

# CITY OF HENDERSONVILLE PEDESTRIAN PLAN - 2023 -



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(Source: TPD)

**This plan is made possible through a Multimodal Planning Grant from the North Carolina Department of Transportation Integrated Mobility Division.**

*City Council Adoption Date December 7, 2023*

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# ACKNOWLEDGMENTS

*Walk Hendo embodies the collective voices that make Hendersonville the extraordinary place it is – the unwavering commitment of volunteers, the dedication of staff, the visionary elected officials, and the involvement of residents and visitors, all united to enhance the City while preserving its heritage. A heartfelt expression of gratitude goes out to the Steering Committee members listed below, whose participation was invaluable in shaping this endeavor. Thank you!*

## **The Residents and Visitors of Hendersonville**

### **Hendersonville Elected Officials**

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# THINGS TO KNOW BEFORE YOU READ THIS PLAN

In the transportation field, we use various terms and acronyms are not used in everyday conversations. This section references and provides explanations of important concepts and types of infrastructure referenced throughout the document. By familiarizing ourselves with these terms, we can better understand the discussions related to transportation planning and development.



## MULTIMODAL TRANSPORTATION

This refers to a diverse array of transportation modes, encompassing not only motor vehicles such as cars, trucks, and motorcycles, but also non-motorized options like walking, bicycling, public transit, and rail. Multimodal options in Hendersonville include sidewalks, greenways such as Oklawaha Greenway, and bus services provided by Apple Country Transit.



## CONNECTIVITY

A connected community is one where the transportation system effectively connects individuals to their desired destinations through reliable, uninterrupted, and pleasant networks. To enhance the functionality of greenways, having a parking lot available at each trailhead and convenient access to adjacent sidewalks is beneficial. When sidewalks extend seamlessly to the destination, it encourages people to walk more frequently.



## NETWORK

When referring to a network, we are discussing the interconnected system of transportation infrastructure that operates cohesively. A well-functioning network ensures that individuals can easily reach their desired destinations using multimodal transportation options. The goal is to provide convenient access for people to travel to the places they want or need to go within the community.



## FACILITIES

A facility is a broad term that describes enhancements and provisions that cater to bicycling or walking. It can encompass various elements, such as surfaces for walking or biking, like sidewalks, or equipment that enables pedestrians to activate traffic lights. In general, we are referring to the physical infrastructure that supports different modes of transportation.

*\*Note: When we use the word pedestrian, we mean people who walk, with or without a mobility device, and those who get around by using a wheel chair or similar device.*

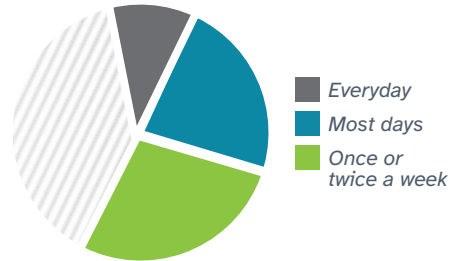
# WHY THIS PLAN IS IMPORTANT

1

## People in Hendersonville are walking.

More than 60% of survey respondents\* indicated that they walk at least once a week, echoed by the success of a walkable downtown and popular greenways.

*\*Complete survey results can be found in the Appendix.*



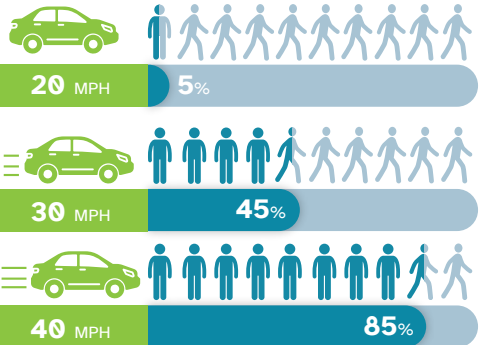
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## Hendersonville rated #1 (highest rate) for pedestrian fatalities and severe injuries.\*

The number of crashes involving pedestrians has been deemed unacceptable by the community and requires safety countermeasures.

*\*This ranking is based on crash data from 2010-2019 and included pedestrians killed or severely injured in cities with populations between 10,000 and 25,000 in North Carolina. (Source: NCDOT PBCAT Pedestrian Crash Data)*

If hit by a car traveling



(Source: NTSB)

3

## People are moving to the area.

The City's population grew 46% between 2000 to 2020, which underscores the importance of ensuring that people have walkable neighborhoods and safe connections, highlighting an opportunity to attract more people to live downtown.

*(Source: U.S. Decennial Census)*

4

## Sidewalk gaps prevent walkability.

While Hendersonville's downtown is walkable, there are still gaps in the sidewalk network (see map to the right) that create barriers for people on foot, even for those who live nearby. People will walk where they feel safe, the route is convenient, and the overall experience is enjoyable. Closing gaps in the sidewalk network can address each of these elements.





*South Main Street looks a lot different south of Allen Street. The roadway is wider, sidewalks are not comprehensive, and parking lots take center stage. Zoning and development regulations here are geared towards a more urban form (there is no minimum setback or parking mandate, for instance) but redevelopment takes time and is less likely without the corresponding streetscape to support it.*

*(Source: Google Streetview)*



*(Source: Google Streetview)*



*(Source: City of Atascadero)*

## Land use and transportation are interconnected.

Planning for land use through zoning, dimensional requirements, and density has an effect on transportation. Hendersonville's development code addresses a number of transportation elements like parking, driveways, and shade trees. Meanwhile, our roadway design decisions influence the types of land uses that take root and flourish.

Good planning in both realms creates the communities and neighborhoods we love. The Gen H Comprehensive Plan can work in tandem with Walk Hendo to set a purposeful framework for positive changes to both land use and transportation.

5

## Corridors are not complete streets.

Many of Hendersonville's major roadways do not accommodate people walking. Some lack sidewalks altogether, while others are unsafe to cross or reach a bus stop (see *image to the left of US 64*). Studying these corridors in more depth can address access, safety, and comfort for all users and facilitate the movement of people and goods. Streets can be designed with all users in mind (see *cross-section example at bottom left*).

6

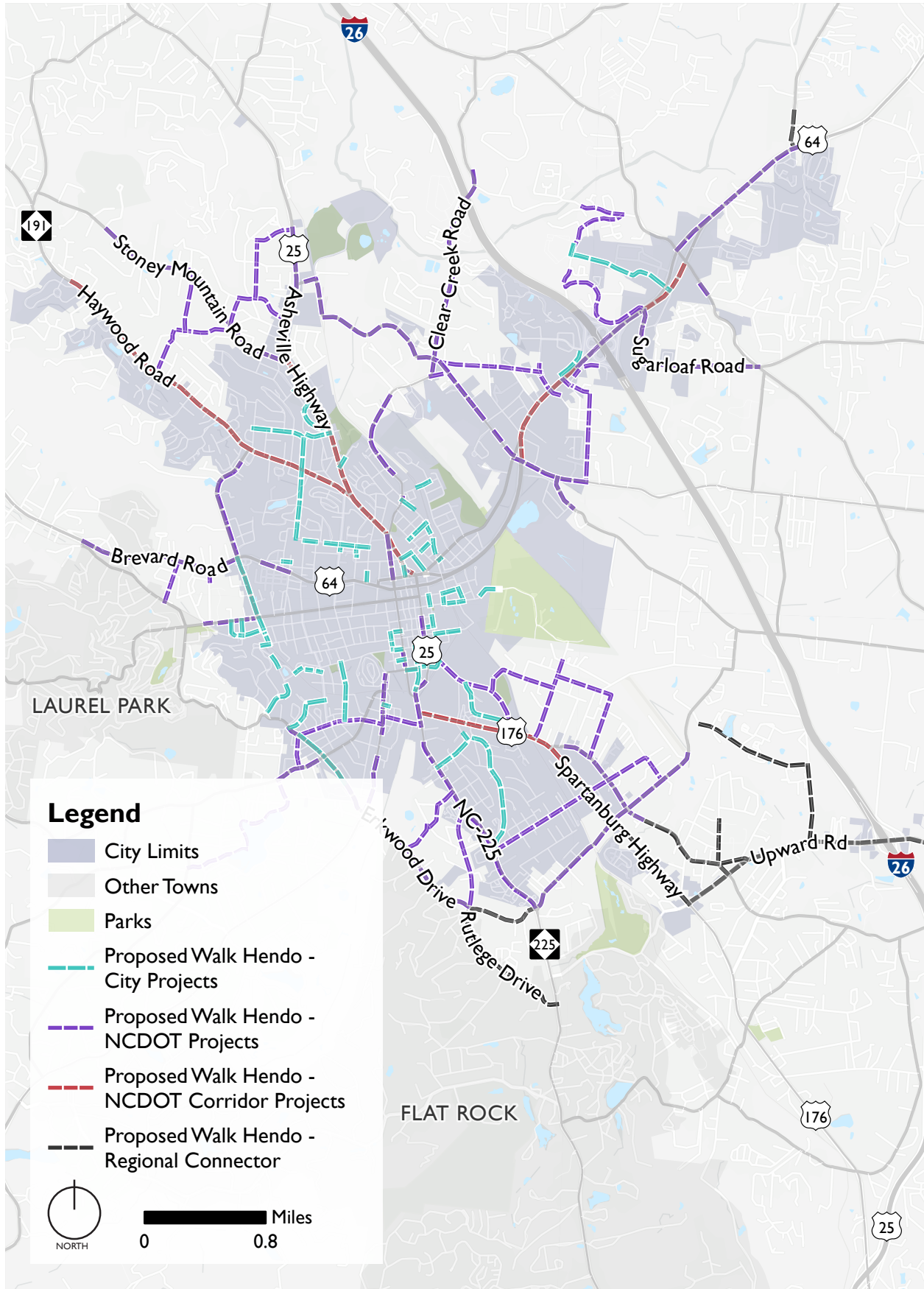
## Intersections are critical for safety and access.

Unsafe crossings create barriers for people who walk and limit the effectiveness of a sidewalk system. There are opportunities for safety improvements throughout the city, including at existing crossings that need additional safety measures.

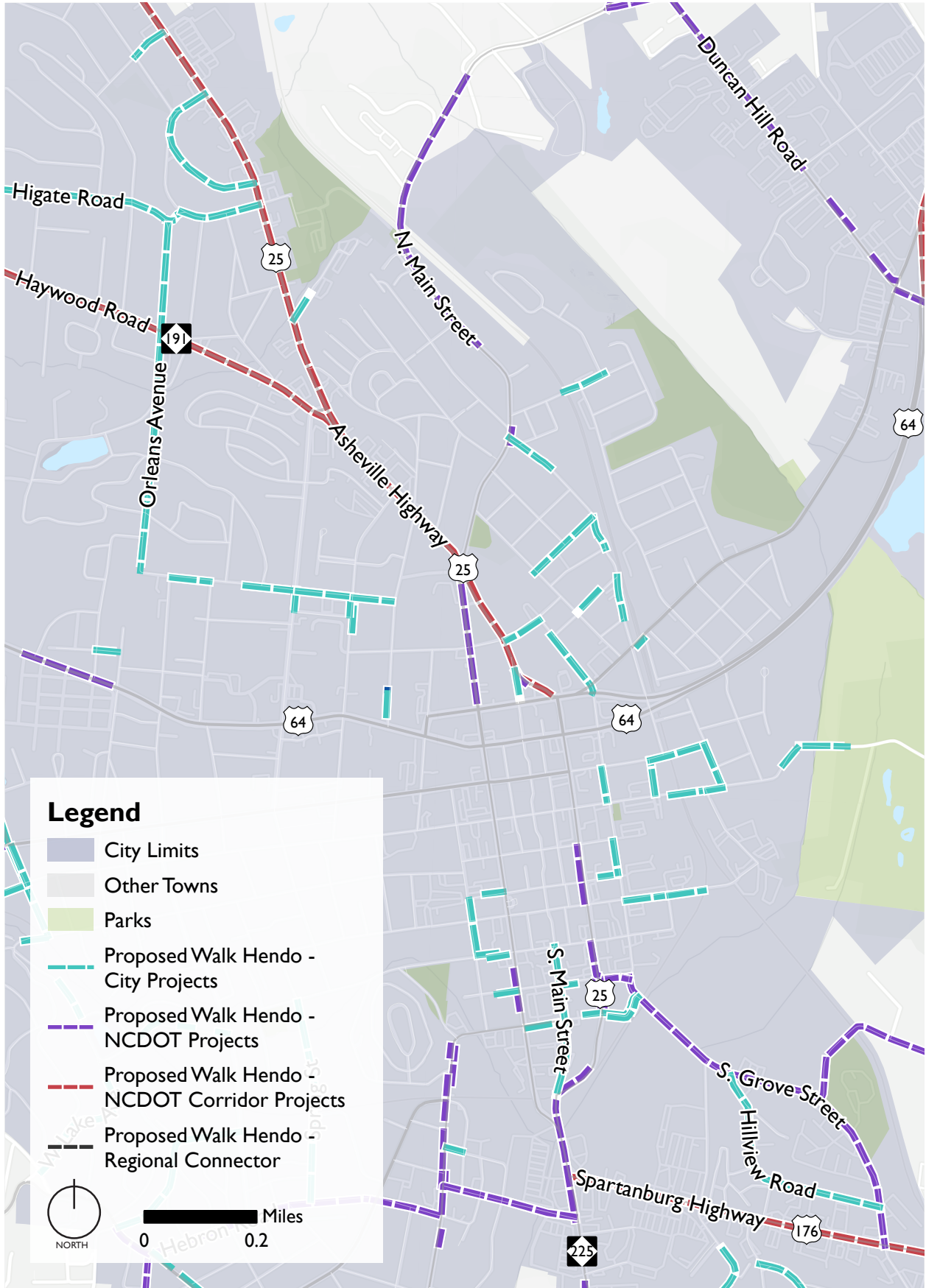
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**Map 1. Full Proposed Network Map (All Project Recommendations)**



Map 1. Full Proposed Network Map (All Project Recommendations) (Zoomed in)



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(Source: TPD)

# 01

## Introduction & Plan Goals



# 01

## INTRODUCTION & PLAN GOALS

*“I am proud that Hendersonville takes this subject seriously and considers walking in their projects!”*

– Walk Hendo Survey Respondent

### PROJECT BACKGROUND

Throughout the year, Hendersonville is a lively hub for community festivals, celebrations, and social gatherings. This bustling area is filled with locally owned stores, shops, and restaurants catering to residents and visitors, providing a wealth of recreation and entertainment options alongside essential City and County services. Ensuring safe and convenient access to these amenities is paramount, whether individuals drive, walk, take the bus, or ride their bicycle.

There is a need throughout Hendersonville for expanded pedestrian amenities, infrastructure upgrades, and initiatives that improve safety and make it possible for people to choose to walk. It is crucial to provide various means of getting to work, school, parks and nearby recreational areas, downtown, and neighboring municipalities like Laurel Park and Flat Rock. Current conditions make it hard to walk because there are gaps in

the network and unsafe crossing. It is unrealistic to expect people to walk places if it is unsafe to do so. The objective of this plan is to provide ideas to help create safe, comfortable, and inviting pathways for every mode of travel, supporting the well-being of residents, the prosperity of local businesses, and the needs of visitors interested in exploring Hendersonville on foot.

As Hendersonville experiences an influx of newcomers and tourists, community leaders are actively exploring avenues to enhance connectivity and convenience for residents and visitors. Within this context, the City of Hendersonville applied to the North Carolina Department of Transportation (NCDOT) Integrated Mobility Division (IMD) for a Pedestrian Planning Grant. IMD awarded funds for the project, and in 2022 the *Walk Hendo* planning process began.



## PLAN PURPOSE & APPROACH

The purpose of *Walk Hendo* is to create a comprehensive plan that lays the groundwork for new and improved pedestrian connections between important destinations, enabling people to easily navigate Hendersonville on foot. Additionally, *Walk Hendo* strives to foster a community that is welcoming to pedestrians by implementing programs and policies that support and prioritize their needs.

*Walk Hendo* is an action-oriented plan that addresses four questions. The plan provides answers and solutions to these key inquiries, ensuring a comprehensive and effective approach:

- 1 WHERE ARE WE TODAY?**  
Reviewed under Chapter 2 (Walking Conditions Today).
- 2 WHERE DO WE WANT TO GO?**  
Discussed in Chapters 3 (Project Prioritization & Recommendations) and 4 (Program & Policy Recommendations).
- 3 HOW CAN WE GET THERE?**  
Outlined in Chapter 5 (Implementing the Plan).
- 4 HOW WILL WE MEASURE SUCCESS?**  
Also presented in Chapter 5.

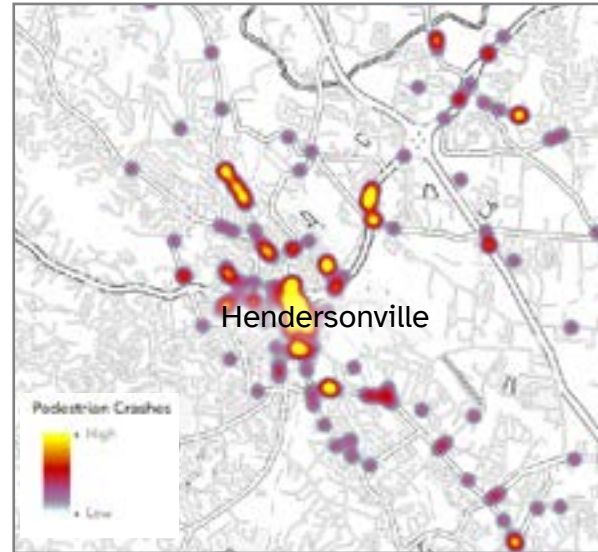


**Hendersonville rated #1 (highest rate) for pedestrian fatalities and severe injuries.\***

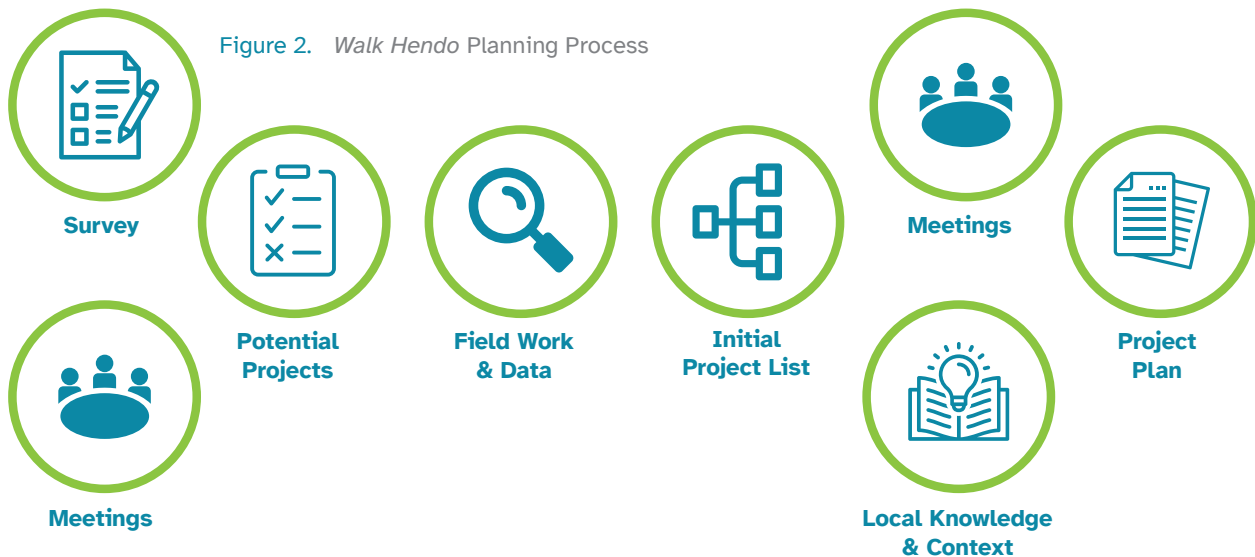
\*This ranking is based on crash data from 2010-2019 and included pedestrians killed or severely injured in cities with populations between 10,000 and 25,000 in North Carolina.

(Source: NCDOT PBCAT Pedestrian Crash Data)

Figure 1. Pedestrian Crash Heat Map 2007-2022  
(Source: NCDOT)



*Most crashes involving pedestrians occur in the downtown core, where there are higher numbers of people walking. However, pedestrians are also in danger when they walk on key arterial roadways that lack safe places to cross.*



# VISION STATEMENT

Hendersonville's walkable streets **CREATE SAFE AND CONVENIENT CONNECTIONS** to transit, workplaces, shopping, schools, recreation, and services; sustain vibrant and inclusive neighborhoods and communities; and support the City's quality of life, health, and economy.

Hendersonville's pedestrian network is a part of the City's **BALANCED AND INTEGRATED MULTIMODAL SYSTEM** that is interconnected with the regional transportation system.

## VISION & GOALS

Vision and goal statements play a decisive role in developing long-range planning projects like *Walk Hendo*. They provide guidance and direction for City staff and elected officials and are a reference point when considering various projects. The vision statement is aspirational, presenting a perspective from someone in Hendersonville's future evaluating their community.

In the case of *Walk Hendo*, four primary goals were identified by the Steering Committee to align with the expressed desires of the community. These goals represent the values of the people of Hendersonville. They form the cornerstone of the Action Plan and serve as a basis for prioritizing recommendations. Adhering to these goals helps ensure that the needs and preferences of Hendersonville residents are at the forefront of the planning process.

## PLAN GOALS



### GOAL 1

#### Connect People to Places

Link sidewalks, greenways, and street crossings to key destinations and transit.



### GOAL 2

#### Build Safer Streets

Develop comfortable connections for all residents and visitors regardless of age or ability.



### GOAL 3

#### Address Policy

Ensure that the land development code and other City policies support expansion of the pedestrian network.



### GOAL 4

#### Promote a Culture of Walking

Develop educational and encouragement programs that create a culture where walking is celebrated.

## THE LAND USE AND WALKABILITY CONNECTION

The proximity of goods and services to homes and workplaces plays a vital role in determining whether people choose to walk to their destination. An essential aspect of promoting pedestrian activity is creating a land use environment that fosters higher density and a mix of housing, offices, and retail. Research has consistently shown that areas with higher densities of either housing or employment tend to attract more pedestrians. Creating compact, mixed-use developments that bring together residential, commercial, and employment opportunities within close proximity makes it easier for people to access the goods and services they need on foot. This proximity reduces reliance on cars and promotes a pedestrian-friendly environment.

By prioritizing higher density land use patterns and fostering a diverse mix of housing and employment options, Hendersonville can create more vibrant, walkable neighborhoods that promote active lifestyles and reduce dependence on motor vehicles. The City has the opportunity to initiate gradual change by

“When we build our landscape around places to go, we lose places to be.”

- Rick Cole, Executive Director of the Congress for the New Urbanism

considering adjustments to minimum dimensional requirements in residential areas and rezoning certain residential areas to permit more than just single-family homes and duplexes. This flexibility would enable the inclusion of multi-family developments such as triplexes, fourplexes, and “cottage clusters,” offering greater diversity and affordability, enhancing the availability of housing choices for residents close to downtown and other commercial centers.

By implementing such changes, the City can incentivize the creation of walkable neighborhoods with a variety of housing types, promoting social interactions, and providing convenient access to amenities.



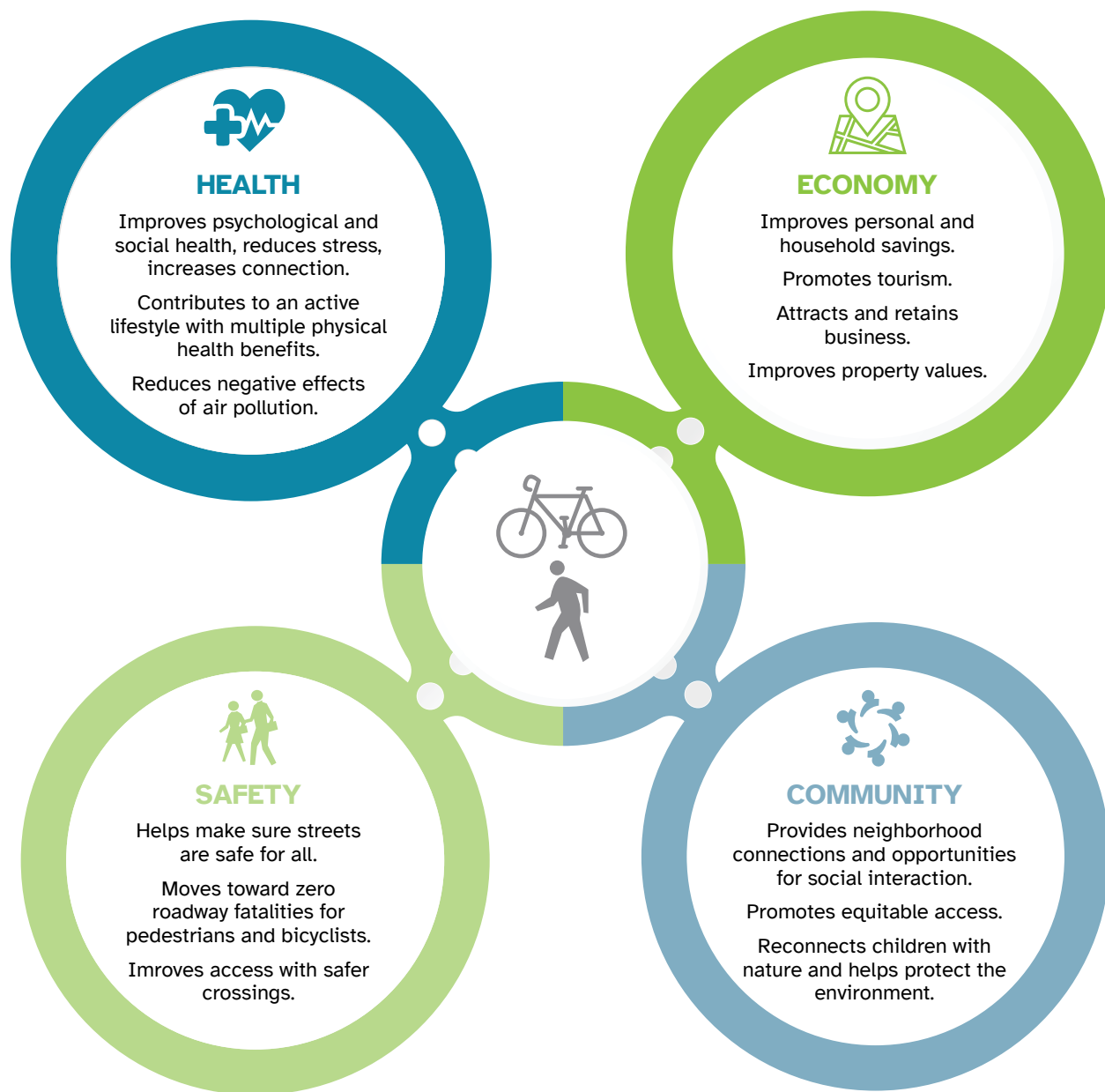
*Gen H* is the name of Hendersonville’s 2045 Comprehensive Plan, a blueprint that will lay the groundwork for future land management and conservation, affordable housing, parks and green space, and much more. The Comprehensive Plan is called *Gen H* to encourage the community to think generationally about the future of Hendersonville. This plan will build on the foundation of the existing 2030 plan while updating and expanding the policy framework for a 25-year planning horizon.

The plan will be used as a tool for prioritizing resources and future planning efforts. City Council can also use the *Gen H* plan as a guide for budgeting, strategic planning, and making policy decisions. This applies to transportation decision-making, with budgeting and prioritization for walkable streets and greenways linked back to the goals of both *Walk Hendo* and *Gen H*.

<https://www.hendersonvillenc.gov/gen-h-about-plan>

Multimodal infrastructure can serve as a valuable community asset, providing free and accessible travel, recreation, and exercise opportunities for everyone, including children, youth, and families with limited access to such amenities. By increasing opportunities for active travel, Hendersonville can enjoy a more equitable distribution of public resources, particularly for those who do not want to, or cannot drive. This can lead to financial savings and expanded opportunities for lower-income individuals while improving mobility options for those lacking adequate transportation access.

Figure 3. The Many Benefits of Walking & Bicycling Infrastructure





## WHY THIS PLAN IS IMPORTANT FOR HENDERSONVILLE

Multimodal transportation programs and infrastructure projects can yield substantial returns on investment. These initiatives directly contribute to aspects such as economic development, health, accessibility, and equity, with the potential to greatly enhance the overall quality of life for residents. The impacts are particularly meaningful in the context of Hendersonville – a City with a pedestrian-friendly downtown, greenways and recreational opportunities, and a plethora of City and County services and educational institutions. The positive impacts of such investments are far-reaching, making Hendersonville an even more desirable place to live, work, play, and thrive.

## MOBILITY FOR EVERYONE

Every car ride, bus ride, and bicycle journey starts and ends with someone walking, so it is important to think about all trips as they relate to people on foot. By ensuring that our transportation network is accessible and accommodating for pedestrians and individuals using mobility devices like wheelchairs, we create a system that benefits everyone, including those most vulnerable or unable to drive, such as young children, older adults, and people with disabilities.

As individuals age, the percentage of people who no longer drive increases significantly. Research shows that the percentage of individuals who cease driving doubles every decade after age sixty-five.<sup>1</sup> This trend poses a planning challenge as life expectancy continues to rise and the number of older Americans grows.

## INTEGRATING THE NEEDS OF PEOPLE WALKING

By integrating the needs of people walking into the planning and design of various transportation components, we create a more inclusive, safe, and efficient transportation system that benefits the entire community.

1. When we design car parking facilities with pedestrians in mind, it allows for safe and convenient access to vehicles and surrounding destinations. Providing well-designed sidewalks and crosswalks, adequate lighting, and clear signage improves the overall pedestrian experience and enhances their safety when navigating parking areas.
2. Similarly, integrating pedestrian pathways and connections to greenways and bike infrastructure encourages multimodal transportation and creates a seamless and interconnected network for people walking, biking, and using other active transportation modes. This approach improves accessibility and connectivity.
3. Bus stops designed with the needs of pedestrians in mind consider factors such as shelter, seating, and accessibility features, providing a comfortable and user-friendly experience for transit users who rely on walking to access and use public transportation. First and last mile connections for people reliant on transit are vital for uptake, and often the sidewalk network is that critical infrastructure.

**Image 1.** *Parking Lot Pedestrian Path in Berea Ohio (Source: Angie Schmitt) (top)*

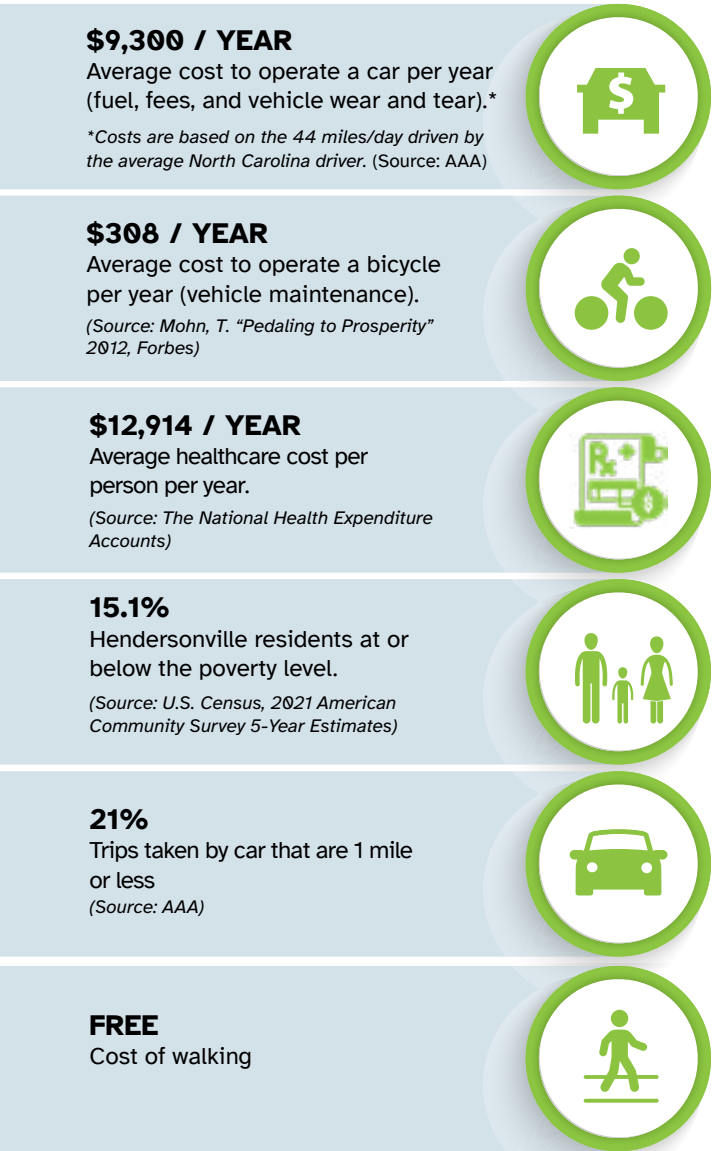
**Image 2.** *Joseph Campau Greenway Trailhead (Source: City of Detroit) (middle)*

**Image 3.** *Accessible Bus Shelter (Source: City of Asheville) (bottom)*





Figure 4. Poverty & Mobility Costs



By recognizing the changing demographic landscape and the evolving mobility needs of older non-drivers, communities can develop inclusive transportation systems that support active aging and promote social connectivity. This planning approach benefits older adults and enhances the livability and accessibility of communities for residents of all ages. By focusing on mobility for people walking, we address the common factor that underpins a successful transportation system. Prioritizing pedestrian infrastructure and accessibility not only promotes safety and inclusivity but also enhances the experience of visitors and the overall quality of life for residents.

Figure 5. Amenities 15 Minutes from Home (Source: World Economic Forum)

Hendersonville's downtown area is quite walkable and offers numerous opportunities within a short 15-minute walking distance, including employment opportunities, schools, grocery stores, parks, and other attractions. The emphasis on walkability (i.e., proximity, connectivity, accessibility) contributes to a vibrant and accessible community where residents can easily reach their daily needs while enjoying the benefits of active transportation.



# EQUITY IN TRANSPORTATION

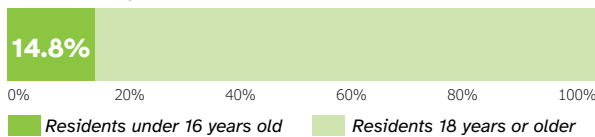
An equity approach to transportation looks both back at the past and forward to the future. We look back to **UNDERSTAND THE EFFECTS OF THE POLICIES AND PRACTICES** that created inequities in some communities. We look to the future to **APPLY WHAT WE NOW KNOW** - that projects should distribute the benefits and burdens of transportation projects among all individuals in a community; not just those of a certain race, income, or ability.

## EQUITY: DRIVING IS NOT AN OPTION FOR EVERYONE

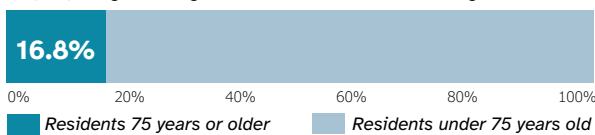
Adopting an equity lens in transportation planning and decision-making processes simply means that the needs and experiences of our most vulnerable community members are considered and prioritized, regardless of their preferred mode of transportation, age, or physical ability. It is important to acknowledge and consider the diverse range of individuals who reside in and visit Hendersonville, extending beyond just those who own or operate motor vehicles.

This approach recognizes that not everyone has equal access to private vehicles and that individuals rely on varied transportation options, including walking, cycling, public transit, and mobility devices. It considers the specific challenges and barriers faced by marginalized and underserved populations, such as low-income individuals, older adults, people with disabilities, and communities of color, who may disproportionately rely on non-motorized transportation modes. By applying an equity lens, transportation planning can aim to provide fair and inclusive access to essential services, employment opportunities, education, healthcare, recreation, and other amenities for all community members.

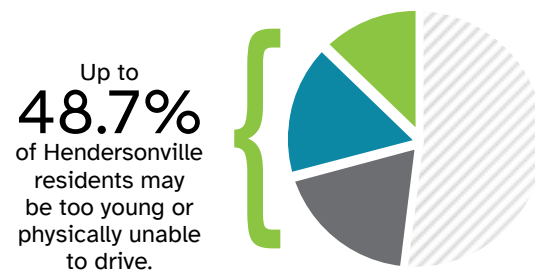
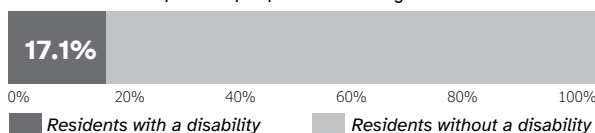
People younger than 16 cannot drive a personal vehicle.



As people age, driving can become more of a challenge.



Some disabilities prevent people from driving a vehicle.



*Not everyone in Hendersonville can drive a car, even if they wanted to. Barriers to driving include age and disability, which can be addressed by implementing alternative transportation options, improving public transportation systems, providing accessible transportation services for people with disabilities, expanding the viability of autonomous vehicles, and promoting pedestrian and cycling-friendly infrastructure.*

Figure 6. Age and Disability in Hendersonville (Source: U.S. Census 2021 ACS 5-Year Estimates)

# THE POSITIVE IMPACT OF WALKABLE NEIGHBORHOODS

## SAFETY



**Hendersonville rated #1 (highest rate) for pedestrian fatalities and severe injuries.\***

Based on crash data from 2010-2019 and including pedestrians killed or severely injured (in cities with populations between 10,000 and 25,000 in North Carolina).<sup>3</sup>



**Estimated 55,000 pedestrians**

were injured nationwide in 2020.<sup>4</sup>



**More than 7,600 people**

(an average of nearly 21 per day) nationwide were struck and killed while walking in 2021.<sup>3</sup>



**Approximately 17%**

of all traffic fatalities in the U.S. in 2021 were pedestrians, a rate that has been increasing over time (up from 14% in 2012).<sup>5</sup>

**269**

**people killed while walking**

in North Carolina in 2021 (a 5% increase from 2020).<sup>6</sup>

While the COVID-19 pandemic upended many aspects of daily life, including how people get around, one long-term trend was unchanged: the increase in people being struck and killed while walking. Even though the amount of driving went down in 2020 due to the pandemic, deaths of people walking increased 4.7% over the previous year.

While walking may represent a smaller portion of total trips compared to other modes of transportation, pedestrians bear a disproportionate burden when it comes to traffic fatalities.

Individuals who choose to walk are often referred to as vulnerable users of our streets due to the increased risk of severe injury they face when struck by an automobile. They often lack dedicated infrastructure, forcing them to navigate in unsafe conditions, such as along a rough shoulder or along a road shared with much faster vehicles. These unsafe conditions can make walking intimidating or even dangerous, leading to decreased levels of active transportation and a greater reliance on private vehicles for those who can drive, or increased isolation / unmet needs for who cannot.

By investing in dedicated infrastructure and promoting road safety education, communities can work towards reducing the risks pedestrians face. Suppose we design our transportation system for the most vulnerable users. In that case, everyone else benefits.<sup>2</sup> Investments in sidewalk and greenway infrastructure tend to have positive safety benefits for all roadway users because they create separate spaces for different modes of travel, minimizing speed differentials and conflicts.

# THE POSITIVE IMPACT OF WALKABLE NEIGHBORHOODS

## HEALTH

### 5 Reasons to Walk

Walking for as little as 20 minutes a day has been found to show significant improvements in your overall health, including:



**Improving cardiovascular health**



**Strengthening muscles & bones**



**Increasing focus, mood & memory**



**Boosting immune system function**



**Preventing & managing common health problems**

**“To improve walking and walkability, communities need to be designed to make walking safer and easier; programs and policies need to be available to support and encourage walking; and individuals and families need to support each other to become and stay active.”**

*- US Surgeon General*

Regular physical activity improves overall health and has numerous benefits regardless of age, sex, race, ethnicity, or current fitness level. However, according to the CDC's National Health Interview Survey, only about twenty percent of individuals report meeting the recommended guidelines for aerobic and muscle-strengthening activities.<sup>7</sup>

Studies have emphasized that adults can achieve substantial health benefits with just 20-25 minutes of physical activity per day, equivalent to walking about one mile.<sup>8</sup> Walking has been demonstrated to provide a wide range of long-range health benefits for the brain, pulmonary function, circulation, and overall physical well-being and has been associated with a reduction in chronic diseases, heart disease, and certain types of cancer. Walking has short-term benefits, too. The U.S. Department of Health and Human Services (HHS) highlights that a single session of moderate-to-vigorous physical activity can yield immediate benefits such as reduced blood pressure, improved insulin sensitivity, better sleep, reduced anxiety symptoms, and enhanced cognitive function. Finally, regular physical activity in children has also been shown to improve attention, memory, and reduce the risk of depression.<sup>9</sup>

Developing a walkable environment, as Hendersonville is trying to do, can encourage small increases in activity, such as walking to school or replacing short driving trips with walking which can have tremendous public health benefits, particularly for inactive individuals.

# THE POSITIVE IMPACT OF WALKABLE NEIGHBORHOODS

## | ECONOMY



Trail users' annual expenditures supported an additional **43 jobs, \$1.3 million in employee compensation,** and **\$4.9 million** in gross business revenues.<sup>14</sup>



A recent study estimated that **every \$1.00 invested** in trail construction resulted in approximately **\$1.72 in annual benefits**, including local business revenue, sales tax revenue, and health and transportation-related benefits.

**economic benefit** generated for a dollar spent at an independent business compared to spending that same dollar at a retail chain.<sup>15</sup>

**13:1 benefits vs costs**  
Recent studies on the economic

**13:1** benefits of walking interventions show an average benefit-to-cost ratio of 13:1.<sup>16</sup>

The freedom to choose how to travel is vital for maintaining a high

Multiple studies conducted in North Carolina have highlighted the substantial economic benefits of investing in bicycle and pedestrian facilities. For instance, a study conducted by the Institute for Transportation Research and Education (ITRE) revealed that the construction of a bicycle and pedestrian bridge led to additional economic benefits. In 2018, ITRE conducted another study evaluating the economic impacts of four shared-use paths in North Carolina, one of which was in Brevard. These studies have documented the economic advantages of greenways, including enhanced property values and increased spending on recreational activities such as equipment, dining, and accommodations.<sup>10</sup>

Other studies have demonstrated that well-designed non-motorized transportation enhancements can increase customer visits and local business activity.<sup>11</sup> Pedestrians are more likely to notice window displays, explore multiple stores, and spend more time, which ultimately has the potential to boost sales. By prioritizing and promoting walkable communities, we create an environment that fosters the success of independent businesses, stimulates economic growth, and strengthens the overall local economy.<sup>12</sup>

Robust active transportation networks also have the potential to boost tourism by attracting visitors who seek outdoor recreational opportunities and walkable downtowns. Investing in greenways and trails directly contributes to job creation, higher wages, and increased business output for outdoor recreation-related industries and nearby establishments.<sup>13</sup>

**1.5X  
to 3X  
MORE**



# THE POSITIVE IMPACT OF WALKABLE NEIGHBORHOODS



## COMMUNITY



### +3.1 friends per person

Residents of a street with 2,000 vehicles per day have three times as many friends as one with 16,000 vehicles.<sup>18</sup>



Residents of highly walkable, mixed use neighborhoods exhibited at least **80%**

### greater levels of four indicators of social

**capital** (knowing neighbors, sociability, trust and political participation) than those in less walkable neighborhoods.<sup>19</sup>

“If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places.”

- Fred Kent, *Project for Public Spaces*

quality of life. It ensures that everyone, regardless of their circumstances or preferences, has access to essential services and opportunities. Prioritizing and supporting a variety of transportation options gives individuals the freedom to choose how they get around and contributes to a vibrant and inclusive community where everyone can thrive. Living in walkable neighborhoods has been associated with various positive social outcomes. Studies have shown that individuals living in walkable communities tend to have higher levels of trust in their neighbors, actively engage in community projects, and volunteer more compared to those in non-walkable areas.<sup>17</sup>

Shifting more trips from a motor vehicle to walking helps reduce traffic and parking congestion in our communities. With reduction in traffic, conditions for walking and biking also improves. Freeing up parking spaces downtown because people are walking or bicycling instead of driving makes it easier for delivery drivers, emergency services, and business owners to manage their varied enterprises and for customers to access those businesses. It also allows cities to better manage the ever-increasing demands on the curb lane.

Greenways play a crucial role in supporting the natural environment. They contribute to improving air quality, which effectively eliminates harmful pollutants like ozone, sulfur dioxide, carbon monoxide, and airborne heavy metal particles. Greenways enhance water quality by serving as natural buffer zones, shielding streams, rivers, and lakes from pollutants, preventing soil erosion, and filtering out pollution resulting from agricultural and road runoff. Additionally, greenways serve as a protective barrier against natural disasters like flooding, acting as a line of defense.

## WALK HENDO FACILITY TYPES

This plan encompasses a range of suggestions, including policies and programs aimed at promoting and facilitating walking. At its essence, the plan focuses on different types of infrastructure facilities that enhance the safety and comfort of walking in Hendersonville. These infrastructure elements play a pivotal role in creating an environment that encourages and



enables people to choose walking as a viable mode of transportation.

### SIDEWALK

A designated area along a street intended for pedestrians and individuals utilizing mobility devices like wheelchairs.

*(Source: TPD)*



### MULTI-USE SIDEPATH

A two-way shared path designed for various users such as bicyclists, pedestrians, roller skaters, and others, located alongside and running parallel to a road.

*(Source: Google Imagery)*



### GREENWAY

A two-way shared path, separate from the road is used by people for transportation and recreation. Greenways are commonly located alongside a stream or river corridor.

*(Source: TPD)*



### CURB RAMPS

Curb ramps are sloped surfaces that facilitate the transition between the sidewalk and the street. When designed in compliance with ADA regulations, ramps enable individuals using mobility devices to easily access and leave the sidewalk curbs.

*(Source: City of San Francisco)*



### PEDESTRIAN PUSH BUTTON

At a signalized intersection, pedestrians can use this device to activate the walk/don't walk pedestrian signal.

*(Source: Maricopa Association of Governments)*



### PEDESTRIAN SIGNAL HEAD

These devices, installed on traffic lights, are designed to indicate to pedestrians whether it is safe to cross the street. They typically display a "walk/don't walk" signal and sometimes include a countdown timer.

*(Source: Christopher Sadowski, New York Post)*



### CROSSWALK

Crosswalks are designated areas where pedestrians have the legal right to cross the street, and curb ramps are required to ensure accessibility. These crossings can be found at intersections or mid-block locations. They may feature accompanying signage, pavement markings, and traffic control measures such as stop signs, traffic lights, or flashing devices.

*(Source: Portland Bureau of Transportation)*

## ENDNOTES

- 1 U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey. Available from <https://nhts.ornl.gov>.
- 2 Jacobsen, P.L., *Safety in numbers: more walkers and bicyclists, safety walking and bicycling*. Injury Prevention, 2003(9): p.205-209.
- 3 All pedestrian fatality data for the report are from: National Highway Traffic Safety Administration. (2020). Fatality Analysis Reporting System. Available from [www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars](http://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars)
- 4 National Center for Statistics and Analysis. (2022, May). Pedestrians: 2020 data (Traffic Safety Facts. Report No. DOT HS 813 310). National Highway Traffic Safety Administration
- 5 National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS)
- 6 *NC Vision Zero, a statewide traffic safety initiative*
- 7 Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (NHIS). <https://www.cdc.gov/nchs/nhis/index.htm>.
- 8 Ekelund, U et al. "Activity and all-cause mortality across levels of overall and abdominal adiposity in European men and women: the European Prospective Investigation into Cancer and Nutrition Study (EPIC)." *American Journal of Clinical Nutrition*; 2015.
- 9 Centers for Disease Control and Prevention. (2019). *Physical Activity Builds a Healthy and Strong America*. [https://www.cdc.gov/physicalactivity/about-physical-activity/pdfs/healthy-strong-america-201902\\_508.pdf](https://www.cdc.gov/physicalactivity/about-physical-activity/pdfs/healthy-strong-america-201902_508.pdf).
- 10 Institute for Transportation Research and Education. (2017). *Evaluating the Economic Contribution of Shared Use Paths in NC*. [https://itre.ncsu.edu/wp-content/uploads/2018/03/NCDOT-2015-44\\_SUP-Project\\_Final-Report\\_optimized.pdf](https://itre.ncsu.edu/wp-content/uploads/2018/03/NCDOT-2015-44_SUP-Project_Final-Report_optimized.pdf)
- 11 Hass-Klau C: *Impact of pedestrianisation and traffic calming on retailing, A review of the evidence from Germany and the UK*. Transport Policy. 1: 21-31, 1993.
- 12 American Independent Business Alliance: Multiplier effect, quoted in WalkBoston, Good walking is good business 2003.
- 13 Nick Cavill, Sonja Kahlmeier, Harry Rutter, Francesca Racioppi, Pekka Oja, *Economic analyses of transport infrastructure and policies including health effects related to cycling and walking: A systematic review*, Transport Policy, Volume 15, Issue 5, 2008, Pages 291-304, ISSN 0967-070X, <https://doi.org/10.1016/j.tranpol.2008.11.001>.
- 14 Institute of Transportation Research and Education. (2014). Bridging the Gap: Economic, Health and Transportation Impacts from Completing a Critical Link in a 22-mile rail trail. <https://itre.ncsu.edu/focus/bike-ped/att-beforeafter/>
- 15 Michael Shuman & Kate Poole, "Growing Local Living Economies: A Grassroots Approach to Economic Development" (BALLE, 2012)
- 16 *Value for Money: Economic Assessment of Investment in Walking and Cycling, by Dr. Adrian Davis for the Department of Health. 2010*
- 17 Rogers, S., J. Halstead, K.H. Gardner, C. Carlson, "Examining Walkability and Social Capital as Indicators of Quality of Life at the Municipal and Neighborhood Scales," *Journal of Applied Research in Quality of Life*, Volume 6, Issue 2 (2011), Page 201. (DOI: 10.1007/s11482-010-9132-4).
- 18 *Livable Streets, by Donald Appleyard, M. Sue Gerson, Mark Lintell. 1981. University of California Press*
- 19 *Making the case for investment in the walking environment: A review of the evidence, by Danielle Sinnott, Katie Williams, Kiron Chatterjee and Nick Cavill. 2011*
- 20 Native Lands Digital. (2021) <https://native-land.ca/>

*Intentionally blank to facilitate double-sided printing.*



(Source: TPD)

# 02

## Walking Conditions Today



## WALKING CONDITIONS TODAY

*“I would love to have a safe place to walk with my children besides in circles at the park.”*

– Walk Hendo Survey Respondent

### COMMUNITY OVERVIEW

#### TRANSPORTATION HISTORY

The area now known as Henderson County was originally home to the Miccosukee, Saluda, S’atsoyaha (Yuchi), and ᏍᏏᏉᏍᏏ Tsalaguwetiyi (Cherokee, East) native tribes.<sup>20</sup> Locally, the “great flat rock” (today’s village center in Flat Rock) served as a meeting and trading locus for groups of native peoples.<sup>21</sup> When understanding the transportation history of a place, it is important to acknowledge this heritage and history.

Well-traveled paths – routes that trace back thousands of years to migrating animal herds and indigenous peoples – paved the way for settlers of European descent to expand their use for livestock drives, mining operations, and military troops. Over time, these trails transformed into vital trade routes and eventually developed into the modern paved roads and highways found

throughout Henderson County today. In the span of two centuries, iron and steel rails and rubber tires replaced the hooves, moccasins, and wooden wheels of the past.<sup>22</sup> Meanwhile the French Broad River played a pivotal role in providing transportation options for settlers, serving as an alternative to walking or horseback riding.

The establishment of the Buncombe Turnpike in 1827 played a significant role in transforming Henderson County and the surrounding French Broad region and was an important early transportation connection linking farmers and traders to larger cities like Atlanta, Charleston, and Savannah. This transportation link opened the area for population growth, which resulted as settlers recognized the opportunities for trade and commerce. The Buncombe Turnpike

facilitated the movement of goods, fostering the growth of the local economy and attracting more people -- a true road to prosperity for Western North Carolina.<sup>23</sup>

The introduction of railroads marked the decline of the Buncombe Turnpike while also bringing about a significant level of urbanization and industrialization. The relative ease of rail travel facilitated new commercial and residential development, promoting the shipment of products and fostering overall economic growth.<sup>24</sup> The rail connection was a transformative development for Hendersonville, connecting it to larger transportation networks and opening new avenues for commerce and growth. This included the rail line between Hendersonville and Brevard, which was active until recently, with the Ecusta paper mill's closure in 2002. Moreover, the advent of railroads brought an influx of seasonal visitors, marking the beginnings of Hendersonville's travel and tourism industry.

The introduction of electricity in Hendersonville led to the conversion of a small gasoline-powered streetcar system into an electric-powered one. One such railway, known as the "Dummy line", provided a convenient means of transportation for individuals seeking entertainment and leisure activities in Laurel Park.

Hendersonville's streets were carefully planned, with a central square and County courthouse. One unique feature of its design was a 100 foot wide Main Street. In the late 1970's Main Street was redesigned to a two-lane arrangement, with one curve on each block. This "serpentine" configuration has helped keep vehicular speeds down, serving as a passive form of traffic calming that helps make the area safer and more comfortable for walking. Main Street is today home to thriving businesses, contributing to the vibrant nature of the area.

**Image 4.** *Historic Main Street (Source: City of Hendersonville)*

**Image 5.** *Main Street Serpentine (Source: Carolina Village)*

*Hendersonville's 100-foot wide Main Street has been reconfigured over the years. While becoming automobile-centric in the middle of the twentieth century, today's Main Street is very pedestrian-friendly. The meandering "serpentine" design was meant to slow cars and create a more walkable downtown. It has been tremendously successful and is a good example of purposeful roadway design with a focus on safety and comfort for people walking.*

## THE TRAIL OF TEARS

*In 1838-1839, approximately 17,000 Cherokee were forcibly removed by federal soldiers along the Unicoi Turnpike to a tribal jurisdiction area in what is present-day Oklahoma. This 800-mile trek westward is known as the "Trail of Tears," with at least four thousand Cherokees perishing along the way. Those who managed to avoid the forced expulsion, some by hiding in the mountains of Western North Carolina, others through local alliances or state citizenship, became the Eastern Band of Cherokee Indians, whose present-day people - 14,000 strong - work to preserve Cherokee culture in the area.*



## DEMOGRAPHICS









Hendersonville and Henderson County have undergone substantial growth over the past two decades. The City's population grew from 10,372 to 15,137 from 2000 to 2020 (a 46% increase), while the County's population increased by 27,106 people between 2000 and 2020, representing a growth rate of about 30% during that same period.<sup>25</sup> It is important to note that this growth does not include the large number of second-home residents who are typically counted in their primary residence (typically out of state) instead of Henderson County.

The overall growth in population and density in the area suggests a thriving, dynamic, and desirable community. It also underscores the importance of meeting the transportation needs of residents and visitors, ensuring that

infrastructure and services keep pace with the expanding population. The two census tracts in and around downtown Hendersonville lost population over the period between 2000 and 2020 - the only two census tracts in Henderson County to lose population in that time period. This underscores the need to ensure that people living outside of downtown have walkable neighborhoods and connections, while also highlighting an opportunity in attract more people to live downtown.

Figure 7 provides a summary of Hendersonville residents' demographics as detailed in the U.S. Census American Community Survey 5-Year Estimates (2017-2021).<sup>26</sup> This data is compared to Henderson County, the City of Asheville, and the state of North Carolina.

Figure 7. Hendersonville Residents' Demographics  
(Source: U.S. Census 2020 Decennial Census and American Community Survey 5-Year Estimates, 2017-2021).

	HENDERSONVILLE	ASHEVILLE	HENDERSON COUNTY	NORTH CAROLINA
 TOTAL POPULATION	15,137	94,589	116,281	10,439,388
 POPULATION CHANGE (2010-2020)	+13%	+12%	+10%	+11%
 MEDIAN AGE	51.9	40.3	47.4	39.4
 HISPANIC OR LATINO	6.9%	7%	10.5%	9.8%
 WHITE	84.7%	81.4%	88.5%	66.2%
 MEDIAN HOUSEHOLD INCOME	\$46,309	\$58,193	\$59,928	\$60,516
 POVERTY RATE	15.1%	12.4%	10.4%	13.7%
 BACHELOR'S OR HIGHER EDUCATION	37.9%	50.8%	33%	33%





**Image 6.** Oklawaha Bridge over Mud Creek (Source: TPD)

*Mud Creek hugs the eastern edge of Hendersonville's downtown core, flowing north into the French Broad River.*

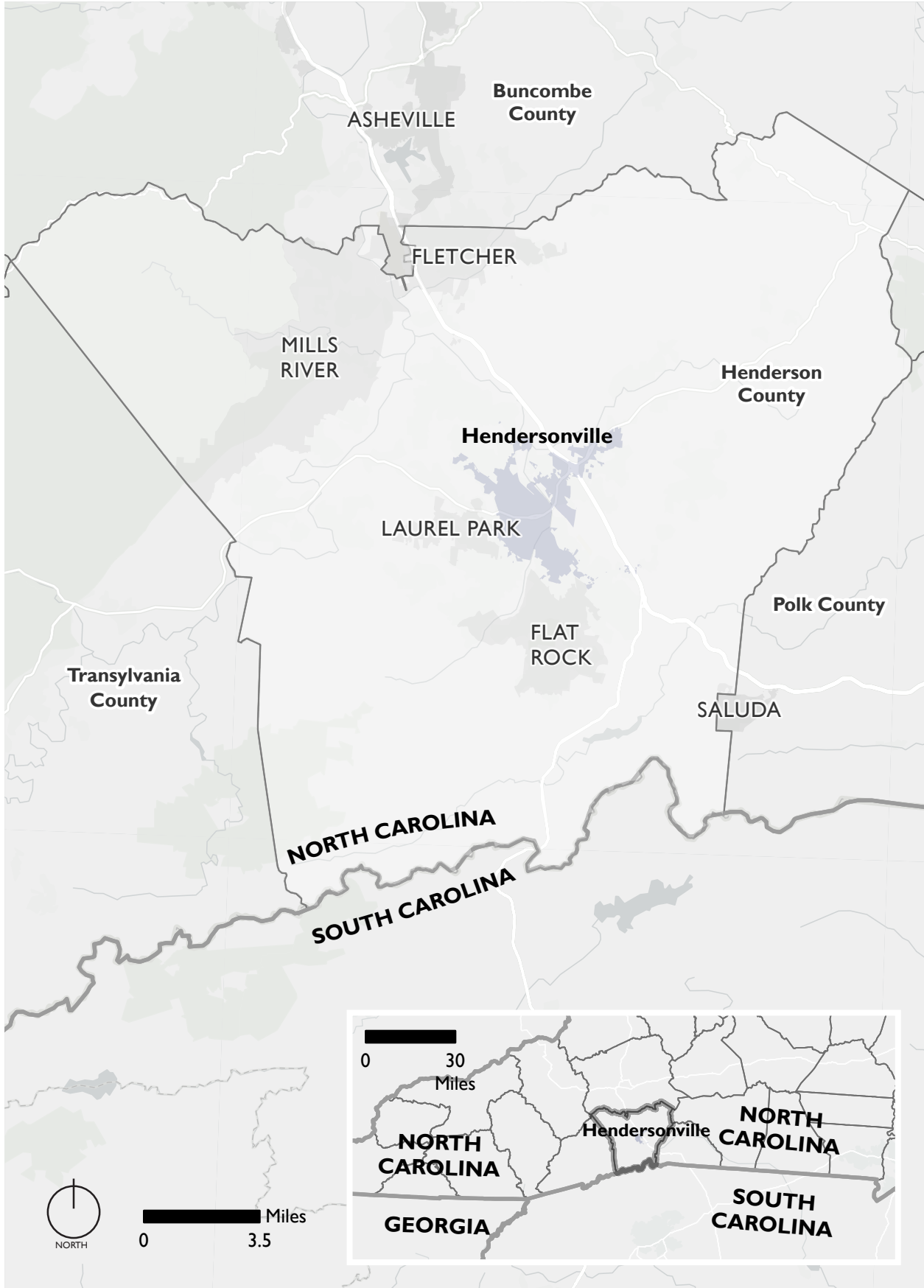
According to Census data, Hendersonville has certain demographic characteristics that distinguish it from the state and county. The median age of Hendersonville residents is notably older compared to the state and nearby Asheville, and just slightly older than the county median. In terms of racial and ethnic diversity, Hendersonville is less diverse than the state as a whole. The City and County have a lower representation of various racial and ethnic groups compared to the overall population of North Carolina, though similar to Asheville's diversity. When it comes to household income, Hendersonville has a median income that is significantly lower than the state, county, and neighboring Asheville and the poverty rate in Hendersonville is slightly higher than both the county and state.

## PHYSICAL CHARACTERISTICS

The City of Hendersonville is located in the central part of Henderson County, which is situated in western North Carolina. It is positioned approximately 25 miles south of Asheville and enjoys proximity to other nearby cities such as Brevard, NC and Greenville and Spartanburg, SC. The convenience of I-26, a major interstate highway, and the Asheville Regional Airport further enhances connectivity to and from Hendersonville.

Covering a land area of 6.9 square miles,<sup>27</sup> Hendersonville is nestled in a mountain valley, located in a region characterized by the presence of numerous creeks. Residents and visitors alike can appreciate the rolling hills and charming surroundings that define Hendersonville's setting.

**Map 2. Hendersonville Location in the County and State**





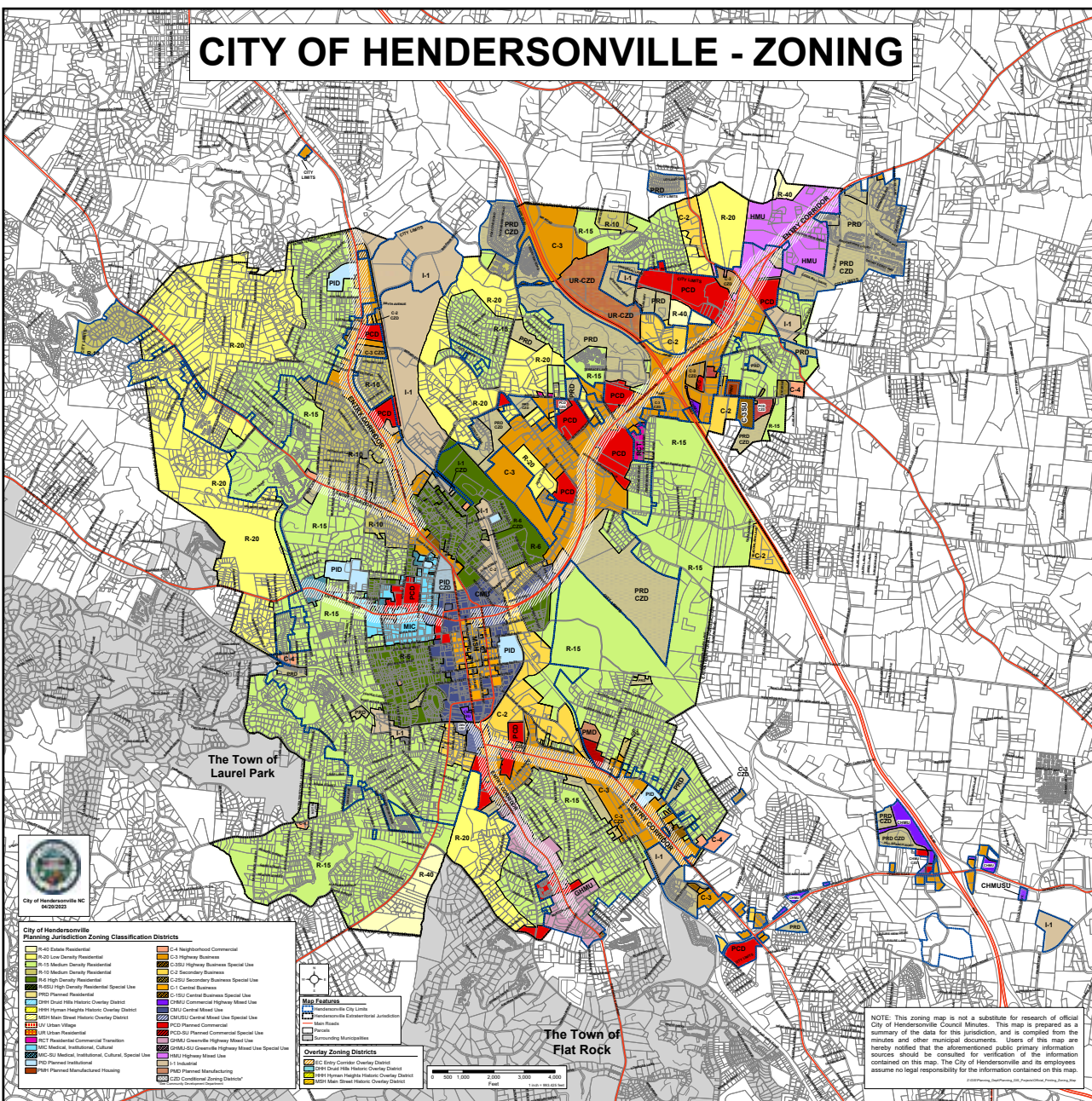
## LAND USE CHARACTERISTICS

Hendersonville boasts a diverse range of land uses that contribute to its vibrant character. Downtown is characterized by commercial establishments, including shops, restaurants, and various service-oriented businesses. Surrounding the downtown core, the land use is predominantly single-family residential, where a number of people live within walking distance of Main Street. Outside of this core area, Hendersonville features commercial strips along major roadways such as US 64, US 25 Business, NC 225, and US 176. These corridors are home to a wide array of businesses, providing residents and visitors with a range of goods and services.

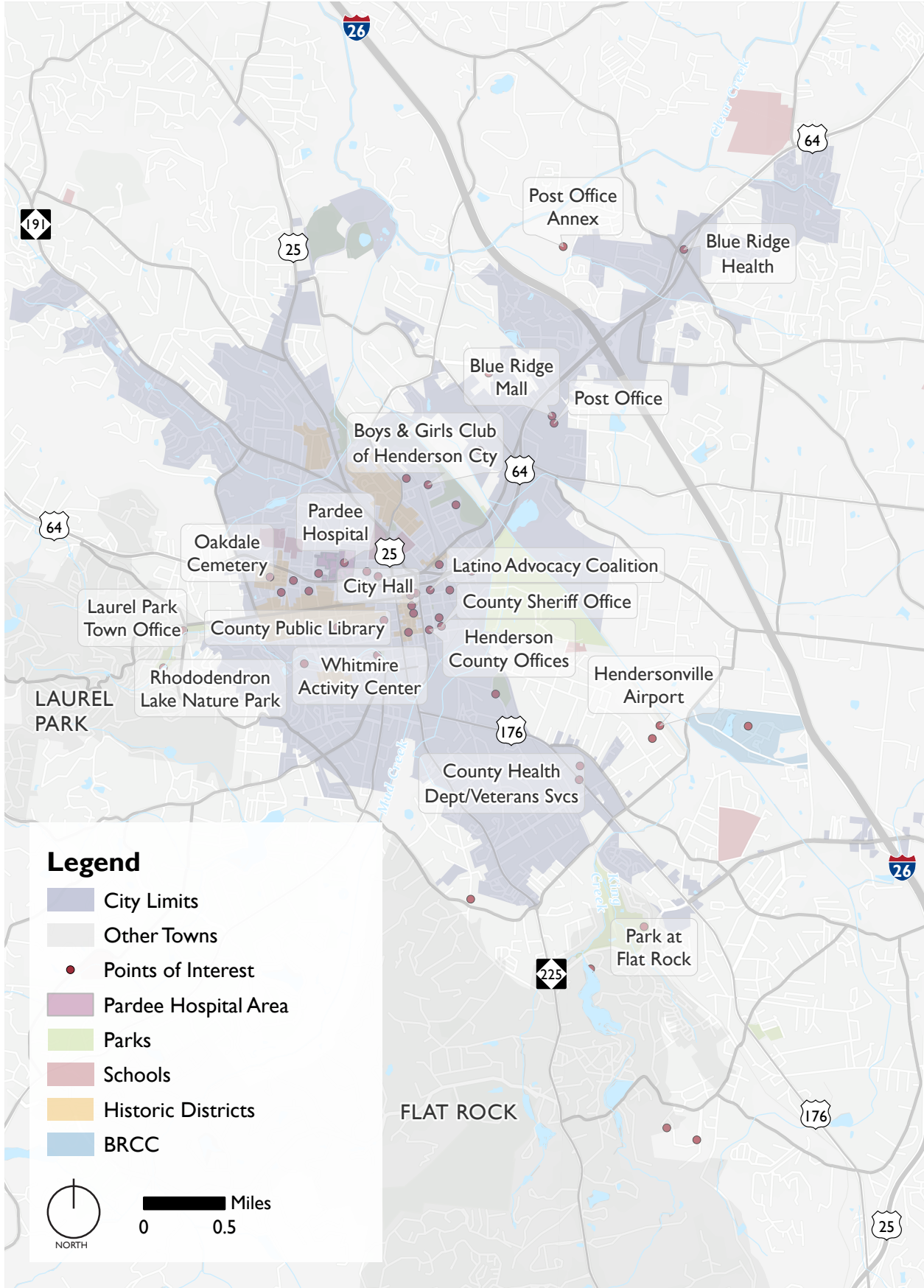
To manage land use and development, the City has zoning, subdivision, and other regulations that guide the use of different parcels of land. The existing zoning map, depicted in Figure 8, provides an overview of how different areas of Hendersonville are zoned, indicating the permitted land uses and the framework for future development. At the time of this report, the City of Hendersonville is beginning to craft a new Comprehensive Plan to address population, land use, and transportation changes.

Figure 8. Hendersonville Zoning Map

*Existing Zoning and the Extraterritorial Jurisdiction (ETJ) in Hendersonville.*



**Map 3. Key Destinations in Hendersonville**





**Map 3. Key Destinations in Hendersonville (Zoomed in)**



## ROADWAY NETWORK

Transportation networks are typically characterized by the level of traffic they accommodate and the entities responsible for their upkeep. In Henderson County, the interstate highway I-26 runs in a generally north-south direction just east of Hendersonville. The US 64 highway traverses the City from east to west, passing through its central area. Another important route is US 25 Business, which runs through the heart of Hendersonville. Additionally, US 176 and NC 225 serve as connections in the southeast, linking the City with Flat Rock and Saluda. While the North Carolina Department of Transportation (NCDOT) maintains these major roadways, the majority of Hendersonville's streets are maintained by the City.

Table 1 provides an overview of the key attributes of Hendersonville's major roadways managed by NCDOT, which are also depicted on Map 3 along with existing bus stops served by Apple Country Transit. The table includes information such as the standard width of the road, the number of lanes, the annual average daily traffic volume (AADT), the posted speed limit, and whether curb and gutter are present. These primary network roads typically consist of 2-4 lanes and often feature sidewalks. The posted speed limits on these roads typically range from 20 to 45 miles per hour (MPH).

**Image 7.** Henderson County I-26 Widening  
(Source: NCDOT)

*I-26 roadway widening construction work has affected the Hendersonville area.*



**Table 1.** Primary, Typical Characteristics of Hendersonville's Major NCDOT-Managed Roadways

ROAD NAME	TYPICAL WIDTH (FEET)	NUMBER OF LANES	AVERAGE ANNUAL DAILY TRAFFIC	SPEED LIMIT (MPH)	CURB & GUTTER
<b>INTERSTATE</b>					
I-26	110	4*	62,500	65	NO
<p><i>* As of this writing, I-26 is undergoing a \$534 million widening project, which began in October 2019 and is scheduled for completion in the spring of 2024. Covering a total of 18 miles, the project will widen I-26 from four lanes to eight from just north of Brevard Road in Buncombe County to U.S. 64 in Hendersonville, and then from four to six lanes from U.S. 64 to U.S. 25.</i></p>					
<b>PRIMARY ROADS</b>					
US 64 (6 <sup>th</sup> Avenue West)	37	2	9,000	20	YES
US 64 (6 <sup>th</sup> Avenue East)	49	2	9,000	35	YES
US 64 (7 <sup>th</sup> Avenue West)	43	3	12,000	35	YES
US 64 (7 <sup>th</sup> Avenue East)	48	3	11,000	35	YES
US 64 (Martin Luther King Jr Boulevard)	62	4	24,000	45	YES
US 64 (Four Seasons Boulevard)	71	4	33,500	35	YES
NC 225	76	4	14,500	35	YES
US 176	75	4	22,000	35	YES
NC 191	30	2	10,000	35	YES
US 25 Bus (Asheville Highway)	64	4	29,500	35	YES
US 25 Bus (North Church Street)	51	2	11,500	35	YES
US 25 Bus (North Main Street)	46	3	10,500	35	YES
<b>SECONDARY ROADS</b>					
Blythe Street (SR 1180)	20	2	5,900	35	YES
Duncan Hill Road (SR 1525)	43	2	4,900	45	YES
Dana Road (SR 1525)	24	2	12,000	35	YES
Clear Creek Road (SR 1503)	33	2	5,700	35	NO
Kanuga Road (SR 1127)	44	2	8,600	35	YES
North Main Street (SR 1503)	24	2	6,100	35	YES
Willow Road (SR 1171)	31	2	3,200	25	YES
<b>LOCAL</b>					
5 <sup>th</sup> Avenue West	44	2	4,400	25	YES
7 <sup>th</sup> Avenue East	54	2	4,400	20	YES

Source: NCDOT AADT Web Map, NCDOT NCRouteCharacteristics Field, NCDOT North Carolina Speed Limits Map, Google Map Imagery







Map 4 provides a visual representation of the most up-to-date Average Annual Daily Traffic (AADT) data available for the roads in Hendersonville. Knowing a road's AADT helps identify pedestrian facilities that are appropriate for a road's volume, making sure to consider the functionality of the system as a whole and the safety of people walking.

Currently, the City's Public Works department maintains approximately 134 miles of streets in Hendersonville. There are also thirteen bridges that fall under the maintenance of City Public Works. These include mostly smaller bridges over Wash Creek (West Allen Street) and along 7<sup>th</sup> Avenue East just east of the Oklawaha Greenway.



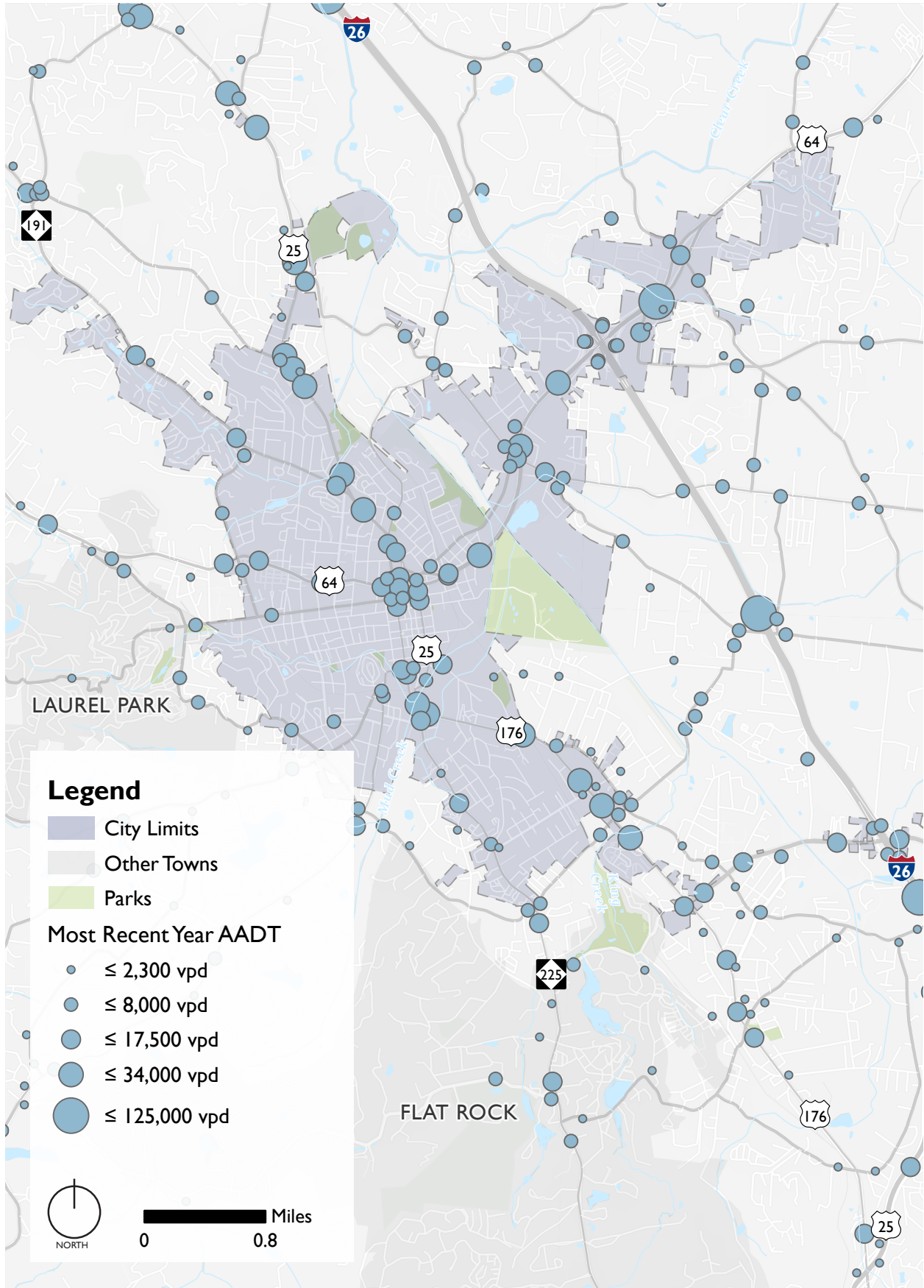
**Image 8.** *Roadside Mowing*  
(Source: City of Hendersonville) (top)

**Image 9.** *Bridge over Wash Creek on Spring St*  
(Source: Google Street View) (bottom)

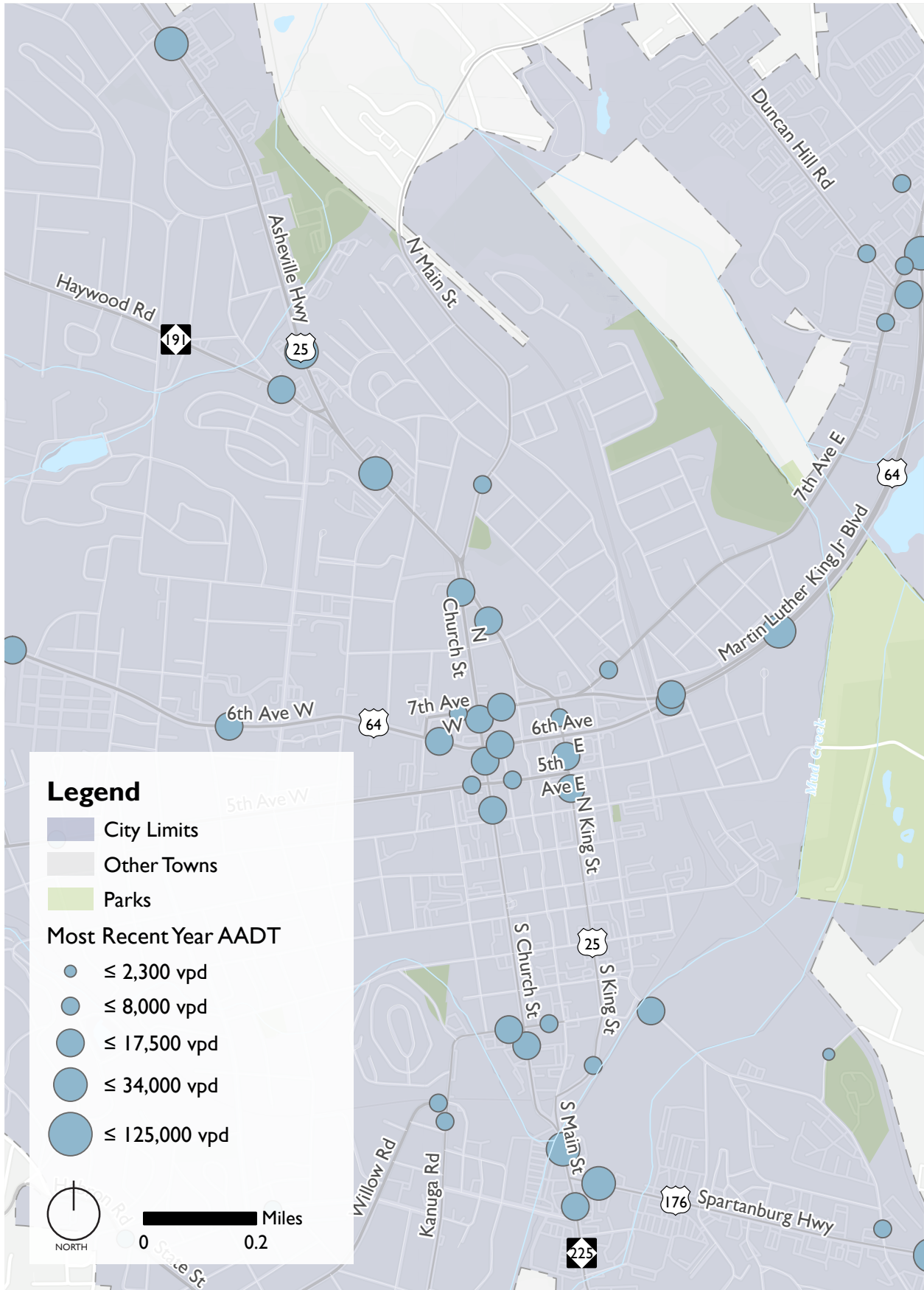
*Hendersonville's Public Works department is entrusted with a wide range of responsibilities related to roadway maintenance.*



**Map 5. Hendersonville Annual Average Daily Traffic (AADT) Measured in Vehicles Per Day (vpd)**

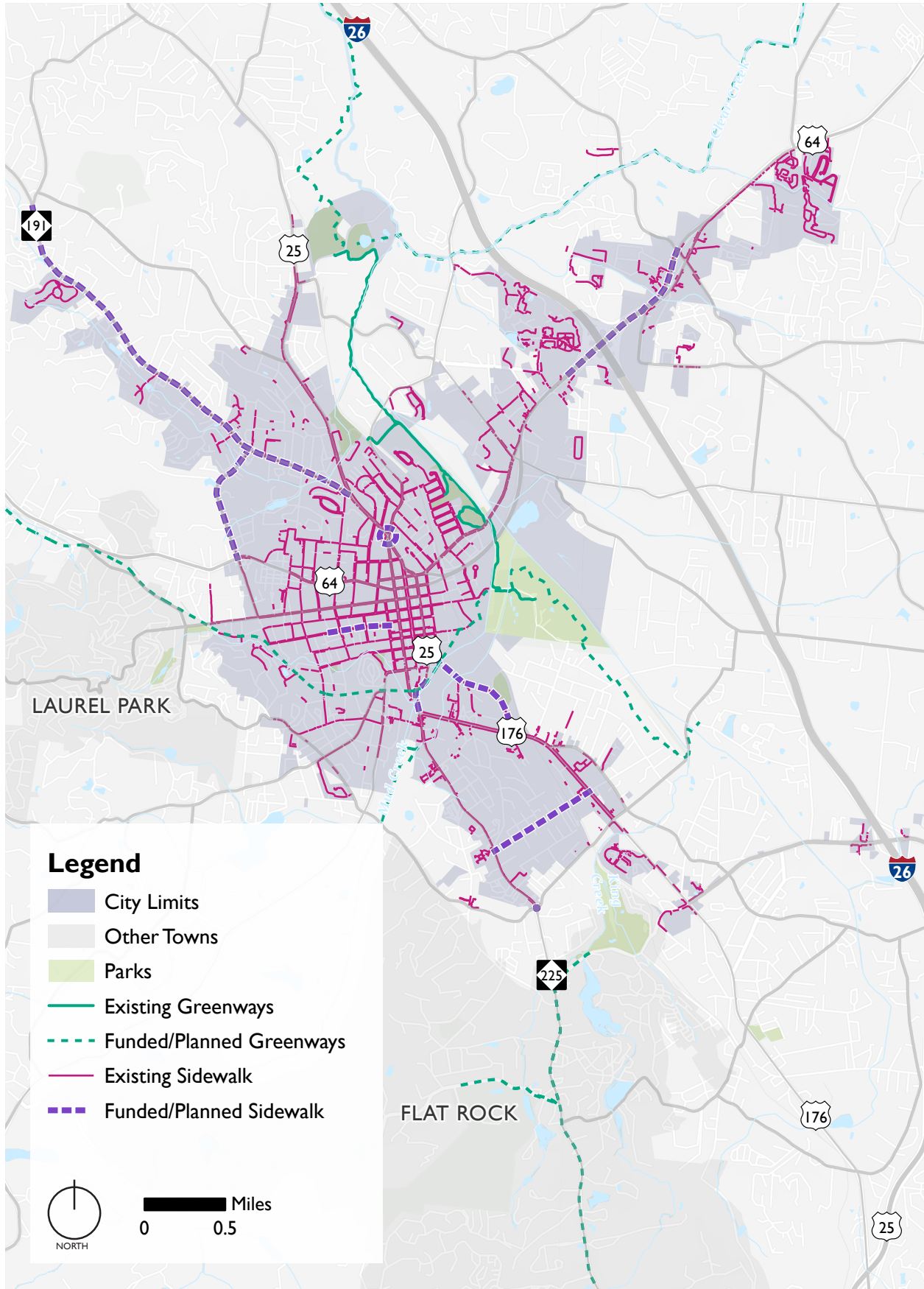


**Map 5. Hendersonville Annual Average Daily Traffic (AADT) Measured in Vehicles Per Day (vpd) (Zoomed in)**



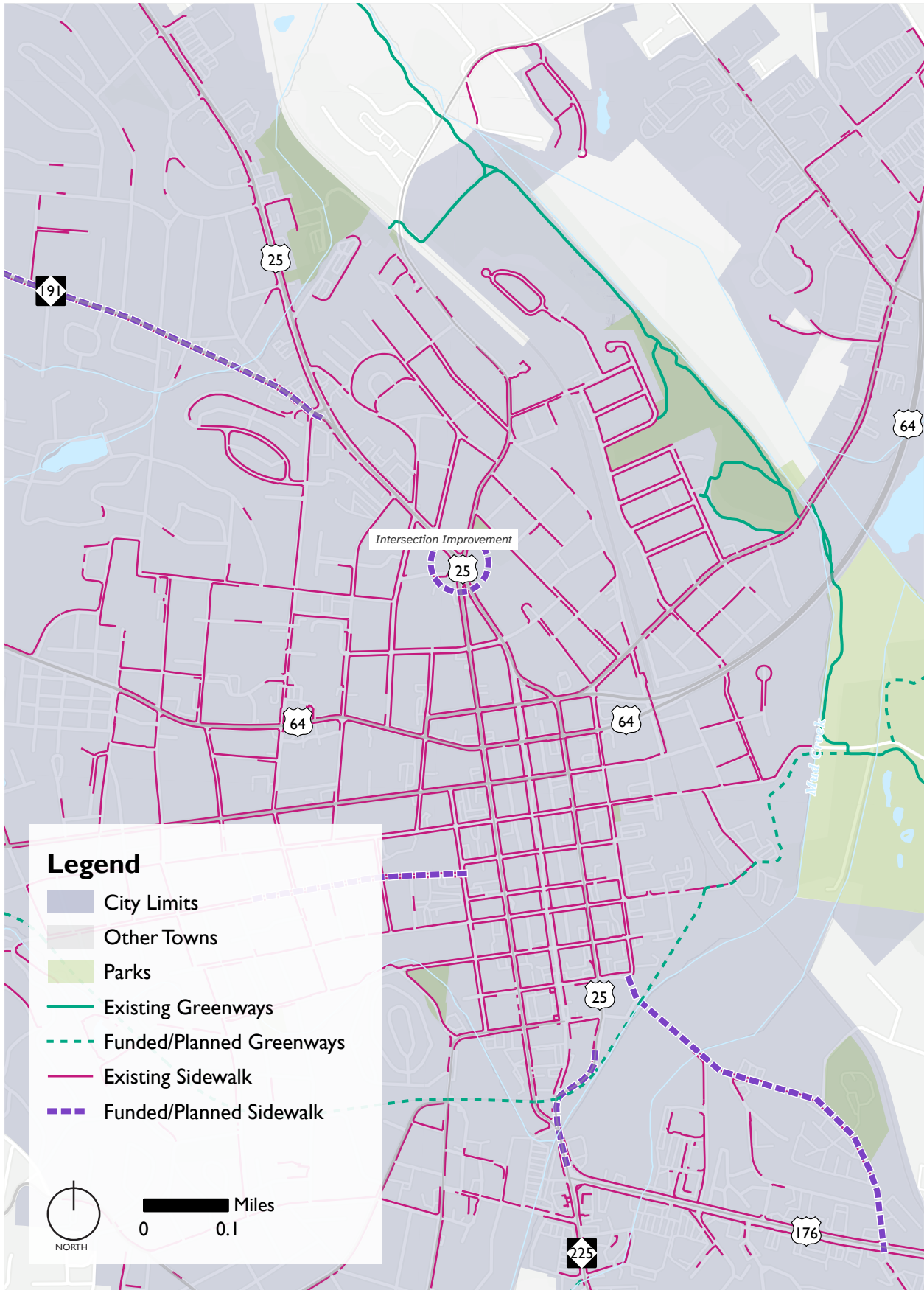


## Map 6. Hendersonville Existing Road Network





Map 6. Hendersonville Existing Road Network (Zoomed in)





**Image 10.** Crosswalk at South Main Street  
(Source: Google Street View)

*While some major roadways might have pedestrian accommodations, crossings are limited and many are not ADA compliant.*



**Image 12.** Main Street Pedestrian Crossing  
(Source: Google Street View)

*The downtown core has a robust, comfortable sidewalk network. Further away, sidewalks are sometimes narrow and obstructed.*



**Image 11.** Electric Scooter on 1st Ave West (Source: Google Street View)

*Hendersonville's older sidewalks are narrow, often with steep driveway cuts and utility pole obstructions, which limits their overall functionality. This person would rather use the road.*



**Image 13.** Hendersonville Parking Garage (Source: City of Hendersonville)

*This new parking garage (which opened in March 2023) offers 253 new parking spaces a block away from Main Street. Further away, sidewalks are sometimes narrow and obstructed.*

## EXISTING PEDESTRIAN NETWORK

Many of Hendersonville's higher volume (NCDOT-maintained) roadways have some sidewalks and crossings, but the facilities are not comfortable to use and are not fully ADA compliant. Roads like Asheville Highway, Four Seasons Boulevard, and Spartanburg Highway are examples of wide – often five lane – roadways that have some pedestrian infrastructure but are automobile oriented. US 64 is an example of a roadway that many people, during the *Walk Hendo* engagement process, expressed as needing pedestrian improvements along its length. Key sections lack sidewalk altogether, and sidewalks that do exist usually do not have a buffer from automobile traffic.

Many of the primary streets throughout the City have sidewalks (at least on one side) and crosswalks

at intersections, making a lot of nearby destinations generally accessible. Most low speed, low volume residential streets that do not have sidewalk do connect directly to the broader sidewalk network along busier streets.

Hendersonville's walkable downtown has a comprehensive network of connected sidewalks and crosswalks. Main Street is a great example of a pedestrian-focused street, with a lot of dedicated sidewalk space, places to sit in the shade, public art and attractive landscaping, and safe crossings. The City's recent investments in metered parking and constructing a new parking garage on 5<sup>th</sup> Avenue and North Church Street encourages people to park their car and walk to several different destinations downtown.



“ Residents will quickly come to realize that the [Ecusta] Trail is more than an amenity ... they will recognize its contribution to our economy. ”

- Chuck McGrady, NCDOT Board Member and Former NC State Representative

## THE EXPANDING GREENWAY NETWORK

Hendersonville’s reputation is growing as a regional hub for its extensive existing and planned greenway network. The Oklawaha Greenway encompasses 3.25 miles, connecting Jackson Park, Patton Park, Berkeley Park, Sullivan Park, and William H. King Memorial Park. Henderson County has studied an extension of the Oklawaha Greenway to the south, to Blue Ridge Community College and The Park at Flat Rock, as well as an extension north to Bill Moore Community Park in Fletcher.

Meanwhile, other new greenways are under development at various stages. While outside the City limits, construction is underway for the first phase of Clear Creek Greenway, which will connect to the Oklawaha Greenway, as well as the future Mud Creek and Ecusta Trails. This expanded greenway network will thoroughly connect the downtown core with accessible pedestrian infrastructure. Map 5 shows these existing sidewalks and trails.

The Ecusta Trail project involves the transformation of an existing railroad corridor into a multi-use trail, aiming to connect various communities in Henderson and Transylvania counties. The trail will start in Hendersonville at South Church Street, South Main Street, and South King Street, a key gateway to downtown, and head west to the county line. From there, it will continue to Brevard, linking the two cities and creating a new tourism and recreation opportunity. Additionally, the project includes the restoration or replacement of 11 railroad trestles along the trail, ensuring its safety and functionality. This 19.4 mile long trail is under



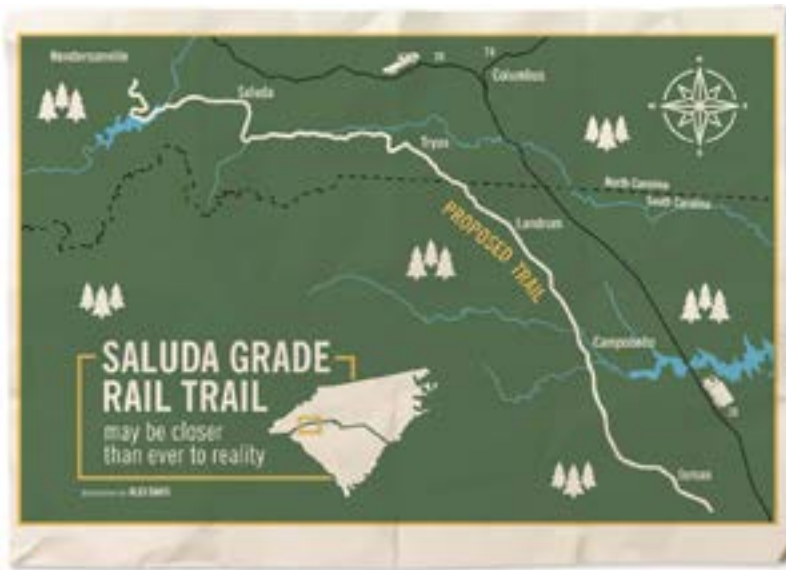
**Image 14.** Oklawaha Greenway Walkers (Source: Friends of the Oklawaha Greenway) (top)

The Oklawaha Greenway provides a recreational and transportation amenity to residents and visitors.

**Image 15.** Ecusta Trail Map from RAISE Grant (Source: City of Brevard) (second from bottom)

**Image 16.** Ecusta Trail Aerial Photo (Source: Conserving Carolina) (bottom)

The Ecusta Trail will connect Hendersonville directly to Brevard, paving the way for new recreational opportunities, economic development, and tourism.



**Image 17.** Saluda Grade Rail Trail Map (Source: Alex Davis)

**Image 18.** Saluda Grade Rail Line (Source: TPD)

*Feasibility planning for the Saluda Grade Rail Trail is underway. If the rail line is converted, this trail would pass through several downtowns (including Saluda, pictured here) and one day perhaps also connect to downtown Hendersonville.*

**“ Trails like this are transformational economic engines. They bring money and jobs to the local economy, boost quality of life for residents, and offer a safe and accessible way to spend time outdoors. The Saluda Grade Rail Trail will yield a return far beyond any initial investment. ”**

*- Andrea Cooper, Upstate Forever Executive Director*

development, with various stages of feasibility study and design. The 11-mile Henderson County portion of the trail is furthest along, with the first section entering the construction phase in the fall of 2023. This is the section from Hendersonville through Laurel Park to Horse Shoe (where the rail line crosses US 64).

Another potential new regional greenway project that the community is excited about is the Saluda Grade Rail Trail (SGRT). A preliminary feasibility study is underway through Conserving Carolina and their nonprofit partnerships. The feasibility study also includes work to identify a connection from the SGRT to the Ecusta Trail. Spanning a total of 31.5 miles, the proposed SGRT would span Inman, SC to Zirconia, NC, located just south of Hendersonville. The rail line encompasses approximately 15.5 miles in South Carolina and 16 miles in North Carolina. Throughout its course, the proposed trail could showcase picturesque landscapes, vibrant downtown areas, significant historical sites, pristine nature preserves, and scenic lakes and waterfalls, with the potential to offer visitors a diverse range of recreational experiences.

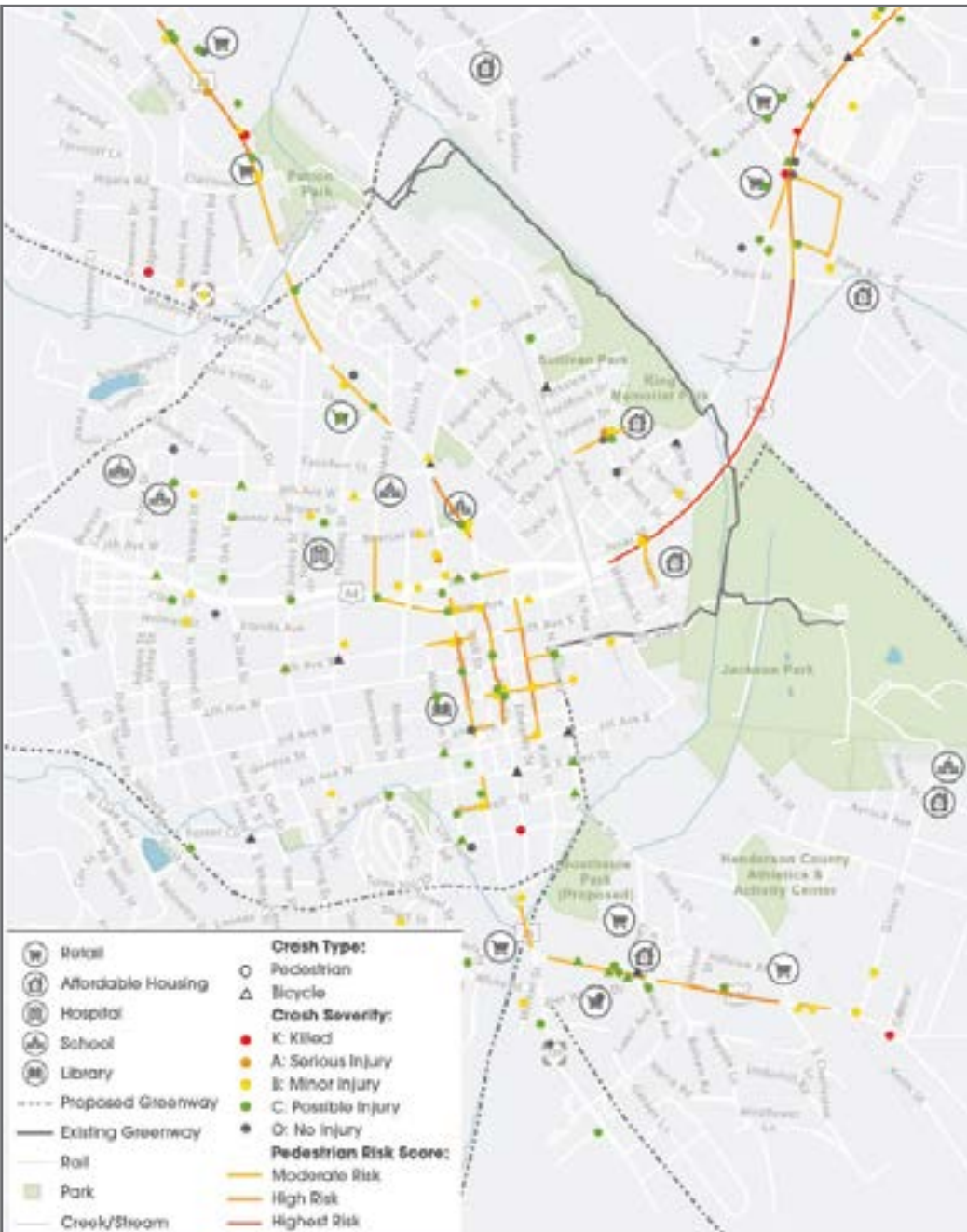
The potential for expanding and enhancing these greenways positions Hendersonville as a prime destination for individuals seeking recreational and transportation pursuits. With an extensive network of miles-long greenways, the City is on the verge of transforming into a thriving hub for multimodal infrastructure, thanks to the foresight of local government and community leaders.



## PEDESTRIAN CRASH ANALYSIS

Compared to similar sized cities (population of 10,000-25,000 people) in North Carolina, Hendersonville ranked highest for pedestrian crash severity and fatalities from 2010-2019. This gives Hendersonville the #1 (worst) pedestrian crash severity ranking for cities of similar size in NC. This category included 45 cities.

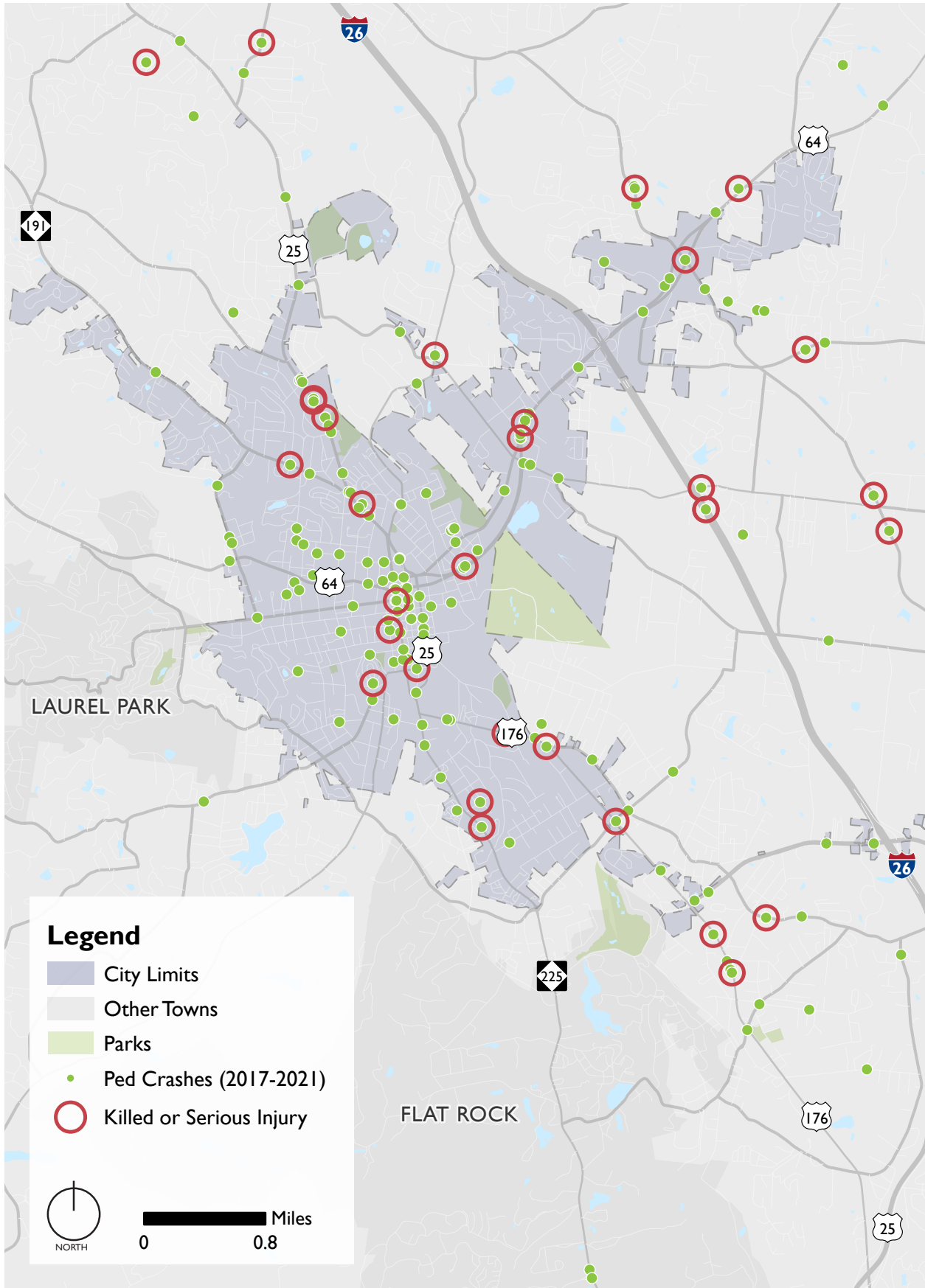
Gaining insights into the location and characteristics of crashes is decisive for evaluating the effectiveness of a transportation network. Specifically, understanding crashes involving pedestrians helps identify areas that require further attention. Image 19 from a recent study shows locations of crashes where people were killed or injured and assigns a risk score to segments of roadway based on prevalence of crashes and other factors. This visualization of high risk streets and intersections in Hendersonville helps to quickly show where to focus attention in addressing safety issues.



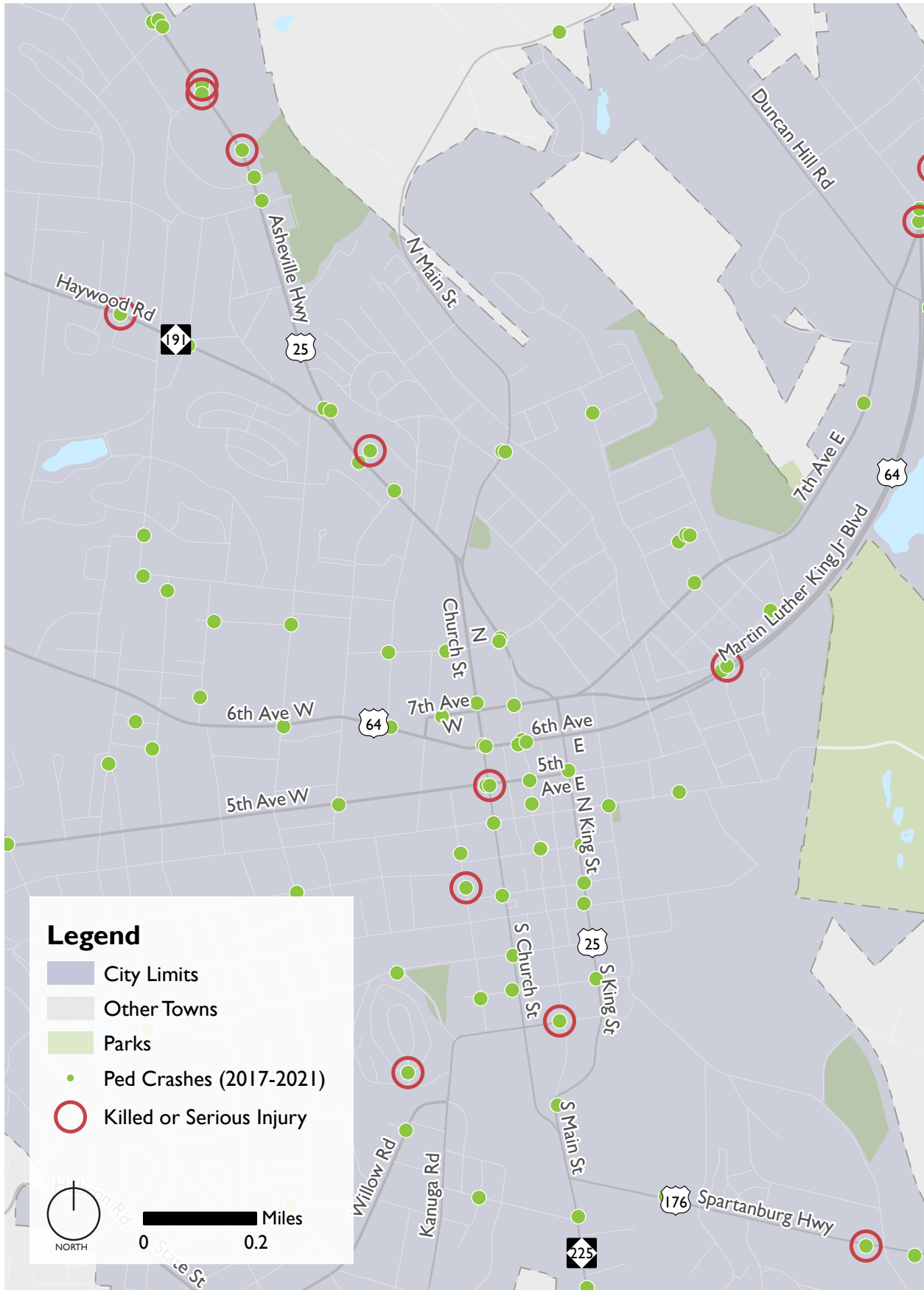
**Image 19.** Pedestrian Safety Study Crash & Risk Score Map (2009-2018) (Source: City of Hendersonville)



## Map 7. Crashes Involving Pedestrians in Hendersonville



Map 7. Crashes Involving Pedestrians in Hendersonville (Zoomed in)



Map 6 illustrates the locations of reported crashes in Hendersonville involving a person driving and a person walking between 2017 and 2021. It is important to note that these reported crashes are based on data provided to NCDOT and may not include unreported incidents. Crashes marked with a circle on the map indicate suspected serious injuries or fatalities. During this five-year period (2017-2021) there were 34 crashes involving pedestrians. Key insights from this data include:

- The majority of crashes occurred when pedestrians were crossing roadways.
- Only a small percentage (around 3%) of crashes resulted in no injuries.

While this data provides valuable information, it should not be the sole basis for understanding pedestrian safety. Additional factors such as traffic volume, roadway width (number and width of lanes), and speeds are essential in identifying safety concerns. The combination of crash reporting and other relevant factors helps assess crash risk and prioritize projects, which is an approach explored further in this plan document.

NCDOT's Pedestrian Safety Improvement Program for mid-sized cities in North Carolina is part of the agency's efforts to address pedestrian facilities and motor vehicle crashes. Hendersonville was identified as having a higher incidence of pedestrian crashes, and as such was highlighted in a recent NCDOT study. Key highlights are listed below and the complete report is available in the Appendix.

Fatal and severe-injury crashes were primarily found on major arterials on the outskirts of the City, where higher speeds are typical, specifically on:

- US 64 near Blue Ridge Mall
- US 25 (Asheville Highway) north of Patton Park
- US 176 east of Grove Street.

Other high pedestrian crash clusters include:

- US 64 near Blue Ridge Mall.
- Downtown Hendersonville.

- Near the grocery stores at US 176 and NC 225 (South Main Street).

“High Risk Areas” are places where there is a greater risk of a severe or fatal crashes due to high volumes of traffic and a higher speed limit. The risk areas include:

- In general, Four Seasons Boulevard (US 64).
- Specifically, crossings near Highlands Square Drive and Howard Gap Road, which provide access to Walmart and Blue Ridge Health.
- The vicinity of Blue Ridge Mall.
- Downtown Hendersonville, particularly along King Street and Church Street, and Asheville Highway north of the King Street/North Main Street intersection.

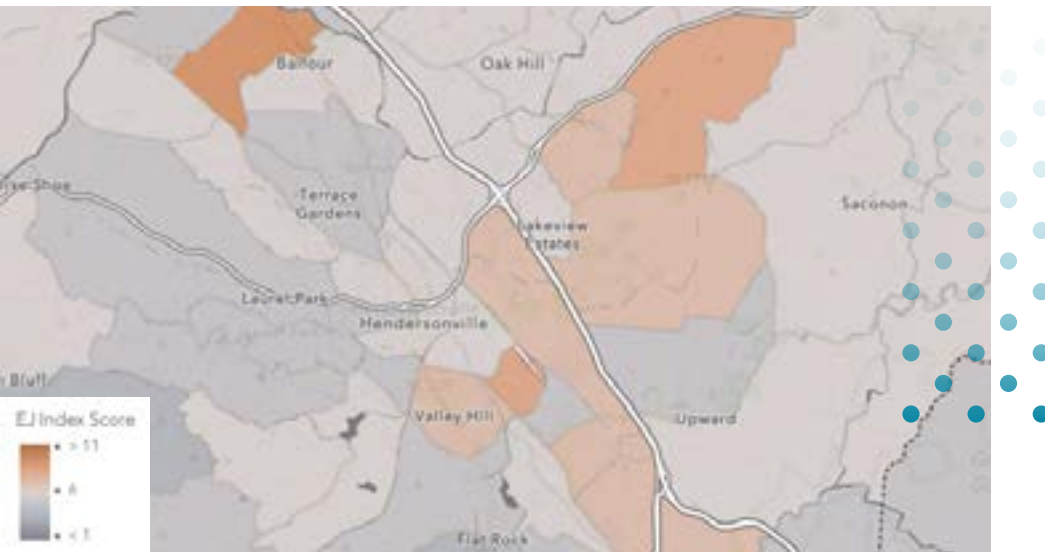
Other Focus Areas and project ideas:

- Seventh Avenue near downtown where drivers enter downtown from US 64.
- Several intersections along US 64 and Asheville Highway are also identified as focus areas, with recommendations for additional pedestrian crosswalks and street changes.
- Narrowing North Main Street and Church Street to two lanes near Hendersonville High School, between Seventh Avenue and the point where the two streets become Asheville Highway.
- Intersection of Sixth Avenue West and North Oak Street.
- Along Spartanburg Highway, between South Main Street and Upward Road. The study emphasizes that this corridor is often used as an alternative route to US 64 for accessing I-26, and that vehicle speeds remain high outside of peak hours, increasing the risk of fatal or severe pedestrian crashes.

## SPECIAL POPULATIONS & USER GROUPS

As discussed in the previous section, addressing equity in transportation requires consideration of special populations and user groups. Census data at a broad geographic scale can be challenging to interpret accurately, leading to potential inaccuracies and limited insights into relative equity needs. To overcome these challenges and gain a better understanding of equity in Hendersonville, it is necessary to engage with local stakeholders who possess in-depth knowledge of their community. Engagement helps us glean insights into neighborhoods or streets that have experienced under-investment or disinvestment in pedestrian infrastructure and can identify areas of the community that have historically been home to specific demographic groups.

The Project Team reviewed NCDOT's statewide environmental justice map to pinpoint areas with combined higher rates of poverty, racial minority, and Hispanic and Latino populations, as well as the overall transportation disadvantage index maps, which isolate areas with combined higher rates of older and younger population (under 16 and over 64), poverty, BIPOC population, zero-car households, and disability status. These maps, along with the input from local stakeholders and collaboration with the Steering Committee highlighted areas in Hendersonville such as parts of the Balsam, Barker Heights, and Carolina Village neighborhoods as having higher equity needs. This recognition of equity considerations played a significant role in prioritizing projects and ensuring a more equitable approach to transportation planning in the community, as reviewed in Chapter 3.



**Image 20.** Environmental Justice Index Score by Census Block Group (Source: NCDOT) (top)

**Image 21.** Transportation Disadvantage Index Map (Source: NCDOT) (bottom)



## INTERACTION WITH TRANSIT

Apple Country Public Transit (ACPT) provides Henderson County with three bus routes running from 6:30 a.m.–6:30 p.m. Monday through Friday. Each year, ACPT provides 60,000–70,000 passenger trips across the three routes as residents use public transportation for an affordable way to access work, shopping, medical appointments, school, and other community services. In Hendersonville, each route includes downtown and nearby areas, and facilitates access to employment and various destinations.

Many of the bus stops in Hendersonville, shown in May 3, currently lack amenities such as benches and shelters. However, most of these bus stops within the City limits are connected directly to the existing sidewalk system. This connectivity allows passengers to seamlessly transition from the bus to pedestrian modes of transportation, supporting their safety while walking.

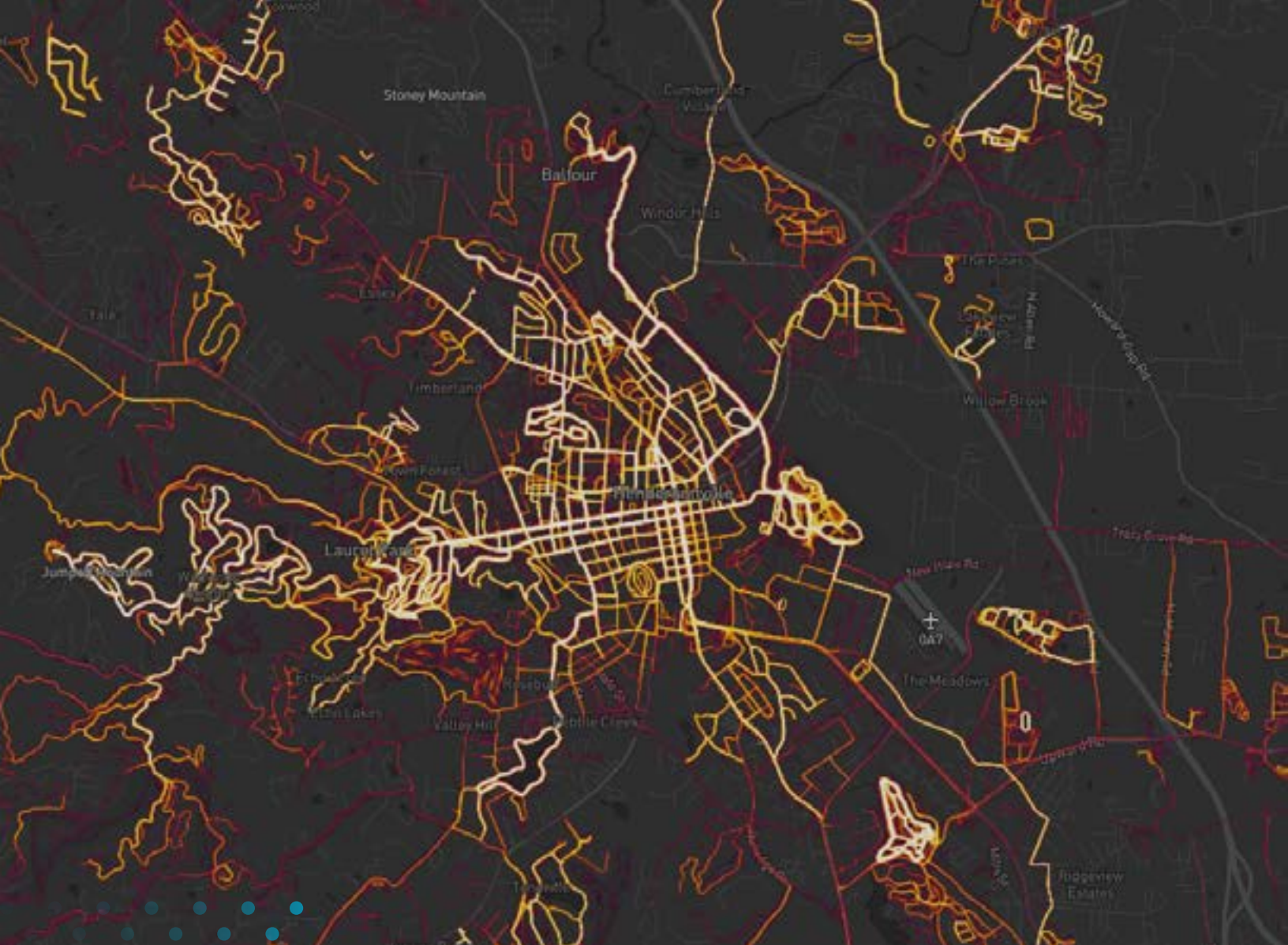
Further along Spartanburg Highway and Asheville Highway, people who walk encounter bus stops located on roadways that lack form of pedestrian infrastructure, such as sidewalks and safe crossing points. It is vital that people who rely on public transportation can easily access their nearest bus stop and safely reach their destination on foot.

While the City's sidewalk network currently supports bus travel within Hendersonville, there is room for improvement. Enhancing bus stops with additional amenities such as benches, trash receptacles, and shelter from the elements would greatly enhance the overall experience for bus riders. These amenities would provide comfort, convenience, and accessibility, making public transportation a more attractive and viable option for residents and visitors.



**Image 22.** Apple Country Transit Rider (Source: Hendersonville Times News) (top)

**Image 23.** Apple Country Bus Stop (US 64) (Source: Google Street View) (bottom)



## CURRENT WALKING RATES

The City, in partnership with the French Broad River MPO, has deployed EcoCounter pedestrian counting equipment at key locations (Main Street, the Oklawaha Greenway) to get a sense of foot traffic over a period of time. With several counting locations in 2016 and more in 2020 and 2022, the City hopes to get a picture of how many people are using sidewalk and trail facilities, what times of day are busiest, and how that changes over time. This data can be found in the Appendix.

The EcoCounter Pyro Counter can count people who pass within approximately 16.5 feet of the equipment. However, the device is unable to differentiate between the different users and simply counts them as general users.

## Hendersonville Strava Heat Map (Pedestrian)

*(Source: Strava Heat Maps)*

This heat map from Strava's fitness app indicates relative walking and running patterns in Hendersonville. A few notable features of these map include:

- There is heavy use along 5th Avenue, with many walkers enjoying the hills of nearby Laurel Park.
- There is also heavy use along Main Street and 7th Avenue.
- Oklawaha Greenway sees a lot of foot traffic, as well as Jackson Park.
- The Park at Flat Rock also is used quite heavily.



Some takeaways from this data include:

- Peak hour patterns are consistent between weekdays and the weekend for all locations.
- For the Oklawaha Greenway, peak hours are around 9am and 5pm. The Oklawaha Greenway saw anywhere from 100-600 people on a given day. Saturday was the busiest day for use.
- On South Main Street:
  - At various locations, the most foot traffic occurs around 12noon, with another spike at around 7pm.
  - Saturday was the busiest day, sometimes with twice as many people walking than on an average weekday.
  - At 3rd Street (in May) hovered around 1,500 people a day, with a Saturday peak of 2,500 people.
  - At 5th Street (in June) hovered around 1,000 people a day, with a Saturday peak of 2,000 people.
  - At Allen Street (in June) fell within a range between 600-700 people most days but doubled to 1,200-1,400 people on Fridays and Saturdays.
- Foot traffic on Four Seasons Boulevard ranged from 60-170 people a day. Friday had the most walkers on this corridor. The foot traffic spikes around 12noon and 7pm.
- During the colder winter months, Main Street seems to be less busy and lacking the 7pm second peak hour. The greenway is only slightly less busy, with higher usage during the warmest parts of the day.

This data is limited but offers another glimpse into walking behavior in Hendersonville. It shows consistency, hinting that a lot of foot traffic is habitual and could indicate commuting patterns. It also seems that Hendersonville is a popular destination for weekend visitors and that people walk where it is desirable to do so. Main Street sees more pedestrians than Four Seasons Boulevard, where facilities are inconsistent, and the experience is generally less comfortable. The City could invest in permanent counters on the greenway to create a data set over years, painting a much more robust picture of usage.

## RELEVANT LOCAL, REGIONAL AND STATE PLANS

Previous plan documents that were adopted in a community is a helpful place from which to understand desires and project ideas. By reviewing these previous plan documents, the *Walk Hendo* plan can build upon the existing goals and strategies, ensuring alignment with the community's aspirations and the larger planning framework. It allows for the integration of past ideas and initiatives while shaping a cohesive and forward-looking approach to pedestrian infrastructure and mobility in Hendersonville. The Appendix provides the full review of relevant local, regional, and state plans. The plans that have been reviewed can be found in Figure 9.

The City of Hendersonville, along with Henderson County, has a strong legacy of planning on which *Walk Hendo* was established. The Comprehensive Transportation Plan (CTP) and (State Transportation Improvement Program) STIP, as do the Blue Ridge Bike Plan and Hellbender Regional Trail Plan and Ecusta Trail Economic Impact Analysis establish the health and economy-based need for a plan such as this. And the various iterations of Comprehensive Plans pull the pieces together for a holistic look at planning in Hendersonville and across the County. The plans provide a solid basis for identifying priority projects, seeking funding opportunities, and implementing pedestrian infrastructure improvements. Collectively, these components ensure that *Walk Hendo* aligns with the broader planning goals and aspirations of Hendersonville and sets the stage for a more connected, accessible, and vibrant community.



Figure 9. Relevant Local, Regional and State Plans

PLAN NAMES	
2023	HENDERSON COUNTY 2045 COMPREHENSIVE PLAN
2021	MUD CREEK GREENWAY FEASIBILITY STUDY
2021	PEDESTRIAN SAFETY STUDY
2021	FBRMPO 2020-2029 STATE TRANSPORTATION IMPROVEMENT PLAN
2021	FBRMPO REGIONAL TRANSIT FEASIBILITY STUDY
2020	FBRMPO 2045 METROPOLITAN TRANSPORTATION PLAN (MTP)
2020	THE HELLEBENDER TRAIL PLAN (FBRMPO)
2019	ADVENTHEALTH HENDERSONVILLE COMMUNITY HEALTH PLAN
2019	3RD AVENUE WALK AUDIT
2019	HENDERSON COUNTY OKLAWAHA GREENWAY EXTENSION
2019 (UPDATED)	APPLE COUNTRY TRANSIT ROUTES AND POLICIES
2019	HENDERSON COUNTY GREENWAY MASTER PLAN
2018	FBRMPO CONGESTION MANAGEMENT PROCESS

Figure 9. Relevant Local, Regional and State Plans (continued)

PLAN NAMES	
2018	HENDERSON COUNTY COMMUNITY HEALTH ASSESSMENT
2017 <i>(UPDATED)</i>	HENDERSON COUNTY SCHOOL BOARD POLICY: STUDENT WELLNESS 419
2014	PRELIMINARY DOWNTOWN COMPREHENSIVE PARKING STUDY
2013	BLUE RIDGE BIKE PLAN (FBRMPO)
2013	MASTER PLAN FOR BERKELEY MILLS PARK
2012	ECUSTA RAIL TRAIL PLANNING STUDY & ECONOMIC IMPACT ANALYSIS
2011	HENDERSONVILLE PARK AND GREENSPACE MASTER PLAN
2009	HENDERSONVILLE 2030 COMPREHENSIVE PLAN
2008	HENDERSON COUNTY 2020 COMPREHENSIVE PLAN
2008	FBRMPO COMPREHENSIVE TRANSPORTATION PLAN (CTP)
2007	HENDERSONVILLE PEDESTRIAN PLAN
2005	HENDERSONVILLE BIPEDS SIDEWALK ASSESSMENT



**Image 24.** *Bearfootin' Bears* (Source: WLOS) (left)



**Image 25.** *ArtScape Banner 2022* (Source: ArtScape Hendersonville) (right)

## LOCAL WALKING TOURS

Hendersonville has great opportunities for self-guided walking tours throughout downtown that allow visitors to explore the charm and rich history of downtown, including the following:

### BEARFOOTIN' ART WALK

The Bearfootin' Art Walk raises funds for Downtown Hendersonville and local non-profit organizations. Each year, the Bearfootin' Bears arrive as blank canvases, awaiting the creative touch of local artists who transform them into works of art. People can walk up and down Main Street to see them all, and they provide public art for pedestrians to enjoy. At the end of the season, the bears are auctioned. The funds raised during the auctions are dedicated to supporting non-profit organizations and further enhancing Downtown Hendersonville's vibrancy. The City created this Story Map online: [Main Street's Bearfootin' Bears Art Walk](#)

### ARTSCAPE BANNERS

The ArtScape banner program, initiated by the Art League of Henderson County, is a project that celebrates and supports the arts community in Henderson County. The ArtScape Banner Program serves as a testament to the thriving arts scene in the region and help create an inviting and visually captivating environment for people walking downtown. [ArtScape Hendersonville](#)





Image 26. Historic Walking Tour Map (Source: Historic Downtown Hendersonville) (left)



Image 27. Apple Quest Scavenger Hunt (Source: Girl Scouts) (right)

## HISTORIC WALKING TOUR

Hendersonville’s Main Street Historic District was listed on the National Register of Historic Places in 1988. City Council established a Main Street Local Historic district in 2007. The Hendersonville Historic Preservation Commission and Historic Downtown Hendersonville have developed a walking tour of places along Main Street of historic significance, including the Ripley building, the oldest building on Main Street, the County Courthouse, the Pace’s Market Coca-Cola mural, and more. Plaques are located on many of these sites, offering information about the buildings and their historical context to anyone walking by. A map can be accessed here: [Hendersonville Historic Walking Tour Brochure](#)

## APPLE QUEST DOWNTOWN SCAVENGER HUNT

Apple Quest is a permanent scavenger hunt, thoughtfully crafted by Girl Scout Troop 1886 as their joint Silver Award project. Apple Quest presents a cost-free activity for families to journey through the streets of downtown Hendersonville helping an imaginary bear and his family track down their lost apples by detective work, one clue at a time. [Apple Quest brochure](#)

In addition to self-guided walking tours, downtown Hendersonville offers a few guided tours for visitors to enjoy. Among them are history tours and ghost tours.



**Image 28.** *Open Streets Hendersonville (COVID era) (Source: WLOS)*

## WALKABLE DOWNTOWN EVENTS

Throughout the spring and summer, Hendersonville’s walkable downtown is host to a number of indoor/outdoor events. A sample of these events include:

- The Garden Jubilee in May which celebrates all things floral;
- June’s Main Street Antique Sidewalk Show;
- July brings the artistic extravaganza of Chalk It Up, where the sidewalks become vibrant canvases for imaginative creations.
- Throughout the summer, downtown hosts Music On Main concerts every Friday night and traditional Monday night Street Dances, featuring authentic mountain music and dance.
- The Rhythm & Brews festival, held on the third Thursday of each month, promises a delightful fusion of rhythm, brews, and merriment.
- Labor Day weekend heralds the arrival of the North Carolina Apple Festival.
- Walkers embrace the Halloween spirit with Trick-or-Treat Street, followed by Art on Main weekend in October.
- As the year draws to a close, the Holiday Lighting Celebration in November illuminates the town in a magical display of festive splendor.

All of these events hinge on having an inviting, walkable Main Street. They encourage people to stay a while and wander downtown, with opportunities to connect with local artists-in-residence at a gallery, bask in the fresh mountain air on one of the benches, engage with local shop





**Image 29.** *Bee Line Sidewalk Art (Source: BlueRidgeNow) (top)*



**Image 30.** *“Hendo” Mural Concept (Source: City of Hendersonville) (bottom)*

*This sidewalk mural was designed to be a honey-combed ‘yellow brick road’ through which pedestrians of all ages can hop, skip, and meander through an illustrative border garden made up of native pollinators. The pathway salutes Hendersonville’s status as a Bee City USA and the recent “For the Good of the Hive” mural downtown. Two other sidewalk murals include “Bear Crossing” and Hendo”.*

owners, and find a lovely place for dinner. While they are not “walking” events, they do rely on foot traffic for their success and benefit from wide sidewalks and safe crossings.

The City of Hendersonville experimented with “Open Streets” events during the summer of 2020 in an effort to support local businesses during the COVID-19 pandemic by enabling them to expand their seating to outdoor space and serve customers. Sections of Main Street were closed to cars, giving pedestrians more room to get around safely while maintaining public health distancing measures. This type of event can be a good showcase of Main Street’s capacity for gathering. Post-pandemic, an Open Street event could offer people their downtown as a place to walk, ride bicycles, roller skate, and enjoy without worrying about making room for cars.

## CELEBRATING PEDESTRIANS

The Downtown Program is a division of the City of Hendersonville Community Development Department, formed in September 2020. Together with non-profits and volunteers, the events team of the Downtown Program organizes recurring events in Hendersonville, while also working to support the visual and physical atmosphere of the downtown. Projects are built around community character and economic development, acknowledging that improved facades, public art, and landscaping are good for people walking and good for the local economy.

A notable recent project is the 7<sup>th</sup> Avenue streetscape improvements, a \$1.4 million investment into pedestrian and stormwater infrastructure and landscaping in the business district to make a more engaging, pleasant, and sustainable pedestrian experience in this historic district.

Similarly, the downtown art route sidewalk mural enlisted volunteers on community “paint days” to create a honeycomb pattern along the sidewalk – the “Hendo Bee Line” – in an effort to link Main Street and Seventh Avenue from Fifth Avenue to the Historic Depot. This Friends of Downtown Hendersonville project, funded by an AARP Community Challenge grant, added a thoughtful and eye-catching public art piece that helps connect these two historic commercial districts along a safe pedestrian pathway, reminding people that they can walk from one

to the other. The project was designed for quick action and community activation, partnering with Hendersonville High School's art students and other volunteers.

The City of Hendersonville has actively worked on connecting the 7th Avenue and Main Street districts. This includes a successful public-private partnership for the Grey Mill redevelopment project on 5th Avenue, as well as the establishment of the Hendersonville Farmers Market on Maple Street, which will serve as a destination along the 5th Avenue Art Route.

Other programming efforts in the area include:

- In previous years, Hendersonville Elementary School actively engaged in "walk to school" events, emphasizing the importance of walking as a healthy and sustainable means of transportation. In 2018, the Hendersonville Police organized a Walk to School Day, which saw a turnout of approximately 70 students, parents, and staff members. The event received enthusiastic participation from various community organizations, including the YMCA and Hendersonville Trolley Company, further promoting the significance of walking, and fostering a sense of community engagement. After meeting at a downtown church, participants were escorted to school by police officers and firefighters.



**Image 31.** Hendersonville Elementary Walk to School (Source: WLOS)



- The Henderson County Annual Hunger Coalition Walk serves as a platform to raise both awareness and funds for local agencies in the county that face challenges in providing food to families in need.
- The Walk to End Alzheimer's is an event that serves as the largest fundraiser for Alzheimer's care, support, and research worldwide.
- The annual Black Bear Half Marathon & 8K both wind through Hendersonville, NC and offer a scenic, mostly flat course along the Oklawaha Greenway during peak leaf season in the fall. The Half Marathon has less than 400 feet of elevation gain and finishes at Jackson Park.
- The Jump Off Rock Half Marathon & 10K takes place in May every year. The point-to-point race begins at Jump off Rock, a national landmark and the Town of Laurel Park's highest peak, and finishes in the heart of downtown Hendersonville on Main Street.



**Image 32.** *Jump Off Rock Half Marathon*  
(Source: iDaph Events) (top)

**Image 33.** *Black Bear Half Marathon*  
(Source: iDaph Events) (bottom)

## COMMUNITY ENGAGEMENT

Active community engagement anchored the development of *Walk Hendo*. The plan sought input from a diverse range of stakeholders, including residents, community members, visitors, and local interest groups. Various methods of engagement, such as meetings, surveys, and informal discussions, were employed to gather valuable input.

Through these engagement activities, participants shared their preferences, provided recommendations, and contributed specific project ideas. The feedback and insights gathered from the community shaped the direction and priorities of the plan. Figure 10 provides an overview of the different engagement activities that took place during the planning process.

To ensure a comprehensive record of community engagement, detailed notes, concerns, needs, priorities, and other relevant information were captured and documented. These valuable insights from the community can be found in the Appendix.

## COMMUNITY ENGAGEMENT



Figure 10. Community Engagement Activities

## TIMELINE OF KEY PROJECT MILESTONES

04.01.2022



**ORIENTATION FIELD VISIT WITH STAFF**

06.10.2022



**STEERING COMMITTEE #1 & FIELD VISIT**

Goal setting and preliminary project identification

07.25.2022



**PUBLIC MEETING & ONLINE SURVEY**

Promoting the survey and collecting thoughts and feedback

11.16.2022



**STEERING COMMITTEE #2**

Presentation of preliminary project ideas

02.08.2023



**PROJECT FEASIBILITY SITE VISIT**

03.07.2023



**STEERING COMMITTEE #3**

Refined pedestrian network recommendations

04.12.2023



**NCDOT MEETING**

05.02.2023



**PUBLIC MEETING**

Presentation of network recommendations

08.15.2023



**STEERING COMMITTEE #4**

Draft plan for review



**PRESENTATION TO CITY COUNCIL**





**Image 34.** *Walk Hendo Steering Committee Meeting*  
(Source: TPD)

*Walk Hendo Steering Committee  
Gathering to Discuss Ideas.*

## STEERING COMMITTEE

City Council appointed the Project Steering Committee with the aim of representing the voice of the community at a focused and local level. Comprised of various stakeholders, including City leadership, staff from the County, NCDOT, French Broad River MPO (FBRMPO), Henderson County public schools, the Henderson County Department of Public Health, Friends of the Oklawaha Greenway, Apple Country Public Transit, local businesses, YMCA, Conserving Carolina, Hola Carolina, and other community or non-profit organizations. The Committee members brought diverse perspectives to the project, with each member representing their respective organization and contributing valuable insights to

the planning process. The full list of committee members can be found in the Acknowledgements section, and detailed meeting minutes and materials can be referenced in the Appendix for further information.

Although NCDOT Division 14 staff were represented on the Steering Committee, the planning team also met with staff in a one-on-one meeting to discuss projects in more detail. This feedback directly informed project recommendations and program/policy guidance that formulated the Network and Program Plan.



**WALK HENDO**  
**ROUND 2 : COMMUNITY MEETINGS**

We are back with a second round of community meetings to hear your thoughts on a set of proposed sidewalk, path, and greenway projects. We want your feedback as we wrap up *Walk Hendo*, the new plan to improve walking in our City.

<p><b>IN-PERSON</b></p> <p>City Operations Center Assembly Room 305 Williams Street</p> <p>Tuesday, May 2, 2023 Drop-in Anytime 5:00 PM – 7:00 PM</p>	<p><b>VIRTUAL - Beginning May 2, 2023</b></p> <p><a href="https://www.hvinc.gov/walkhendo">https://www.hvinc.gov/walkhendo</a> to learn more and take an online survey.</p>	
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**QUESTIONS:** Rachael Bronson - rbronson@trafficpd.com - (828) 575-0133

## PUBLIC MEETINGS

The *Walk Hendo* team organized public meetings in July 2022 and May 2023. Both gatherings took place at the City Operations Center and followed a flexible drop-in format. Numerous individuals attended in person, seeking to learn about the project, interact with City staff and the project team, and contribute their valuable insights. The objective of these meetings was to present the progress of the planning process, emphasize the significance of walkability, and allow community members to express their concerns, expectations, and guidance regarding important milestones. The meetings were extensively advertised and deliberately scheduled alongside the promotion of the online survey, aiming to increase visibility and encourage participation.

## COMMUNITY SURVEY

The full results from the *Walk Hendo* community survey are provided in the Appendix, and the following page illustrates some community sentiment that was gathered.



**WALK HENDO**  
**SEGUNDA RONDA : REUNIONES COMUNITARIAS**

Regresamos a una segunda ronda de reuniones comunitarias para escuchar sus opiniones sobre un conjunto de propuestas. Proyectos de aceras, senderos y vías verdes. Queremos sus comentarios mientras finalizamos *Walk Hendo*, el nuevo plan para mejorar el caminar en nuestra Ciudad.

<p><b>EN PERSONA</b></p> <p>Centro de operaciones de la ciudad Cuarto de asambleas Calle Williams 305</p> <p>Martes, 2 de mayo de 2023 Visita en cualquier momento de 5:00 p.m. a 7:00 p.m.</p>	<p><b>VIRTUAL - A partir del 2 de mayo de 2023</b></p> <p>Visite: <a href="https://www.hvinc.gov/walkhendo">https://www.hvinc.gov/walkhendo</a> para obtener más información y realizar una encuesta en línea</p>	
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**PREGUNTAS :** Rachael Bronson - rbronson@trafficpd.com - (828) 575-0133

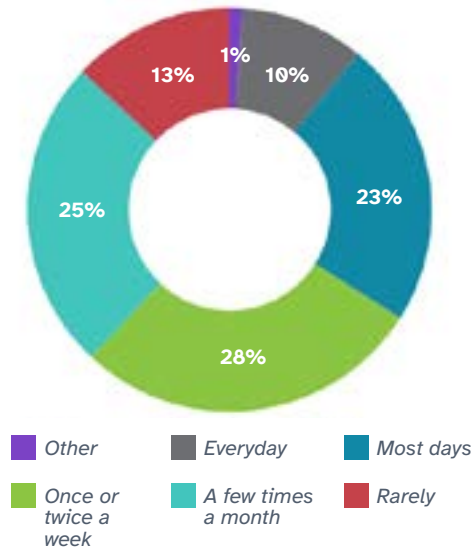
**Image 35.** Community Meeting (Source: City of Hendersonville) (top left)

**Image 36.** Walk Hendo Community Meeting Flyers (Source: TPD) (right)

*Flyers were developed in English and Spanish to maximize the number of people who would attend the meetings and take the surveys.*

# COMMUNITY RESPONSES

Current Frequency of Walking



Generally, the current walking experience is positive (70% of the words used had a positive sentiment). “Currently, walking in Hendersonville is a \_\_\_\_\_ experience”



**I would like to WALK more than I currently do.**  
 [The answer to this is around 79 if this were a scale of 1-100.]



## What are the top obstacles that prevent you from walking more?

- No sidewalks, paths, or greenways where I want to go
- People drive too fast
- Lack of motorist awareness
- Sidewalks are too narrow or close to the road

People prefer walking on facilities with a dedicated space, separated from the roadway  
 Respondents believe a top barrier is having places to walk and cross the street, but motorist awareness and design of roads affect people as well.  
 Respondents are most concerned about safety in terms of prioritizing projects, and people prefer current or grant sources to funding projects, not new taxes.



# HENDERSONVILLE'S OPPORTUNITIES & CHALLENGES

## CONNECTIVITY

Although the City of Hendersonville has a strong system of existing sidewalks, they are most consistently prevalent in the core part of downtown. The further away from Main Street, the harder it gets to walk, especially due to wide NCDOT roadways with few crossings. These highways, effective at moving motor vehicles swiftly, can be barriers to walkability even with sidewalks and crossings. This is a key opportunity for the City and NCDOT to partner to ensure that these state-maintained roadway corridors are safer and better connected for people on foot.

## CROSSINGS & OTHER BARRIERS

When a street network is largely defined by higher volume state-maintained highways that connect to lower volume, local streets, it becomes inevitable that people walking and biking will encounter problematic street crossings.

Community members and the project team identified three types of crossing challenges:

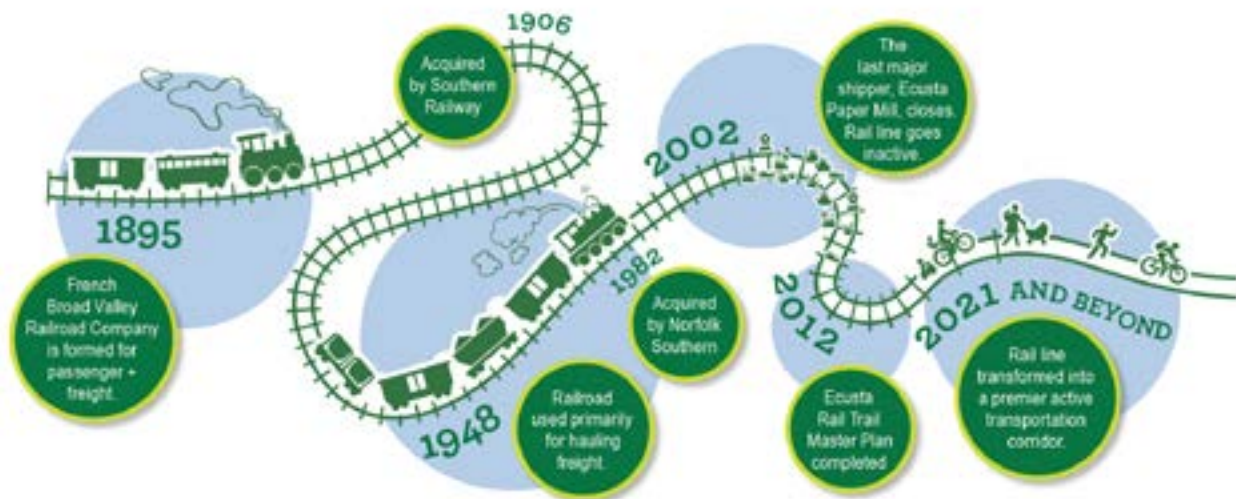
- Existing crossings (those with crossing facilities), particularly those along higher volume state-maintained roadways such as US 64, Greenville Highway, and Asheville Highway.

- Crossings along roadways that have pedestrian infrastructure but the distances between the crossings and the length of the crossings are an obstacle to safe pedestrian mobility. One example of this is US 176, Spartanburg Highway. Where the roadway is 5 lanes wide and signalized intersections are approximately 2000 feet apart and some are missing crosswalks and ADA facilities.
- Railroad crossings can be barriers to walkability, For instance, the track that runs between Ashe Street and Maple Street bisects the community with very few crossings.

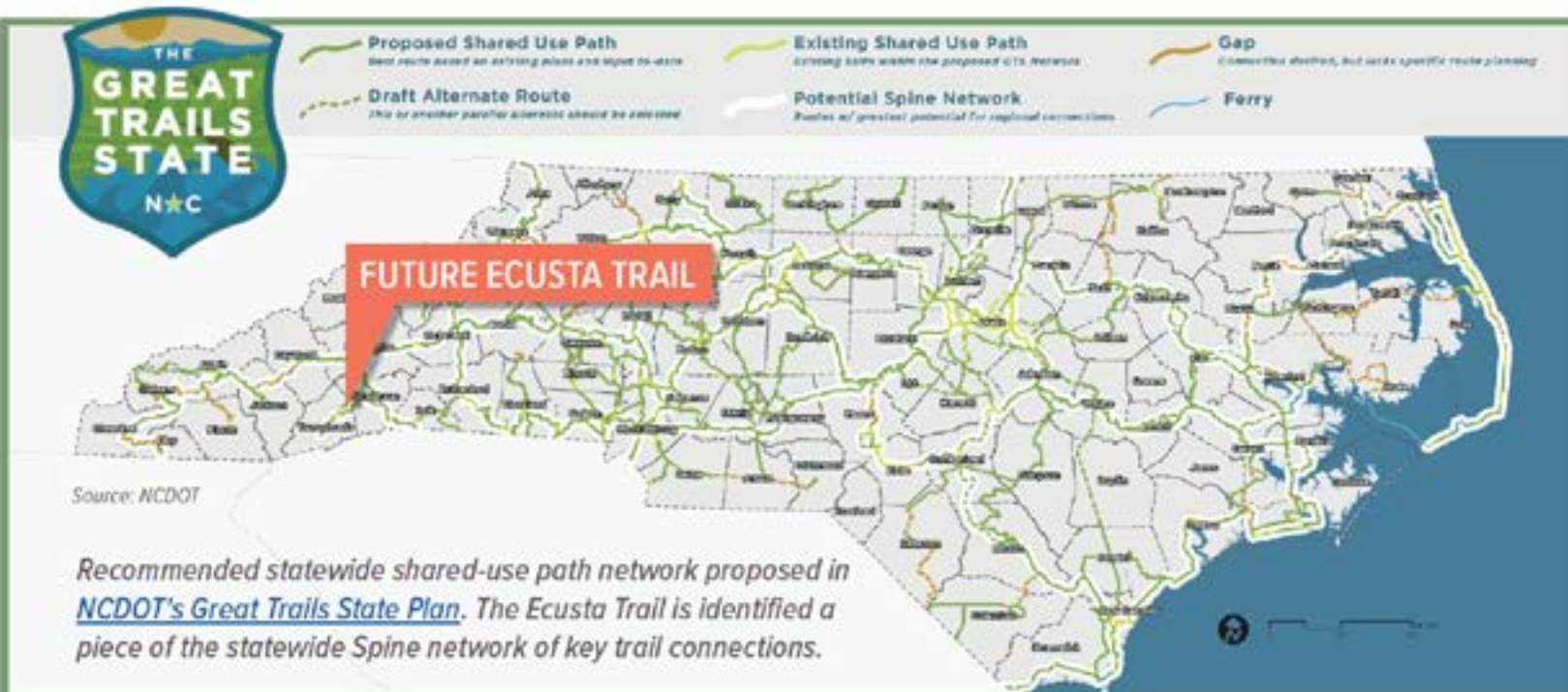
## A RECREATIONAL DESTINATION

The Ecusta Trail will link Brevard directly to Hendersonville, connecting two counties and the rural communities in between. It will also bring additional access to Pisgah National Forest, one of the most visited forests in the nation. This new recreational facility has tremendous potential to incentivize new economic investments throughout Transylvania and Henderson Counties by expanding the area's outdoor recreation-based economy. It will connect the municipalities' commercial centers, bringing new visitors and spurring local investments as recreational hubs.

Image 37. Ecusta Trail Timeline (Source: City of Brevard)







**Image 38.** Ecusta Trail on the Great Trails State Map (Source: NCDOT and City of Brevard) (top)

**Image 39.** Ecusta Trail Bicyclist Benefit Image (Source: City of Brevard) (bottom)

*While some cyclists use these roadways for recreation, the lack of dedicated bike/ped facilities is a barrier to the majority of would-be walkers and bikers.*

The construction of the Ecusta Trail will not only provide recreational opportunities but also facilitate active commutes for individuals living and working at different ends of the trail. Currently, relying on vehicles is the most reliable mode of transportation between cities like Brevard and Hendersonville. However, with the completion of the Ecusta Trail, there is a significant opportunity for enhanced active transportation connectivity. This will benefit the 3.5% of workers residing in Brevard who commute to Hendersonville and the 1.3% of workers in Hendersonville who commute to Brevard, offering them an alternative and sustainable way to travel.<sup>28</sup>

A significant aspect of the trail is its integration into the Great Trails State spine network and the regional Hellbender greenway system. The Great Trails State Coalition is a broad-based group of nonprofits, local government, industry partners, and other supporters advocating for increased state investment in all types of trails statewide, with an aim to establish a comprehensive network of shared-use paths that connect all 100 counties in North Carolina. By becoming a part of this network, the Ecusta Trail not only offers an additional transportation option for residents but also contributes to the overall connectivity of the region and the state's active transportation network.

Centered between the Ecusta, Oklawaha, and Saluda Grade trails, Hendersonville could become a real “Trail Town”.

## THE FUTURE TRAIL ECONOMY

The City is well-positioned to capitalize on this trail-development with its proximity to numerous recreational opportunities and the ongoing development of local greenways and rail-to-trail conversions like the Ecusta Trail. The demand for walkable neighborhoods has prompted developers across the country to build homes close to greenways, which not only enhances property values in adjacent neighborhoods but also attracts employers looking to relocate and attract talented staff. By investing in such infrastructure, Hendersonville can attract tourism, foster business growth, and generate job opportunities, ultimately contributing to the community's overall prosperity.

Hendersonville is right at the heart of new regional multimodal connections, big projects that will have a lasting impact on the economy. An analysis of the Ecusta Rail Trail that will soon connect Hendersonville to Brevard highlights the potential economic benefits it can bring. The completed trail is projected to:

- Generate \$1.2 million annually in tourism revenue.
- Attract approximately 20,000 new visitors to the area each year.
- Result in a \$22 million increase in property values.
- Contribute to \$5 million in annual healthcare cost reductions<sup>29</sup>

According to the Cost-Benefit Analysis conducted in preparation for the Ecusta Trail 2023 RAISE Grant application, the trail would attract 1,424 average daily trail users, of which 39% would be pedestrians.



**Image 40.** *New Residential Construction Near Ecusta Trail (Source: Google Street View) (top three)*

**Image 41.** *Lennox Station Rendering (Source: Lennox Station on the Ecusta Trail) (bottom)*

*People are already capitalizing on proximity to the Ecusta Trail even before it is constructed! New homes are being built adjacent to the trail and entrepreneurs are investing – the Lennox Station retrofit with Trilside Brewing is right on the trail.*





This analysis estimated a construction cost of \$29 million over five years and about \$140,000 per year in maintenance costs. This is a lot of direct expenditure money for the local economy, without even accounting for the money spent by visitors at local establishments and increases in property values and savings from transportation mode shift. As that analysis states, “while construction of the project will benefit all residents of and visitors to the region, those living within three miles (about a 15-minute bike ride) and one-half mile (about a 10-minute walk) of the project will have the most convenient access and will gain the most from its completion.”

These estimations demonstrate the significant economic advantages that can be derived from investing in active transportation infrastructure. The trail's ability to draw visitors, stimulate local spending, enhance property values, and promote healthier lifestyles showcases its potential as a valuable asset for the community. The feasibility planning process for the proposed Saluda Grade Rail Trail is currently underway, presenting an additional opportunity for economic development in Hendersonville. The trail's potential connection to the City center could unlock new economic opportunities, attracting visitors, encouraging local spending, and fostering community growth. By leveraging the potential of the Ecusta Trail and the Saluda Grade Rail Trail, Hendersonville can benefit from the positive economic outcomes of active transportation and tourism.

While the exact economic impact of investing in pedestrian infrastructure in Hendersonville may vary depending on specific factors such as the types of facilities built and their level of connectivity, research and case studies indicate significant potential economic returns for the City, local businesses, and residents. Investing in pedestrian infrastructure aligns with numerous positive outcomes that can contribute to the economic prosperity of Hendersonville.



## ENDNOTES

- 21 Ruscin, Terry. "Beyond the Banks: A Native Presence in Henderson County." Blue Ridge Now. (2019). <https://www.blueridgenow.com/story/opinion/columns/2019/04/14/beyond-banks-native-presence-in-henderson-county/5440619007/>
- 22 Ruscin, Terry. "Beyond the Banks: A Native Presence in Henderson County." Blue Ridge Now. (2019). <https://www.blueridgenow.com/story/opinion/columns/2019/04/14/beyond-banks-native-presence-in-henderson-county/5440619007/>
- 23 Caton, Alex S., Director of Education, Smith-McDowell House Museum, and revised by Rebecca Lamb. "The Buncombe Turnpike." <https://www.ncpedia.org/anchor/buncombe-turnpike>
- 24 Buncombe County 2020 Comprehensive Plan. (2004, updated 2009). Retrieved from <https://www.hendersoncountync.gov/planning/page/2020-county-comprehensive-plan>
- 25 Henderson County 2045 Comprehensive Plan. (2023). Retrieved from [https://www.hendersoncounty2045.com/\\_files/ugd/673c92\\_3aa055f0bf4c47e2a9ce6a21f58d2e43.pdf](https://www.hendersoncounty2045.com/_files/ugd/673c92_3aa055f0bf4c47e2a9ce6a21f58d2e43.pdf)
- 26 U.S. Census Bureau (2021). 2017-2021 American Community Survey 5-year estimates. <https://data.census.gov>
- 27 "ArcGIS REST Services Directory". United States Census Bureau.
- 28 United States Census Bureau, OnTheMap Work Destination Analysis, 2019 data. <https://onthemap.ces.census.gov/>
- 29 U.S. Department of Transportation Federal Highway Administration. (2012, March). Ecusta Rail Trail Planning Study & Economic Impact Analysis. <https://www.hendersonvillenc.gov/community-development/ecusta-rail-trail-planning-study-economic-impact-analysis>
- 30 Hughes, N. (2013, May 29). Trees mean business. Invest From the Ground Up. Retrieved June 21,

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(Source: TPD)

# 03

## Project Prioritization & Recommendations



# 03

## PROJECT PRIORITIZATION & RECOMMENDATIONS

*“There are not enough sidewalks to encourage walking from the average home to a grocery store or even the next neighborhood.”*

- Walk Hendo Survey Respondent

This chapter of the *Walk Hendo* plan presents the proposed network for people walking. In the case of *Walk Hendo*, a well-functioning network is one that allows people to easily reach their destinations on foot.

available information about walking in Hendersonville, which included existing conditions data (i.e., where sidewalks are currently located), planned projects from previous planning efforts, and key pedestrian destinations. The team then did a manual inventory of missing sidewalk sections throughout the City, filling in gaps with proposed projects. This allowed the team to develop the initial list of needed pedestrian connections (projects) throughout Hendersonville.

### HOW WE DEVELOPED THE PROJECT PRIORITIZATION LIST

The Planning Team took the following steps to identify and prioritize projects for pedestrian connectivity throughout the City of Hendersonville.

#### STEP 1: INITIAL PROJECT IDENTIFICATION

To identify needed sidewalk connections and crossings, the *Walk Hendo* team gathered

#### STEP 2: PUBLIC PROJECT ADDITIONS

As reviewed in Chapter 2, community engagement played a central role throughout the *Walk Hendo* planning process. The Team reviewed needed pedestrian connections and existing conditions with the project steering committee meetings. The project list was then expanded to include pedestrian connections gathered during community outreach efforts.

### STEP 3: PROJECT CATEGORIES (BASED ON ROADWAY MAINTENANCE AND OWNERSHIP)

The next step was to group the final list of needed pedestrian connections (projects) into categories based on roadway maintenance and ownership. Since roadway maintenance often determines possible funding opportunities and what types of approvals and permits are needed, these groupings are intended to aid in project prioritization, funding pursuits and implementation schedules.

#### NCDOT-Owned Streets with Pedestrian Connection Needs

This project group contains Hendersonville's primary roadways – those streets that are under NCDOT's management authority. Many of these roads are wider and have higher traffic volumes and speeds compared to the City's locally maintained roads. As such, they typically have greater safety concerns and need for separated sidewalks and controlled (i.e. signalized) pedestrian crossings. For projects proposed on these roads, NCDOT must review and approve all roadway modifications through the NCDOT encroachment agreement process. If state or federal funding are involved, the permitting and design process becomes more time and cost intensive than on smaller City streets. In addition, these roads often have more funding opportunities based on joint partnerships with the FBRMPO and NCDOT.



Figure 11. How We Got Here

## ROAD OWNERSHIP & MAINTENANCE

*Responsibility for roadway maintenance may fall under the purview of NCDOT, municipalities, or private property owners such as homeowners' associations. In North Carolina, county governments are typically not responsible for the construction or maintenance of any roads.*

**NCDOT MAINTAINS APPROXIMATELY 80 PERCENT OF PUBLIC ROADWAYS IN THE STATE**, including Interstates, US Routes, NC Routes, Secondary Routes (SR), and rest areas and bridges.

### City Owned Streets with Pedestrian Connection Needs

The remainder of the projects were grouped as City owned streets. Although these streets do not tend to have the same high levels of traffic and safety concerns as NCDOT roads, many are important transportation network connections to schools and other community resources. Often, these connections can move forward with less restrictive permitting process that results in lower implementation costs. Developing a separate list of locally maintained streets provides a prioritized list that can move independent of state and federal funds and permitting. Some work on local roads can still qualify for state and federal funding; however, many simple projects can be completed with local resources on an accelerated schedule.

It should be noted that some connections in this list are on private developer-maintained streets, such as Highland Square Drive. Since there were only a few of these locations, they were grouped and prioritized with projects along City streets. The privately owned streets on this list include connections that are essential for local access to the transportation network as well as community resources such as grocery stores.

### NCDOT Corridors with Pedestrian Upgrade Needs

Throughout public engagement and the initial network review, it became clear that some higher volume and higher speed NCDOT roads are still problematic for pedestrians, even though they already have sidewalks and signalized crossings. For these roadway corridors some of the common issues raised include:

- Pedestrian facilities are narrow and have no horizontal separation from high-speed travel lanes that carry heavy truck traffic.
- Wide roadway crossings with inadequate signal equipment for comfortable pedestrian crossings.
- Crossings are too far apart.
- Sidewalks and crossings do not meet ADA accessibility standards.



In all these instances it was clear that the existing infrastructure falls below the desired standards of comfort, safety, and accessibility for pedestrians.

Pedestrian solutions along these high-capacity roadways may require roadway adjustments such as widening (additional right of way purchases), traffic modifications, lane width reductions, and/or signal timing adjustments. These corridors often lack bicycle infrastructure, are non-compliant with ADA accessibility standards, lack quality transit stops, and may require landscaping, lighting and sidewalk repairs. Additionally, through Hendersonville’s new comprehensive planning process, the City will be revising land use along these corridors, which is also an opportunity to make planned transportation changes through redevelopment projects. Given this complexity and the need to balance impacts and tradeoffs for all users along these NCDOT roadway corridors, these projects will require additional study, feasibility review, and community engagement to determine a comprehensive solution for vulnerable road users. As such, the next step for these projects is a corridor study. More information on corridor studies is included later in this chapter.

#### STEP 4: PROJECT PRIORITIZATION – INITIAL SCORING

The fourth step of the project development process was to prioritize the projects in each category. The team developed a systematic scoring methodology to assist the City of Hendersonville in effectively identifying and prioritizing projects that will contribute significantly to the overall pedestrian goals and vision of the plan.

The scoring system was developed based on the project goals and aligned with the NCDOT Strategic Prioritization methodology used for evaluating bicycle and pedestrian projects. The scoring focused on three key factors – safety, connectivity/destinations, and equity. The specific criteria and scoring system is detailed in the Appendix.

##### Safety

The goal of the safety score was to identify areas in the City where the pedestrian experience is challenged due to safety risk factors. The safety score was a combination of the following factors:

Figure 12. Walk Hendo Project Prioritization





**Image 42.** Whitted Street and Four Seasons Blvd (Source: Google Street View)

Based on criteria, Whitted Street (left) had the lowest safety score [1], while Four Seasons Boulevard (right) had the highest score [8].

reported crashes, traffic volume per day, speed limit, and number of travel lanes a pedestrian must cross (crossing distance). Image 42 describes how a road like Four Seasons Blvd (US 64) received a safety score of 8 points due to the high posted speed limit, high traffic volume and number of travel lanes while a street like Whitted received the lowest safety score of 1 point due to the low posted speed, low traffic volume and few number of lanes.

### Connectivity/Destinations

The goal of the connectivity score was to identify key street links across the City that make walking a transportation option. *Walk Hendo* grouped the City's pedestrian network into five primary categories as shown in Figure 13:

1. Local/neighborhood connections: connects a few neighborhoods.

2. Minor collector: connects multiple neighborhoods/destinations and local streets.
3. Major collector: connects multiple destinations and streets.
4. Secondary spine: feeds lower volume areas and land uses to the primary network.
5. Primary spine: provides pedestrians access to key destinations and land uses. These streets received the highest scoring as they immediately connect more people to more destinations.

These scores were adjusted higher in areas with key community resources, including but not limited to schools, hospitals, trail or park access, social services, grocery stores, and dense retail areas.

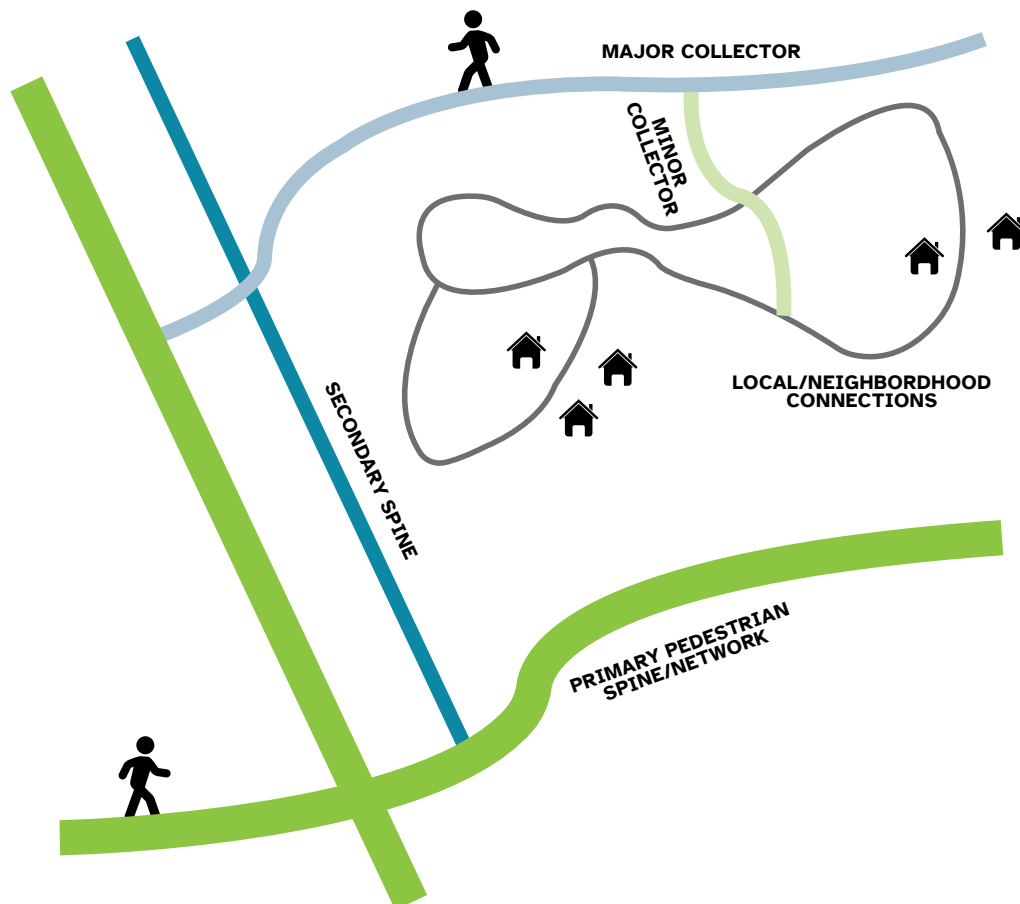
## Equity

The goal of the equity score was to identify streets that provide greater access to neighborhoods that, due to a variety of social, environmental, land use, and transportation policies, have been at a disadvantage compared to other areas of the City. As a starting point, the *Walk Hendo* team used the NCDOT Transportation Disadvantage Index (TDI). The TDI is an interactive dashboard to identify and visualize concentrations of populations that face barriers to accessing transportation. The team compared TDI results with various federal tools that also identify disadvantaged communities, albeit with differing measures.

The additional federal tools included:

- Environmental Justice Screening tool (EJSCREEN): [EJScreen \(epa.gov\)](https://www.epa.gov/ejscreen)
- Transportation Disadvantage Index, Historically Disadvantaged Communities [Transportation Disadvantaged Census Tracts \(arcgis.com\)](https://arcgis.com)
- Justice40 Disadvantage Census Tracts [Justice40 Initiative | Environmental Justice | The White House](https://www.whitehouse.gov/justice40-initiative/)
- Persistent Poverty and Historic Disadvantage Communities [Areas of Persistent Poverty & Historically Disadvantaged Communities | US Department of Transportation](https://www.transportation.gov/areas-of-persistent-poverty-historically-disadvantaged-communities)

Figure 13. Pedestrian Transportation Network



- Opportunity Zones [Opportunity Zones Interactive Map | US Department of Transportation](#)
- More information on these Federal Tools is available here: [Federal Tools to Determine Disadvantaged Community Status | US Department of Transportation](#)

Based on a review of these equity resources, the planning team determined that the NCDOT TDI tool was consistent with other tools and then assigned equity scores ranging from 1 to 5 points based on a relative comparison of an area's TDI score. The team also adjusted (increased) project scores in some areas based on local knowledge. For example, projects directly serving smaller pockets of communities of concern within a larger Census block that were not reflected in larger areas received an additional point.

Map 7 illustrates the result of the equity analysis for Hendersonville.

### STEP 5: PROJECT PRIORITIZATION - PUBLIC INPUT SCORES

The project scoring results from Step 4 were presented to the Steering Committee, the general public at the second community meeting, and through the second community survey. Input on the rankings and top scoring projects was collected at each stage, aiming to determine priority for implementation based on local knowledge, user experience, and expressed connection needs. Following the public meeting, steering committee input, and online surveys, projects received additional points based on the community's rankings. The top public priorities were awarded an additional 1-3 points to reflect their higher standing in the rankings.

### STEP 6: FINAL SCORES AND PROJECT LISTS

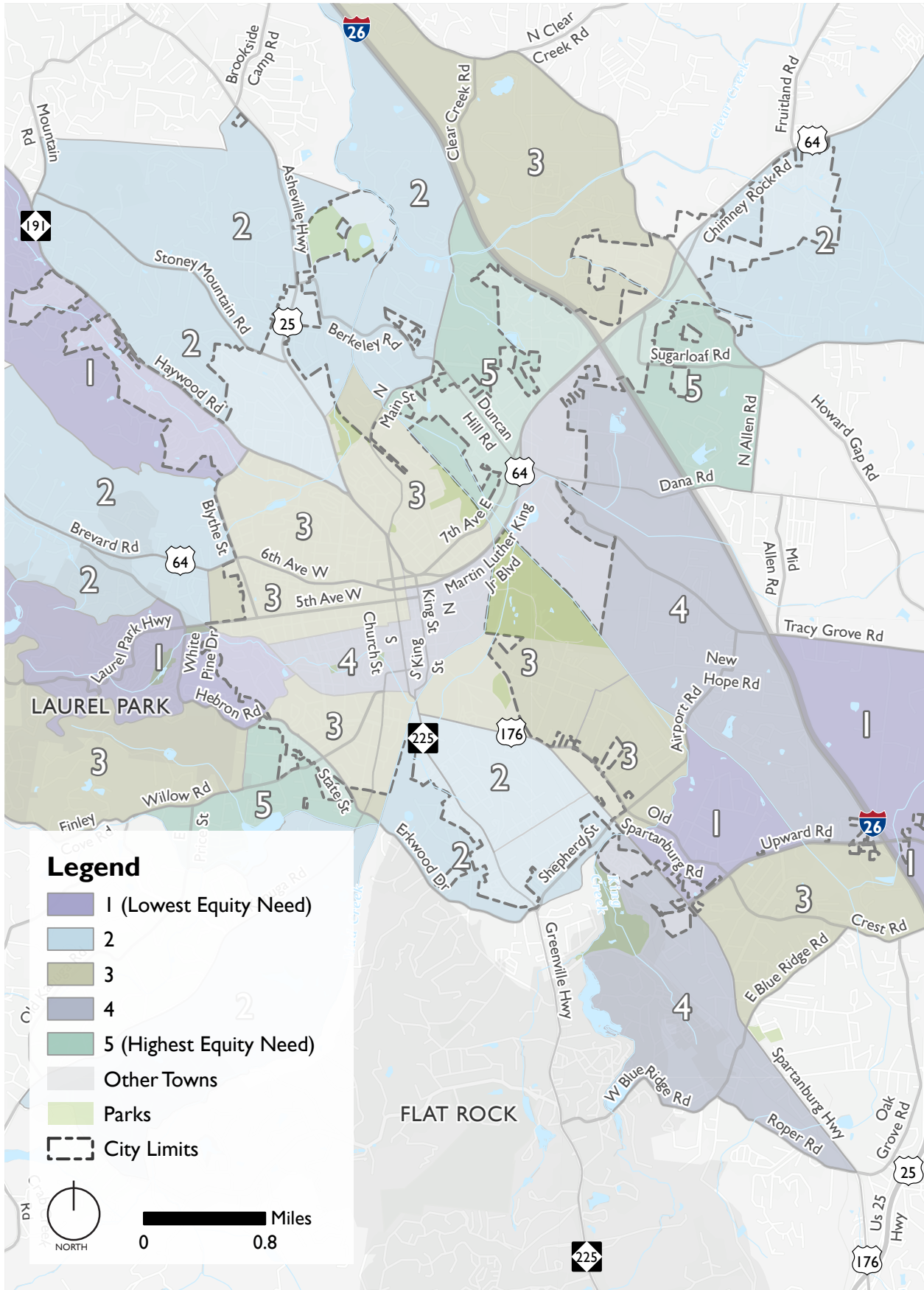
The final project lists with total scores are shown in Table 2 and Maps 8 and 9.

It should be noted that project implementation may not follow this order since various factors impact implementation and funding. For example, a project that has many constraints, such as needing private property acquisition or working with extensive environmental impacts will slow down project delivery. Conversely, some projects will be accelerated if there is a funding opportunity or project partner, such as a local developer, that is willing to contribute to implementation.

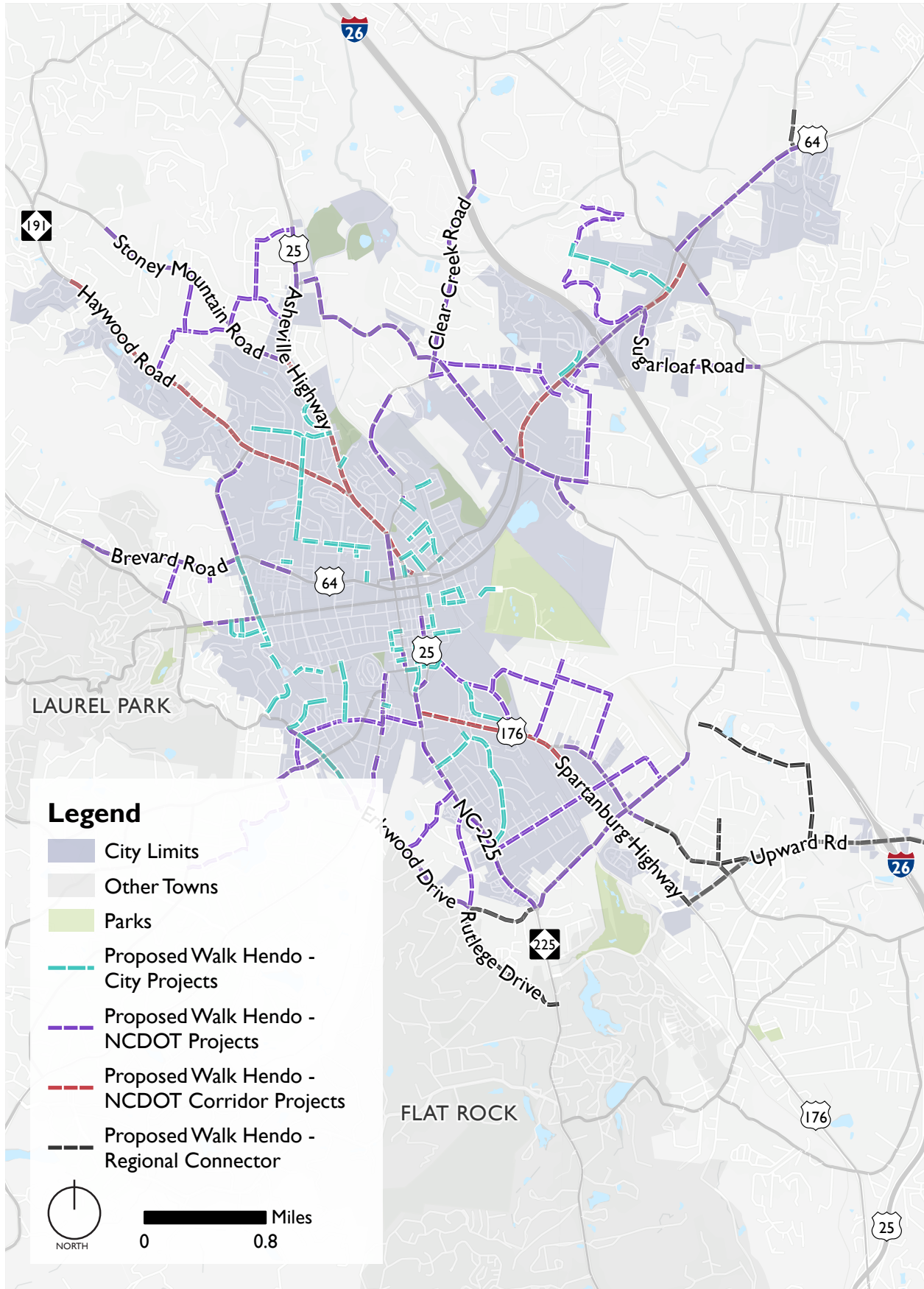
Based on the scope of work for this plan, the top 9 ranked projects are developed further to include additional graphics, project descriptions, implementation considerations and preliminary planning level cost estimates. These projects are presented in the next section as cutsheets.



**Map 8. Adjusted Equity Score in Hendersonville (2007-2021)**

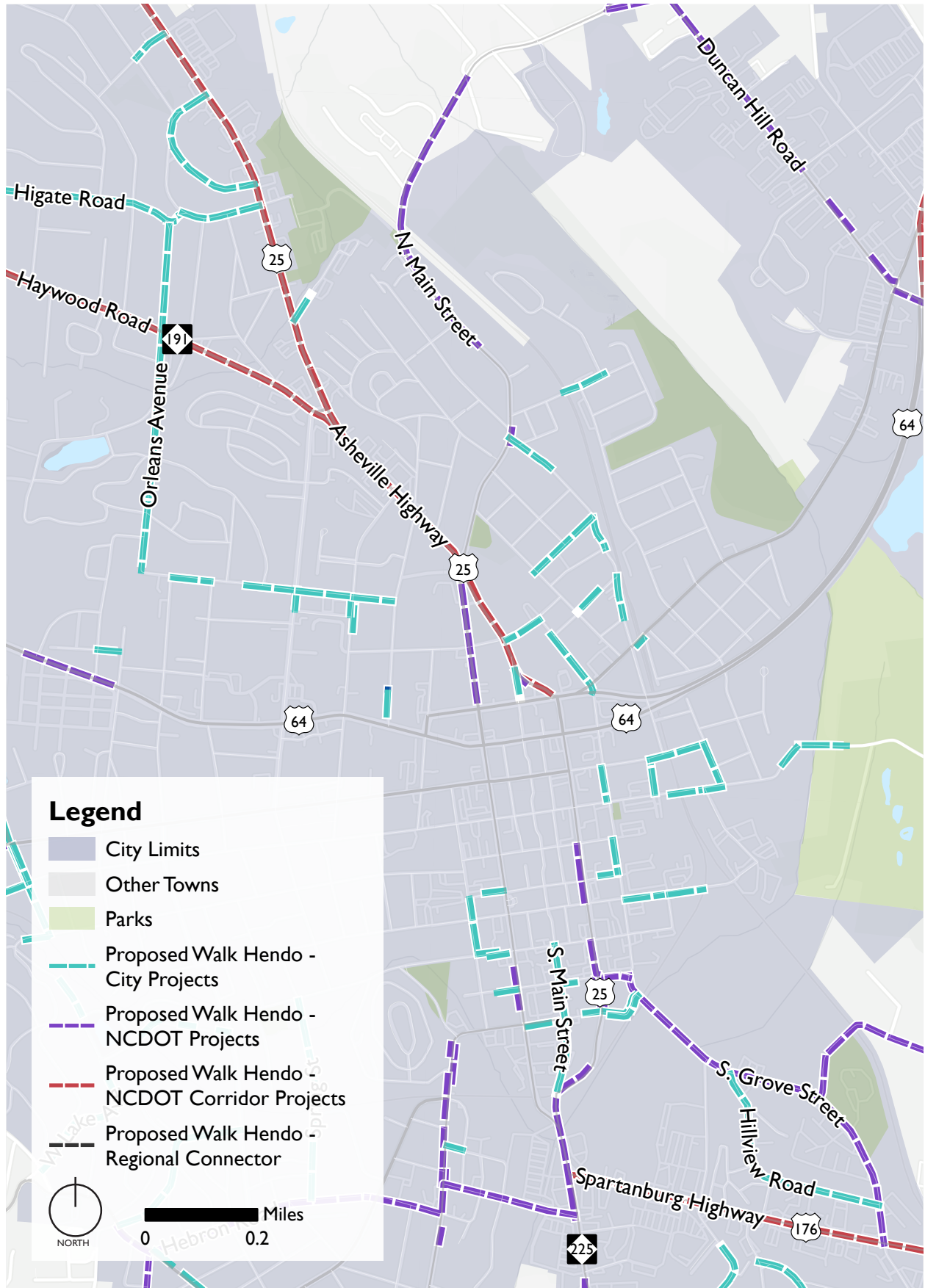


**Map 9. Full Proposed Network Map (All Project Recommendations)**

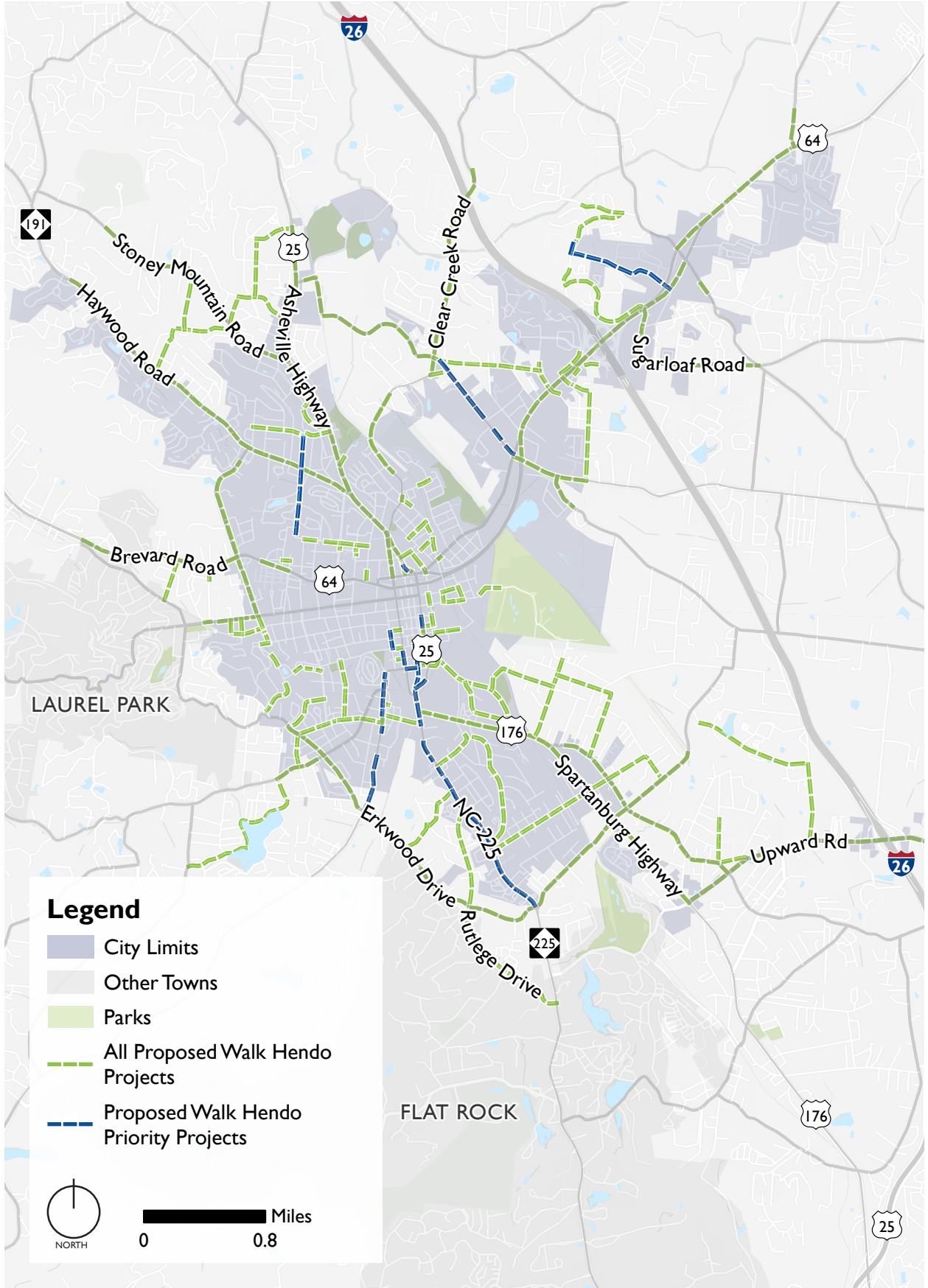




**Map 9. Full Proposed Network Map (All Project Recommendations) (Zoomed in)**



**Map 10. Walk Hendo Network and Priorities**





**Table 2.** Final Project List with Total Scores

ROAD NAME	FACILITY	FROM POINT	TO POINT	FINAL SCORE
<b>City-Owned Sidewalks</b>				
S. Main Street	Sidewalk	Kanuga Road	S. King Street	16
Orleans Avenue	Sidewalk	Haywood Road	9th Avenue West	15
S. Washington St.	Sidewalk	South of 1st Ave E	North of W. Allen Street	14
Spring St	Sidewalk	Hebron Road (SR-1172)	W. Allen Street	13
State Street	Sidewalk	Willow Road (SR-1127)	Pine Spring Drive	12
N Washington St	Sidewalk	North of 1st Ave West	2nd Ave West	12
W Allen St	Sidewalk	East of W. Lake Avenue	West of Foster Circle	12
W Allen St	Sidewalk	East of Foster Circle	West of S. Whitted Street	12
W Allen St	Sidewalk	East of Foster Circle	S. Whitted Street	12
State St	Sidewalk	Hebron Road (SR-1171)	North of Park Street	12
State St	Sidewalk	South of Hebron Road (SR-1171)	Willow Road (SR-1171)	12
N. Grove Street	Sidewalk	8th Avenue E	US 64	12
Kanuga Rd	Sidewalk	S. Church Street	West of S. Main Street	11
E. Caswell St	Sidewalk	East of S. Main Street	S. King Street	11
E Caswell St	Sidewalk	S. King Street	S. Grove Street	11
N Grove St	Sidewalk	2nd Ave East	3rd Ave East	11
N Grove St	Sidewalk	4th Ave East	5th Ave East	11
4th Ave E	Sidewalk	East of N. Pine Street	Williams Street	11
4th Ave E	Sidewalk	East of N. Pine Street	West of Harris St	11
Clairmont Drive	Sidewalk	Asheville Highway (US 25)	Meadowbrook Terrace	11
Carolina Village Road	Sidewalk	US 64	Vince Marien Boulevard	11
E. Barnwell St	Sidewalk	S. Main Street	East of S. Main Street	10
2nd Ave W	Sidewalk	East of N. Washington Street	S. Church Street	10
2nd Ave E	Sidewalk	East of S. King Steet (SR-1764)	N. Grove Street	10
1st Ave E	Sidewalk	S. Grove Street	S. Pine Street	10
1st Ave E	Sidewalk	S. Pine Street	West of S. Pine Street	10
N Pine St	Sidewalk	4th Ave East	5th Ave East	10
5th Ave E	Sidewalk	N. Pine St	Williams St	10
Willimas St	Sidewalk	4th Ave East	5th Ave East	10
7th Ave E	Sidewalk	East of Maple Street	Boxcar Street	10
N Justice St	Sidewalk	Brown Street	9th Ave West	10

**Table 2.** Final Project List with Total Scores (continued)

ROAD NAME	FACILITY	FROM POINT	TO POINT	FINAL SCORE
W Lake Ave	Sidewalk	Ewart Drive (SR-1175)	South of W. Allen Street	10
Bearcat Boulevard	Sidewalk	N. Main Street	N. Grove Street	10
Chelsea Street	Sidewalk	US 25	Arlington Place	10
Meadowbrook Terrace	Sidewalk	US 25	Arlington Place	10
4th Avenue East	Sidewalk	Harris Street	Jackson Park	10
W. Barnwell Street	Sidewalk	S. Church Street	S. Washington Street	10
Chadwick Avenue	Sidewalk	NC-225	South of Lawn Avenue	9
Maple Street	Sidewalk	N. Main Street	N. of Laurel Street	9
Maple Street	Sidewalk	9th Avenue E	Lynn Street	9
Maple Street	Sidewalk	8th Avenue E	Track Street	9
Oakland St	Sidewalk	North of US 64	South of Bearcat Blvd	9
Fleming St	Sidewalk	Bearcat Blvd	9th Ave West	9
Fleming St	Sidewalk	Brown Street	9th Ave West	9
4th Ave W	Sidewalk	Jordan Street	Blythe Street	9
9th Ave W	Sidewalk	N. Whitted Street	N. Oak Street	9
9th Ave W	Sidewalk	N. Justice Street	East of N. Oak Street	9
9th Ave W	Sidewalk	N. Justice Street	Fleming Street	9
9th Ave W	Sidewalk	Fleming Street	Oakland Street	9
Oriole Drive	Sidewalk	Lincoln Circle	Across Railroad	9
9th Avenue E	Sidewalk	Maple Street	Bruce Drysdale Elementary School	9
Wayside Lane & Balsam Road	Sidewalk	Balsam Road	NC-225	8
W Lake Ave	Sidewalk	East of Ewarts Hill Road	Blythe Street	8
W Lake Ave	Sidewalk	South of 3rd Ave West	North of Grist Mill Drive	8
Lennox Park Dr	Sidewalk	Hebron Road (SR-1172)	S. Whitted Street	8
Hillview Road	Sidewalk	South Grove Street	South Grove Street	8
Davis Street	Sidewalk	Kanuga Road	Israel Street	8
8th Avenue East	Sidewalk	Locust Street	Maple Street	8
Jordan Street	Sidewalk	5th Avenue West	Ecusta Trail	8
Midway	Sidewalk	5th Avenue West	4th Avenue West	8
Higate Road	Sidewalk	Ewbank Drive	Clairmont Drive	7
7th Avenue West	Sidewalk	Prince Drive	Valley Street	7
N. Main Street	Sidewalk	7th Ave W (US 64)	US 25	7

**Table 2.** Final Project List with Total Scores (continued)

ROAD NAME	FACILITY	FROM POINT	TO POINT	FINAL SCORE
Beverly Hanks Center	Sidewalk	US 25	Internal Sidewalks	6
Blythe Street	Sidewalk	US 64	3rd Avenue West	5
Blythe Street	Sidewalk	5th Avenue West	4th Avenue West	5
<b>NCDOT- Owned Sidewalks</b>				
Chimney Rock Road	Sidewalk	I-26 Interchange	I-26 Interchange	18
Upward Rd	Sidewalk	Spartanburg Highway (US 176)	Ballinger Road (SR 1791)	17
S. King St	Sidewalk	E. Barnwell Street	E. Caswell Street	17
S. King St	Sidewalk	E. Barnwell Street	E. Caswell Street	17
N King St	Sidewalk	2nd Ave East	3rd Ave East	17
King Street	Sidewalk	E. Allen Street	E. Barnwell Street	17
S. Main Street	Sidewalk	King Street	White Street	15
N King St	Sidewalk	N. Main Street	North of 7th Ave East	15
NC-225	Sidewalk	White Street (SR-1170)	North of Chadwick Avenue	15
Duncan Hill Road	Sidewalk	Baldwin Hill Ave	Signal Hill Road	15
White and South Main Street Improvement	Sidewalk	Willow Rd	S Main Street	15
Duncan Hill Road	Sidewalk	Signal Hill Road	Staton Avenue	15
S. Church St	Sidewalk	North of W. Barnwell Street	South of W. Barnwell Street	14
S King St	Sidewalk	S. Main Street	South of E. Caswell Street	14
Clear Creek Road	Sidewalk	Balfour Road	Signal Hill Road	13
Dana Road and Duncan Hill Road	Sidewalk	US 64 West	Orrs Camp Road	13
Willow Road	Sidewalk	Lakeside Drive	Saddlebrook Drive	13
Old Spartanburg Road	Sidewalk	East of Beverly Avenue (SR-1760)	Heavenly Valley Lane	13
Glover Street	Sidewalk	Spartanburg Highway	Powell Street	13
Blythe Street	Sidewalk	6th Ave West (US-64)	South of NS-99654	13
Kanuga Rd	Sidewalk	North of Willow Road	South of Lilly Pond Road	13
Shepherd Street	Sidewalk	Grandeur Lane	Greenville Highway (NC-225)	13
Old Spartanburg Road	Sidewalk	Heavenly Valley Lane	Fairground Avenue (NS-96232)	13
College Drive & S. Allen Road	Sidewalk	East of Airport Road (SR-1779)	Upward Road (SR-1783)	13

**Table 2.** Final Project List with Total Scores (continued)

ROAD NAME	FACILITY	FROM POINT	TO POINT	FINAL SCORE
Asheville Highway	Sidewalk	Berkeley Road	ETJ Limits	13
N. Main Street	Sidewalk	Signal Hill Road	Baldwin Hill Avenue	13
Thompson Street	Sidewalk	Signal Hill Road	US 64	13
Howard Gap Road	Sidewalk	Ingles	Old Sunset Hill Road	13
Signal Hill Road	Sidewalk	Thompson Street	North Main Street	13
Francis and Lakewood Road	Sidewalk	US 64	Highland Square Drive	13
6th Avenue West	Sidewalk	Church Street	Blythe Street	12
Kanuga Rd	Sidewalk	North of Huff Street	South of Hebron Road	12
Kanuga Rd	Sidewalk	White Street	Short Street	12
Kanuga Rd	Sidewalk	North of Short Street	Willow Road (SR-1171)	12
Kanuga Rd	Sidewalk	White Street	White Street	12
Kanuga Rd	Sidewalk	White Street	White Street	12
Old Upward Road Triangle	Sidewalk	Fairground Avenue (SR-1781)	Upward Road (SR-1783)	12
North Church Street	Sidewalk	Asheville Highway	US 64	12
Orrs Camp Road	Sidewalk	US 64	Jack Street	12
Freeman Street	Sidewalk	US 64	Existing Sidewalk	12
Sugarloaf Road	Sidewalk	US 64	Howard Gap Road	12
Brevard Road	Sidewalk	Daniel Drive	Blythe Street	12
Kanuga Rd	Sidewalk	North of Short Street	Willow Road (SR-1171)	12
N. Main Street	Sidewalk	Baldwin Hill Avenue	South of Elizabeth Street	11
Orrs Camp Road	Sidewalk	US 64	Dana Road	11
N. Lakeside Drive	Sidewalk	Old Kanuga Road	Willow Road	11
Brooklyn Avenue	Sidewalk	NC-225	Old Spartanburg Highway (SR-1722)	11
NC-225	Sidewalk	South of Chadwick Avenue	Golden Gate Drive	11
NC-225	Sidewalk	South of Golden Gate Drive	Appledore Avenue	11
NC-225	Sidewalk	Appledore Avenue	Elkwood Drive (SR-1164)	11
Baldwin Hill Avenue	Sidewalk	N. Main Street	Duncan Hill Road	11
S. Grove Street	Sidewalk	E. Barnwell Street	176 (US-25 BUS)	10
Lakewood Road	Sidewalk	Highlands Square Drive	Nix Road	11
Erkwood Drive	Sidewalk	Pine Spring Drive	NC-225	10

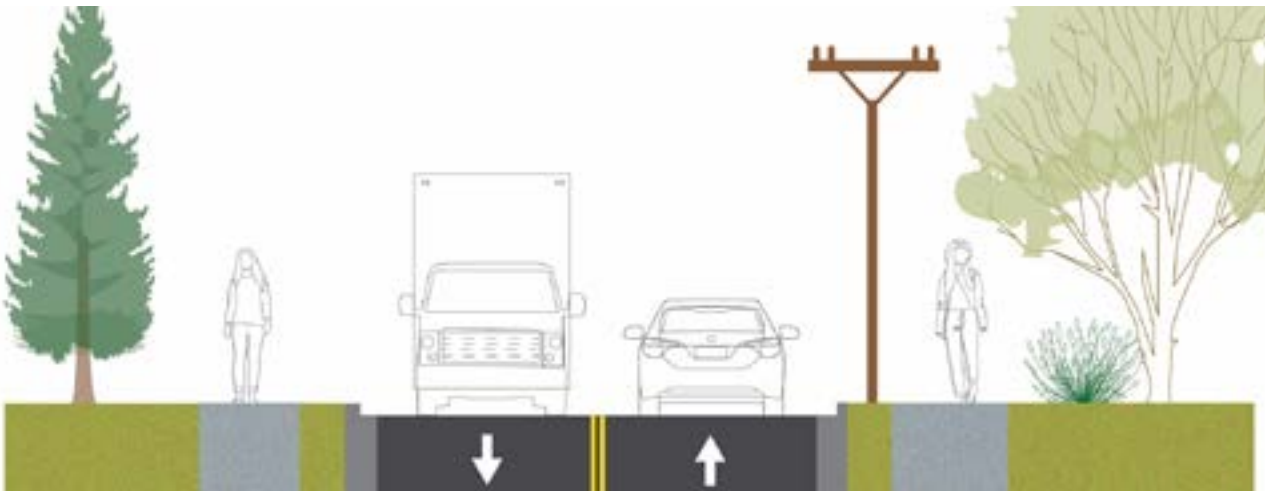


**Table 2.** Final Project List with Total Scores (continued)

ROAD NAME	FACILITY	FROM POINT	TO POINT	FINAL SCORE
E Barnwell St	Sidewalk	S. King Street	S. Grove Street	10
5th Ave W	Sidewalk	West of Broadway Street (SR-1180)	Westbrook Road (SR-1182)	10
Hall St	Sidewalk	Hebron Road (SR-1172)	Willow Road (SR- 1171)	10
Chimney Rock Road	Sidewalk	Howard Gap Road	Fruitland Road	10
Fruitland Road	Sidewalk	US 64	School Driveways	10
N. Main Street	Sidewalk	Maple Street Crossing	Maple Street Crossing	10
Thompson Street	Sidewalk	Shopping Center	North of Shopping Center	10
Kanuga Rd	Sidewalk	State Street	Judsen Lane	10
Erkwood Drive	Sidewalk	Pine Spring Drive	NC-225	10
Stoney Mountain Road	Sidewalk	US 25	City Limits	9
Ashmore Avenue	Sidewalk	US 25	Rolfe Street	9
Rutlege Drive	Sidewalk	NC-225	NC-225	9
Hebron Road	Sidewalk	Hazelton Drive (SR-1161)	Hillcrest Street	9
Hebron Road	Sidewalk	East of Hillcrest Street	Willow Road (SR-1171)	9
Substation Street	Sidewalk	S. Grove Street (SR-1764)	Glover Street (SR-1758)	9
Blue Ridge Street & Bradshaw Avenue	Sidewalk	Glover Street (SR-1758)	Old Spartanburg Road (SR-1722)	9
Tracy Grove Road	Sidewalk	Dana Road	Wilmont Drive	9
Nix Road	Sidewalk	Clear Creekside Drive	Lakewood Road	9
Rutlege Drive	Sidewalk	NC-225	NC-225	9
Browning Avenue	Sidewalk	Haywood Road (191)	Stoney Mountain Road	8
Carson Drive	Sidewalk	Stoney Mountain Road	Browning Avenue	8
Bracton Road	Sidewalk	Stoney Mountain Road	Lyndhurst Drive	8
Druid Hills Blvd and Lyndhurst Drive	Sidewalk	Asheville Hwy (US 25)	Bracton Road	8
Rolfe Street	Sidewalk	Druid Hills Blvd	Ashmore Ave	8
Berkley Road	Sidewalk	N. Main Street	Asheville Highway	8
Brooklyn Avenue	Sidewalk	Old Spartanburg Road (SR-1722)	Shepherd Street (SR-1779)	8
Fairground Avenue	Sidewalk	Upward Road (SR-1783)	Eton Drive (SR-1925)	8
Lyndale Road and Appledore Avenue	Sidewalk	Erkwood Drive	Greenville Highway (NC 225)	8
5th Ave West	Sidewalk	Blythe Street	West of Midway Street	8
Glasgow Lane	Sidewalk	White Pine Drive	US 64	8

**Table 2.** Final Project List with Total Scores (continued)

ROAD NAME	FACILITY	FROM POINT	TO POINT	FINAL SCORE
Westbrook Road	Sidewalk	US 64	Existing Sidewalk	8
Mitchelle Drive	Sidewalk	Outback	Econo Lodge	7
Mitchell Drive	Sidewalk	Starbucks	Econo Lodge	7
<b>NCDOT Corridors</b>				
Four Seasons Boulevard	Corridor Upgrade	Dana Road	I-26	21
Chimney Rock Road	Corridor Upgrade	Howard Gap Road	Interchange	20
Spartanburg Highway	Corridor Upgrade	Railroad Overpass	Upward Road	20
Spartanburg Highway	Corridor Upgrade	Greenville Highway	Railroad Overpass	18
Asheville Highway	Corridor Upgrade	Clairmont Drive	North Main Street	18
Asheville Highway	Corridor Upgrade	Berkely Road	Clairmont Drive	18
N. Main Street	Corridor Upgrade	Asheville Highway	US 64	17
Haywood Road	Corridor Upgrade	Asheville Highway	ETJ Limits	15
<b>Privately Owned Streets</b>				
Highland Square Drive	Multiuse Path	Lakewood Drive	US 64	14



*Note: Most sidewalk recommendations account for a standard design width of a 5-foot minimum, with a 2-foot strip for utilities (and as a buffer from traffic), and a curb and gutter. However, as these projects move closer to implementation, it is expected that designs will vary depending on future roadway volumes, proximity to nearby destinations, topography challenges, and right-of-way constraints. Sometimes it may also be applicable to have a multiuse sidepath along one side of the street instead of sidewalks on both sides, or a wider buffer to accommodate street trees between the sidewalk and roadway.*

## PROJECT CUTSHEETS

For a selection of the top ranked projects, the project cutsheets provide detailed information to aid in future implementation steps. The cutsheets provide information on the identified priority projects, delving into specific details such as key elements, challenges/constraints, crossings, cross-sections, and cost estimates. These cutsheets provide a deeper understanding of each project's scope and requirements and a jumping off point for project development. By leveraging the information provided in these cutsheets and the accompanying cost estimates, stakeholders can make informed decisions, prioritize projects, and effectively allocate resources to advance the development of Hendersonville's pedestrian infrastructure.

The cost estimates contained in each cutsheet encompass various components, including design, right-of-way, utilities, and construction costs. These estimates have been derived using the NCDOT Bicycle and Pedestrian Cost Estimating Tool, ensuring consistency and accuracy in the estimation process. For a more thorough understanding of the cost estimate process, including assumptions and methodologies employed, please refer to the Appendix.

## PROJECT GOALS



### CONNECT HENDERSONVILLE

Identify the projects to connect key locations for people walking.



### IDENTIFY THE NETWORK

Determine priority projects, costs, and funding opportunities.



### BUILD A PEDESTRIAN FRIENDLY HENDERSONVILLE

Identify programs, policies, and funding strategies to promote walking.

# NCDOT Maintained Streets

## Project #NC 1 South Church Street



### PROJECT DESCRIPTION

- Fill sidewalk gap on west side near W. Barnwell Street.
- 5 foot (minimum) sidewalk with 2 foot utility strip.
- Additional crossings at signalized intersection.
- Driveway modifications for accessibility.

### PLANNING LEVEL COST ESTIMATE

**\$431,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- Downtown sidewalk network

### CROSSINGS

- W. Barnwell Street signal (2 new crossings)

### ADDITIONAL NOTES

- Signal upgrades to provide pedestrian ramps, crosswalks and Leading Pedestrian Intervals (LPI) and Audible Pedestrian Signals (APS) at modified signals (see crossings).



(Source: Traffic Planning & Design)



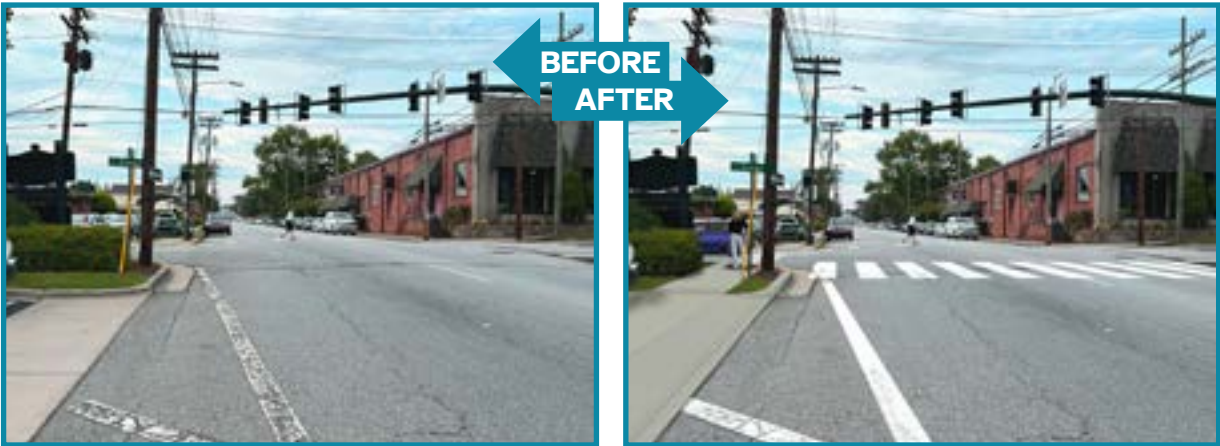
Utilities will require additional sidewalk width or utility strip to ensure that pedestrians have a minimum of 4 feet to pass around obstacles.



(Source: Traffic Planning & Design)

Missing pedestrian crossing at West Barnwell Street signal.

(Source: Traffic Planning & Design)



Having a complete sidewalk network with marked crosswalks is crucial for ensuring pedestrian safety and accessibility in urban areas like Church Street, which is a part of Hendersonville's growing downtown area.

(Source: Traffic Planning & Design)



(Source: Google StreetView)

This area near West Barnwell Street has numerous gaps that force people to walk in the grass and find ways around obstructions. With street parking here, it is important that people can walk from their car to their destination safely.



# NCDOT Maintained Streets

## Project #NC 2 North/South King Street



### PROJECT DESCRIPTION

- Fill sidewalk gaps from Caswell St to 3rd Ave (both sides).
- 5 foot (minimum) sidewalk with 2 foot utility strip.
- Additional crossings at signals.
- Driveway modifications for accessibility.
- Eliminate travel lane between 2nd and 3rd Avenues to gain width for sidewalk construction.

### PLANNING LEVEL COST ESTIMATE

**\$1,885,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- Downtown sidewalk network

### CROSSINGS

- E. Caswell Street Street Signal
- E. Barnwell Street
- 3rd Avenue East (ramps and signal modifications)

### ADDITIONAL NOTES

- Signal upgrades to provide pedestrian ramps, crosswalks and Leading Pedestrian Intervals (LPI) and Audible Pedestrian Signals (APS) at Modified Signals (see crossings).
- Retaining walls will be required for the block between E. Caswell and E. Barnwell Streets.
- Consider expanding the project to include sidewalk repairs, full ADA upgrades and widening around utility conflicts for entire length (E. Caswell to 3rd Avenue - Both Sides).\*
- Consider adding E. Barnwell and E. Caswell Street sidewalk projects to S. King in order to complete the downtown pedestrian connection to the planned S. Grove Street sidewalks and future Ecusta Trail.\*

*\*not included in the cost estimate*



(Source: Traffic Planning & Design)



A third northbound lane begins at 2nd street for the left turn lane to US 64 west. This lane has excess storage as it is more than 1500 feet long and covers 5 city blocks. By reducing one block (<300 feet), this lane could be reclaimed for pedestrian access to fill a key downtown network gap.

This northbound lane currently begins at 2nd Avenue; therefore, traffic is metered by the 2nd Avenue signal and motor vehicle capacity impacts will be minimal.

(Source: Traffic Planning & Design)



This short missing sidewalk gap is near the Henderson County offices and only a block away from Main Street. It is a crucial link in the walkable downtown network. When fixed, even very short sidewalk gaps can have a dramatic effect on walkability.

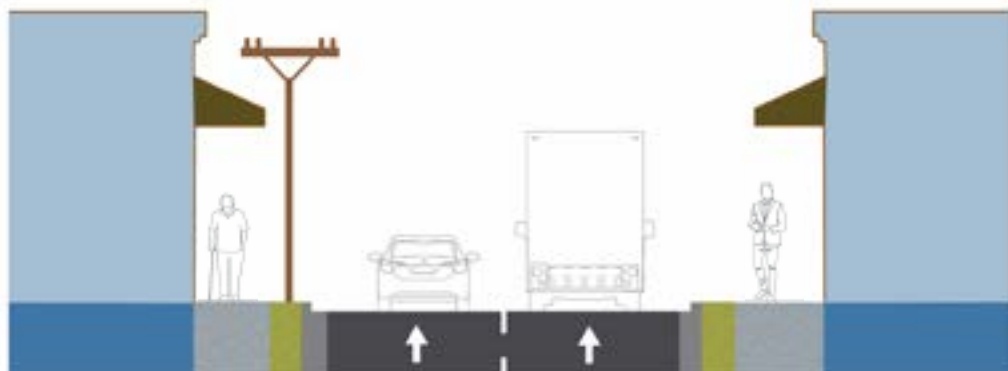
Retaining walls will be necessary for some segments of this corridor with a steep bank.

This may also require modifications to existing utility infrastructure and incur a higher cost than a simple sidewalk project.



(Source: Traffic Planning & Design)

**PROPOSED  
CROSS-SECTION**



# NCDOT Maintained Streets

## Project #NC 3 Kanuga Road (North)



### PROJECT DESCRIPTION

- Fill sidewalk gaps from South Main Street to Huff Street.
- 5 foot (minimum) sidewalk with 2 foot utility strip.
- Intersection and driveway modifications for accessibility.

### PLANNING LEVEL COST ESTIMATE

**\$897,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- Neighborhoods to Downtown and future Ecusta Trail

### CROSSINGS

- Willow Road (future trail crossing)
- White Street (NCDOT project)
- Hebron Road (NCDOT project)

### ADDITIONAL NOTES

- NCDOT Project U-5886 / U-6049 will modify much of this corridor between White Street and Hebron Road. See design drawing on the adjacent page for additional project details (image shows one alternative from public hearing maps, final design is in development).
- Consider expanding the project to include sidewalk repairs, full ADA upgrades and widening around utility conflicts for entire length (S. Church Street to Huff Street – Both Sides)\*  
\*not included in the cost estimate



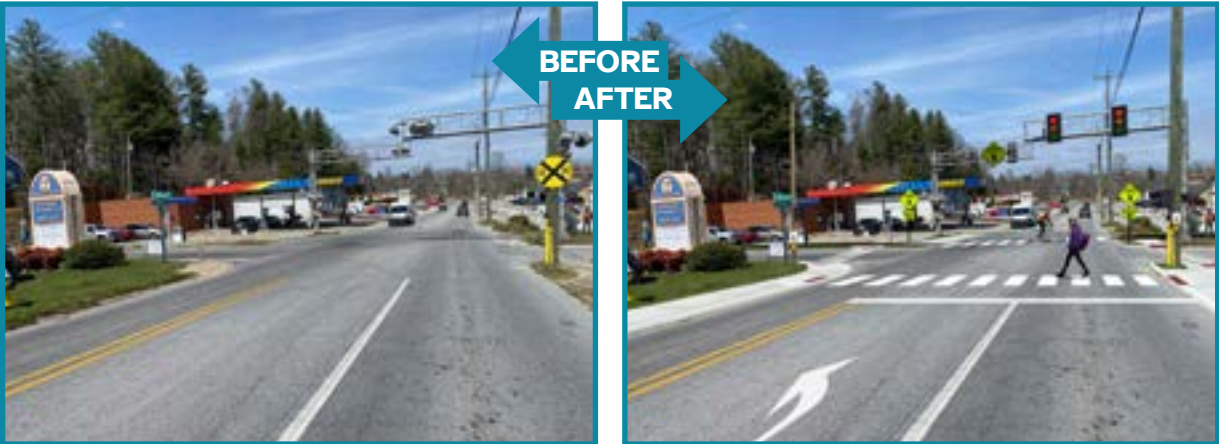
(Source: Traffic Planning & Design)



Kanuga Road is a key connection to downtown. People are already walking in this area, with plenty of nearby homes, grocery stores, and local businesses.

Sidewalk and driveway improvements are needed to connect people safely to the future Ecusta Trail, which will cross Kanuga Road just north of Willow Road/Israel Street. This area could see many more people walking and bicycling, so will need infrastructure and visibility improvements.

(Source: Traffic Planning & Design)



(Source: NCDOT)

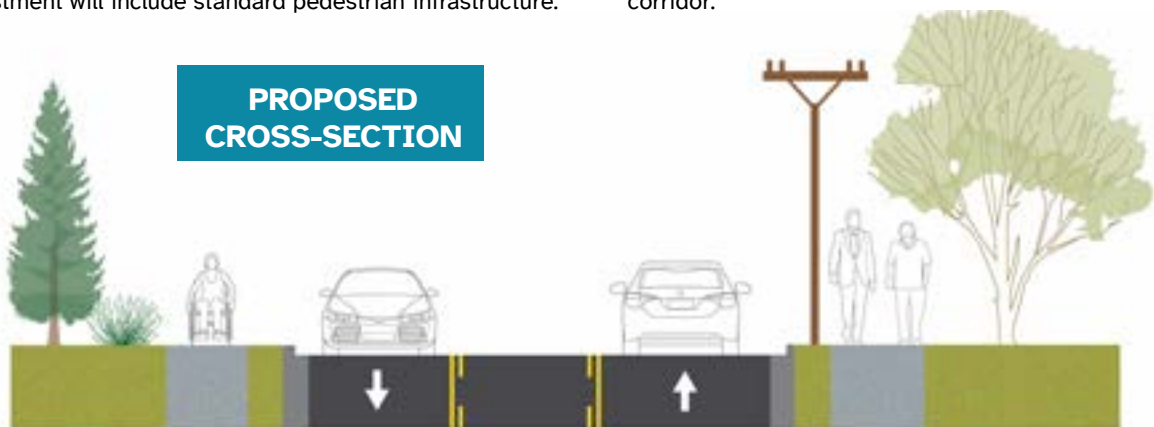


NCDOT has plans to reconfigure the Kanuga Road intersection at Hebron Road or White Street (STIP project U-5886). This investment will include standard pedestrian infrastructure.



(Source: Traffic Planning & Design)

Retaining wall modifications and property owner impacts will need to be addressed along the corridor.



# NCDOT Maintained Streets

## Project #NC 4 Greenville Highway (NC 225)



### PROJECT DESCRIPTION

- Fill sidewalk gaps from Copper Penny Street to Chadwick Square Court/Chadwick Avenue.
- 5 foot (minimum) sidewalk with 2 foot utility strip.
- Driveway modifications for accessibility.

### PLANNING LEVEL COST ESTIMATE

**\$380,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- Neighborhoods to downtown and future Ecusta Trail

### CROSSINGS

- Copper Penny Street
- Joel Wright Drive

### ADDITIONAL NOTES

- NCDOT Project U-5886 / U-6049 will affect the north end of this project area. This area is slated for a major reconfiguration, with implications for people walking.
  - Planned development may complete a large portion of this project, south of the gas station on the western side of Greenville Highway, filling in the sidewalk gap along the property parcel.
  - Consider expanding the project to include sidewalk repairs and widening around utility conflicts for entire length (White Street to Chadwick Avenue – both sides).\*
- \*not included in the cost estimate*



(Source: Traffic Planning & Design)



Gaps in the sidewalk make a less than hospitable environment for walking. People are less likely to walk when they are uncomfortable.

(Source: Traffic Planning & Design)



Planned development may complete a large portion of this project, south of the gas station on the western side of Greenville Highway.

(Source: Traffic Planning & Design)

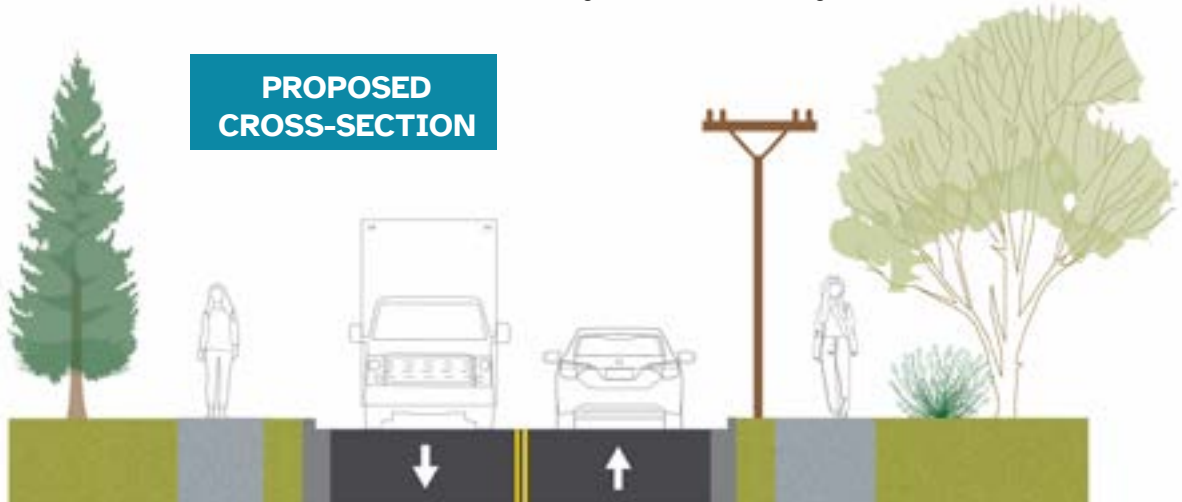


Worn paths and stairs at end of sidewalk are evidence of a need for connection to the south of Chadwick Avenue on the West Side. Consider combining this project with an expansion of sidewalk from Chadwick Avenue to Brooklyn Avenue.

(Source: NCDOT)

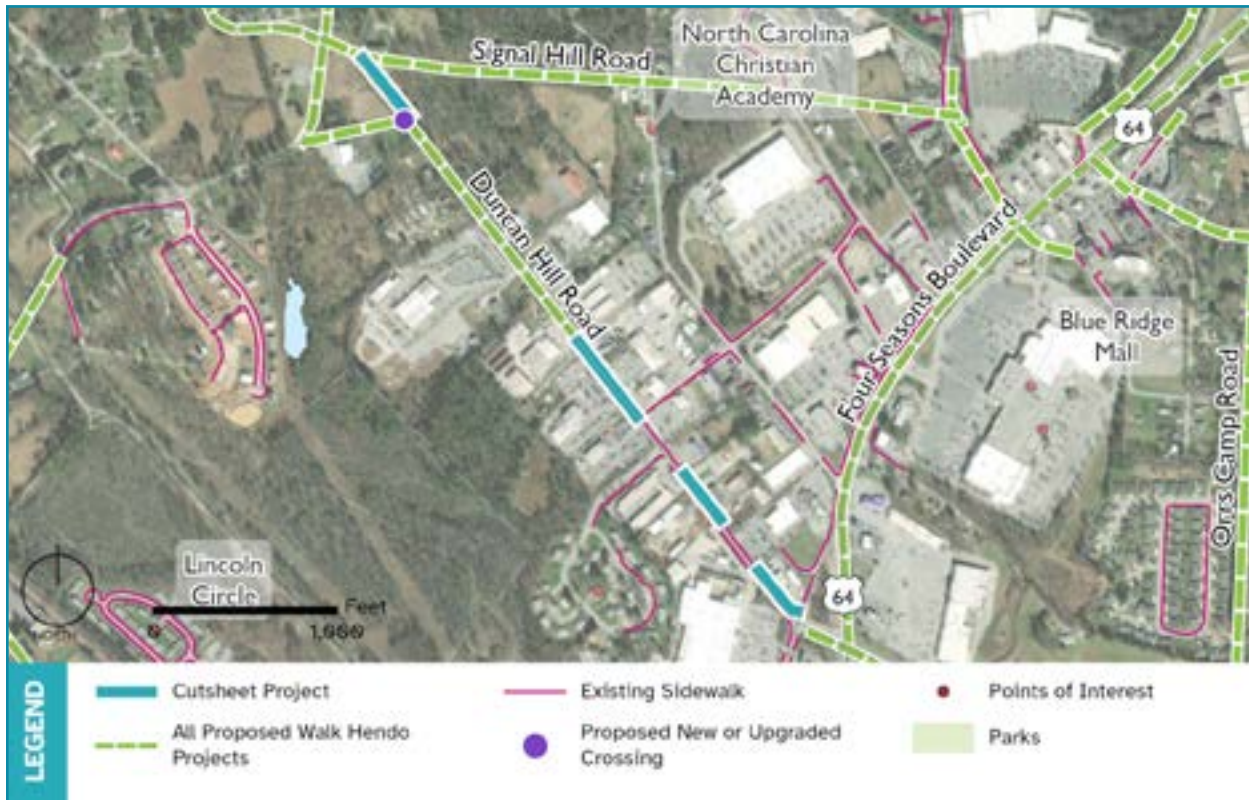


NCDOT Project U-5886/U-6049 will modify the north end of this project area. This image shows one alternative from public hearing maps. The final design is in development.



# NCDOT Maintained Streets

## Project #NC 5 Duncan Hill Road (SR 1525)



### PROJECT DESCRIPTION

- Fill sidewalk gaps on east side (includes drainage infrastructure).
- 5 foot (minimum) sidewalk with 2 foot utility strip, where needed.
- Crossing treatments (with flashing beacon) at Baldwin Ave.
- Intersection and driveway modifications for accessibility.

### PLANNING LEVEL COST ESTIMATE

**\$1,532,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- Existing and future residential areas to transportation corridors and retail areas

### CROSSINGS

- Baldwin Avenue

### ADDITIONAL NOTES

- Several sections of sidewalk are planned to be constructed as part of nearby development near the northeast quadrant of Duncan Hill and Signal Hill Roads.
- The southern section of Duncan Hill between 7th Avenue East and US 64 is not included in this project, since this section of sidewalk will require US 64 signalized intersection modifications. To complete the US 64 crossings, a receiving sidewalk on the east side of US 64 is also needed in order to avoid stranding pedestrians at the intersection. As such, it is assumed that this work will be included with the Four Seasons Boulevard (US 64) Corridor Study and/or the Dana Road/Duncan Hill Road Sidewalk Project.



(Source: Traffic Planning & Design)



(Source: Traffic Planning & Design)

This project will need to include drainage and utility infrastructure adjustments, as well as driveway modifications and new ADA ramps.

(Source: Traffic Planning & Design)

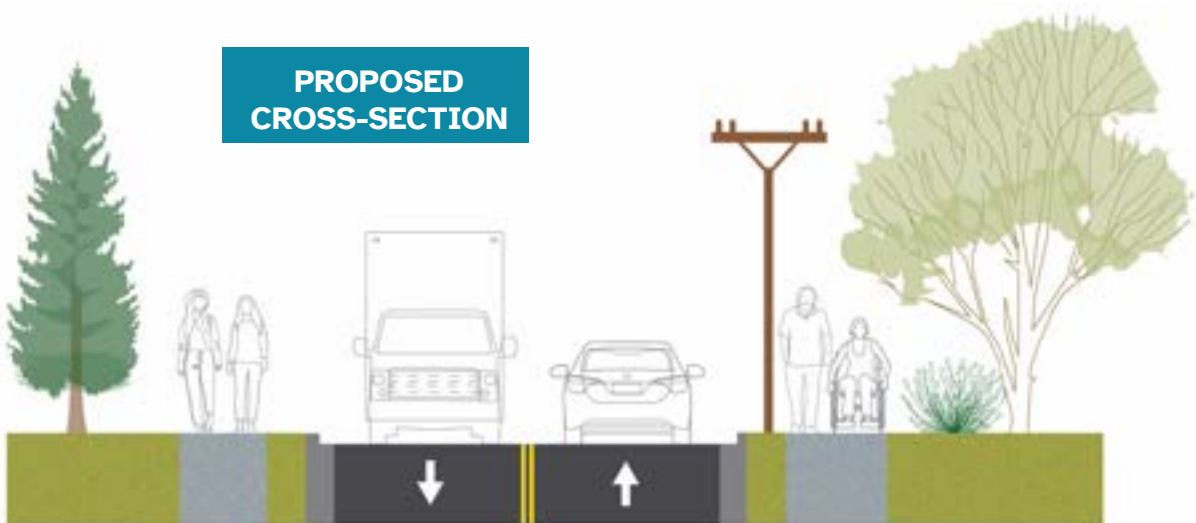


The project terminates at Signal Hill Road, which will have a sidewalk in the future. This intersection will need a crosswalk and ADA ramps.



(Source: Traffic Planning & Design)

The future pedestrian crossing at Baldwin Avenue, planned by local developers to connect to nearby land uses, will require safety countermeasures such as advanced signing and markings and a rectangular rapid flashing beacon (RRFB).



# City Maintained Streets

## Project #HVL 1 South Main Street



### PROJECT DESCRIPTION

- Phased implementation of sidewalk and bicycle improvements.
  - Phase I:** Fill sidewalk gaps and upgrade select crossings.
  - Phase II:** Two-way cycle track, road diet, ADA modifications at signalized crossings.
- 5 foot (minimum) sidewalk with 2 foot utility strip, where needed.
- Intersection and driveway modifications for accessibility.

### PLANNING LEVEL COST ESTIMATE

**Phase I: \$510,000**

**Phase I and II combined: \$1,720,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- Downtown Sidewalk Network
- Ecusta Trail to City Center

### CROSSINGS

- E. Caswell Street and Kanuga Road
- Barnwell Street
- Allen Street

### ADDITIONAL NOTES

- NCDOT Project U-5886/U-6049 will modify S. King and S. Church Streets and create a new roundabout at the south end of this project.
  - Modified signals (see crossings) include pedestrian ramps, crosswalks and Leading Pedestrian Intervals (LPI) and Audible Pedestrian Signals (APS) at modified signals
  - Consider expanding the project to include sidewalk repairs, full ADA upgrades, widening around utility conflicts for entire length (both sides).\*
  - Future Phase III Option\*: Develop Future Land Use and Transportation Master Plan for South Main Street (through Gen H Comprehensive Plan) to incentivize more pedestrian-friendly development patterns.
- \*not included in the cost estimate*



(Source: Traffic Planning & Design)



(Source: Traffic Planning & Design)

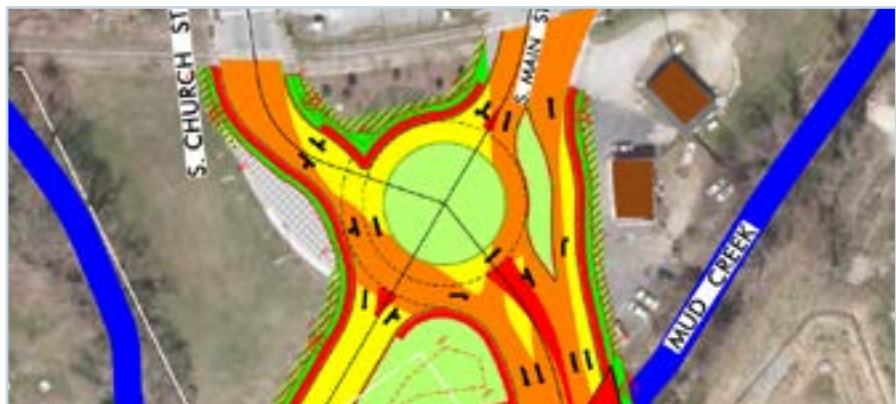


South Main Street will be an important access point to the Ecusta Trail, providing a link to downtown. North of Allen Street, Main Street transitions from a wide 4 lane configuration (with parallel parking on both sides) to the more familiar 2 lane Main Street (with angled and parallel parking, curb extensions, landscaping, and wide sidewalks).

(Source: Traffic Planning & Design)

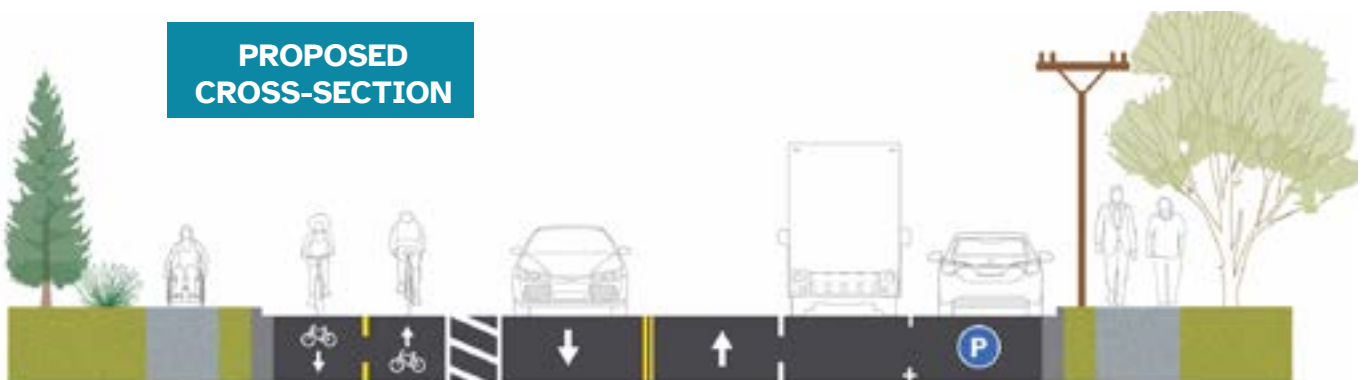


NCDOT Project U-5886/U-6049 will modify the South King Street/South Main Street and South Church Street intersection to create a new roundabout at the south end of this project limit.



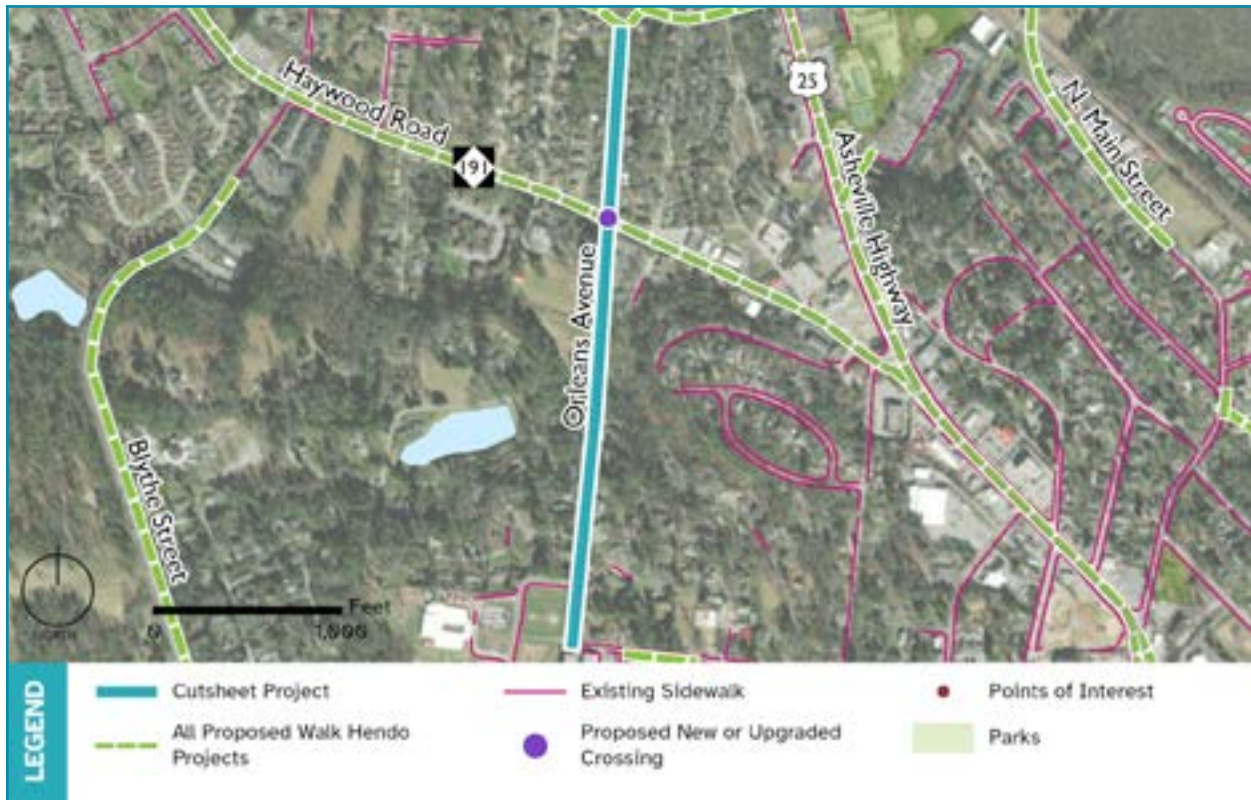
(Source: Traffic Planning & Design)

### PROPOSED CROSS-SECTION



# City Maintained Streets

## Project #HVL 2 Orleans Avenue



### PROJECT DESCRIPTION

- Sidewalk from Clairmont Drive to schools and 9th Avenue.
- 5 foot (minimum) sidewalk on one side w/ curb and gutter.
- Crossing treatment at Haywood Road (NC 191).
- Driveway and property modifications.
- Bridge over Britain Creek.

### PLANNING LEVEL COST ESTIMATE

**\$3,351,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- Druid Hills to school property and south side of the City

### CROSSINGS

- Haywood Road (NC 191)

### ADDITIONAL NOTES

- A traffic study\* and intersection improvements study is needed for the Haywood Road (NC 191) and Orleans Avenue intersection in order to determine the need for a signal and left turn lanes, a possible pedestrian refuge island, and/or pedestrian scale lighting.
- A possible low cost, short term project could be considered that would include shared street treatments such as advisory shoulders and/or traffic calming and signing and marking for a shared road condition. This could be implemented with one-way traffic flow configurations during school arrival and dismissal times when traffic volumes are heavier and shared road conditions would not be appropriate. Additional study of traffic flow options and community engagement would be necessary to ensure this work can be done with community support.

*\*not included in the cost estimate*



(Source: Traffic Planning & Design)



The existing bridge over Brittain Creek is narrow and will need to be replaced or a separate pedestrian bridge constructed.

(Source: Traffic Planning & Design)



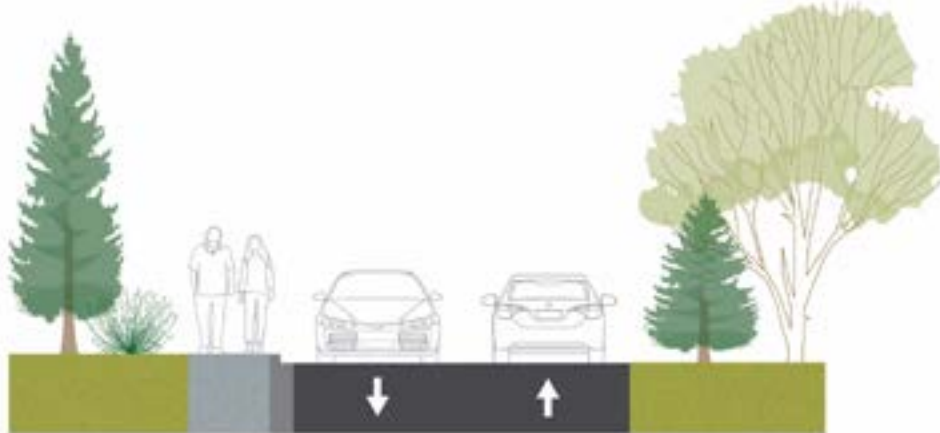
Connecting Orleans Avenue via sidewalk to both 9th Avenue West and Haywood Road gives people a safe route to the elementary school and middle school, while offering a more comfortable alternative than Asheville Highway.

Narrow width and steep terrain will contribute to higher than usual costs and possible property owner pushback due to impacts. Early community and property owner outreach will be necessary for this project.



(Source: Traffic Planning & Design)

**PROPOSED  
CROSS-SECTION**



# City Maintained Streets

## Project #HVL 3 North/South Washington Street



### PROJECT DESCRIPTION

- Sidewalk gaps between 2nd Avenue West to West Allen Street.
- 5 foot (minimum) sidewalk with 2 foot utility strip, where applicable.
- Additional crossings.
- Intersection and driveway modifications for accessibility.

### PLANNING LEVEL COST ESTIMATE

**\$358,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- Downtown sidewalk network

### CROSSINGS

- West Allen Street

### ADDITIONAL NOTES

- Consider expanding the project to include sidewalk repairs and widening around utility conflicts for entire length of South Washington Street.\*
- Consider a study to include South Washington Street as a neighborhood greenway to connect to the future Ecusta Trail. Consider traffic calming, pedestrian improvements, bicycle lanes and neighborhood greenway designation from 5th Avenue to West Allen and through Toms Park.\*

*\*not included in the cost estimate*



(Source: Traffic Planning & Design)



Washington Street has several sidewalk gaps, including this one, just north of West Allen Street.



(Source: Traffic Planning & Design)

People walking north along Washington Avenue at West Allen Street, headed towards an area without sidewalk.

(Source: Traffic Planning & Design)



This missing connection north of 1st Avenue makes it hard for someone in a wheelchair or pushing a stroller to turn the corner. See also people in the background crossing midblock to access 2nd Avenue West.



(Source: Traffic Planning & Design)

Though this intersection at West Allen Street is an all-way stop configuration, there are missing crosswalk markings on South Washington Street.

### PROPOSED CROSS-SECTION





# Privately Maintained Streets

## Project #PVT 1 Highland Square Drive



### PROJECT DESCRIPTION

- o Multi-use sidepath connection from Lakewood Drive to Chimney Rock Road (US 64).
- o 8 foot (minimum) greenway with 5 foot grass buffer.
- o Some sections have existing sidewalk that will require widening and crossing upgrades.

### PLANNING LEVEL COST ESTIMATE

**\$3,394,000**

*Includes Design, Right-of-Way, Utilities and Construction Per Assumptions from the NCDOT Bicycle and Pedestrian Cost Estimating Tool*

### CONNECTIONS

- o Future greenway, new development to retail center and future US 64 upgrades

### CROSSINGS

- o Lakewood Road
- o Internal crossings at Walmart
- o Internal crossing upgrade near US 64

### ADDITIONAL NOTES

- o Given proximity, this project also includes a section of sidewalk along Lakewood Road to connect to the new high density residential development and planned greenway connections along Allen Branch.
  - o Apple Country Transit has a heavily-used route here that is likely to have increased frequency of service in the future.
  - o The southern section of Highland Square Drive between the offset Chimney Rock Road (US 64) signals should be included in the US 64 Corridor Study recommendation.\*
- \*not included in the cost estimate*

(Source: Traffic Planning & Design)



The sidewalk from Lakewood Road ends before reaching Walmart, limiting accessibility and forcing people to choose between walking in the grass, on the roadway, or not at all.



(Source: Traffic Planning & Design)

The existing sidewalk between Lakewood Road and Sam's Club is overgrown and full of sediment, indicating a drainage issue.

(Source: Traffic Planning & Design)



Though the cross-section will vary along this corridor, the goal is to provide a continuous safe path for people on foot in this major commercial area. New residential development nearby and planned future greenways that will connect to this area will make this connection even more important.

(Source: Traffic Planning & Design)



The existing crossing near Chick-Fil-A and US 64 driveway has high traffic volumes and is wide. This crossing should be relocated and updated to include ADA ramps and safety countermeasures.



(Source: Traffic Planning & Design)

This Lakewood Road development is located just west of Highland Square Drive and has more than 250 residential units.

## PROJECT GOAL MATRIX

*Walk Hendo* established three core project goals, which served as constant references during the project selection and prioritization phase. The resulting list of nine priority projects effectively embodies each of these goals.

**GOAL 1:** *Connect Hendersonville*

**GOAL 2:** *Identify the Network*

**GOAL 3:** *Build a Pedestrian Friendly Hendersonville*

PROJECT NAME	Street Type	Facility Type
<b>NC 1</b> / S. Church Street	NCDOT Maintained	Sidewalk
<b>NC 2</b> / N/S King Street	NCDOT Maintained	Sidewalk
<b>NC 3</b> / Kanuga Road (North)	NCDOT Maintained	Sidewalk
<b>NC 4</b> / Greenville Highway (NC 225)	NCDOT Maintained	Sidewalk
<b>NC 5</b> / Duncan Hill Road (SR 1525)	NCDOT Maintained	Sidewalk
<b>HVL 1</b> / South Main Street	City Maintained	Sidewalk - Road Diet
<b>HVL 2</b> / Orleans Avenue	City Maintained	Sidewalk
<b>HVL 3</b> / South Washington Avenue	City Maintained	Sidewalk
<b>PVT 1</b> / Highland Square Drive	City Maintained	Multi-use Sidepath





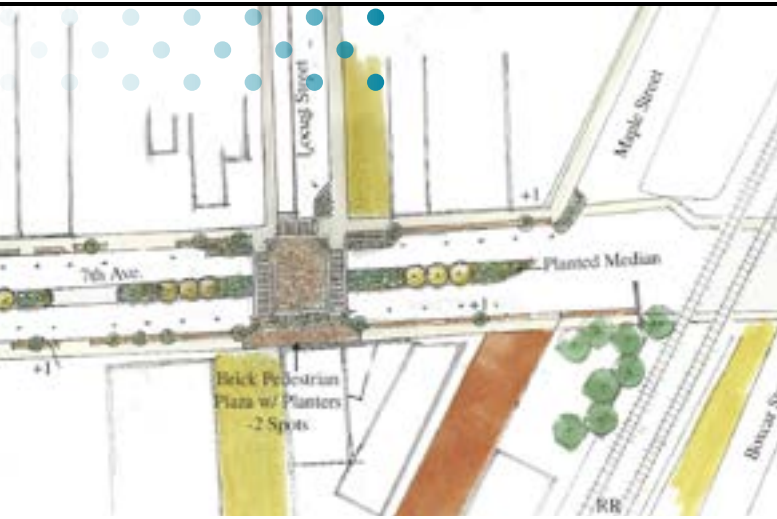
**Image 43.** Thermal Belt Rail Trail Crossing (Source: Alesha R Guard).

*Rutherford County's Thermal Belt Rail Trail incorporates branding elements, signage, and good sight distance into its road crossings to help ensure good visibility*

## ROADWAY CROSSING TREATMENTS

To establish an inclusive and accessible community that caters to all transportation modes, it is essential to design facilities that prioritize comfort, convenience, and safety. This principle applies not only to corridors but also to specific locations where pedestrians need to cross streets, trails, and driveways (access points). The selection and design of crossing treatments become crucial to ensure that the pedestrian experience is maintained even where intersecting traffic and other modes of travel.

To ensure the implementation of appropriate crossing treatments, The *Walk Hendo* Appendix outlines best practices based on state and national guidance. By adhering to these standards, Hendersonville can ensure that its community enjoys accessible and well-designed facilities that enhance pedestrian safety and convenience throughout the area.



**Image 44.** 7th Avenue Concept Design (Source: Hunter Marks Landscape Architecture) (top)

**Image 45.** Streetscape Improvement Rendering for 7th Avenue & Maple Street (Source: Kenny Armstrong). (bottom)

*These designs for proposed streetscape improvements along 7th Avenue shows how enhanced crossings, accessible design, and landscaping can help create a more welcoming environment and establish a more distinct sense of place – an investment that can bolster economic development in the area.*

## OTHER CONSIDERATIONS FOR PEOPLE WALKING

In pedestrian system planning, attention is given to intricate aspects such as transit access and ADA accessibility to ensure a well-designed and inclusive network. This section emphasizes the importance of addressing these nuances, which are essential in creating a network that caters to the needs of all individuals.

### STREETSCAPE

Hendersonville understands streetscape improvements, with the success of Main Street as a great example. Along with the traffic calming provided by a horizontal shift in the roadway (creating a “serpentine” dynamic that encourages people to drive more slowly), Main Street has shade trees, flower beds, artwork, room for outdoor restaurant seating, and many opportunities to sit and linger. Improving the design and aesthetics of streets, sidewalks, and crossings creates a more comfortable environment for pedestrian movement and fosters a vibrant community gathering space.

Multiple studies and real-world examples demonstrate that a well-designed streetscape, including the presence of trees and attractive features, leads to increased visitation and higher retail sales for businesses.<sup>30</sup> The success of Main Street and efforts to support 7<sup>th</sup> Avenue’s historic district highlight the positive impact of streetscaping in creating appealing and inviting urban environments that support both social interactions and economic prosperity.

### DECORATIVE CROSSWALKS

Decorative crosswalks are a creative and visually appealing element of streetscaping that enhance pedestrian crossings and contribute to the overall aesthetics of a street. Instead of the standard white stripes, decorative crosswalks incorporate artistic designs, patterns, or colors to make the crosswalks more visually engaging and adding character and charm to the urban environment. Decorative crosswalks can be customized to





**Image 46.** Hendersonville Farmers Market Vendor (Source: NC Cooperative Extension) (left)



**Image 47.** Hendersonville Decorative Crosswalk (Source: Google Street View) (right)

*Maple Street's historic red brick serves as a reminder to expect people walking in the area and to keep a slow speed while driving. Meanwhile, Main Street features a stamped red brick pattern on all crossings, creating a visual cue to alert drivers of the presence of pedestrians. This motif could be expanded to midblock crossings and intersections throughout downtown.*

reflect the local culture, heritage, or themes relevant to the area, further reinforcing a sense of place.

Hendersonville's downtown features many red brick-stamped crosswalks, and this treatment can be continued and expanded. However, implementing decorative crosswalks requires careful planning and consideration of traffic regulations and standards. It is essential to ensure that these crosswalks maintain their functionality, adhere to proper visibility requirements, and do not compromise safety. The Federal Highway Administration (FHWA) issued an interpretation letter<sup>31</sup> and official ruling<sup>32</sup> related to decorative crosswalk patterns, offering the following criteria for crosswalk embellishments:

- **Avoid Traffic Control or Distracting Elements**

Decorative crosswalks should not include retro-reflective or traffic control elements within the portion of the road where vehicles travel. This helps prevent confusion or distractions for drivers and ensures their focus remains on the road.

- **Repetitive Patterns**

Acceptable patterns for decorative crosswalks are often repetitive, such as brick, lattice, cobbles, or paving stones. These patterns can add visual interest and contribute to the aesthetic appeal of the crosswalks.

- **Neutral Colors**

When selecting colors for decorative crosswalks, it is advisable to choose neutral shades such as red, rust, brown, or other earthy tones. Neutral colors tend to blend well with the surrounding environment and maintain a cohesive visual appearance.

By following these guidelines, Hendersonville's decorative crosswalks can continue to be designed in a manner that enhances the streetscape, ensures safety, and provides a visually pleasing element to a roadway and sidewalk. Decorative crosswalks are an effective tool in enhancing the overall experience of pedestrians within a streetscape, contributing to a more vibrant and inviting urban environment.



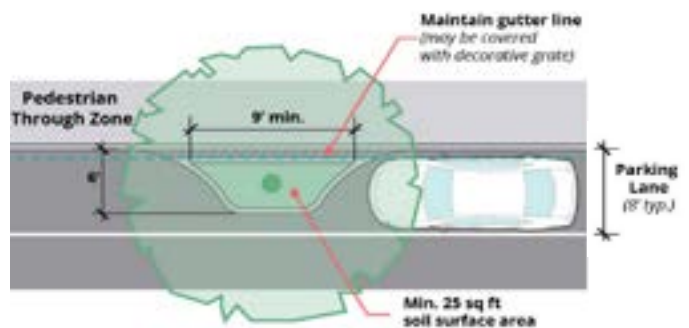
## STREET TREES

Street trees play a important role in creating vibrant and livable communities and contribute significantly to the visual appeal of neighborhoods. They soften the urban landscape, add color, and provide a sense of natural beauty that enhances the overall atmosphere of an area. Here are some key points that highlight the benefits of street trees:

- Shade for pedestrians and bicyclists and people waiting for the bus.
- Pulling carbon out of the atmosphere and releasing oxygen.
- Reductions in particulate air pollution through natural filtration.
- Slowing and absorbing rainwater, particularly important in areas with impervious surfaces.
- Natural barriers that mitigate urban noise from traffic and other sources.
- Reducing urban heat island effect temperatures through shade and transpiration.
- Providing beauty and distinction to a streetscape.
- Biodiversity and habitat protection.
- Possible association with reduced crime rates, higher property values, and traffic calming.

A five foot wide planting strip is the minimum width necessary for a tree to survive the constraints of living between a street and a sidewalk. Much narrower and the tree roots will likely disturb curbs and sidewalks and be subject to mechanical damage from snow plows, car doors, and lawnmowers.

While it might not always be feasible to have very wide planting strips due to space constraints, efforts should be made to strike a balance between accommodating trees and ensuring the safety and functionality of the surrounding infrastructure. When planning new developments or retrofitting existing areas, providing adequate space for trees through wider planting strips, increasing the length of tree wells, or offering a continuous planting strip can lead to healthier and more resilient urban environments.



**Image 48.** Shade Trees on a Residential Street (Source: Mississippi Watershed Management) (top)

**Image 49.** Shade Trees on a Downtown Street (Source: Steve Mouzon) (middle)

**Image 50.** Street Tree Planting in the Curb Zone (Source: City of Portland, OR) (bottom)

*Tree planting in the on-street parking zone allows for increased tree well size without negatively impacting people walking, providing an opportunity to plant trees along narrow sidewalks.*

## ACCESS TO TRANSIT

By incorporating transit access into the sidewalk and greenway network design, people walking can conveniently and efficiently utilize public transportation, reducing reliance on private vehicles and promoting sustainable travel options. To facilitate the seamless integration of walking and transit, several solutions can be implemented:

### Connecting Sidewalks to Bus Stops

Having sidewalks that directly connect to bus stops enables people to ride the bus safely and easily. Two-way roads should have sidewalks on both sides even if the transit provides services on one side; this enables people to get to their destination on foot after getting off the bus. Sidewalk connectivity at and along transit routes promotes accessibility and encourages people to utilize public transportation.

### Bus Stops with Shelters and Benches

Installing shelters and benches at bus stops offers protection from the elements and provides a comfortable waiting area for transit users. These amenities enhance the overall experience and convenience of using public transportation.

### Wheelchair Accessible Boarding Area

Designing bus stops with a wheelchair-accessible boarding area ensures inclusivity and accommodates individuals with mobility challenges. This enables everyone, regardless of physical ability, to access and utilize the transit system conveniently.

### Enhanced Crossings for Bus Stop Access

Implementing crossings, such as marked crosswalks, pedestrian signals, or raised crosswalks, at locations where people access bus stops enhances safety and facilitates pedestrian movements. These improvements prioritize the safety of transit users and encourage active transportation.

### Real-Time Information

Providing real-time information regarding bus timetables, arrivals, and departures at bus stops allows passengers to plan their journeys more effectively and reduces wait times. It can also encourage passersby who might not plan on riding the bus to decide to do so. This enhances the overall transit experience and increases passenger satisfaction.



**Image 51.** *Bus Stop Access (Source: TriMet) (top)*

**Image 52.** *UTA Bus stop - before and after (Source: National Institute for Transportation and Communities) (bottom)*

*A bus stop can be anything from a simple signpost in the grass, to a comfortable shelter with seating and paved access to the sidewalk. These before-and-after images show how a bus stop (especially on a high-speed corridor) is only viable with pedestrian access.*

“ While walkability benefits from good transit, good transit relies absolutely on walkability. ”

- Jeff Speck, City Planner and Urban Designer

## ACCESSIBILITY FOR ALL

According to the American Community Survey of 2021, about one out of every six Hendersonville residents (17.1%) reported having some form of disability.<sup>33</sup> For many people with disabilities, the multimodal network serves as their primary or sole means of transportation, meaning that substandard sidewalks, street crossings, and other elements within the public right-of-way can create tremendous obstacles to their mobility. To establish an equitable transportation system, it is imperative to ensure that individuals with disabilities can navigate without barriers.

Chapter 4 further describes recommendations related to the ADA and the City's Transition Plan in the Public Rights of Way.

## AMERICANS WITH DISABILITIES ACT (ADA)

*The Americans with Disabilities Act (ADA) of 1990 is a civil rights law that prohibits discrimination based on disability. Under Title II of the Act, **CITIES AND TOWNS ARE REQUIRED TO DEVELOP PLANS TO ACCOMMODATE INDIVIDUALS WITH DISABILITIES**. To address these challenges, the U.S. Access Board has developed a set of design standards for transportation known as the “Public Rights-of-Way Accessibility Guidelines” (PROWAG). The PROWAG specifically addresses access to sidewalks, streets, crosswalks, curb ramps, street furnishings, pedestrian signals, parking areas, bus stops, and other components of public rights-of-way. The goal of the Access Board in formulating these guidelines is to guarantee that access for individuals with disabilities is provided whenever a pedestrian pathway is newly constructed or modified. The aim is to ensure that pedestrians with disabilities have the same level of convenience, connectivity, and safety as the general public.*





**Image 53.** Oklawaha Greenway Mile Marker (Source: Friends of the Oklawaha) (left)  
 Mile marker posts are spaced every quarter mile along the Oklawaha Greenway. These low posts show the distance traveled.



**Image 54.** Hendersonville Wayfinding Sign (Source: Merje Design) (right)

## WAYFINDING FOR GREENWAYS AND OTHER SYSTEMS

As Hendersonville's greenway system expands with projects like the Clear Creek Greenway, Ecusta Trail, Mills River Valley Trail, Mud Creek Greenway, and others, the importance of signage becomes paramount in assisting people to locate and navigate between these facilities. Particularly when connections between trails involve indirect routes along streets and sidewalks, clear signage becomes crucial.

To address this need, Hendersonville can integrate the new greenway access points into the existing wayfinding sign system managed by the Tourism Development Authority (TDA). This integration would ensure consistency in branding and design styles for a cohesive look; the *Walk Hendo* logo created for this project could be a starting point for a branding theme. Each greenway will likely have its own sign design,

like Oklawaha Greenway's mile marker system, but having the trailheads included in the overall county wayfinding system will help tremendously by directing visitors to these attractions that they may not have known existed before arriving in Hendersonville.

Well-designed signage will provide essential information such as points of interest, distances, and directions, enhancing the overall user experience and facilitating smooth movement along the greenway network. By integrating consistent signage and a comprehensive wayfinding system into Hendersonville's expanding greenway network, the community can benefit from improved navigation, enhanced connectivity, and a more enjoyable experience while exploring the city and its surrounding areas on foot.



## CORRIDOR STUDIES

Sometimes it is imperative to focus attention on an entire corridor in the transportation network to resolve issues dealing with all or a portion of that corridor. This level of analysis is typically performed on a major NC, U.S., or other route of regional significance. For *Walk Hendo*, we propose a handful of corridor studies in partnership with NCDOT and the French Broad River MPO that will identify improvements to meet growing travel demand, changing land uses, and to improve safety. Similar studies have recently been conducted for Hendersonville Road and Tunnel Road in the Asheville area, with recommendations regarding land use and transportation to maximize the longevity, sustainability, and overall mobility of each corridor. These studies will inform future roadway improvement prioritization, provide a vision for private developers seeking to invest in the community, and offer guidance toward grant funding opportunities.

The primary purpose of a corridor study is to establish a long-term vision for a specific transportation corridor while also addressing immediate needs and challenges. These studies aim to strike a balance between preserving and improving mobility, enhancing safety, and considering community access and interests. This typically involves analyzing traffic flow, evaluating intersections, considering multimodal transportation options (e.g., public transit, biking, walking), and identifying potential improvements to optimize the movement of people and goods. A list of possible considerations for a corridor study include the following:

- Improve signal timing/coordination
- Improve access management
- Improve the visibility and crossing provisions for pedestrians
- Increase driver awareness of pedestrian crossing
- Continuous sidewalks
- Improved transit stops and amenities
- Landscaping and resiliency amenities



**Image 55.** *Intersection Alternative (Source: FBRMPO) (top)*

**Image 56.** *Cross Section Example (Source: FBRMPO) (bottom)*

*A corridor study can assess different alternatives for a roadway and identify appropriate cross-sections for each segment.*

# KEY STEPS OF A CORRIDOR STUDY



## VISION & GOAL SETTING

The corridor planning process begins by establishing a clear vision for the corridor and setting goals for the study. This involves identifying the desired outcomes, such as improved mobility, safety, accessibility, and community integration. The vision and goals act as guiding principles throughout the planning process.



## DATA COLLECTION

Comprehensive data collection is essential to understand the existing conditions and challenges within the corridor. This includes gathering information on traffic patterns, land use, demographics, infrastructure, environmental factors, and community input. The collected data is then analyzed to identify trends, issues, and opportunities for improvement.



## INVENTORY & ANALYSIS

A detailed inventory and analysis of the collected data are undertaken to assess the current state of the corridor. This involves evaluating existing transportation infrastructure, land use patterns, safety concerns, access points, public transit options, and any other relevant factors. The analysis helps identify strengths, weaknesses, and potential areas for improvement.



## DESIGN ALTERNATIVES

Based on the analysis, design alternatives are developed. These alternatives propose different configurations, improvements, or solutions to address the identified needs and achieve the defined goals. Design alternatives may include changes to roadway alignments, intersection designs, public transit options, bike lanes, pedestrian facilities, or land use plans. The

alternatives aim to balance the diverse needs and interests of the corridor stakeholders.



## EVALUATION & SELECTION

The developed design alternatives undergo a thorough evaluation process. This evaluation considers factors such as feasibility, cost-effectiveness, environmental impacts, social equity, community acceptance, and compatibility with the established goals. Through this evaluation, a set of recommended alternatives or preferred options are identified.



## RECOMMENDATIONS & ADOPTION

The recommended alternatives are compiled into a final set of recommendations, which include a prioritized list of improvements, policies, and actions necessary to implement the selected alternatives. The corridor study, including the recommendations, is then presented to the appropriate governing body, such as the City Council, for adoption and approval.



## IMPLEMENTATION

Once the corridor study is adopted, implementation can begin. This may involve updating City policy documents, ordinances, or land use plans to align with the study's findings. It may also involve securing capital project funding for the identified improvements and initiating the design and construction process. Additional studies or planning efforts may be necessary for specific aspects of the implementation.



20  
Access  
Points

23  
Access  
Points

7  
Access  
Points



- Study Area
- 🚦 Traffic Signal
- ⊕ Unsignalized Intersection
- 🚌 Apple Country Transit Stop
- Access Point (Driveway)
- Right-of-Way

0.25 Miles



18  
Access  
Points

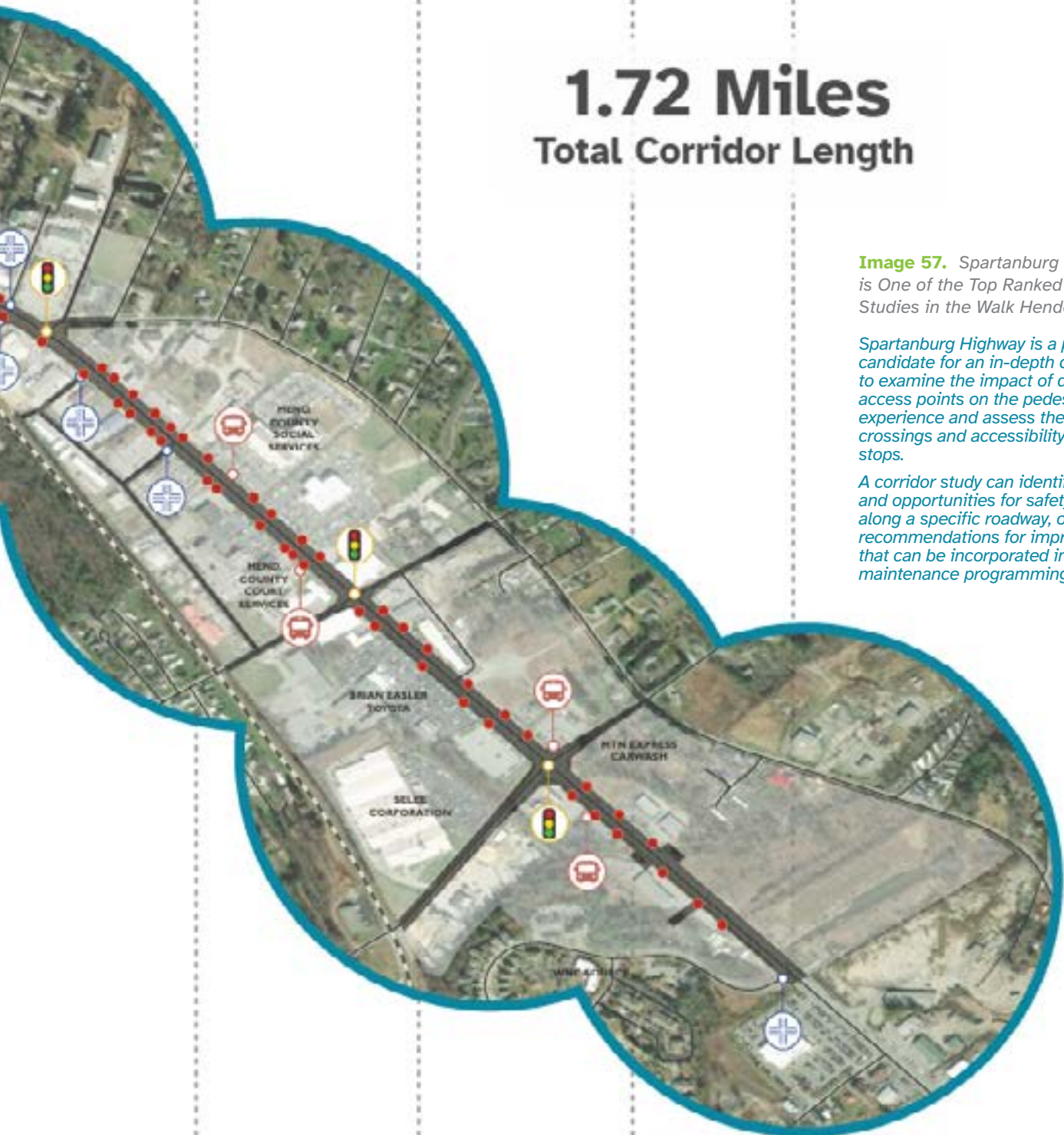
15  
Access  
Points

12  
Access  
Points

4  
Access  
Points

# 1.72 Miles

## Total Corridor Length



**Image 57.** Spartanburg Highway is One of the Top Ranked Corridor Studies in the Walk Hendo Plan

*Spartanburg Highway is a perfect candidate for an in-depth corridor study to examine the impact of driveway access points on the pedestrian experience and assess the safety of crossings and accessibility of transit stops.*

*A corridor study can identify challenges and opportunities for safety and access along a specific roadway, offering recommendations for improvements that can be incorporated into future maintenance programming.*

Corridor studies can describe recommended improvements and associated costs for planning and programming purposes, and to identify potential design and environmental issues to be considered during subsequent phases of project development. A key part of a corridor study involves determining proposed cross-sections and alignments of certain roadway segments.

As with every planning process, public involvement plays a role in corridor planning. Public involvement allows transportation planners to understand the specific needs, preferences, and concerns of the people who will be impacted by the corridor, helping to shape the project to better meet the needs of the community, including residents, businesses, community organizations, and advocacy groups. Engaging these stakeholders early in the planning process helps foster relationships, build trust, and address their concerns. Public involvement provides an opportunity to identify potential adverse effects of the transportation corridor and work collaboratively to minimize or mitigate them. For example, public input can help identify noise concerns, air pollution, loss of green spaces, or impacts on cultural heritage sites. By involving the public, planners can bring diverse perspectives and expertise to the decision-making process, resulting in more informed decision-making and better-designed transportation corridors.

Transportation corridor planning provides an opportunity to educate the public about the benefits, impacts, and trade-offs associated with different options. Public meetings, workshops, or information campaigns can help raise awareness, build understanding, and promote informed discussions among community members. When community members feel their opinions are valued and their concerns are addressed, they are more likely to support and take ownership of the project. This support can be crucial for securing funding, gaining political support, and ensuring the successful implementation of the transportation corridor.

In addition to the long-term vision, corridor studies identify immediate or short-term opportunities for improvement. These can include low-cost, high-impact interventions, operational changes, or phased improvements that can be implemented in the near term. By addressing immediate needs, the study can deliver tangible benefits to the corridor while progress is made toward the long-term vision.

Overall, corridor studies provide a comprehensive analysis of a transportation corridor, considering both long-term goals and immediate needs. They aim to create a roadmap for preserving and enhancing mobility, safety, and community interests while ensuring sustainable and resilient transportation infrastructure. The corridor planning process begins with crafting a vision and setting goals for the study, along with collecting the necessary data. An inventory and detailed analysis of the data and goals then is undertaken. Based on the analysis, design alternatives are developed and vetted. From those alternatives, a set of recommendations, such as the ones listed above is selected to go forward for adoption by City Council. Once the corridor study is adopted, implementation can begin and take the form of updates to city policy documents and ordinances, capital project funding and construction, and/or additional studies.



## ENDNOTES

- <sup>30</sup> 2022, from <https://investfromthegroundup.org/trees-mean-business/>
- <sup>31</sup> MUTCD Interpretation Letter 3(09)-0(I) – Colored Pavement Treatments in Crosswalks
- <sup>32</sup> MUTCD Official Ruling 3(09)-24(I) – Application of Colored Pavement
- <sup>33</sup> U.S. Census Bureau (2023). Disability characteristics, 2017-2021 American Community Survey 5-year estimates. [Data set]. <https://data.census.gov>

*Intentionally blank to facilitate double-sided printing.*



(Source: TPD)

# 04

## Program & Policy Recommendations





# 04

## PROGRAM & POLICY RECOMMENDATIONS

*“As a mother to an almost 16 y/o child with Duchenne Muscular Dystrophy, I feel he/we are limited in access throughout Hendersonville. I suggest truly putting members in a wheelchair to navigate and see the need on this level. Happy to assist in any way I can.”*

- Walk Hendo Survey Respondent

### CHAPTER INTRODUCTION

While the development of physical infrastructure is fundamental to Hendersonville’s vision, the establishment of programs and policies is equally important to reinforce and sustain a culture of multimodal transportation in the City. As the City may have limited resources to independently coordinate these activities, Hendersonville can leverage its network of partnerships with local and regional organizations, partner agencies, entrepreneurs, schools, and tourism organizations to initiate the development of these programs.

Programming efforts should be prioritized for youth and senior populations to reach those at the margins of access and ability; these efforts create a more equitable and vibrant community, where everyone can engage, connect,

and thrive. By prioritizing programming for youth, Hendersonville can provide engaging and educational activities that promote active lifestyles, foster social connections, and contribute to their overall well-being. Simultaneously, there are benefits to adjusting local policies to ensure that Hendersonville has the necessary standards and processes in place to effectively advance infrastructure projects, whether in collaboration with NCDOT or private developers.

The planning team reviewed the City of Hendersonville’s zoning ordinance and map to understand how they influence the planning of pedestrian enhancements. By examining these regulatory frameworks, the team aimed

# SUPPORTING ACTIVE TRANSPORTATION SUCCESS



Figure 14. Supporting Active Transportation Success

The City of Hendersonville’s City Council has budget priority areas, one of which is **SOUND INFRASTRUCTURE**. The policies discussed in this section are a primary tool to achieving Hendersonville’s goal to be a place that, “constructs and maintains efficient and accessible roads, sidewalks, and greenway trails – extending connectivity.”



to extrapolate the implications and potential opportunities for improving pedestrian infrastructure and amenities within the City.

This section summarizes policies and ordinances that apply to pedestrian connectivity, walkability, and sidewalk design in the City of Hendersonville, either through City policies or those implemented through other agency programs. Recommendations and opportunities to explore through the upcoming comprehensive plan process are also included.

## PEDESTRIAN FACILITIES – HOW IT HAPPENS

In the City of Hendersonville, new **sidewalks**, crosswalks, pedestrian signals, greenways, multi-use paths, and other facilities are constructed through one of three primary avenues:

1. City led projects, funded with City funds and/or supplemented with grant funds most often received through the French Broad River MPO (FBRMPO);
2. NCDOT projects delivered directly through Division 14, funded through one of NCDOT’s project funding programs, which are often matched with City funds, or funded through one of the FBRMPO’s funding streams; and
3. Through private development when City ordinances require sidewalk construction

in conjunction with development, or when a developer has agreed to provide sidewalk during a conditional zoning process; in which case the City may participate in some of the cost.

Generally, **greenway construction** is led by the City or Henderson County and involves a combination of funding sources, including City, County, NCDOT, and private sources, such as the funds Henderson County TDA and Friends of the Ecusta Trail have allocated for Ecusta Trail development. Greenways may also be constructed through private development under some conditions, as discussed in coming sections. Other ways Hendersonville incentivizes greenway development include the following excerpts from the City's ordinances:

- Granting stormwater credits for sidewalks and greenways. (*Article IV., Division 2, Sec 24-255, (b) (1)*)
- Crediting greenway land easements toward dedicated public land requirements found in the Subdivision Ordinance. (*Appendix B, Article 4, Sec. 3.09, 4.*)
- Allowing sidewalks, multi-use paths, and greenways to be eligible for subdivision performance guarantees. (*Appendix B, Article 2, Sec. 2.05, 2*)

Given the amount of **federal transportation funds** available at the time of this report, communities in the FBRMPO or Land of Sky Rural Planning Organization (LOSRPO) region, like Hendersonville, Henderson County, and the City of Brevard, are seeking funds to complete large scale multimodal projects through federal funding programs. For example, the federal RAISE, FLAP, and NSFLP grants received for the Ecusta Trail are a joint effort of municipal, county, NCDOT, and MPO/RPO partnerships across Henderson and Transylvania counties; along with a show of support from elected officials, community members, and a variety of agencies.<sup>34</sup>

Finally, Hendersonville's Code of Ordinances (in Article XI. Street Improvements; Assessment of Costs and Article XII. Sidewalks (*Part I, Subpart A, Article XI and Article XII*)) authorize City Council to make street or sidewalk improvements and to **assess the cost of improvements** against abutting property owners in accordance with the provisions of Article XI (Streets) and Article XII (Sidewalks). While not often used, the City has relied on this policy to partner with large commercial project developers.

In the sections to follow, we discuss in further detail the three ways that the City builds sidewalks; also included are recommendations to ensure efficient and cost-effective sidewalk system expansion.

## WALKABILITY THROUGH CITY LED PROJECTS

The City of Hendersonville strives to complete pedestrian-oriented local projects by programming them in the annual budget and the longer-range capital improvement plan (CIP). Projects in the annual budget or CIP may be funded through the City's general fund or standard revenue sources, one of its metropolitan service districts (MSDs), grant funds, or some combination of funds. Often, the City's budgeted funding is a match that is used to leverage much more funding that will complete a project that is otherwise out of the City's funding capacity.

### FY 2024 BUDGET

One of the City Council's budget priorities for the Fiscal Year (FY) 2023-2024 (or FY 2024) is Transportation Planning. Council identified the Transportation Planning budget priorities as:

- Explore the use of a transportation bond, which would include sidewalks.
- Research ways to address street cuts and repairs.
- Create a traffic calming policy.
- Study how new developments impact traffic.
- Increase connectivity and streamline traffic flow.
- Narrow King Street.

A sample of pedestrian oriented FY 2024 budget expenditures include \$50,000 for a street and sidewalk assessment for resurfacing work and \$12,000 for pedestrian wayfinding signage funded through 7th Avenue MSD funds.

### CAPITAL IMPROVEMENT PLAN

The CIP identifies the projects the City would like to complete in the coming years; the current CIP covers FY 2024 through FY 2033. Projects from the CIP for FY 2024 include funds for Above the Mud Greenway and Streetscape work, matching





**Image 58.** Charlotte Street Road Diet (Source: TPD).

*The neighboring City of Asheville has achieved great success in partnering with NCDOT for strategic roadway resurfacing initiatives aimed at reimagining corridors and reallocating space to accommodate a broader range of users. Notably, both Charlotte Street and Merrimon Avenue underwent restriping efforts, resulting in the addition of center turn lanes, bike lanes, and enhanced pedestrian crossings, all contributing to improved safety and accessibility.*

funds for the Blythe Street and Grove Street sidewalks, and traffic calming improvements. In later years, projects include various sidewalk connections to the Ecusta Trail (FY 2025), King Street improvements (FY 2028), and Maple Street Sidewalk improvements (FY 2032).

## RECOMMENDATIONS

- Continue to set aside funding for multimodal projects, either for projects fully funded by the City or to match and leverage funding from other sources.
- Continue to program *Walk Hendo* and other pedestrian safety projects in the City's CIP.
- Identify an avenue to share the proposed schedule of projects with the community through the City's communications channels and publicly celebrate when new projects begin or are completed.
- For larger development projects, explore using the property assessment tools provided in the City's Code of Ordinances.

Hendersonville had great success in constructing sidewalks and other pedestrian facilities through its 2008-2009 package of general obligation (GO) bond projects. A new GO bond is noted as a FY 2024 Transportation Budget planning priority. Should that move forward, Hendersonville can make use of the community engagement gathered during *Walk Hendo* to demonstrate the community's support for pedestrian improvements.

## WALKABILITY THROUGH PUBLIC PARTNERSHIPS

### ROAD RESURFACING

Both the City of Hendersonville and NCDOT resurface the public streets they manage. The City uses its annual allocation of State Street-Aid (Powell Bill) funds to resurface streets. Each year, NCDOT updates its five-year Highway Maintenance Improvement Program (HMIP), which indicates the roads NCDOT plans to preserve, resurface, or rehabilitate.

Resurfacing and the accompanying pavement marking plans present an opportunity to redesign the street for new or improved multimodal connections. Resurfacing is a good time for quick

wins, such as adding high visibility crosswalks or bike lanes, which provide an additional buffer between pedestrians and motorized vehicles. Larger projects, such as road diets, narrowing lanes to slow traffic, or parking reconfigurations may also be accomplished during resurfacing projects.

### CITY OF HENDERSONVILLE RESURFACING PROJECTS

The City of Hendersonville does not have a formal resurfacing schedule, but it does keep a record of each street’s pavement condition to help guide Powell Bill and resurfacing decisions.<sup>35</sup> In the 2023 paving cycle, all City paving funds will be directed toward the 7th Avenue Streetscape project. Additionally, the FY 2024 includes \$50,000 for a street and sidewalk assessment for resurfacing; a task that is well timed with *Walk Hendo* implementation.

### NCDOT RESURFACING PROJECTS

The NCDOT HMIP directs their annual resurfacing of streets owned / managed by the agency. Resurfacing is noted as application of a hot mix asphalt overlay of an existing roadway. Resurfacing may consist of one or two lifts of asphalt surface course and may also consist of milling and replacing asphalt layers, microsurfacing, and other treatments.

The roadways in Table 4 are scheduled in NCDOT’s HMIP for resurfacing in 2024. These are all roadways within Henderson County and include some major segments through Hendersonville. There are opportunities for the City to partner with NCDOT on key corridors on accessibility and pedestrian crossing improvements.

**Table 3.** Roadways Scheduled in NCDOT’s HMIP for Resurfacing in 2024

2024			
ROADWAY	FROM	TO	COST
US 25 Bus	SR 1503 N. Main St	Hendersonville Co Line	\$2,500,000.00
US 64	US 64	US 64	\$620,000.00
NC 225	SR 1106 (Green River Rd)	US 25 On-Ramp	\$850,000.00
US 25 Bus S	US 25 Bus	US 25 Bus	\$500,000.00
SR 1171	SR 1137	SR 1127	\$467,500.00
SR 2228	SR 1345	EOM	\$80,000.00
SR 1602	SR 1709	SR 1710	\$1,012,500.00
SR 1783	SR 1736	SR 1902	\$730,000.00
SR 1584	SR 1006	EOM	\$117,000.00
SR 1586	SR 1574	US 64	\$607,500.00
SR 2234	SR 2233	EOM	\$70,000.00
SR 2272	SR 2272	EOM	\$40,000.00

## THE VALUE OF PAVEMENT MARKING PLANS

When streets are resurfaced, engineers develop pavement marking plans to direct people who use the roadway. In 2023, Traffic Planning and Design, Inc. (TPD) provided design services to the City of Greenville, SC for pavement striping plans for roads in Greenville’s upcoming resurfacing schedule. TPD designed pedestrian, bicycle, vehicular and transit upgrades along 18 streets. As streets in Greenville are resurfaced, the City will gain pedestrian facilities through implementation of the pavement making plans. The infographic (Image 56) provides an overview of the facilities Greenville will gain through resurfacing projects. This illustrates how a City like Hendersonville can advance their pedestrian system upgrades with a routine City function such as resurfacing.

Resurfacing is also an opportunity to bring existing curb ramps into Americans with Disabilities Act (ADA) compliance. From the FHWA resource *Incorporating On-Road Bicycle Networks into Resurfacing Projects*, “resurfacing roadways often triggers requirements for providing accessible curb ramps within the project extents. Although not directly relevant to providing bikeways, this must be considered whenever roadways are resurfaced.”<sup>36</sup>



**Image 59.** *Pedestrian Improvements Through Resurfacing (Greenville, SC)*  
(Source: TPD)



# ADA UPGRADES DURING RESURFACING PROJECTS

More information is available from a joint technical assistance memorandum issued by the United States Department of Justice and Department of Transportation. This memorandum and additional supplemental material are highlighted below:

- Department of Justice/Department of Transportation Joint Technical Assistance on the Title II of the Americans with Disabilities Act Requirements to Provide Curb Ramps when Streets, Roads, or Highways are Altered through Resurfacing.  
[https://www.fhwa.dot.gov/civilrights/programs/ada/doj\\_fhwa\\_ta.cfm](https://www.fhwa.dot.gov/civilrights/programs/ada/doj_fhwa_ta.cfm)
- Glossary of Terms for DOJ/FHWA Joint Technical Assistance on the ADA Title II Requirements to Provide Curb Ramps When Streets Roads or Highways are Altered through Resurfacing.  
[https://www.fhwa.dot.gov/civilrights/programs/doj\\_fhwa\\_ta\\_glossary.cfm](https://www.fhwa.dot.gov/civilrights/programs/doj_fhwa_ta_glossary.cfm)
- Q and A Supplement to the 2013 DOJ/ DOT Joint Technical Assistance on the Title II of the Americans with Disabilities Act Requirements to Provide Curb Ramps when Streets, Roads, or Highways are Altered through Resurfacing.  
[https://www.fhwa.dot.gov/civilrights/programs/ada/doj\\_fhwa\\_ta.cfm](https://www.fhwa.dot.gov/civilrights/programs/ada/doj_fhwa_ta.cfm)

## ADA TRANSITION PLAN

When The Americans with Disabilities Act (ADA) requires public agencies with more than 50 employees to develop a transition plan.<sup>37</sup> (28 CFR §35.150(d). (9-12-06). An ADA Transition plan provides a framework for the continuous improvement of pedestrian facilities (such as sidewalks, paths, curb ramps and pedestrian signals/push buttons) within the City's ROW to ensure accessibility for people with disabilities. The City of Hendersonville does not have an ADA Transition Plan for the Public ROW and should plan to develop one soon.

### Recommendations

- When planning for a new street and sidewalk resurfacing project is underway, use this as an opportunity to identify which streets will benefit from pavement marking plans that will improve pedestrian or other multimodal connections.
- Develop an updated ADA Transition Plan for the public rights-of-way (including sidewalks, crossings, pedestrian signals, parking access, and more). The ADA Transition plan should prioritize removal of transportation barriers throughout the City with a focus on input from individuals in the community with disabilities.
- Track NCDOT's road resurfacing schedule and engage in early conversations with Division 14 to identify opportunities for increased pedestrian connectivity through roadway resurfacing projects. While this plan only highlights planned resurfacing for streets in or near the City Limits, consider working with the Henderson County TAC to develop a county-wide approach to improving pedestrian connectivity through NCDOT resurfacing projects.



On August 8, 2023, the U.S. Access Board issued a final rule on accessibility guidelines for pedestrian facilities in the public right-of-way (PROWAG). These guidelines inform federal, state, and local government agencies on how to make their pedestrian facilities, such as sidewalks, crosswalks, shared use paths, and on-street parking, accessible to people with disabilities.

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

## FBRMPO/NCDOT PARTNERSHIP PROJECTS

The FBRMPO is responsible for coordinating funding opportunities between the City and NCDOT. The City of Hendersonville can expand its pedestrian network through its partnership with NCDOT and the FPRMPO. This includes funding projects through the State Transportation Improvement Plan (STIP) as well as other opportunities. Recently, the FBRMPO has been working with communities to fund projects, such as corridor and feasibility studies, as well as other planning projects to advance multimodal connections.

NCDOT delivers some projects, such as those delivered through the Highway Safety Improvement Plan (HSIP) and the Highway Maintenance Improvement Plan (HMIP) or its ADA upgrade program, independently of the FBRMPO. NCDOT’s Integrated Mobility Division (IMD) introduced a Feasibility Study grant program in 2023 to help communities develop projects beyond the planning level. Hendersonville received one of these grants for the Above the Mud greenway connection that will link the Ecusta Trail to Jackson Park and the Oklawaha Greenway. Table 5 highlights partnership projects in the current 2024-2033 STIP that will, in some way, expand the Hendersonville’s pedestrian network.

**Table 4.** Partnership Projects in the Current 2024-2033 STIP

NCDOT PROJECT NUMBER	PROJECT NAME / EXTENT	MULTIMODAL IMPROVEMENTS	PROJECTED ROW OR CONSTRUCTION YEAR
EB-5860	<b>Blythe Street</b> - From US 64 (Brevard Road) to NC 191 (Haywood Road).	New Sidewalks	2025 (Construction)
EB-5963	<b>Grove Street</b> - From Barnwell Street to US 176/Spartanburg Highway	New Sidewalks	2025 (Construction)
HS-2014L	<b>US 64/Four Seasons Boulevard Intersection Upgrades at:</b> <ul style="list-style-type: none"> <li>North Grove Street &amp; Seventh Avenue</li> <li>Thompson Street &amp; Freeman Street</li> <li>Carolina Village Road &amp; Orrs Camp Road</li> <li>Howard Gap Road</li> <li>Fruitland Road</li> </ul>	Crossing and Accessibility Upgrades	2023 (Construction)
StaBL-0008	<b>Clear Creek Greenway</b> - From Berkeley Mills Part to Lakewood Road	Multi-use path for people who walk and bike.	2024 (Construction)
BL-0007	<b>Ecusta Trail, Phase I</b> - From Kanuga Road to US 64 / Battle Creek Road	Rail to trail / multi-use path for people who walk and bike.	2023 (Construction)
R-5748	<b>Kanuga Road</b> - From US 25 Business / Church Street to Little River Road.	Described as an “Upgrade Roadway” project; multimodal improvements are not known.	Funded for preliminary engineering only
U-5886 and U-6049	<b>(U-5886) White Street</b> - From Willow Road to US 176/Spartanburg Highway and <b>(U-6049) US 225 / South Main Street</b> - From US 25 Business / Church Street to Little River Road.	Upgrade Roadway to include sidewalks, bike lanes, and connections to the Ecusta Trail.	2023 (ROW)
SM-6114C	<b>Five Points</b> - US 25 N / North Main Street, US 25 S North Church Street, US 25 / Asheville Highway, Hendersonville High School Driveway	ADA Ramp Upgrades, Pedestrian Crossing Improvements	2023 (Design Underway)
U-5783	<b>US 64</b> -- From Blythe Street to White Pine Drive ( <i>while not in the City of Hendersonville, will improve connectivity</i> )	Road modernization to include sidewalks and bike lanes; will connect with the Ecusta Trail.	2024 (Construction)

**Recommendations:**

Continue to actively partner with NCDOT and the FBRMPO, and regional partners, to ensure that Hendersonville has a variety of pedestrian and other or multimodal projects in the development pipeline.

Share the importance of *Walk Hendo* and its recommendations with Hendersonville’s TAC to gain support for projects in the upcoming SPOT 7.0 prioritization process and future rounds of FBRMPO project prioritization.

Continue to set-aside matching funds to take advantage of project funding opportunities.

Hendersonville should actively pursue feasibility study funding during future IMD grant cycles or other funding streams, which will allow the City to continue to build a project pipeline so that when one project is constructed, another is ready to follow.

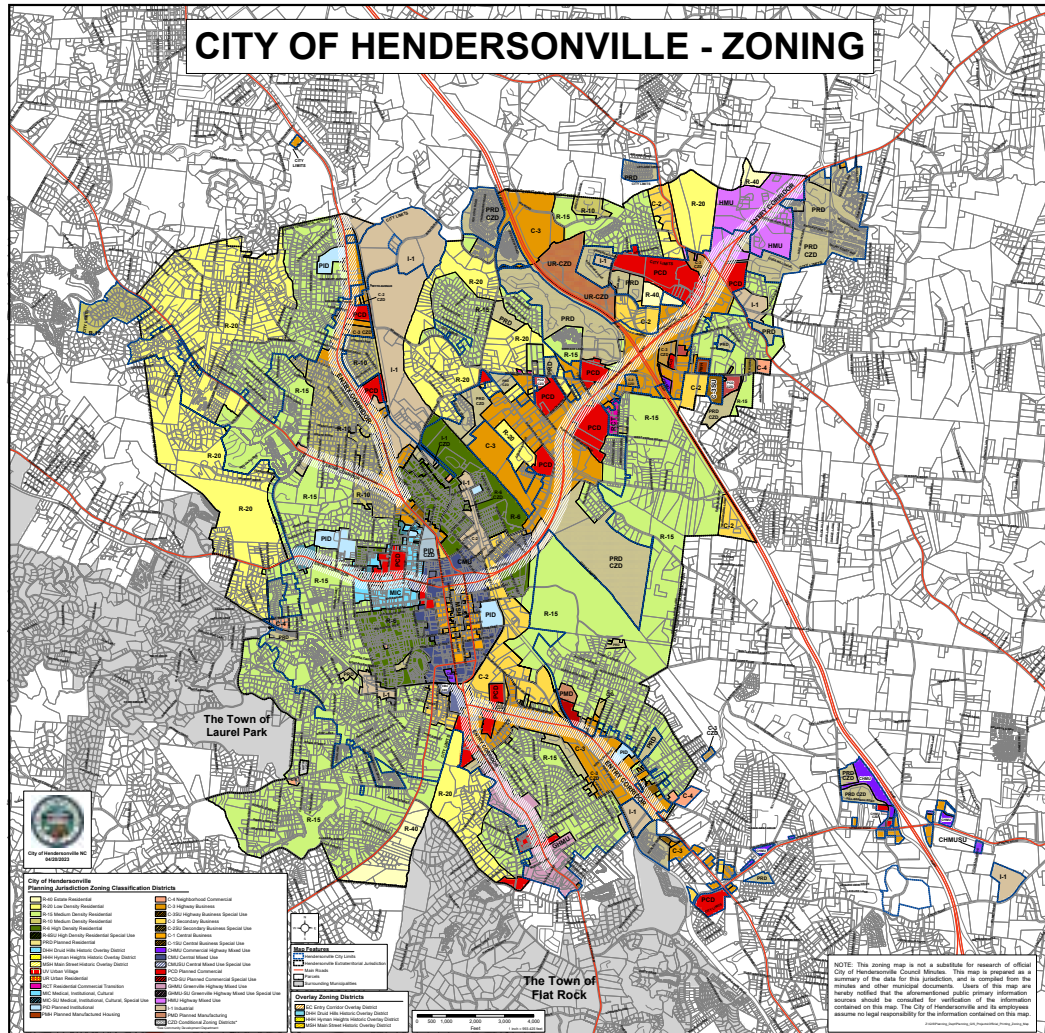
**WALKABILITY THROUGH PRIVATE DEVELOPMENT**

The City of Hendersonville’s Subdivision Ordinance (SO) and Zoning Ordinance (ZO) contain provisions that require sidewalks for certain types of development and/or when a development meets certain conditions.

With some exceptions, the SO standards apply when division of a tract of land or a parcel is divided into four or more lots, building sites, or other divisions for the purpose of sale or building development. When land meets this condition, the project developer is responsible for meeting the requirements found in the subdivision ordinance, including standards for streets and sidewalks.

The ZO applies to all land within the City of Hendersonville and its Extraterritorial Jurisdiction (ETJ); all land is in one of Hendersonville’s zoning districts. The ZO standards apply to all land in the

Figure 15. Hendersonville Zoning Map





City and in the ETJ and when property outside the ETJ is annexed. ZO standards also apply when the City or a property owner initiate and receive a rezoning request.

## SUBDIVISION ORDINANCE REQUIREMENTS & STANDARDS

Under Hendersonville's current subdivision ordinance, streets are either private or public. When public, the street is maintained by NCDOT or the City, and each street has an assigned Street Type: Freeway, Expressway, Boulevard, Major Thoroughfare, Minor Thoroughfare, Local, Cul-de-Sac, or Alley. The street's classification is based on what the street is designed to do, the amount of traffic it carries (or can carry), and the types of land use access the road provides. The SO dictates when sidewalks are required based on street type.

Whereas new roads that will be maintained by NCDOT are built to NCDOT standards for the planned Street Type, future City maintained roads are built according to standards included in the SO. While many City standards reflect NCDOT's, the City has additional standards that

provide leeway in creating a pedestrian friendly environment. Examples of standards that aid in walkability include:

- Provisions for the alignment and continuation of existing or proposed streets and street stubs to ensure future connectivity between developments (when the new development in question is next to vacant land). The result is cross-parcel connectivity between developments which provides for improved emergency access, prevents traffic congestion, and improves walkability.
- The internal street network in new developments must achieve a minimum street connectivity index score, comprised of links (or intersections, as shown in the circles in the image below) and nodes (or street segments, as noted by circles in the image below). The potential benefits include shorter blocks, slower speeds, and greater connectivity. Case study modeling in Utah found that improving street connectivity by thirty percent increased walking by a factor of four to six times the prior frequency.<sup>38</sup>

**Image 60.** Street Connectivity Index Example (Source: City of Hendersonville).

*The desired result is a network with many short links, numerous intersections, and minimal dead-ends (cul-de-sacs). As connectivity increases, travel distances decrease and route options increase, allowing more direct travel between destinations, creating a more accessible and resilient system that reflects Complete Streets principles.*



The right-of-way (ROW) width required for new streets depends on what type of street it is intended to be (boulevard, major thoroughfare, etc.) With the exceptions of local, cul-de-sac, and alley Street Types, the minimum ROW required ranges from 160 feet for expressways down to 70 feet for minor thoroughfares. Local streets and cul-de-sacs require 45 feet of ROW and alleys require 20 feet. The required ROW for each street type should contain adequate space for new sidewalks and other facilities. Table 6 describes when and where sidewalks are required along new subdivision streets.

**Table 5.** When and Where Sidewalks are Required Along New Subdivision Streets

STREET TYPE	SIDEWALK LOCATION	LOCATION NOTES
Expressways in all Zoning Districts	Both Sides of the Street	
Boulevards in all Zoning Districts	Both Sides of the Street	
All Street Types Designated as Downtown, Except Alleys	Both Sides of the Street	
Local Streets	One Side of the Street (with exceptions)	<p>If sidewalk is present, new sidewalk should be on the same side for network continuity.</p> <p>When it is not clear which side of the road the sidewalk should be placed, locate on the side that is least likely to interfere with stormwater.</p> <p>If sidewalk is on both sides of the street, sidewalks shall be provided along both sides of the street serving the new development.</p>
Cul-de-sac, dead-end, and loop streets serving nine or more lots or nine or more dwelling units	One Side of the Street	Sidewalks are not required around the cul-de-sac head.
Freeways and Interstates Maintained by NCDOT; Alleys; Gravel Streets	No Sidewalk Required	

In addition to outlining when and where sidewalks are required, the SO provides specifications pertaining to sidewalks, pedestrian crossings, ADA ramps, and greenways (Table 7).

**Table 6.** Specifications Pertaining to Sidewalks, Pedestrian Crossings, ADA Ramps, and Greenways

FACILITY	REQUIREMENTS
The sidewalks shall:	<ul style="list-style-type: none"> <li>• Be in the street ROW or in a City-approved location,</li> <li>• Be at least five feet wide, unless connecting to a wider sidewalk, in which case, the developer may be required to match the width of the connecting sidewalk that exceeds five feet.</li> <li>• Be constructed of concrete or other hard surface material.</li> <li>• Connect with existing sidewalks at property boundaries.</li> </ul>
Pedestrian crossings shall be:	<ul style="list-style-type: none"> <li>• Raised above the adjacent street level, be constructed of material other than asphalt, or be striped as a traffic calming measure.</li> </ul>
ADA Ramps shall:	<ul style="list-style-type: none"> <li>• Be required when curb and gutter construction is used on public streets.</li> <li>• Configured in accordance with NCDOT standards.</li> <li>• Provided at intersections and other many points of pedestrian flow in accordance with <a href="#">G.S. 136-44.14</a></li> </ul>
The following standards shall apply to greenways developed through under Subdivision Ordinance regulations:	<ul style="list-style-type: none"> <li>• Greenways shall be hard-surfaced, ADA-accessible trails within open space set-asides and shall be credited towards sidewalk requirements when trails are available for use by the public and connect open space set-asides to schools, shopping areas, or other recreation areas.</li> <li>• When a subdivision includes a portion of a greenway designated in the City's adopted policy guidance, the greenway shall be platted and dedicated to the City as a greenway easement.</li> <li>• The greenway easement shall be 50 feet wide, to the maximum extent practicable.</li> <li>• The greenway shall include an all-weather surface trail of at least 10 feet, paved with asphalt or concrete that meets ADA guidelines for accessibility.</li> <li>• Shall establish positive drainage in areas adjacent to the paved trail.</li> <li>• When the greenway crosses a street, the pedestrian crossing area shall be demarcated and supplemented with signage that alerts drivers to the presence of pedestrians.</li> </ul>



## ZONING ORDINANCE REQUIREMENTS & STANDARDS

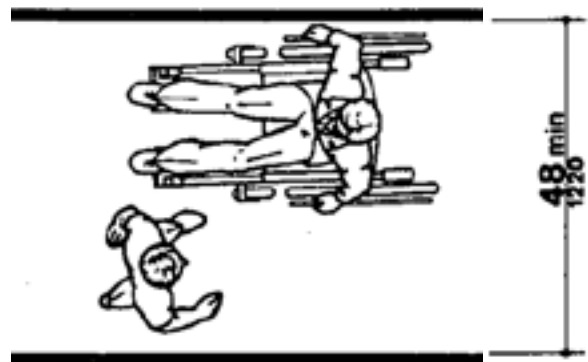
Sidewalk requirements in the ZO are based on the zoning districts, whereas the SO requirements are based on street type. The ZO is not as prescriptive when it comes to defining sidewalk width, materials, ADA curb ramp standards, and the like. Table 8 outlines when and where sidewalks are required.

### Recommendations:

The main distinction between the SO and the ZO lies in their respective intentions. The SO focuses on facilitating the construction of sidewalks in new developments along newly created streets. On the other hand, the ZO targets sidewalks in new developments with existing zoning designations, typically infill or single parcel projects (excluding planned developments, which are more akin to subdivisions). Despite these differing intents, both ordinances aim to achieve the same outcome – the establishment of high-quality pedestrian facilities for walking individuals. Given the shared objective of providing well-designed pedestrian infrastructure, it becomes essential to explore certain measures that can ensure the sidewalks mandated through the ZO meet the same standards as those required in the SO.

- The SO has requirements that are more specific. For example, the SO requires developers to match the width if a sidewalk is joining with a sidewalk that is greater than the minimum 5 feet required. And the SO is more prescriptive when it comes to ADA standards, materials, and crossing standards. Consider and evaluate the merits of mimicking the SO standards in the ZO.
- If the City does not want to mimic SO standards in the ZO, consider adding the following standards to the ZO: minimum width required, ADA compliance language, and greenway standards (to clarify what is expected if this is determined to be a suitable alternative).
- During development or redevelopment, require sidewalks along roadways that are within 200 feet of all intersections with major or minor thoroughfares. This will help ensure that more connections are made to key roadways throughout Hendersonville.

- Another alternative is to develop a City of Hendersonville street standards and specifications manual. Three examples from NC cities are provided.
- In the ZO, the City Manager may require that a sidewalk be built across the street from the site of new construction under certain conditions. There could be instances when allowing sidewalk construction across the street could hinder access. Consider adding an ADA and/or crossing evaluation to the standards to ensure that adequate crossing access is maintained or improved.
- In general, sidewalks in residential areas are only required on one side of the street. Consider if there are areas or conditions where sidewalks on two sides of the street are better than one, such as high traffic areas (using a vehicle per day threshold), important transit areas, or near schools.



**Image 61.** Wheelchair Passage Width (Source: Uniform Federal Accessibility Standards by Architectural and Transportation Barriers Compliance Board).

*The City's sidewalk construction specifications mandate a minimum width of five (5) feet for new sidewalk construction. While this aligns with NCDOT's minimum standard and is consistent with ADA guidance, the City could consider changing that to six (6) feet. This width gives people just enough extra room to pass more comfortably on a sidewalk and can better accommodate families with strollers, wheelchair users, and groups walking together.*

**Table 7.** When and Where Sidewalks are Required by Zoning District

ZONING DISTRICT	SIDEWALK LOCATION INTENT	REQUIREMENT CONDITIONS	LOCATION NOTES
Residential Districts	One side of the street	See Below	On corner lots, sidewalks requirements shall be met along both streets.
<b>Residential Zoning Districts:</b> PRDCZD, PMH, R-40, R-40CZD, R-20, R-20CZD, R-15, R-15CZD, R-10, R-10CZD, R-6, R-6CZD	The property in question is <i>required</i> to provide sidewalk when one of the following exist: <ul style="list-style-type: none"> <li>• An adjoining property has sidewalk OR an adjoining property has a development approval that requires sidewalk.</li> <li>• When an existing segment of sidewalk is within 400 feet of the property on the same side of the street OR an adjoining property has a development approval and is within 400 feet of the property on the same side of the street;</li> <li>• The development contains multi-family uses.</li> <li>• When the property is within one half mile of a:                             <ul style="list-style-type: none"> <li>• public or private school</li> <li>• public or private hospital</li> <li>• public library</li> <li>• public safety station (e.g. police, fire, rescue)</li> <li>• public transit stop or station,</li> <li>• courthouse,</li> <li>• government administrative office building,</li> <li>• public park,</li> <li>• public greenway,</li> <li>• or any of the foregoing contained within a local government capital improvement plan (CIP)</li> </ul> </li> </ul>		
	<b>PROPOSED ADDITION: During development or redevelopment, require sidewalks along roadways that are within 200 feet of all intersections with major or minor thoroughfares.</b>		
	The City manager <i>may</i> require that a sidewalk be built across the street from the site of new construction when the following conditions exist: <ul style="list-style-type: none"> <li>• No sidewalk adjoins the site,</li> <li>• A sidewalk exists on the other side of the street within 400 feet of the site; and</li> <li>• There is no legal impediment to constructing the sidewalk on the other side of the street.                             <ul style="list-style-type: none"> <li>• In cases where a sidewalk already exists on the opposite side of the street for the entire length of the City block where the subject property is located, and no sidewalk exists along the properties adjacent to the subject property, then a sidewalk is not required to be built along the frontage of the subject property.</li> </ul> </li> </ul>		
All Nonresidential Districts	Both sides of the street	<ul style="list-style-type: none"> <li>• Construct sidewalk from property line to property line</li> <li>• New commercial, industrial, and industrial uses are required to connect street sidewalks with public building entrances.</li> </ul>	On corner lots, sidewalks requirements shall be met along both streets.

Along freeways and interstates, alleys and accessways, and gravel streets sidewalks not required.

**Other items of note:**

*Given the nature of the conditional zoning process, the City can ask for a sidewalk that is greater than the standard 5 feet, but the developer is only required to if they agree to the condition.*

*The pedestrian-oriented Urban Village Conditional Zoning District Classification (UV) contains additional “pedestrian zone” standards. The UV District’s pedestrian zone requires sidewalks, street trees, and other pedestrian amenities. Sidewalks are required along one side of access streets and both sides of internal streets. Sidewalks in the district are required to be seven feet, however there are some conditions where the sidewalk can be five feet.*

*Other planned districts and mixed-use districts emphasize the need for sidewalks that form a logical, safe, and convenient system for pedestrian access in the planned development. Many of these districts also allow for greenways or bicycle pathways as substitutions for sidewalks.*

# MUNICIPAL STREET STANDARDS & SPECIFICATIONS EXAMPLES

- Town of Leland, NC  
<https://townofleland.civicweb.net/document/28571/>
- Town of Holly Springs, NC  
<https://www.hollyspringsnc.us/DocumentCenter/View/830/Section-3--Street-Details?bidId=>
- Town of Surf City, NC  
<https://www.surfcitync.gov/DocumentCenter/View/1360/Surf-City-Street-Design-Standards?bidId=>



## NEW SIDEWALK CONSTRUCTION – FEE IN LIEU

Education The City's SO and ZO contain fee in lieu procedures and standards (*Subdivision Fee in Lieu - Appendix B, Article 2, Sec. 2.06; Zoning Ordinance Fee in Lieu - Appendix A, Article VI, Sec. 6-12, 6-12-3*).

The SO fee in lieu standards are more robust than those found in the ZO. Under the SO, the standards apply in instances where a development applicant agrees, "that a payment-in-lieu of dedication or construction of infrastructure by the applicant is appropriate and in closer alignment with the City's adopted policy guidance of capital improvement program." In general, fee-in-lieu may be used when:

- The City or a state or federal agency have a planned or programmed project in the same area that is scheduled to begin construction within the next five years.
- The applicant requests fee in lieu of required infrastructure, in which case, the applicant shall discuss reasons and rationale for the request and follow other standards in the subdivision ordinance.

The ordinance also outlines how the City calculates the fee and the review standards for the fee in lieu request.

The City of Hendersonville's subdivision fee in lieu process is well thought out. For example, the process to determine a cost for fee in lieu of infrastructure requires a professional estimate that, "shall include the cost of all materials and labor based on current unit prices." This process results in an exchange that is nearly a one-to-one match; essentially, the developer's fee will be close to the actual cost of sidewalk construction.

According to the ZO, fee in lieu standards allow an applicant to pay \$75 per linear foot of sidewalk not constructed (the fee can be changed annually). An applicant is eligible for fee in lieu through an administrative decision if it is determined that sidewalk construction will not result in useful pedestrian walkways due to 1) topographical features that will result in an impractical design, or 2) There is a lack of adjacent right of way for the construction of future sidewalk on adjacent properties. The City manager may approve constructing an equivalent linear footage of sidewalk off site, the location of which is at the discretion of the City manager.



The professional estimate, such as is required in the SO, may be too cumbersome for some zoning projects. Yet, given the fluctuation of construction costs, a set linear foot fee may not result in a one-to-one exchange.

- Working with the City attorney, Hendersonville staff may want to consider setting an annual linear foot fee that is based on more accurate and relevant construction costs. For example, the City engineer and public works staff could review recent as-built plans and costs to determine the annual fee.

New sidewalk connections are an opportunity for the City to improve access for people with disabilities and better access to transit. Item number D.4.b (*Appendix B, Article 2, Sec. 2.06, D*) allows for fee-in-lieu when, “There are suitable alternatives to a sidewalk, such as a greenway, in close proximity to the proposed site.” Just because an alternative is available does not mean the alternative is accessible; and the City should ensure that it is not missing an opportunity to become more accessible or increase access to transit.

- The City may want to consider adding a statement about ADA accessibility and transit access to the fee in lieu review standards in the SO and ZO. This can also be done a review for accessibility and transit access is included in project plan reviews.
- Walkability needs more than just sidewalks. The City could explore options such as curb extensions, green infrastructure, additional street trees, or other walkability elements when sidewalks are not feasible or do not make sense for a particular project.

## EXISTING SIDEWALK - WHO MAINTAINS?

During community engagement, many people expressed concern about the condition of City sidewalks. The City of Hendersonville’s Code of Ordinances addresses who is responsible for sidewalk maintenance. While the City has authority to make sidewalk improvements and repairs to sidewalks, property owners are responsible for caring for sidewalks. The ordinance states that property owners are to, “maintain in good repair and to keep clean and free of debris, trash, snow and other obstacles or impediments of the sidewalks abutting his property.” (*Part I, Article XII, Sec. 12.2*).



**Image 62.** Public Feedback Photo (Sidewalk Obstruction) (Source: Carol Shaffer). (top two)

**Image 63.** Public Feedback Photo (Sidewalk Dirt) (Source: Carol Shaffer). (bottom)

*Photos submitted to the project team that highlight utility infrastructure obstructions on Hendersonville’s sidewalks.*



**Image 65.** Brighton Boulevard Before Improvements (Source: Google Maps) (top)

**Image 66.** Brighton Boulevard After Improvements (Source: Google Maps) (bottom)

These before and after images of Brighton Boulevard in Denver, CO illustrate the transportation and land use changes that can happen with a vision and land use code changes come together.



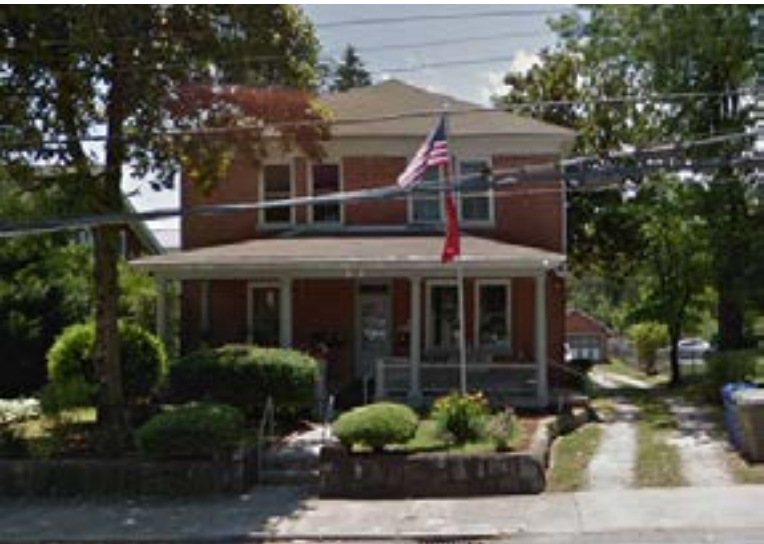
in dense residential and mixed-use areas that are connected by facilities. *Gen H* is an opportunity to overlay land use/urban form policies with transportation policies so to promote a more desirable corridor experience for people. Hendersonville's corridors and other areas, such as out of date industrial areas, are prime locations for the City to assess standards related to residential density, mixed use development standards and incentives, building height, urban form, and the ease of development approvals (meaning what is allowed by right and what takes special approval). In addition to thinking about land use along the corridors, the City can evaluate a variety of strategies and incentives to encourage denser development in neighborhoods that are near to the corridors or existing commercial areas. Density can be scaled appropriately for different types of neighborhoods, including allowing single family homes on smaller lot sizes, making it easy for developers to construct duplexes and triplexes or other attached homes in single family residential zones and other areas. The City can also explore options to ease construction of

lower density (or smaller scale) multifamily buildings with rental apartments or condos.

Walkability is not only about property re/development, nor is it just about sidewalks, greenways, and other infrastructure. People who walk need community design features that support walking. A city's zoning and other land use regulations / planning documents are some of the most effective tools a community can use to promote community walkability and many communities intentionally use zoning regulations to foster walkable communities. While weighing future land use and policy options during the *Gen H* process, Hendersonville can consider how to code pedestrian environment elements into their regulatory codes. Some of the questions to explore include:

- Are Hendersonville's existing districts, such as the community mixed use district or urban village district, maximizing walkable standards? For example, should more public space or wider sidewalks be required?
- Is there a need for new pedestrian/ multimodal oriented districts such as pedestrian oriented districts (or overlays),





**Image 67.** *Existing Density (Source: Google Street View). Built in 1935, this 5-plex\* on 4th Avenue West near Downtown Hendersonville is a good example of appropriately scaled density in a neighborhood setting. (\*The property records classify this building as multi-family. There are 5 mailboxes in the image.)*



**Image 68.** *Wide Main Street Sidewalk (Source: WLOS). Main Street's sidewalks are wide enough to be comfortable for groups walking together, while accommodating landscaping, seating, public art, and more. For popular business corridors, wider sidewalks offer more than just a connection; they create a sense of place.*

transit-oriented districts (TOD), or traditional neighborhood districts (TND)?

- Are design guidelines or form-based code concepts needed illustrate how building location and orientation, parking, building access, public space, and other elements can promote walkability?
- Sound the City require elements such open space that is accessible to the public, pedestrian scale lighting, enhanced bus shelters, bulb outs, green infrastructure, street furniture, public art, plantings, and the like during re/development projects?

Relatedly, most cities and the development community search for a balance between meeting existing city goals and asking the developer to do too much. *Gen H* may be able to help the City explore what it can ask of the development community, or how can the City partner with the development community to get more community design elements out of each development. Some of the key areas to investigate follow.

- As noted earlier, a five-foot sidewalk is the maximum sidewalk width required in most circumstances. The City of Hendersonville could consider if an area's ideal sidewalk width should be calculated based on the amount of activity, the planned land uses, and the overall context. For example, downtown is a pedestrian centric area. It could be argued that five-foot sidewalks downtown and nearby areas (such as around the Ecusta Trail) are too narrow to support the activity. Hendersonville can either define sidewalk widths in the zoning ordinance, or address widths through a street design manual, or thorough street typology.
- The zoning ordinance and its sidewalk requirements are aimed at new construction projects; the ordinance does not require sidewalk construction or sidewalk rehabilitation during building reuse or renovation projects. *Gen H* may identify key areas or sites for revitalization, reuse, or rehab. The City could choose to add sidewalk requirements for projects other than new construction and if so, identify what those requirements should be.



**Image 69.** Greenway kids on bikes (Source: Kenny Armstrong).

*Programming efforts should be prioritized for youth and senior populations to reach those at the margins of access and ability.*

## EDUCATION & ENCOURAGEMENT PROGRAMS

Education and encouragement initiatives play a vital role in empowering individuals to choose walking as a viable alternative to driving and reinforcing the idea that walking is a favorable option. By implementing supportive messaging and programs, we can enhance people’s confidence and foster a culture in Hendersonville that celebrates and embraces walking. When pedestrians feel both secure and validated, they are more likely to continue incorporating walking into their daily routines.

To ensure the effectiveness of education and encouragement programs, it is crucial to convey positive and inspiring messages. Studies have

indicated that messages like “share the road” have become less impactful in changing behavior, as some campaigns unintentionally create a divide between different roadway user groups.<sup>39</sup> Instead, education and encouragement messages should be creative, relevant, memorable, and tailored to Hendersonville’s unique characteristics as a resilient mountain community with an identity related to getting outside and being active. The following programs and initiatives are worth considering for Hendersonville:

### WALKING EVENTS

One way to demonstrate support for walking in Hendersonville is to organize walking challenges, group walks, and community events that highlight the benefits of walking and encourage participation. Open Streets events, which have

gained popularity nationwide, provide an excellent opportunity for residents to explore their City on foot in a safe environment alongside others. During these events, a portion of a street is closed off to vehicular traffic, allowing it to be fully dedicated to walking, bicycling, and other non-motorized activities. Organizers often curate the corridor with engaging performers, interactive booths, and more to enhance the experience.

In response to the challenges posed by the COVID-19 pandemic, the City of Hendersonville introduced “Open Streets” events during the summer of 2020. Sections of Main Street were temporarily closed to vehicular traffic, creating more space for pedestrians to move around while adhering to public health distancing guidelines. Looking beyond the pandemic, hosting an Open Streets event in Hendersonville can offer the community an opportunity to experience downtown as a pedestrian-friendly environment where participants can freely walk, bicycle, roller skate, and enjoy the downtown area without concerns about accommodating cars. Such an event encourages active modes of transportation and fosters a sense of community by providing a space for people to come together and appreciate their downtown surroundings.

Open Streets events offer opportunities for innovative partnerships and public/private funding. Health care providers with a focus on promoting physical activity can act as sponsors, while businesses may support the event to attract customers to their establishments. When held on Sundays, partnerships with local churches in Hendersonville could also be explored to further enhance community engagement.

A great program to support walking in partnership with local health agencies could be a step challenge with friendly competition between groups, such as teachers versus students at the high school or police versus firefighters. Small lights and reflective gear – vests, ankle bracelets, stickers – can be particularly useful giveaways for people who walk home after dark and for walking to or from school in the dark. In addition to existing regular community events, there are other ways to encourage the use of Hendersonville’s downtown walkability and growing greenway network for recreation and health, like partnering with healthcare facilities and nonprofits in the region to hold public health programs and promotions, such as Walk-to-Work Days.

## SCHOOL PROGRAMS

By collaborating with local schools and building off of existing efforts and relationships, Hendersonville can work towards developing pedestrian safety programs, integrating pedestrian education into the curriculum, and promoting walking to school. Given the proximity of several public schools to one another and the availability of adequate sidewalk connectivity, these programs are worth continuing.

While National **Walk-to-School Day** occurs in October, some communities have taken a more sustained approach by enlisting parent volunteers to regularly walk with large groups of students from designated meet-up points. This helps maintain the momentum and build ongoing support rather than having a one-time annual event. Some schools even establish a once-a-week commitment known as “Walking Wednesday,” which can gain traction and encourage more walking and biking to school. The objective of these programs is to promote physical activity, reduce childhood inactivity, and foster connections between children and the neighborhoods surrounding their schools. More information can be found [here](#).

In addition, Hendersonville can participate in the **Safe Routes to School** program, which operates at the state, national, and international levels. This program supports the planning, development, and implementation of projects and activities aimed at improving roadway safety, reducing traffic, fuel consumption, and air pollution near schools. Non-infrastructure funding grants are available to support projects that encourage walking (and biking) to school and can provide dedicated staff members to coordinate and lead regular events. More information (including programs and other resources) on the NCDOT initiative can be found [here](#).

**Let’s Go NC!** is another NCDOT education program that teaches elementary age children how to walk and bike safely, giving them the essential skills that they need to enjoy a healthy and active lifestyle. Let’s Go NC! is an all-in-one package of grade-specific lesson plans, materials, activities, and instructional videos that encourages children to learn about and practice fundamental skills that build safe habits. Teachers and event organizers can access these materials for free [here](#).



# I brake for people.



**Image 70.** *I brake for people* (Source: NCDOT). (top)

**Image 71.** *Watch for Me NC (Tips for Being a Safe Pedestrian & Safe Driver)* (Source: NCDOT). (bottom)

*Watch For Me NC bumper stickers serve as a visible symbol of dedication and support. Additionally, a wide range of campaign materials are available in Spanish (and Mandarin, French, German, and Italian), enabling communities to effectively engage and communicate with a broader audience.*

## PUBLIC AWARENESS CAMPAIGNS

Hendersonville could consider launching targeted advertising campaigns that promote the advantages of walking, showcase pedestrian-friendly routes, and emphasize the positive impact of walking on health, environment, and community.

**Watch for Me NC** is a media campaign spearheaded by the University of North Carolina Highway Safety Research Center in partnership with local communities to reduce the number of bicyclists and pedestrians involved in crashes with vehicles. The campaign consists of educational messages on traffic laws and safety, as well as high visibility strategies for local law enforcement. Local programs are typically led by municipal, county, or regional government staff with the involvement of many others. During a future call for applications, Hayesville could apply for a grant to supply educational materials at Town Hall, the library, downtown shops, schools, parks, and local events. More information can be found [here](#).



**Image 72.** Main Street (Source: Google Street View).

*Main Street is a welcoming place for people to visit because it is a safe place to walk. City leaders redesigned the roadway for slow vehicle speeds, easy crossings, and lots of room for pedestrians. The shade trees and benches are secondary amenities to the overall safety improvements.*

## PLACEMAKING

Creating vibrant public spaces is essential for a community, as they attract people and contribute to their overall well-being. A great public space should be inviting, comfortable, and safe, offering various activities and amenities that encourage people to spend time there. The City's Main Street Program, Friends of Downtown Hendersonville, the Hendersonville Historic Preservation Commission, and numerous nonprofits and local businesses have been longstanding advocates for enhancing public spaces in downtown Hendersonville, particularly focusing on improving pedestrian areas. Hendersonville leaders over the years have shown a strong understanding of placemaking principles.

In Hendersonville, the roadways represent one of the largest shared public spaces, providing an opportunity to reimagine their use and maximize their benefits for all residents. By incorporating greenways, sidewalks, and other transportation infrastructure, access to public places can be ensured, while also transforming these spaces into destinations themselves.<sup>40</sup> Communities, both big and small, are increasingly reallocating public rights-of-way to accommodate a wider range of users and create functional, healthy, vibrant, and welcoming spaces. Incorporating placemaking amenities that prioritize safety, foster a sense of welcome, and feature engaging designs is crucial. A notable example in Hendersonville is Main Street itself.

These efforts have not only shaped the identity of downtown but have also significantly contributed to the safety of people walking downtown, with positive benefits to the economic vitality of local merchants. By continually investing in and improving public spaces along streets, Hendersonville can continue to support a vibrant and inclusive community where residents and visitors alike can enjoy their surroundings, engage in various activities, and foster a strong sense of place.



# HENDERSONVILLE GETS PLACEMAKING!

These placemaking elements have a significant impact on how people feel when they walk around the City, encouraging them to linger, explore, and engage with the community. Placemaking efforts like these contribute to a sense of pride, promote social interaction, and support the economic vitality of Hendersonville by attracting people to its unique and inviting public spaces.



*Bearfootin Bear*  
(Source: City of Hendersonville)



*Tulip Extravaganza*  
(Source: City of Hendersonville)



*Bee Mural*  
(Source: Matt Willey)



*Benches*  
(Source: Jeff Wright)



*Pedestrian Wayfinding Sign*  
(Source: Google Streetview)



*Public Seating*  
(Source: Coldwell Banker)



*Plant Tags at Oklawaha*  
(Source: Friends of the Oklawaha Greenway)



*7th Avenue Banners*  
(Source: Arnett Muldrow & Associates)



*Brick Planter*  
(Source: Hendersonville.com)



## EVALUATION

Assessing pedestrian improvements and infrastructure investments is crucial to ensure their effectiveness and address the needs of pedestrians in Hendersonville. Evaluation helps determine whether the implemented measures are achieving their intended goals, identify areas for improvement, and inform future decision-making. Here are some key considerations for evaluating pedestrian improvements and infrastructure investments:

Evaluation findings can inform long-term planning and prioritization of future pedestrian improvements, making it easier for the City and partners to identify areas where further investment is needed. This could include potential opportunities for expansion or enhancement of existing infrastructure, and strategies to address emerging pedestrian needs and trends. This iterative process of evaluation and improvement contributes to creating a pedestrian-friendly and inclusive environment for residents and visitors alike.



### SAFETY

Evaluate the impact of infrastructure improvements on pedestrian safety. This includes analyzing crash data, assessing changes in pedestrian-vehicle conflicts, and examining the effectiveness of safety measures such as crosswalks, traffic signals, and pedestrian signage.



### USAGE & DEMAND

This can involve pedestrian counts, surveys, and feedback from the community to understand how well the infrastructure meets the needs of pedestrians and whether it encourages walking as a mode of transportation.



### COMMUNITY FEEDBACK

Seek input from residents, businesses, and stakeholders to gather their perspectives on the effectiveness of pedestrian improvements. Conduct surveys, hold public meetings, and engage in dialogue to understand the community's experiences, concerns, and suggestions for improvement.



### ECONOMIC IMPACT

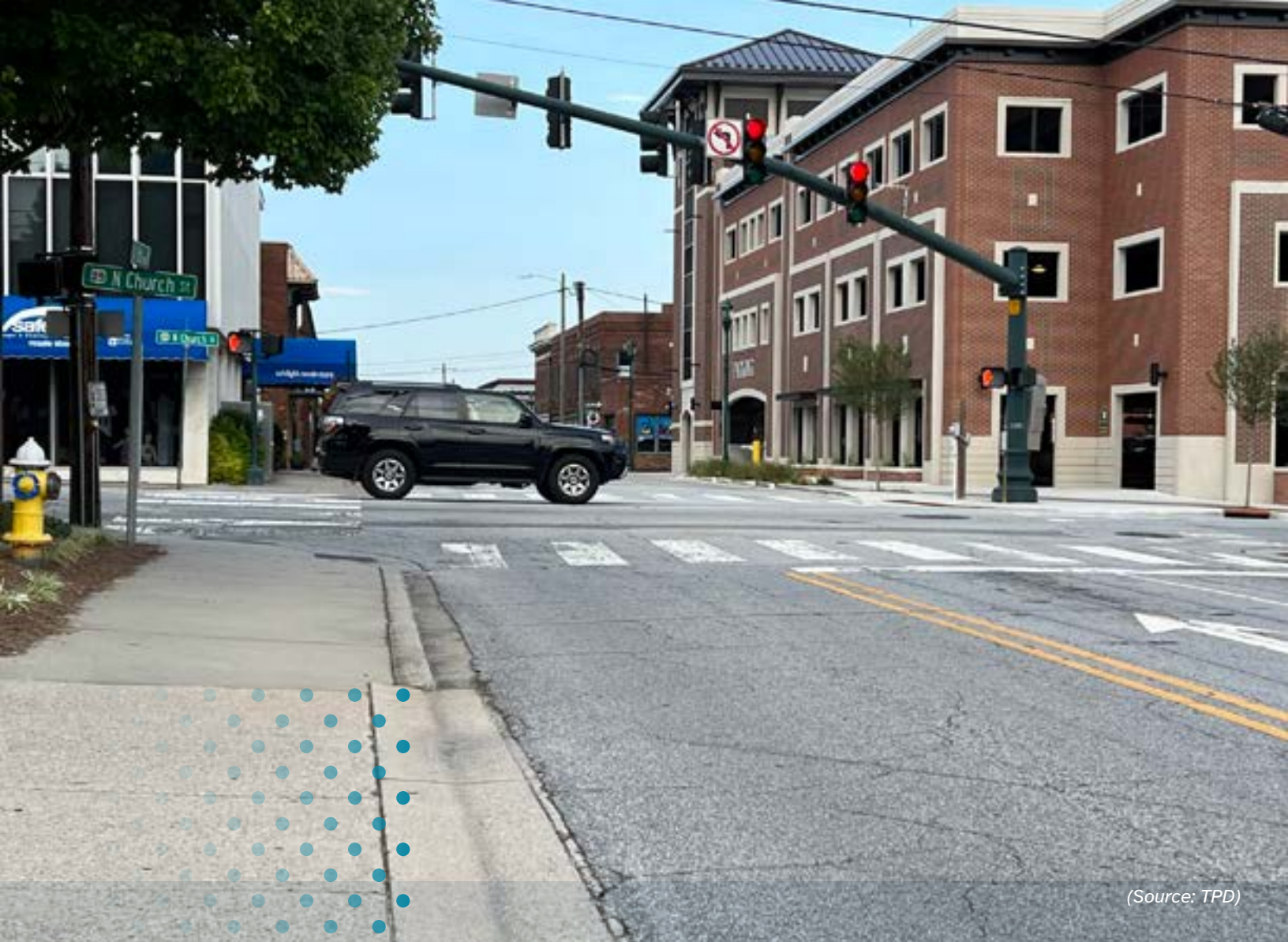
Evaluate the economic impact of pedestrian infrastructure investments. This can include assessing changes in property values, business activity, and tourism-related spending resulting from improved pedestrian access and walkability.

## ENDNOTES

- <sup>34</sup> Rebuilding American Infrastructure with Sustainability and Equity (RAISE); Federal Lands Access Program (FLAP); Nationally Significant Federal Lands and Tribal Projects (NSFLTP)
- <sup>35</sup> <https://hendersonville.maps.arcgis.com/apps/webappviewer/index.html?id=bb6c8e345e764443a1169990bf3671ad>
- <sup>36</sup> Federal Highway Administration (FHWA). (2016). Incorporating On-Road Bicycle Networks into Resurfacing Projects. FHWA.
- <sup>37</sup> <https://www.ecfr.gov/current/title-28/chapter-I/part-35/subpart-D/section-35.150>
- <sup>38</sup> Julie Bjornstad and John Close, Utah Street Connectivity Guide, Wasatch Front Regional Council, Mar. 2017, <https://perma.cc/9KRT-Q87X>.
- <sup>39</sup> Hess G, Peterson MN (2015) "Bicycles May Use Full Lane" Signage Communicates U.S. Roadway Rules and Increases Perception of Safety. PLOS ONE 10(8): e0136973.
- <sup>40</sup> Kaplan, R., Kaplan, S., & Brown, T. (1989). Environmental preference: A comparison of four domains of predictors. *Environment and Behavior*, 21(5).

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(Source: TPD)

# 05

## Implementing the Plan



# 05

## IMPLEMENTING THE PLAN

*“Connect trails and parks to make long stretches of greenways.”*

- Walk Hendo Survey Respondent

### IMPLEMENTING THE PLAN

To ensure successful *Walk Hendo* execution, a well-defined implementation plan is essential. This plan outlines a timeline for implementation, designates a lead agency, identifies key partners, and establishes performance measures to assess progress and achievements. By adopting this approach, the City can maintain a strategic yet adaptable mindset, capitalizing on emerging opportunities as they arise.

#### HOW TO USE THIS PLAN

The successful implementation of this Plan will require collaboration and partnership with various stakeholders beyond the City. The involvement of volunteers, regional and state agencies, local partners, the private sector, and non-profit organizations will be instrumental in achieving the desired outcomes. These partners played a vital role in the development of this plan document and include the following groups and organizations.



**Image 73.** *Walk Hendo Steering Committee Meeting*  
(Source: TPD).

*Local and regional stakeholders, including those who formed the Project Steering Committee, will play a crucial role in driving the implementation of Walk Hendo.*

## HENDERSONVILLE CITY COUNCIL

The adoption and oversight of the Plan document, as well as the responsibility for making policy decisions and amending the zoning code, lie with the City Council. As the governing body, the City Council has the authority to guide the implementation of the Plan, including making budget decisions related to its initiatives. Additionally, they play a role in collaborating with entities such as NCDOT and the French Broad River MPO to ensure effective coordination and alignment of efforts. Through their leadership and decision-making, the City Council contributes to the successful realization of *Walk Hendo's* goals and objectives.

## COMMUNITY & BUSINESS MEMBERS

Hendersonville benefits greatly from a committed group of community and business volunteers who generously contribute their time and efforts to enhance the City. Their contributions have played a significant role in driving the progress and achievements of the City over the past decade. Furthermore, community members actively contribute to promoting walking by engaging in conversations with their neighbors, friends, colleagues, and other individuals in their networks. Through these interactions, they generate public support and enthusiasm for pedestrian initiatives. They also advocate for improved projects and initiatives by engaging with elected officials and other relevant stakeholders, effectively conveying the community's needs and aspirations.

## CITY STAFF

City staff plays a crucial role in facilitating the coordination and collaboration necessary for the successful implementation of walking and biking projects and initiatives in Hendersonville. They work closely with key stakeholders such as the French Broad River MPO, the County, and NCDOT to secure funding and ensure smooth project implementation, coordinating with the City Council to develop and refine project plans, seeking their guidance and support throughout the process. They actively explore opportunities to enhance the walking network by reviewing and updating development regulations and develop and implement programmatic activities within the community to foster a culture of active transportation.

## WHAT IS AN MPO?



*The French Broad River Metropolitan Planning Organization (FBRMPO) is a collaborative effort between local and state government entities responsible for making decisions regarding transportation planning in urbanized areas. It operates in accordance with planning requirements set by federal legislation that governs transportation funding. The FBRMPO is tasked with preparing comprehensive long-range transportation plans for the planning area, encompassing a minimum 20-year time frame. Additionally, it undertakes various responsibilities such as developing an annual planning work program and assisting in the prioritization of projects for inclusion in the State Transportation Improvement Program, which allocates funding for a 10-year period.*

*Established in 1962, the FBRMPO was created in response to the region experiencing significant growth and reaching a population density threshold of 50,000, necessitating the creation of a Metropolitan Planning Organization (MPO) as mandated by federal regulations. Currently, the FBRMPO serves a population of over 414,000 residents across 21 municipalities.*





## FRENCH BROAD RIVER MPO

The French Broad River Metropolitan Planning Organization (MPO) assumes a role in facilitating funding opportunities and coordinating collaboration between the City, Henderson County, and NCDOT. Their responsibilities encompass the coordination of funding for various projects through programs like the State Transportation Improvement Program (STIP) and other available avenues, while integrating *Walk Hendo* projects into the Comprehensive Transportation Plan.

## NON-PROFIT PARTNERS

Hendersonville has a strong track record of collaborating with non-profit organizations to extend its influence and make a meaningful difference in the community. These partnerships have proven instrumental in expanding the City's reach and enhancing its impact on various fronts. Notably, certain non-profit partners provide funding opportunities that enable Hendersonville to pursue initiatives and projects aligned with its goals. By leveraging these funding opportunities, the City can further its efforts to improve the community and address specific needs and priorities. For instance, Conserving Carolina and Friends of the Ecusta Trail have worked tirelessly to bring the Ecusta Trail project to life, leveraging support from a diverse group of sponsors and forging successful partnerships throughout the area.

## HENDERSON COUNTY

Collaboration between the City and County on pedestrian projects is of utmost importance, especially considering the potential for growth and connectivity opportunities in areas located just beyond the City limits. While the City's planning authority applies in the extraterritorial jurisdiction (ETJ), it remains important for both the City and County to work in tandem to establish connections, establish maintenance agreements, and coordinate policy decisions. Recognizing that these areas adjacent to the City hold significant potential for development and connectivity, joint efforts between the City and County will facilitate seamless integration and enhance overall project outcomes. The Henderson County Transportation Advisory Committee (TAC) is a great avenue for intergovernmental collaboration, working to ensure that various parties coordinate on local transportation decisions. By fostering a cooperative relationship,

both entities can jointly strategize, make informed policy decisions, and ensure efficient coordination to maximize the benefits for the community.

## NCDOT DIVISION 14

There are ample opportunities to foster close coordination with Division 14 of NCDOT. These opportunities encompass a range of initiatives, such as projects outlined in the State Transportation Improvement Program (STIP), as well as resurfacing, roadway, and bridge reconstruction projects. Additionally, Division 14 offers other funding opportunities that can be explored to support and enhance transportation endeavors in the region. By actively engaging with Division 14 of NCDOT, the City can tap into their expertise, resources, and funding mechanisms to implement transportation initiatives. This collaboration will enable the City to leverage the available opportunities and strategically align its goals with NCDOT's priorities.

## NCDOT INTEGRATED MOBILITY DIVISION

Based out of Raleigh, this division of NCDOT develops guidance on bicycle and pedestrian policy and complete streets, which is critical to project development. They also provide funding of future updates and feasibility studies, which can include more detailed analysis of greenway or sidewalk alignments and help move a specific project closer to implementation.

## DEVELOPERS

Working with developers, the City has a partner to build infrastructure such as sidewalks. By engaging with developers, the City can explore additional avenues for incorporating infrastructure improvements, such as sidewalks, into new development projects. This proactive approach aligns with the goal of creating a pedestrian-friendly environment and ensures that new developments contribute to the overall walkability and accessibility of the City.

## LIFECYCLE OF A MULTIMODAL PROJECT

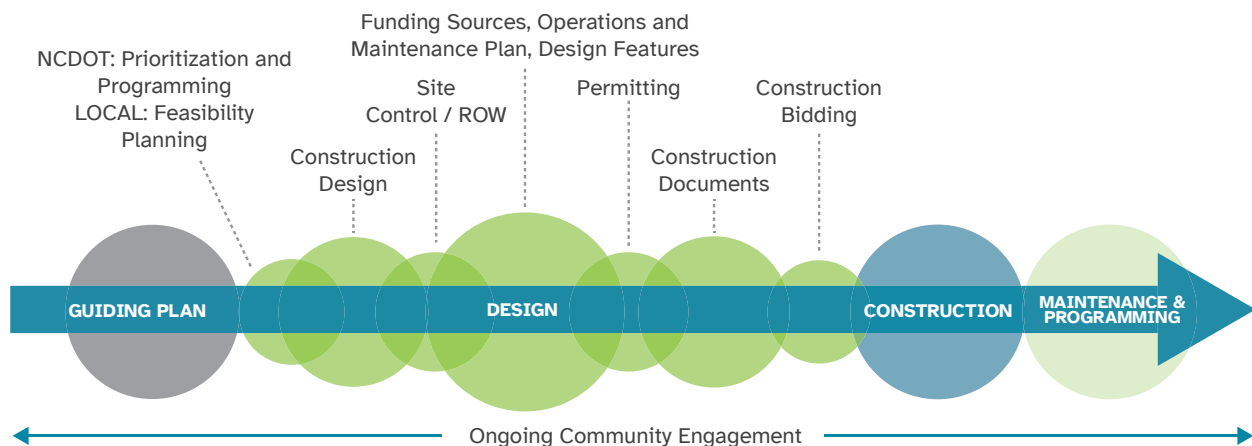
*Walk Hendo* serves as the “Guiding Plan,” representing the initial phase in the lifecycle of a transportation project and playing a role in securing funding and support for future phases. Extensive planning, studies, and efforts are undertaken before NCDOT initiates the construction of a roadway. This comprehensive and phased process begins with the development of long-term plans that identify the transportation needs and priorities of the area.

During the planning stage of project development, the identified needs are assessed using a data-driven scoring process, which helps prioritize funding allocation and, ultimately, the construction of transportation projects. Each

proposed project undergoes review, ranking, and scoring based on specific criteria such as safety, congestion relief, and cost-benefit analysis.

NCDOT, in collaboration with the French Broad River MPO, utilizes these scores, rankings, and additional factors to determine the projects that will receive funding within the 10-year State Transportation Improvement Program (STIP). Subsequently, the projects are “programmed” for development, design, and construction according to the available funding. The STIP is regularly updated every two years to ensure it accurately reflects the current financial situation of the state and addresses local needs.

Figure 16. Life Cycle of a Transportation Project



*Walk Hendo is the guiding plan for future transportation projects - a key to unlocking funding and support for other lifecycle phases. Investing in these preliminary planning efforts builds a stronger base and engages key partners to share in the challenges and opportunities of this work.*

## THE ACTION PLAN

The Action Plan found in the subsequent pages outlines the necessary administrative, infrastructure, policy, and programmatic steps to advance the implementation of *Walk Hendo*. It is important to note that the action items are not prioritized in a specific order and that the priorities may be subject to change based on project partnerships and funding opportunities. As a result, this action plan is designed to be a flexible and guiding resource, accommodating potential adjustments as needed.

**Table 8.** Implementation Action Plan

TASK #	DESCRIPTION	LEAD	PARTNER	TIMEFRAME	HOW WILL SUCCESS BE MEASURED
<b>Administrative Action Items</b>					
1	Formally adopt <i>Walk Hendo</i> as the official Pedestrian Plan for the City. This designation signifies the City's commitment to supporting the plan's implementation in the long term and establishes it as the primary pedestrian planning document. It is important to share the plan with regional and state partners to ensure its inclusion in the Comprehensive Transportation Plan (CTP) and other relevant planning documents.	City Council	City Staff, Steering Committee, NCDOT, MPO, Henderson County	2023	Adopted Plan.
2	Integrate the recommendations from <i>Walk Hendo</i> into regional planning initiatives, including the City's Comprehensive Plan update, the CTP, and regional trail projects such as the Saluda Grade Rail Trail.	City Staff, Henderson County TAC, NCDOT, MPO	City Council	2024	Amendments to Plan documents as needed.
3	Partner with French Broad River MPO and NCDOT on Corridor Studies for key NCDOT roadways as described in Chapter 3.	City Staff	MPO, NCDOT	2024 - 29	Corridor Study conducted.
4	Update <i>Walk Hendo</i> in 10 years. If any projects or programs have been completed, a new set of priorities should be proposed.	Steering Committee, City Staff	City Council, NCDOT, MPO	2034	Initiated planning process.



**Table 8.** Implementation Action Plan (continued)

TASK #	DESCRIPTION	LEAD	PARTNER	TIMEFRAME	HOW WILL SUCCESS BE MEASURED
<b>Infrastructure Action Items</b>					
5	Begin setting the groundwork for the Priority Projects. Develop feasibility study for three projects.	Steering Committee, City staff	City Council, MPO, NCDOT	2024 - 28	Feasibility study for three of the Priority Projects.
6	Gather data on the number of pedestrians (and cyclists) utilizing the Oklawaha Greenway. This can be achieved by engaging volunteers or collaborating with the MPO/NCDOT to acquire loaner equipment for counting purposes. Permanent counters that use both inductive loop and infrared sensors are ideal, generating hourly data over years to provide a clearer picture of usage. This data will not only inform planning efforts but also prove valuable when applying for grants.	Steering Committee, Volunteers, Henderson County	MPO, NCDOT	2024	Data collected annually.
7	Upon completion of the Ecusta Trail, work with partners to install permanent pedestrian (and bicycle) counters at key locations in Hendersonville	City staff, Conserving Carolina	Henderson County, MPO	2030	Data collected annually.
8	Work with NCDOT Division 14 to evaluate their 3- or 5-year resurfacing program and identify potential upcoming opportunities for pedestrian implementation. This assessment should align with the projects outlined in Chapter 3 of <i>Walk Hendo</i> that are included in the HMIP.	Steering Committee, NCDOT, MPO	City Council	2023	Annual coordination meeting agenda and minutes.
9	Expand the City's pedestrian-scale wayfinding system to indicate destinations, distance, and direction. Incorporate access points to the Ecusta Trail into this map system to make sure people know how to connect to the trail from downtown.	Steering Committee, City Staff	City Council, MPO	2027	Draft wayfinding system.
10	Ensure that <i>Walk Hendo</i> recommendations are implemented as a part of new development in the City.	City Staff	City Council	Ongoing	New multimodal connections included in development process.

**Table 8.** Implementation Action Plan (continued)

TASK #	DESCRIPTION	LEAD	PARTNER	TIMEFRAME	HOW WILL SUCCESS BE MEASURED
11	Work with Henderson County to improve bus stop locations in Hendersonville (with ADA concrete pad, rain shelter, and bench).	City Council	Henderson County, MPO	Ongoing	Bus stop improvements made.
<b>Policy &amp; Program Action Items</b>					
12	Follow guidance in Chapter 4 related to ordinances and City policy. Use the recommendations as a checklist to research, develop, and adopt policy changes.	City Council, City Staff		Annually	Ordinance updates as needed.
13	Continue to offer façade improvement grants for Main Street and 7 <sup>th</sup> Avenue Historic District businesses; use this program to build support for larger streetscape improvements such as power line relocation and streetscaping. Invite staff from the NC Main Street Center to speak to the City about options such as these.	City Staff	Historic Preservation Commission	Ongoing	Façade grants awarded.
14	Revive the Open Streets events to showcase Main Street, 7 <sup>th</sup> Avenue, and other locations for walking and rolling. Celebrate a car-free environment and support local businesses.	City Staff	MPO	At least annually	Open Streets events held.
15	Establish and adopt a Vision Zero Policy for the City of Hendersonville.	City Staff	City Council	2025 - 26	Policy adopted.
16	Continue to support local public art initiatives like Bearfootin' Art Walk, ArtScape banners, and murals (walls and sidewalks).		Art League of Henderson County, Friends of Downtown Hendersonville	Ongoing	Annual events.

## PRIME FUNDING SOURCES

The Appendix provides a thorough compilation of potential funding sources that can be utilized to support pedestrian projects in Hendersonville.

## DESIGN GUIDELINE RESOURCES

Planners, engineers, and project designers require standards and guidance to effectively implement pedestrian facilities that prioritize safety, consistency, and predictability. In the past, the resources available for designing such multimodal facilities were limited, and existing guidance only covered specific street or geographic contexts, lacking the necessary level of detail for certain conditions or applications. However, significant advancements have been made in design guidance over the past 15 years, providing practitioners with valuable resources to explore innovative ideas and draw inspiration from successful projects implemented in other communities and internationally. This progress has led to the development of more inclusive multimodal designs that cater to individuals of all ages and abilities, while also allowing for customization to local contexts, whether urban or rural.

Creating well-designed pedestrian facilities relies on various factors, including connectivity, comfort, continuity, and convenience. To achieve these goals, the following state and national design guideline resources have been compiled. Together, these resources provide the necessary guidance for planners and designers in Hendersonville to ensure that the transportation system effectively serves the needs of multimodal users, encouraging a shift in transportation modes.

It is important to note that pedestrian (and bicycle) design is an evolving field with continuous innovation. Therefore, it is recommended to seek updates for the following resources after the publication of this Plan. Given the complexity of design considerations, it should also be acknowledged that treatments must be tailored to individual situations and contexts. It is essential to exercise good engineering judgment and thoroughly document decisions throughout the design process.

“Infrastructure is so **ELEMENTAL TO OUR SOCIETY** that when it’s not there to serve us in the right way, all of us are impacted. But when it is — when it’s strong — every community — large and small, rural and urban, privileged and marginalized — every community feels the benefits.”

- Pete Buttigieg, Secretary of Transportation



**Table 9.** Design Guideline Resources

<b>PEDESTRIAN GUIDANCE</b>	
<b>North Carolina Department of Transportation</b>	
Complete Streets Policy A.09.0106	2019 (2022 update to methodology)
Evaluating Temporary Accommodations for Pedestrians	2018
Pedestrian Crossing Guidelines	2018
<b>American Association of State Highway and Transportation Officials (AASHTO)</b>	
Guide for the Planning, Design and Operation of Pedestrian Facilities	2004
<b>Federal Highway Administration (FHWA)</b>	
Guide for Improving Pedestrian Safety at Uncontrolled Crossing Intersections	2018
<b>Manual on Uniform Traffic Control Devices (MUTCD)</b>	
2009 MUTCD Guidance and Supplemental Information (including NC Supplement)	2009
<b>US Access Board</b>	
Proposed Public Rights-of-Way Accessibility Guidelines (PROWAG)	2011
Guide to the Standards	2010
<b>USDOT/Department of Justice</b>	
USDOT ADA Standards for Transportation Facilities	2006
DOT/DOJ Joint Technical Assistance Memos	Varies
ADA Standards	2010

<b>OTHER MULTIMODAL DESIGN GUIDANCE</b>	
<b>North Carolina Department of Transportation</b>	
Roadway Design Manual	2021
Complete Streets Policy A.09.0106	2019 (2022 update to methodology)
Greenway Accommodations Guidelines	2015
WalkBike NC: The Statewide Pedestrian and Bicycle Plan	2013
<b>Federal Highway Administration</b>	
Strategies for Accelerating Multimodal Project Delivery	2019
Small City and Rural Multimodal Networks Design Guide	2016
Achieving Multimodal Networks	2016
Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts	2016
Guidebook for Developing Pedestrian and Bicycle Performance Measures	2016
<b>National Association of City Transportation Officials (NACTO)</b>	
Transit Street Design Guide	2016
Urban Street Design Guide	2013

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(Source: TPD)

# 06

## Conclusion



# 06

## CONCLUSION

*“Everything possible to give residents alternatives to driving needs to be done. Walking and biking trails improve livability on so many levels. Creating safe, convenient, and connected trails should be a huge priority.”*

- Walk Hendo Survey Respondent

## CLOSING

Downtown Hendersonville, with its robust sidewalk network and convenient grid street pattern, has always been the heart of the City – a vibrant and bustling place with a strong sense of community. The excellent walking infrastructure, along with the rich history, culture, and beautiful landscape, have made it a great place to live and visit. With *Walk Hendo*, the City has developed a plan to extend the pedestrian experience found in downtown throughout the City, providing comfortable connections between neighborhoods, schools, jobs, and many other destinations.

The collective efforts of elected leaders, City and County staff, volunteer groups, nonprofits, and community members have played a significant role in shaping Hendersonville’s

success. As the City continues to grow and attract new development and tourism, there is a need to meet the demand for recreational opportunities, such as greenways, and provide more transportation choices, including sidewalks. By focusing on developing the pedestrian network, Hendersonville can position itself for a prosperous future.

Implementing the recommendations in the *Walk Hendo* Plan will require ongoing effort and collaboration. Starting with small steps and quick wins can generate support and momentum for larger projects in the future. For example, developing local trailheads can connect residents to regional greenways (like the Ecusta Trail) and attract visitors, while low-cost safety





**Image 74.** Main Street Serpentine  
(Source: Carolina Village).

improvements at pedestrian crossings can pave the way for larger streetscape projects and partnerships with organizations like NCDOT.

Every component of the *Walk Hendo* Plan contributes to a stronger and more resilient framework for the City. Even small advances in implementation can have a significant impact on residents' quality of life. With a clear path towards a more walkable Hendersonville, the City becomes a place where people of all ages and abilities can comfortably navigate on foot.

People will continue to seek out Hendersonville's authentic charm and many opportunities to connect with nature and gather as a community. With the *Walk Hendo* Plan, the City has the necessary tools to responsibly manage its transportation system, forge strategic partnerships, and envision the future of its pedestrian network. The strategies and projects outlined in the plan provide a roadmap for creating a more pedestrian-friendly community in and around Hendersonville. By embracing this vision, Hendersonville can enhance its livability, connectivity, and overall well-being for residents and visitors alike.



(Source: TPD)