	Miles of bicycle and pedestrian facilities constructed and number of spot improvements	Miles of bicycle and pedestrian facilities constructed in a specific period of time (e.g., 1 mile within 5 years)
the town's focus on the natural environment and public space.	Number of programs implemented to encourage walking and safety	Participation in the Watch for Me NC program annually or bi-annually
Space.	Number of ATAC meetings held	ATAC meets quarterly
	Compliance of pedestrian and bicycle facilities with ADA standards	Number of curb cuts updated to meet ADA standards
Prioritize pedestrian and bicycle infrastructure projects for priority projects identified Section 4.4 to improve mobility,	Reduction in speeding vehicles along the roadway	Reduced number of speeding cars recorded
increase safety, and encourage economic development.	Number of local stores along Washington Street, Barnes Street, and Eastern Avenue that can be accessed from active transportation facilities	Increase number of stores that are accessible from multi-use paths (e.g., 5 additional local businesses adjacent)
Provide wayfinding for pedestrian and bicyclist navigation	Implementation of wayfinding system	Town adopted wayfinding design and strategy.
between community origins and destinations, including local parks and other community resources.	Number of wayfinding signs located within Nashville	Wayfinding signs that direct tourists to the community resources
Recognize and promote the health, economic, safety, and mobility benefits of active transportation.	Consecutive miles of pedestrian facilities to encourage walking to resources as well as walking recreationally	Establishment of a walkable "exercise loop" for recreational purposes that connects the various public spaces in Nashville
Educate the community as to the benefits of active transportation, applicable rules, and regulations.	Number of programs, campaigns, or events annually in the community meant to encourage active transportation	Number of programs or partnerships annually
Coordinate with the Reeky Mount Lirban Area MPO and	Successful adoption the Nashville Bicycle and Pedestrian Plan	Plan is approved by NCDOT and the Rocky Mount Urban Area MPO
Coordinate with the Rocky Mount Urban Area MPO and NCDOT to implement the recommendations of the Plan.	Implementation of projects proposed in the Nashville Bicycle and Pedestrian Plan	Number of programs and infrastructure projects implemented following the adoption of the Plan

# REFERENCES

Centers for Disease Control and Prevention (2016), North Carolina State Nutrition, Physical Activity, and Obesity Profile: <u>https://www.cdc.gov/nccdphp/dnpao/state-local-programs/profiles/pdfs/north-carolina-state-profile.pdf</u>

Wright et al. (2012), Estimated effects of climate change on flood vulnerability of U.S. bridges: <u>https://link.springer.com/article/10.1007/s11027-011-9354-2</u>

Association of State Dam Safety Officials, Extreme Rainfall Events: <u>https://damsafety.org/sites/default/files/ASDSO-LivingWithDams-ExtremeRainfallEvents-NO%202-WEB\_0.pdf</u>

FHWA, Pedestrian Safety Guide for Transit Agencies: <u>https://safety.fhwa.dot.gov/ped\_bike/ped\_transit/ped\_transguide/ch3.cfm</u>

Natural Resources Conservation Service, Bioswales: <u>https://www.nrcs.usda.gov/Internet/FSE\_DOCUMENTS/nrcs144p2\_029251.pdf</u>

AASHTO Guide fort the Planning, Design, and Operation of Pedestrian Facilities: <u>http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(263) FR.pdf</u>

Indiegogo: http://www.indiegogo.com/

Kickstarter: https://www.kickstarter.com/

Let's Go NCI: <u>https://connect.ncdot.gov/projects/BikePed/Pages/LetsGoNC.aspx</u>

National Endowment for the Arts': <u>https://www.arts.gov/grants/apply-grant/grants-organizations</u>

North Carolina Bicycle and Pedestrian Laws: <u>https://www.ncdot.gov/divisions/integrated-mobility/safety/Pages/bike-ped-laws.aspx</u>

North Carolina Department of Transportation Complete Streets: <u>https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx</u>

North Carolina Division of Motor Vehicles: <u>https://www.ncdot.gov/dmv</u>

Open Street Events: https://www.openstreetsproject.org

Safe Routes to School: <u>https://www.ncdot.gov/divisions/integrated-mobility/safety/Pages/safe-routes-school.aspx</u>

Smart Growth Codes: <u>https://www.epa.gov/smartgrowth/codes-support-smart-growth-development and</u> <u>https://formbasedcodes.org/</u>

WalkBikeNC North Carolina Statewide Pedestrian and Bicycle Plan: <u>https://altaplanning.com/wp-content/uploads/WalkBikeNCPlanChapterslowres.pdf</u>

Walk Score: http://www.Walkscore.com

Watch for Me NC at: <a href="http://www.watchformenc.org/">http://www.watchformenc.org/</a>

# PHOTO CREDITS

Cover Images courtesy of the Town of Nashville: <u>https://www.townofnashville.com/home</u>

Bioswale: https://www.flickr.com/photos/87297882@N03/7994695423

Permeable Pavement: <u>https://www.flickr.com/photos/131402048</u>

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# APPENDIX A: STEERING COMMITTEE AND PUBLIC INVOLVEMENT

Steering Committee Meeting #1

Agenda Packet

### MEETING SUMMARY Steering Committee Meeting #1 March 18, 2022 | 10:00 AM – 11:00 AM

The Steering Committee for the Town of Nashville's Bicycle and Pedestrian Plan met on Friday, March 18, 2022 at Nashville's Recreation Center. The Town sent notice to the Steering Committee via email and 12 individuals attended the meeting. Select committee members were present, along with project consultants from AECOM, and representatives, Nick Morrison (Integrated Mobility Division) and Jordan Reedy (Rocky Mount Urban Area MPO). A copy of the presentation is included as Attachment A.

## Agenda

The meeting began with an overview of the planning process, the purpose of the project, the schedule, a working session, and next steps.

## Project Overview, Update, and Schedule

Kory Wilmot (AECOM) discussed the project overview and update which included an overview on the tasks and project schedule. The schedule noted future milestones and the anticipated delivery of the Plan document. Kory also led the Steering Committee through a discussion on the vision and a set of goals for the Plan.

## Working Session

AECOM consultants facilitated the working session at the tables. The Steering Committee members used table maps to lay the groundwork for developing projects that will be presented in the Plan. The committee identified bicycle and pedestrian opportunities, constraints, and community features or destinations. They also identified specific bicycle and pedestrian routes or connections in the Town.

## Next Steps

The project schedule is provided below. The consultant team will continue to work on the draft Plan through Winter 2022/2023. The date for the final Plan presentation is to be decided. The consultant team will summarize the comments provided during the meeting and will begin to draft the projects. Following the meeting, the consultant team sent out a survey link to collect additional feedback from the Steering Committee. Results will be shared at the second Steering Committee meeting.

Task	Timeline
1. Inventory and Evaluation of Current Conditions	January 2022
2. Project Kick-off Meeting, First Steering Committee	March 2022
3. Second Steering Committee, First Public Meeting	May 2022
4. Preliminary Pedestrian and Bicycle Plan	Summer 2022
5. Third Steering Committee Meeting, Second Public Meeting	Fall 2022
6. Final Plan	Winter 2022

# Attachment A

Presentation, Sign-in Sheets, and Working Session Materials Introductions **Town of Nashville** NCDOT Bicycle & Pedestrian Plan AECOM AECOM 1 2





Task	Timeline
1. Inventory and Evaluation of Current Conditions	January 2022
2. Project Kick-off Meeting, First Steering Committee	March 2022
3. Second Steering Committee, First Public Meeting	Mcty 2022
4. Preliminary Pedestrian and Bicycle Plan	Summer 2022
5. Third Steering Committee Meeting, Second Public Meeting	Fall 2022
6. Final Plan	Winter 2022

#### Role of the Steering Committee

- Attend Project Kick-Off
   Provide input on the vision, gods, and objectives
   Identify needs, opportunities, and constraints
   Review the proliminary plan
- Attend two additional sleering committee meetings and comment on the plan Serve as champions of the final plan

6



#### Sample Vision

"The Town of Nashville will be a place where people of all ages and diverse backgrounds have access to bicycle and pedestina facilities and programs that promote the following: alternative transportation modes, ever use and wellbeing, safety. eing, so , and celebr Nashville's c







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#### Working Session

identify key (e.g., com ercise 2



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# Steering Committee Meeting #2

Agenda and Exercise Outputs

#### MEETING SUMMARY Steering Committee Meeting #2

May 20, 2022 | 10:00 AM - 11:30 AM

The Steering Committee for the Town of Nashville's Bicycle and Pedestrian Plan met on Friday, May 20, 2022 at Nashville's Recreation Center. The Town sent notice to the Steering Committee via email and 6 individuals attended the meeting. Select committee members were present, along with project consultants from AECOM, and representatives, Nick Morrison (Integrated Mobility Division) and Jordan Reedy (Rocky Mount Urban Area MPO). A copy of the presentation is included as Attachment B.

## Agenda

The meeting included project and schedule updates, a working session, and review of next steps.

## Project Overview, Update, and Schedule

The project consultants reviewed the project and discussed past efforts and upcoming milestones.

## Working Session

AECOM consultants facilitated the working session at the tables. The Steering Committee members reviewed the draft active transportation Plan and used table maps to refine and/or identify new opportunities and connections.

## Next Steps

The project schedule is provided below. The consultant team will continue to work on the draft Plan through Winter 2022/2023. The date for the final Plan presentation is to be decided. The consultant team will summarize the comments provided during the meeting and will continue to develop the draft Plan and refine recommendations. A public survey will be created and made available for community feedback.

Task	Timeline
1. Inventory and Evaluation of Current Conditions	January 2022
2. Project Kick-off Meeting, First Steering Committee	March 2022
3. Second Steering Committee, Public Survey	May 2022
4. Preliminary Pedestrian and Bicycle Plan	Summer 2022
5. Third Steering Committee Meeting, Public Meeting	Fall 2022
6. Final Plan	Winter 2022

## Attachment B

Presentation, Sign-in Sheets, and Working Session Materials




7

## **Next Steps**

- Project team will continue developing the draft plan and refine recommendations
- Public survey
- Third Steering Committee Meeting/Public Meeting (Date TBD)
  - Review the draft plan
  - Refine and prioritize project recommendations
- Prepare the final plan





Name	Address	Phone Number	Email
ordan Reed 1			
ATE BURNS			
herry MOSS Randy Langing			
Randy Langing	14	5	
Nick Morrison	_		
Ashley Hamlot		_	
	_	_	
		_	
	_		
	_	_	
	_	_	
May 20, 2022	10:00 AM - 11		Town of Nashville



#### Steering Committee Meeting #2

MAP # 1 Pedestrian

Town of Nashville Bicycle and Pedestrian Plan



May 20, 2022

10:00 AM - 11:30 AM

Town of Nashville

A) update municipal boundary layer





### **Steering Committee Meeting #2**

Town of Nashville Bicycle and Pedestrian Plan

-	
1	Map Comments Bikle racks - check and propose new ones Washington St, Library, Env. Park, Glorer Park Porsats
2	Bite rach - farmers merket
3	Recheck existing crosswalls on Washington/Alston
4	Check bridge replacement -> Sidewalk
5	Add SUP near Forest Hills cemetery
6	Add trailheads
7	Brakest make it a SUP. Currently shows as CTP sidewall
8	Need a spot connection from neighborhood to Glover
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New development behind Walmart/Foud Lien May 20, 2022 10:00 AM-11:30 AM Town of Nashville

\* Change ped map Sidewalk-Birchwood to shared use path.





# Steering Committee Meeting #3

Agenda Packet

#### MEETING SUMMARY Steering Committee Meeting #3

January 27, 2023 | 10:00 AM – 11:30 AM

The Steering Committee for the Town of Nashville's Bicycle and Pedestrian Plan met on Friday, January 27, 2023 at Nashville's Recreation Center. The Town sent notice to the Steering Committee via email and 7 individuals attended the meeting. Select committee members were present, along with project consultants from AECOM, and representatives, Nick Morrison (Integrated Mobility Division). A copy of the presentation is included as Attachment C.

#### Agenda

The meeting began with an overview of the purpose of the final Steering Committee meeting, a group discussion and review, and next steps.

#### Project and Plan Overview

Kory Wilmot (AECOM) shared an overview of the work that was completed as part of the Nashville Bicycle and Pedestrian Plan. The majority of the session included a discussion and review of the draft Plan and proposed projects. Steering Committee members provided feedback for final edits to be incorporated into the Plan.

#### Next Steps

The project schedule is provided below. The consultant team will make final edits and provide the final Town of Nashville Bicycle and Pedestrian Plan to be considered by the Town Council for adoption in Spring 2023.

Task	Timeline
1. Inventory and Evaluation of Current Conditions	January 2022
2. Project Kick-off Meeting, First Steering Committee	March 2022
3. Second Steering Committee, Public Survey	May 2022
4. Preliminary Pedestrian and Bicycle Plan	Fall 2022
5. Public Meeting	December 2022
6. Third Steering Committee	January 2023
7. Final Plan	Spring 2023

### Attachment C Presentation and Sign-in Sheet



21	Email
Sherry Moss - Town of Nashville	
Nick Morrison - NCPOT	
Pendy lansing Town of Northull	2
KATE BURNS TOWN CONVEL	
Thomas Gillespie - Nash County	The machine the manufacture of the

## Public Open House

Event flyer and promotional materials, feedback form, and sign-in sheet



NASHVILLE NORTH CAROLINA	<b>Open</b> Town of Nashville	House Sign-in e Bicycle and Pedestrian Plan
Name	Address Phone Num	nber Email
Tonahka? Gresham	+	-
Lavier Harrison	+	-
aleb Whitford	-	-
0.10.11.0	+	-
Ordan Reed 7	+	
24/10 Salhor	+	-
Arthony Tinkham 4	+	-
inda Rideout i	+	-
Kay Worrell.	-	+
Kay Wollell	~	22
and oroned		
hender flugt		-
December 8, 2022	3:00 PM - 7:00 PM	Town of Nashville
December 8, 2022	Open	Town of Nashville House Sign-in e Bicycle and Pedestrian Plan
NASHVILLE NORTH CAROLINA	Open	House Sign-in e Bicycle and Pedestrian Plan
NASHVILLE NORTH CAROLINA Name Kelly Cuy Cuych	<b>Open</b> Town of Nashville	House Sign-in e Bicycle and Pedestrian Plan
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NASHVILLE NORTH CAROLINA Name Kelly Cuy Cuych	<b>Open</b> Town of Nashville	House Sign-in e Bicycle and Pedestrian Plan
NASHVILLE NORTH CAROLINA Name Kelly Cly Crck Tony Kocnis Luanne Lansiny Rawly Lansing	<b>Open</b> Town of Nashville	House Sign-in e Bicycle and Pedestrian Plan
NASHVILLE NORTH CAROLINA Name Kelly Cly Crck Tony Kocnis Luanne Lansiny Rawly Lansing	<b>Open</b> Town of Nashville	House Sign-in e Bicycle and Pedestrian Plan
NASHVILLE NORTH CAROLINA Name Kelly Cuy Cuych	Open Town of Nashville Address Phone Num	House Sign-in e Bicycle and Pedestrian Plan
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# APPENDIX B: COMMUNITY SURVEY

Please rank 5 of the 8 items above the line in your preferred order.



# **Rank Your Priorities**

### Please rate your preferences for:



### Please rate your preferences for:



## Please rate your preferences for:



### Show Us What You See



#### Show Us What You See! - Marker Count

Number of Responses per Question

	Question	Responses
1	Bicycle Needs	74
2	Pedestrian Needs	115
3	Important Destination	61
4	Constraints	12
5	Other	17



Do you currently walk in Nashville?



Do you currently ride your bike in Nashville?

# APPENDIX C: ROADWAY INVENTORY

Street	Side	Extent	Length (ft)	Sidewalk Width (Minimum)
Park Ave	South	S Joyner St to S 1 <sup>st</sup> St	457 ft	5 ft
S Jones St	East and West	Virginia Ave to E Church St	976 ft	4 ft
Jackson Way	South	Jackson Way to Old Wilson Rd	1,060 ft	4 ft
S Baker St	West	E 6 <sup>th</sup> St to S 1 <sup>st</sup> St	800 ft	6 ft
S First St	West	Hurt Ct to E Washington St	6,022 ft	4 ft
W Cross St	North	S Collins St to Railroad St	1,491 ft	4 ft
S Alston St	West	Circle Dr to W Washington St	3,090 ft	5 ft
N Alston St	East and West	W Washington St to W Elm St	902 ft	5 ft
W Elm St	North	N Alston St to N Boddie St	523 ft	4 ft
E Elm St	North and South	N Alston St to N Oak St	911 ft	4 ft
N Drake St	East and West	W Elm St to W Washington St	812 ft	6 ft
N Boddie St	East and West	W Elm to W Washington St	738 ft	5 ft
N Collins St	West	E Cedar St to E Washington St	743 ft	4 ft
S Collins St	East and West	E Washington St to E Virginia Ave	1,583 ft	3 ft
E Church St	North and South	S Fort St to S Alston St	4,276 ft	4 ft
W Church St	North and South	S Alston St to S Barnes St	1,744 ft	5 ft
S Barnes St	East and West	W Washington St to W Cross St	2,340 ft	5 ft
S Boddie St	East and West	W Washington St to W Cross St	4166 ft	6 ft
W Green St	North and South	S Boddie St to s Alston St	1,110 ft	5 ft
E Green St	North and South	S Alston St to S Fort St	2,573 ft	4 ft

Street	Side	Extent	Length (ft)	Sidewalk Width (Minimum)
E Virginia Ave	South	S First Street to S Alston St	1,460 ft	4 ft
Joyner St	East and West	E Church St to E Cross St	1,487 ft	5 ft
Center St	South	S 1 <sup>St</sup> St to S Fort St	729 ft	4 ft
Lumber St	West	Center St to E Washington St	264 ft	4 ft
S Fort St	West	E Washington St to E Center St	177 ft	5 ft
Evans Dr	East	W Washington St to Evans Dr	1,678 ft	5 ft
W Washington St	North and South	Highway 58 to Alston St	5,558 ft	5 ft
E Washington St	North and South	Alston St Eastern Ave	7,030 ft	5 ft
Eastern Ave	North and South	E Wasting to St to Forest View Dr	6002 ft	5 ft
Glover Park Path	North, South, and West	S 1 <sup>st</sup> St to Hurt Ct	2,413 ft	10 ft
Womble Rd	East	Live Oak Ln to Mulberry Rd	827 ft	4 ft

\*Unless otherwise posted, contact the Town to find speed limits and other traffic regulations for specific streets.

\*\*Right-of-way and pavement width approximations were measured from parcel to parcel across the width of the road using the measuring tool in ArcMap.

# APPENDIX D: PRIORITIZATION

Ranking	Corridor	Project Description	Project Score	Corridor Score
		Sharrows on E Washington St between Barnes St and S First St	11	
		Sharrows on W Washington St between Stoney Creek and Barnes St	11	
		Sidewalk on north side of W Washington St from US 64	9	
		Shared use path on south side of E Washington St between Eastern Ave and Club Dr	9	
		Shared use path south side of E Washington St between Club Dr and S Clarendon Dr	9	
		Sidewalk on north side of W Washington St between Evans Dr and across US 64	8	
		Bike rack on W Washington St in front of Claude Mayo, Jr. Administration Building	-	
		Crosswalk over E Washington St at E Church St	-	
1	Washington St	Crosswalk over E Washington St at Hilliard St	-	66
	5	Crosswalk over W Washington St near Stoney Creek Trail	-	
		Crosswalk over W Washington St at S Alston St	-	
		Crossing improvements over railroad tracks	-	
		Crosswalk over E Washington St at Eastern Ave	-	
		Crosswalk over E Washington St at S Clarendon Dr	-	
	Rectangular Rapid Flashing Beacon over W Washington St at Drake St Crosswalk over E Washington St at N Wheeless Dr	-		
		-		
		Sharrows on E Washington St between Barnes St and S First St Oak St and Macon Dr	9	
		Sidewalk on north side of Western Ave between Lakeview Dr and Barnes St	11	
		Sharrows on US 64A/Western Ave from US 64 to Barnes St	10	
	Western Ave	Sidewalk on south side of Western Ave at Barnes St and W Cross St	8	
		Sidewalk on north side of Western Ave between US 64E and Lakeview Dr	5	
		Crosswalk over Western Ave at Sara Dr	-	
		Sidewalk on west side of S Alston St between Cooke Rd and Sixth St	10	
		Sharrows on S Alston St between W Cross St and W Church St	10	
2-3		Shared use path on west side of N Alston St between E Cedar St and Stoney Creek	8	34
		Trail	0	
	Alston St	Sharrows on N Alston St between E Washington St and W Cedar St	6	
	AISTON ST	Bike Rack on S Alston St in front of Nashville Elementary School	-	
		Crosswalk over S Alston St at Church St	-	
		Crosswalk over S Alston St at E Green St	-	
		Crosswalk over S Alston St at E Cross St	-	
		Crosswalk over S Alston St at Virginia Ave	-	
1	First Ct	Sharrows on First St between W Washington St and Troon Ct	10	26
4	First St	Shared use path on east side of First St Ext from Indian Trl	9	26

			7	
		Sidewalk on west side of N First St between E Washington St and E Elm St	7	
		Crosswalk over S First St at E Church St Crosswalk over S First St at E Green St	-	
			-	
		Crosswalk over S First St at E Washington St	-	
		Crosswalk over N First St at E Washington St	-	
		Crossing improvements over railroad tracks	-	
		Crosswalk over S First St at Virginia Ave	-	
		Sidewalk on east side of Barnes St between W Railroad St and W Cross St	11	
		Sharrows on Barnes St between W Cross St and W Washington St	11	
		Bike Rack on Barnes St in front of Nashville Town Hall	-	
5	Barnes St	Crosswalk over Barnes St at W Washington St	-	22
		Crosswalk over Barnes St at Curtis St	-	
		Crosswalk over Barnes St at W Cross St	-	
		Crosswalk over Barnes St at Western Ave	-	
		Shared use path on north side of Washington St	8	
6	Stoney Creek Trail	Shared use path on south side of Washington St	8	16
	-	Bike racks near Stoney Creek Trailheads	-	
		Sidewalk on east side of S Clarendon Dr between Birchwood Dr and E Washington St	8	
7	Clarendon Dr	Sidewalk on west side of N Clarendon Dr between E Washington St and Red Oak Rd	7	15
		Crossing improvements over railroad tracks	-	
		Sidewalk on east side of Brooklyn Blvd between Meadow Park Dr and Sixth St	7	
	Brooklyn Blvd	Sidewalk on east side of Brooklyn Blvd between Sixth St and E Railroad St	7	
8-9		Sidewalk on south side of Sixth St between Brooklyn Blvd and existing sidewalk	7	14
	Sixth St	Sidewalk on south side of Sixth St between existing sidewalk and Brake St	7	
		•		
		Shared use path between Southside Dr and JW Glover Park	7	
10	JW Glover Park	Bike rack near JW Glover Park	-	13
		Bike rack near Nash Central Middle School	-	
		Shared Use path along JW Glover Park	6	
11	Eastern Ave	Sharrows on E Washington St between Macon Dr and Regency Dr	11	11
	2000000000	Crosswalk over Eastern Ave at S Eastpoint Ave	-	
	Cross St	Sharrows on Cross St from Barnes St to S First St	9	
	CIUSS St	Crosswalk over W Cross St at S Boddie St	-	
10.10		Sharrows on Church St from Barnes St to S First St	9	0
12-13		Bike rack on W Church St in front of Harold D. Cooley Library	-	9
	Church St	Crosswalk over Church St at Barnes St	-	
		Crosswalk over Church St at S Boddie St	_	
14-17	Elm St	Sidewalk on north side of E Elm St between N Alston St and N Collins St	8	8
1-+-1/	LIIII JL		J	0

	Fort St	Sidewalk on west side of S Fort St between E Church St and Center St	8	
	Birchwood Dr	Sidewalk on north side of Birchwood Dr between S First St and S Clarendon Dr	8	
	BITCHWOOD DI	Crosswalks over Birchwood Dr at Club Drive	-	
	Womble Rd	Sidewalk on east side of Womble Rd from Mulberry Rd to Cottonwood Rd	8	
	Vernon St	Sidewalk on south side of E Vernon St between S Alston St and Brooklyn Blvd	7	
	Brake St	Sidewalk on west side of Brake St between Sixth St and Southside Dr	7	
18-21	Aviation Ave	Sidewalk on east side of Aviation Ave	7	7
10-21		Sidewalk on north side of Old White Oak Rd from Barnes St	7	/
	Old White Oak Rd	Crossing improvements over railroad tracks	-	
		Crosswalks over Birchwood Dr at Club Drive	-	
22-23	Southside Dr	Sidewalk on north side of Southside Dr from Brake St	6	6
22-23	Womble and First St Connector	Shared use path between Womble Rd and First Street Ext	6	0
24-25	Birchwood and Woodfield Connector	Shared use path between Birchwood Dr and Woodfield Dr	5	F
24-25	Barnes and Boddie Connector	Shared use path between Barnes St and S Boddie St	5	5
26	Aviation and N First Connector	Shared use path between Aviation Ave and N First St	4	4
		Crosswalk over Virginia Ave at S Collins St	-	
	Virginia Ave	Crosswalk over Virginia Ave at Jones St	-	Not scored as
27-30	Green St	Crosswalk over E Green St at S Collins St	-	all are
	Boddie St	Crosswalk over S Boddie St at W Green St	-	spot projects
	Lumber St	Curb ramp at intersection of S Lumber St and E Church St to meet ADA standards	-	projecta

# APPENDIX E: FUNDING SOURCES

The table below provides a list of funding sources, eligible projects, potential award amounts, and match requirements for active transportation infrastructure projects and programs in Nashville.

Source	Eligible Activity Examples	Characteristics and Requirements
	Federal Funding Sources	
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant	<ul> <li>Bicycle lanes on road</li> <li>Bicycle parking and repair stations</li> <li>Crosswalks for pedestrians, pedestrian refuge islands</li> <li>Lighting for pedestrian and bicyclists</li> <li>Recreational trails</li> </ul>	<ul> <li>Annual, competitive grant program that is merit-based.</li> <li>\$2.2 billion authorized in FY 2022</li> </ul>
Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program	<ul> <li>Planning activities to build transportation resilience</li> <li>Resilience improvements to existing surface transportation assets</li> </ul>	<ul> <li>Formula grants and competitive, merit-based grants</li> <li>\$7.3 billion for FY 2022-2026</li> <li>Federal share is generally up to 80% but the non-Federal share may be reduced under certain conditions</li> </ul>
INFRA (known statutorily as the Nationally Significant Multimodal Freight & Highway Projects)	<ul> <li>Separated bicycle lanes</li> <li>Sidewalks</li> <li>Signs, signals</li> <li>Bicycle lanes on road</li> </ul>	<ul> <li>Annual, competitive grant program that is merit-based.</li> <li>\$8 billion authorized for FY 2022- 2026</li> </ul>
Reconnecting Communities Pilot (RCP) Grant	<ul> <li>Recreational trails</li> <li>Bicycle lanes</li> <li>Curb ramps and paved shoulders for pedestrians</li> <li>Sidewalks</li> </ul>	<ul> <li>Planning and capital construction grants</li> <li>\$195 million authorized in FY 2022</li> </ul>
Safe Streets and Roads for All (SS4A) Grant	<ul> <li>Barrier removal for ADA compliance</li> <li>Bicycle lanes</li> <li>Rail at-grade crossings</li> <li>Sidewalks</li> </ul>	<ul> <li>Annual, competitive grant program that is merit-based.</li> <li>\$5 billion authorized for next five years beginning in FY 2022</li> </ul>
Highway Safety Improvement Program (HSIP)	<ul> <li>Safety projects that are consistent with the state's Strategic Highway Safety Plan (SHSP)</li> <li>Pedestrian hybrid beacons</li> <li>Roadway improvements that provide separation between pedestrians and motor vehicles, including medians and pedestrian crossing islands.</li> <li>Road diets</li> </ul>	<ul> <li>Typically requires 10% match</li> <li>\$2.407 billion authorized in FY 2021</li> </ul>
National Priority Safety Program (Section 405)	<ul> <li>Training law enforcement on state laws applicable to pedestrian and bicycle safety</li> <li>Enforcement mobilizations and campaigns designed to enforce those state laws</li> <li>Public education and awareness programs designed to inform motorists, pedestrians and bicyclists of those state laws</li> </ul>	<ul> <li>Only states where the annual combined pedestrian and bicyclist fatalities exceed 15 percent of the total annual crash fatalities are eligible</li> <li>Requires 20% state match</li> <li>\$123.4 million authorized in FY 2022</li> </ul>

Source	Eligible Activity Examples	Characteristics and Requirements
State and Community Highway Safety Grant Program (Section 402)	Education, enforcement, and research programs designed to reduce traffic crashes, deaths, injuries, and property damage	<ul> <li>Administered by the Governor's Representative for Highway Safety</li> <li>\$133.3 million authorized in FY 2022</li> </ul>
Surface Transportation Block Grant (STBG) Program	<ul> <li>Recreational trail projects eligible under 23 U.S.C. 206</li> <li>Pedestrian and bicycle projects in accordance with 23 U.S.C. 217</li> <li>Modifications to comply with accessibility requirements under the ADA</li> <li>Safe Routes to School Program</li> </ul>	<ul> <li>Project must be identified in STIP and consistent with the Long-Range Statewide Transportation Plan and the Metropolitan Transportation Plan(s)</li> <li>State may obligate up to 15 percent of the STBG amounts suballocated for that year for use in areas with a population of 5,000 or less on roads functionally classified as minor collectors.</li> <li>\$13.835 billion authorized in FY 2022</li> </ul>
Transportation Alternatives (TA) Set-aside of the STBG Program	<ul> <li>Bicycle and pedestrian facilities</li> <li>Recreational trails</li> <li>Safe Routes to School projects</li> <li>Technical assistance</li> <li>Programmed through the Strategic Transportation Investments –</li> </ul>	<ul> <li>Typically requires 20% match</li> <li>Can be received directly by local governments</li> <li>Competitive funding process</li> <li>\$850 million set aside in FY 2018</li> </ul>
	Strategic Mobility Formula process	
	State Funding Sources     Projects that enhance or restore	Requires matching funds
Clean Water Management Trust Fund (CWMTF)	<ul> <li>degraded waters, acquire land with ecological, cultural, and historic significance</li> <li>Greenway (shared use path) projects are eligible</li> <li>Innovative stormwater projects</li> </ul>	Annual grant cycle
Downtown Associate Community Program	Technical assistance for downtown revitalization projects from the NC Main Street & Rural Planning Center	<ul> <li>Competitive application process every other year</li> <li>Municipalities with populations less than 50,000 and that are not already designated as an active Main Street or Small Town Main Street community</li> </ul>
Land and Water Conservation Fund (LWCF)	<ul> <li>Land acquisition and/or development projects for public outdoor recreation and/or to protect outstanding natural or scenic resources</li> <li>Can include new or renovated outdoor recreational facilities and support facilities</li> </ul>	<ul> <li>Requires 50% match</li> <li>Projects must be on a single site</li> <li>Administered by the Division of Parks and Recreation</li> </ul>
Parks and Recreation Trust Fund (PARTF)	Acquisition and/or development of park and recreational projects	<ul> <li>Requires 50% match</li> <li>Administered by the Division of Parks and Recreation</li> </ul>
Powell Bill	Municipalities may use Powell Bill funds to resurface, repair, or widen streets, or for the planning, construction and	<ul> <li>Annual allocation from the State to qualifying municipalities</li> </ul>

Source	Eligible Activity Examples	Characteristics and Requirements
	maintenance of bikeways, greenways, or sidewalks.	
Recreational Trails Program (RTP)	<ul> <li>Trail construction</li> <li>Trail facilities and amenities</li> <li>Programs that promote safety and environmental protection as they relate to recreational trail projects</li> </ul>	<ul> <li>Maximum grant award \$200,000</li> <li>Requires 25% match</li> <li>Federal funds managed by the Division of Parks and Recreation</li> </ul>
Safe Routes to School (SRTS)	<ul> <li>Infrastructure projects within 2 miles of a K-8 school</li> <li>Project must be within the public right-of-way</li> </ul>	<ul> <li>No match required</li> <li>Currently funding with leftover SRTS funds, once expended TA funds will be used and programmed through the Strategic Transportation Investments – Strategic Mobility Formula process</li> </ul>
	Local Funding Sources	
Capital Reserve Fund	May be used to fund pedestrian infrastructure projects	<ul> <li>The Town Council would establish the fund through an ordinance</li> <li>May be financed through Town budget allocations, grants, and donations</li> </ul>
Community Crowdfunding	Unrestricted source of funds, would apply to pedestrian infrastructure projects and programs	<ul> <li>Residents make monetary contributions through online platforms such as Indiegogo</li> <li>Town would pay a nominal fee</li> </ul>
Fees	The fee ordinance would establish which projects are eligible	<ul> <li>Would require adoption by the Town Council</li> <li>Fee types may include stormwater fees assessed per area of impervious surface or streetscape fees assessed per length of street frontage</li> </ul>
General Obligation Bonds	May be used to fund pedestrian infrastructure projects	<ul> <li>Would require adoption by the Town Council</li> <li>Would require approval by Town residents</li> </ul>
Special Tax District	May be levied by the municipality to raise funds to provide services or fund projects such as pedestrian infrastructure projects	Would require adoption by the Town Council
Tax Increment Financing	Pedestrian infrastructure improvements, land acquisition, utilities, and other improvements	Increased property values resulting from the constructed facility are used to pay the debt borrowed to build the facility

#### Pedestrian and Bicycle Funding Opportunities: U.S. Department of Transportation Transit, Safety, and Highway Funds

September 9, 2022 This table indicates potential eligibility for pedestrian and bicycle activities and projects under U.S. Department of Transportation surface transportation funding programs. Activities and projects need to meet program eligibility requirements. See notes and basic program requirements below, with links to program information. Project sponsors should integrate the safety, accessibility, equity, and convenience of walking and bicycling into surface transportation projects.

See notes and basic program requirements below, with mixs to pro			Р	edest	rian a	nd Bi	cycle	Fun	ding	( Opj	portu	nities	s: U.	.S. D	epar	tmen	t of T	`ransj	oortat	ion T	ransit	t, Safet	y, aı	nd Hi	ghway	y Fun	ds		
	Key: \$ = Activity may be eligible. Restrictions may apply, see program notes and guidance. ~\$ = Eligible, but not competitive unless part of a larger programs           OST Programs         Federal Transit         NHTSA         Federal Highway Administration															er proje													
Activity or Project Type	PAISE					PDIE	TIFIA					P 402 405		REP	CRP	CMAO	HSID	PHCP							  PLAN	NSRP	FLTTR	ттр	TTPSE
Activity of Project Type	<u>ICHOL</u>			0041			11112			100	1011	102		BIP BRR			<u></u>	<u>iurer</u>		TECT	5155	<u> </u>			112/11	<u>I (ODI</u>			111.01
Access enhancements to public transportation (benches, bus pads)	\$	\$	\$	\$		~\$	~\$	\$	\$		~\$				\$	\$			\$	\$	\$	\$				\$	\$	\$	
Americans with Disabilities Act (ADA)/504 Self Evaluation / Transition Plan				\$	TA					\$	\$				\$						\$	\$	\$		\$		\$	\$	
Barrier removal for ADA compliance	\$	\$	\$	\$		~\$	~\$	\$	\$	~\$	~\$			\$	\$				\$	\$	\$	\$	\$	\$		\$	\$	\$	
Bicycle plans			~\$	\$				\$		\$	\$				\$					\$	\$	\$		\$	\$		\$	\$	\$
Bicycle helmets (project or training related)												\$									\$	\$SRTS	5	\$				\$	
Bicycle helmets (safety promotion)		i i	İ.		i	İ.	ĺ					i i							ĺ		\$	\$SRTS	si -	\$	i i			\$	
Bicycle lanes on road	~\$	~\$	\$	\$		~\$	~\$	\$	\$		~\$				\$	\$	\$	\$	\$	\$	\$	\$		\$			\$	\$	\$
Bicycle parking (see Bicycle Parking Solutions)	~\$	~\$	\$	\$	İ	~\$	\$	\$	\$		~\$	i i			\$	\$			\$		\$	\$	\$	\$	i i	\$	\$	\$	
Bike racks on transit	~\$		\$	~\$			~\$	\$	\$		~\$				\$	\$					\$	\$					\$	\$	
Bicycle repair station (air pump, simple tools)	~\$		\$	~\$		~\$	~\$	\$	\$						\$						\$	\$	İ				\$	\$	
Bicycle share (capital and equipment; not operations)	~\$	~\$	\$	~\$		~\$	~\$	\$	\$						\$	\$			\$		\$	\$					\$	\$	
Bicycle storage or service centers (example: at transit hubs)	~\$	i	\$	~\$		~\$	\$	\$	\$			i i			\$	\$			ĺ		\$	\$	i		i i		\$	\$	
Bridges / overcrossings for pedestrians and/or bicyclists	\$	\$	\$	\$		~\$	~\$	\$	\$					\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$	\$	\$
Bus shelters and benches	\$	\$	\$	~\$	i i	~\$	~\$	\$	\$			i i			\$	\$			\$	\$	\$	\$	i		i i	\$	\$	\$	
Coordinator positions (State or local) (limits on CMAQ and STBG)				\$							\$					\$					\$	\$SRTS		\$				\$	
Community Capacity Building (develop organizational skills/processes)		1	1	\$	TA	1				\$	\$												İ		\$			\$	
Crosswalks for pedestrians, pedestrian refuge islands (new or retrofit)	\$	\$	\$	\$		~\$	~\$	\$	\$						\$	~\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$
Curb ramps	\$	\$	\$	\$	i	~\$	~\$	\$	\$			i i		\$	\$	~\$	\$	\$	\$	\$	\$	\$	\$	\$	i i	\$	\$	\$	\$
Counting equipment		\$	\$	\$			~\$	\$	\$								\$		\$		\$	\$	\$	\$	\$		\$	\$	\$
Data collection and monitoring for pedestrians and/or bicyclists	\$	\$	\$	\$	İ	Ì	~\$	\$	\$	\$	\$	i i			\$		\$		\$		\$	\$	\$	\$	\$		\$	\$	\$
Emergency and evacuation routes for pedestrians and/or bicyclists	\$	\$	\$	~\$			\$	\$	\$	~\$	~\$				\$				\$	\$	\$	\$	\$	\$			\$	\$	
Historic preservation (pedestrian and bicycle and transit facilities)	~\$		~\$	~\$		~\$	~\$	\$	\$		~\$				\$						\$	\$	1			\$	\$	\$	
Landscaping, streetscaping (pedestrian/bicycle route; transit access); related amenities (benches, water fountains); usually part of larger project	~\$	~\$	~\$	~\$		~\$	~\$	\$	\$	~\$	~\$				\$				~\$	\$	\$	\$					\$	\$	
Lighting (pedestrian and bicyclist scale associated with pedestrian/bicyclist project)	\$	\$	\$	\$	ĺ	~\$	~\$	\$	\$		~\$	İİ			\$	~\$	\$	\$	\$	\$	\$	\$	\$	\$	ĺ	\$	\$	\$	\$
Maps (for pedestrians and/or bicyclists)				\$				\$	\$	\$	~\$				\$	\$					\$	\$		\$	\$	\$		\$	
Micromobility projects (including scooter share)	\$	1	\$	~\$		~\$	~\$				~\$	İİ			\$	\$					\$	\$	İ				\$	\$	
Paved shoulders for pedestrian and/or bicyclist use	\$	~\$	\$	\$		~\$	~\$							\$	\$	\$	\$	\$	\$	\$	\$	\$		\$		\$	\$	\$	\$
Pedestrian plans	\$	~\$	~\$	\$		İ	ĺ	\$		\$	\$	i i			\$				ĺ	\$	\$	\$	İ	\$	\$		\$	\$	\$
Rail at-grade crossings	\$	\$	\$	~\$		\$	\$	\$	\$						\$		\$	\$	\$	\$	\$	\$	\$	\$			\$	\$	\$
Recreational trails	\$		\$	~\$			~\$													\$	\$	\$	\$			\$	\$	\$	
Resilience Improvements for pedestrians and bicyclists	\$	\$	\$	~\$		~\$	~\$			\$	~\$			~\$	~\$	~\$			\$	\$	\$	\$	\$	\$		\$	\$	\$	
Road Diets (pedestrian and bicycle portions)	\$	\$	\$	\$		~\$	\$								\$	\$	\$		\$	\$	\$	\$	Ì	\$	ĺ		\$	\$	\$

	Pedestrian and Bicycle Funding Opportunities: U.S. Department of Transportation Transit, Safety, and Highway Funds Key: \$ = Activity may be eligible. Restrictions may apply, see program notes and guidance. ~\$ = Eligible, but not competitive unless part of a larger project.																												
			OST	Prog	rams			Federal Transit NHTSA																					
Activity or Project Type	RAISE	INFRA	RCP	SS4A	Thrive	RRIF	TIFIA	<b>FTA</b>	ATI	TOD 4	AoPP	<u>402</u>			CRP	CMAQ	HSIP	RHCP	NHPP		STBG	TA	RTP	<u>SRTS</u>	PLAN	NSBP	FLTT	TTP	TTPS
														BIP BRR						TECT									
Road Safety Assessment for pedestrians and bicyclists			\$	\$	TA		~\$				~\$						\$	\$			\$	\$			\$		\$	\$	\$
Safety education and awareness activities and programs to inform pedestrians, bicyclists, and motorists on ped/bike traffic safety laws				\$							~\$	\$	\$				\$				\$SRTS	\$SRTS		\$	\$			\$	
Safety education positions				\$							~\$	\$									\$SRTS	\$SRTS		\$				\$	
Safety enforcement (including police patrols)				\$								\$	\$				\$				\$SRTS	\$SRTS		\$				\$	
Safety program technical assessment (for peds/bicyclists)			\$	~\$	TA						~\$	\$					\$				\$SRTS	\$SRTS		\$	\$		\$	\$	
Separated bicycle lanes	\$	\$	\$	\$		~\$	~\$	\$	\$		~\$			\$	\$	\$	\$	\$	\$	\$	\$	\$		\$		\$	\$	\$	\$
Shared use paths / transportation trails	\$	\$	\$	\$		~\$	~\$	\$	\$		~\$				\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$
Sidewalks (new or retrofit)	\$	\$	\$	\$		~\$	~\$	\$	\$	~\$	~\$			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$
Signs, signals, signal improvements (incl accessible pedestrian signals) see note	\$	\$	\$	\$		~\$	~\$	\$	\$	~\$	~\$				\$	\$	\$	\$	\$	\$	\$	\$		\$		\$	\$	\$	\$
Signing for pedestrian or bicycle routes	\$	\$	\$	\$		~\$	~\$	\$	\$		~\$				\$	\$	\$		\$	\$	\$	\$		\$		\$	\$	\$	\$
Spot improvement programs (for pedestrian and bicycle facilities)	\$	\$		\$		~\$	~\$	\$			~\$				\$		\$	\$	\$		\$	\$	\$	\$			\$	\$	\$
Stormwater impacts related to pedestrian and bicycle project impacts	\$	\$	\$	~\$		~\$	~\$	\$	\$								\$	\$	\$	\$	\$	\$	\$	\$			\$	\$	\$
Traffic calming	\$	\$	\$	\$		~\$	~\$	\$							\$		\$		\$	\$	\$	\$		\$			\$	\$	\$
Trail bridges	\$	\$	\$	~\$		~\$	\$								\$	~\$	\$	\$	\$	\$	\$	\$	\$	\$			\$	\$	\$
Trail construction and maintenance equipment				~\$		~\$	~\$								\$						\$	\$	\$				~\$	~\$	~\$
Trail/highway crossings and intersections	\$	\$	\$	\$		~\$	~\$							\$	\$	~\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$
Trailside/trailhead facilities (restrooms, water, not general park amenities	) ~\$					~\$	~\$								~\$						\$	\$	\$			\$	\$	\$	
Training				\$	TA						~\$	\$				\$	\$				\$	\$	\$	\$	\$			\$	
Training for law enforcement on ped/bicyclist safety laws				~\$								\$	\$			~\$	\$				\$SRTS	<b>\$SRTS</b>		\$				\$	
Tunnels / underpasses for pedestrians and/or bicyclists	\$	\$	\$	\$		\$	\$	\$	\$						\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$	\$	\$
Vulnerable Road User Safety Assessment		1	\$	\$	TA												\$				\$	\$		\$	\$			\$	\$

#### Abbreviations

ADA/504: Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973

RAISE: Rebuilding American Infrastructure with Sustainability and Equity

INFRA: Infrastructure for Rebuilding America Discretionary Grant Program

RCP: Reconnecting Communities Pilot Program

SS4A: Safe Streets and Roads for All

Thrive: Thriving Communities Initiative (TA: Technical Assistance)

RRIF: Railroad Rehabilitation and Improvement Financing (loans)

TIFIA: Transportation Infrastructure Finance and Innovation Act (loans)

FTA: Federal Transit Administration Capital Funds

ATI: Associated Transit Improvement (1% set-aside of FTA)

TOD: Transit-Oriented Development

AoPP: Areas of Persistent Poverty Program

NHTSA 402: National Highway Traffic Safety Administration State and Community Highway Safety Grant Program NHTSA 405: National Highway Traffic Safety Administration National Priority Safety Programs (Nonmotorized safety)

<u>BFP</u>: Bridge Formula Program; <u>BIP</u>: Bridge Investment Program; <u>BRR</u>: Bridge Replacement and Rehabilitation Program <u>CRP</u>: Carbon Reduction Program CMAQ: Congestion Mitigation and Air Quality Improvement Program

HSIP: Highway Safety Improvement Program

RHCP: Railway-Highway Crossings (Section 130) Program

NHPP: National Highway Performance Program

PROTECT: Promoting Resilient Operations for Transformative, Efficient, and Cost Saving Transportation

STBG: Surface Transportation Block Grant Program

TA: Transportation Alternatives Set-Aside (formerly Transportation Alternatives Program, Transportation Enhancements)

RTP: Recreational Trails Program

SRTS: Safe Routes to School Program (and related activities)

PLAN: Statewide Planning and Research (SPR) or Metropolitan Planning funds

NSBP: National Scenic Byways Program

FIGURE 1: National Scenic Byways Program FLTTP: Federal Lands and Tribal Transportation Programs: <u>Federal Lands Access Program</u>, <u>Federal Lands Transportation</u> <u>Program</u>, <u>Tribal Transportation Program</u>, <u>Federal Lands Planning Program</u> and related programs for Federal and Tribal lands such as the <u>Nationally Significant Federal Lands and Tribal Projects</u> program.

TTP: Tribal Transportation Program

TTPSF: Tribal Transportation Program Safety Fund

#### **Cross-cutting notes**

This table indicates potential eligibility for pedestrian, bicycle, and micromobility activities and projects under U.S. Department of Transportation surface transportation funding programs. Activities and projects must meet program eligibility requirements. See notes and links to program information below. Although the primary focus of this table is stand-alone activities and projects, programs also fund pedestrian and bicycle facilities as part of larger projects. Project sponsors are encouraged to consider <u>Complete Streets</u> and Networks that routinely integrate the safety, accessibility, equity, and convenience of walking and bicycling into surface transportation projects. In these instances, the Federal-aid eligibility of the pedestrian and bicycle elements are considered under the eligibility criteria applicable to the larger highway project. Pedestrian and bicycle activities also may be characterized as environmental mitigation for larger highway projects, especially in response to impacts to a Section 4(f) property or work zone safety, mobility, and accessibility impacts on bicyclists and pedestrians.

- See FHWA Bicycle and Pedestrian Planning, Program, and Project Development (Guidance)
- Bicycle Project Purpose: 23 U.S.C. 217(i) requires that bicycle facilities "be principally for transportation, rather than recreation, purposes". However, 23 U.S.C. 133(b)(7) and 133(h) authorize recreational trails under <u>STBG</u> and the <u>TA</u> <u>Set-Aside</u>, therefore, 23 U.S.C. 217(i) does not apply to trail projects (including for bicycle use) using <u>STBG</u> or <u>TA Set-Aside</u> funds. Section 217(i) applies to bicycle facilities other than trail-related projects, and section 217(i) applies to bicycle facilities using other programs (<u>NHPP</u>, <u>HSIP</u>, <u>CMAQ</u>). The transportation requirement under section 217(i) only applies to bicycle projects, not to any other trail use or transportation mode.
- Signs, signals, signal improvements includes ensuring accessibility for persons with disabilities. See <u>Accessible Pedestrian Signals</u>. See also <u>Proven Safety Countermeasures</u>, such as <u>Crosswalk Visibility Enhancements</u>, <u>Leading Pedestrian Interval</u> signals, <u>Pedestrian Hybrid Beacons</u>, and <u>Rectangular Rapid Flashing Beacons</u>.
- Occasional DOT or agency incentive grants may be available for specific research or technical assistance purposes.
- Aspects of DOT initiatives may be eligible as individual projects. Activities above may benefit safe, comfortable, multimodal networks; environmental justice; and equity.
- The DOT Navigator is a resource to help communities understand the best ways to apply for grants, and to plan for and deliver transformative in frastructure projects and services.
- FHWA's Policy on Using Bipartisan Infrastructure Law Resources to Build a Better America.
- FHWA Links to Technical Assistance and Local Support.

#### **Program-specific notes**

- Federal-aid and other DOT funding programs have specific requirements that projects must meet, and eligibility must be determined on a case-by-case basis. See links to program guidance for more information.
- RAISE (Infrastructure Investment and Jobs Act (Pub. L. 117-58) (IIJA), also known as the Bipartisan Infrastructure Law (BIL), § 21202): Funds capital and planning grants.
- INFRA (IIJA § 11110): For projects that improve safety, generate economic benefits, reduce congestion, enhance resiliency, and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.
- RCP (IIJA § 11509 and div. J, title VIII, Highway Infrastructure Programs, para. (7)): See <u>RCP Program Notice of Funding Opportunity</u> for full details. Planning grants and Capital Construction Grants must relate to a transportation facility that creates a barrier to community connectivity.
- <u>SS4A</u> (IIJA § 24112): Discretionary program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. Projects must be identified in a comprehensive safety action plan (§ 24112(a)(3)).
- <u>Thrive</u> (Department of Transportation Appropriations Act, 2022 (Pub. L. 117-103, div. L, title I): Technical assistance, planning, and capacity-building support in selected communities.
   <u>RRIF</u> (Chapter 224 of title 49 U.S.C.): Program offers direct loans and loan guarantees for capital projects related to rail facilities, stations, or crossings. Pedestrian and bicycle infrastructure components of "economic development"
- Kki (chapter 224 of the 49 0.5.2.). Frogram offers there to an guarances for capital projects related to fair factures, stations, or clossings, redestrian and object minastructure components of economic development projects located within ½-mile of qualifying rail stations may be eligible. May be combined with other grant sources.
- <u>TIFIA</u> (Chapter 6 of title 23 U.S.C.): Program offers secured loans, loan guarantees, or standby lines of credit for capital projects. Minimum total project size is \$10 million; multiple surface transportation projects may be bundled to meet cost threshold, under the condition that all projects have a common repayment pledge. May be combined with other grant sources, subject to total Federal assistance limitations.
- FTA / ATI (49 U.S.C. 5307): Multimodal projects funded with FTA transit funds must provide access to transit. See <u>Bicycles and Transit Access</u>, the FTA <u>Final Policy Statement on the Eligibility of Pedestrian</u> and <u>Bicycle Improvements Under Federal Transit Law</u>, and <u>FTA Program & Bicycle Related Funding Opportunities</u>.
- Bicycle infrastructure plans and projects must be within a 3-mile radius of a transit stop or station. If more than 3 miles, within a distance that people could be expected to safely and conveniently bike to the particular stop or station.
- Pedestrian infrastructure plans and projects must be within a ½ mile radius of a transit stop or station. If more than ½ mile, within a distance that people could be expected to safely and conveniently walk to the particular stop or station.
   FTA funds cannot be used to purchase bicycles for bike share systems.
- FTA TOD: Provides planning grants to support community efforts to improve safe access to public transportation for pedestrians and cyclists. The grants help organizations plan for transportation projects that connect communities and improve access to transit and affordable housing, not for capital purchases.
- FTA AOPP (Further Consolidated Appropriations Act, 2020 (Pub. L. 116-94); Consolidated Appropriations Act, 2021 (Pub. L. 116-260)): Promotes multimodal planning, engineering, and technical studies, or financial planning to improve
  transit services in areas experiencing long-term economic distress, not for capital purchases.
- NHTSA 402 (23 U.S.C. 402): Project activity must be included in the State's Highway Safety Plan. Contact the State Highway Safety Office for details.
- NHTSA 405 (23 U.S.C. 405): Funds are subject to eligibility, application, and award. Project activity must be included in the State's Highway Safety Plan. Contact the State Highway Safety Office for details. The Bipartisan Infrastructure Law expanded the eligible use of funds for a Section 405 Nonmotorized Safety grant beginning in FY 2024; however, for FY 2023 grants, FAST Act eligible uses remain in place.
- <u>BFP</u>, (IIJA, Div. J, title VIII, para. (1)), <u>BIP</u> (23 U.S.C. 124), <u>BRR</u> (Department of Transportation Appropriations Act, 2022): For specific highway bridge projects and highway bridge projects that will replace or rehabilitate a bridge must consider pedestrian and bicycle access as part of the project and costs related to their inclusion are eligible under these programs.
- CRP (23 U.S.C. 175): Projects should support the reduction of carbon dioxide emissions from on-road highway sources.

- <u>CMAQ</u> (23 U.S.C. 149): Projects must demonstrate emissions reduction and benefit air quality. See the CMAQ guidance at <u>www.fhwa.dot.gov/environment/air\_quality/cmaq/</u> for a list of projects that may be eligible for CMAQ funds. CMAQ funds may be used for shared use paths, but not for trails that are primarily for recreational use.
- HSIP (23 U.S.C. 148): Projects must be consistent with a State's <u>Strategic Highway Safety Plan</u> and (1) correct or improve a hazardous road location or feature, or (2) address a highway safety problem. Certain non-infrastructure safety projects can also be funded using HSIP funds as specified safety projects.
- RHCP (23 U.S.C. 130): Projects at all public railroad crossings including roadways, bike trails, and pedestrian paths.
- NHPP (23 U.S.C. 119): Projects must benefit National Highway System (NHS) corridors and must be located on land adjacent to any highway on the National Highway System (23 U.S.C. 217(b)).
- <u>PROTECT</u> (23 U.S.C. 176): Funds can only be used for activities that are primarily for the purpose of resilience or inherently resilience related. With certain exceptions, the focus must be on supporting the incremental cost of making assets more resilient.
- STBG (23 U.S.C. 133) and TA Set-Aside (23 U.S.C. 133(h)): Activities marked "\$SRTS" means eligible only as an SRTS project benefiting schools for kindergarten through 12<sup>th</sup> grade. Bicycle transportation nonconstruction projects related to safe bicycle use are eligible under STBG, but not under TA (23 U.S.C. 217(a)). There is broad eligibility for projects under 23 U.S.C. 206, 208, and 217.
- RTP (23 U.S.C. 206): Projects for trails and trailside and trailhead facilities for any recreational trail use. RTP projects are eligible under TA Set-Aside and STBG.
- SRTS (23 U.S.C. 208): Projects for any SRTS activity. FY 2012 was the last year for dedicated funds, but funds are available until expended. SRTS projects are eligible under TA Set-Aside and STBG.
- PLAN (23 U.S.C. 134 and 135): Funds must be used for planning purposes, for example: Maps: System maps and GIS; Safety education and awareness: for transportation safety planning; Safety program technical assessment: for transportation safety planning; Training: Dicycle and pedestrian system planning training.
- NSBP (23 U.S.C. 162): Discretionary program subject to annual appropriations. Projects must directly benefit and be close to a designated scenic byway.
- FLTTP (23 U.S.C. 201-204): Projects must provide access to or within Federal or tribal lands. Programs include: Federal Lands and Tribal Transportation Programs (Federal Lands Access Program, Federal Lands Transportation Program, Federal Lands and Tribal Program) and related programs for Federal and Tribal lands such as the Nationally Significant Federal Lands and Tribal Projects (NSFLTP) program.
- <u>Federal Lands Transportation Program</u> (23 U.S.C. 203): For Federal agencies for projects that provide access within Federal lands.
- Federal Lands Access Program (FLAP) (23 U.S.C. 204): For State and local entities for projects that provide access to or within Federal or tribal lands.
- TTP (23 U.S.C. 202): For federally-recognized tribal governments for projects within tribal boundaries and public roads that access tribal lands.
- TTPSF (23 U.S.C. 202(e)(1) and 23 U.S.C. 148(a)(4)): Grants available to federally recognized Indian tribes through a competitive, discretionary program to plan and implement transportation safety projects.

Source: FHWA Pedestrian and Bicycle Funding Opportunities, September 9, 2022, <a href="https://www.fhwa.dot.gov/environment/bicycle">https://www.fhwa.dot.gov/environment/bicycle</a> pedestrian/funding/funding opportunities.pdf?u=092922