City of Graham Pedestrian Plan

July 2024

PREPARED FOR

CITY OF
GRAHAM
NORTH CAROLINA

Integrated Mobility Division
N.C. DEPARTMENT OF TRANSPORTATION

Graham Pedestrian Plan Final Report

July 2024

PREPARED FOR

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Executive Summary

This executive summary provides a brief overview of the City of Graham Pedestrian Plan and key recommendations.

About This Plan

The City of Graham Pedestrian Plan ("the Plan") provides guidance for the City, North Carolina Department of Transportation (NCDOT), Alamance County, Burlington-Graham Metropolitan Planning Organization (BGMPO), and other stakeholders in developing improvements to the City of Graham pedestrian infrastructure, programs, and policies.

The Plan was developed through extensive public outreach, review of existing conditions, coordination with a dedicated Steering Committee, and consideration of the City's vision and goals. Graham seeks to become a more pedestrian friendly City that encourages the choice to walk, advance the community's mobility and quality of life, and improve pedestrian connectivity to key destinations for residents and visitors of all ages and abilities. During the planning process, Graham residents and stakeholders voiced their concerns and hopes for walking throughout the City and to other destinations in Alamance County.

The Plan is primarily focused on infrastructure improvements in support of walking, improving crossings at roadways, and building out and connecting to a regional greenway network. The benefits of walking and recommended policies and programs to support active transportation are reviewed as part of the Plan appendices.

Priority Recommendations (Top Eight Combined Projects)

The Plan identified a total of eight priority project bundles (made up of 30 individual projects – including 13 linear pedestrian projects and 17 intersection-related projects) to improve walking in Graham. These projects were selected through a process that began with identifying the City's vision and goals, mapping priority and secondary corridors, and creating projects to match the City's mobility and safety needs. Finally, all recommended projects were ranked according to criteria developed with the City and Steering Committee that prioritized connections to key destinations, extending the existing pedestrian network, safety, equitable pedestrian access, recreation, and cost effectiveness. The top 8 projects are as described in Table I-1 and illustrated in the map in Figure I-1.

Table I-1: Priority Projects

Bundle Name	*Pedestrian Projects*	*Intersection Projects*	*Description*	*Estimated Cost*
Eastern Downtown	Ped-65 Ped-69, Ped-70, Ped-71, Ped-72, Ped-101	Int-41, Int-42, Int-43, Int-65	Connect Harden Street north of Linwood Cemetery via sidewalk along E. Harden Street to existing E. Elm Street sidewalk. Create sidewalk connection from E. Pine Street to E. Elm Street with signalized intersection and high visibility markings at each intersection. Implement gateway signage at E. Harden Street and E. Elm Street to increase driver awareness in the downtown area.	$989,309
Western Downtown	Ped-78, Ped-79	Int-51	Implement sidewalk along W. Elm Street. Establish a signalized intersection and gateway signage at the intersection of W. Elm Street and W. Harden Street to increase driver awareness and provide crossing access to communities north of the project bundle's extent.	$643,051
City Hall	Ped-76, Ped-98	Int-48	Implement a sidewalk along the west side of S. Main Street from McAden Street to alleyway at Banks Drive, connect Banks Drive at Graham Public Library and Graham Police Department. Introduce signalized crossing at Banks Street and S. Maple Street connection.	$332,125
McAden Street Multi-use Path	MUP-24	Int-44, Int-45, Int-46, Int-47	Implement a multi-use path along E McAden Street beginning at S Maple Street and ending at Graham Middle School. Implement signalized crossings or evaluate for other pedestrian crossing treatments (All Way Stop, Pedestrian Hybrid Beacon or Rectangular Rapid Flashing Beacon) at all intersections along the corridor.	$1,236,637
S. Main Street	Ped-54, Ped-55	Int-19, Int-20, Int-21	Connect communities south of the existing I-85/40 bridge via sidewalk along S Main Street from S. Main St at I-85/40 to Ivey Road.	$1,264,903
Ivey Road	Ped-18, Ped-19	Int-19	Connect S. Main Street to E. Gilbreath Street via sidewalk along Ivey Road; connect communities south of the existing I-85/40 bridge.	$1,088,240
E. Gilbreath Street	Ped-11, Ped-97	Int-11, Int-12	Implement sidewalks and crossing improvements along E Gilbreath Street from Ivey Road to the I-85/40 bridge.	$720,783
Woody Drive	Ped-13, Ped-14	Int-09, Ped-13, Ped -14	Connect E. Gilbreath Street to Noah Road via sidewalk along Woody Drive. Implement crossing improvements at intersection of Woody Drive and NC 54.	$855,046
Total Cost*				**$7,130,094**

***Disclaimer: Estimated Cost Project Pricing is not exact and does not consider Right of Way acquisition (a major cost factor) and topography. Projects should be estimated at the time of consideration before decided to budget a project. These costs should not be relied upon when making decisions on which project to fund based on budgetary restrictions.**

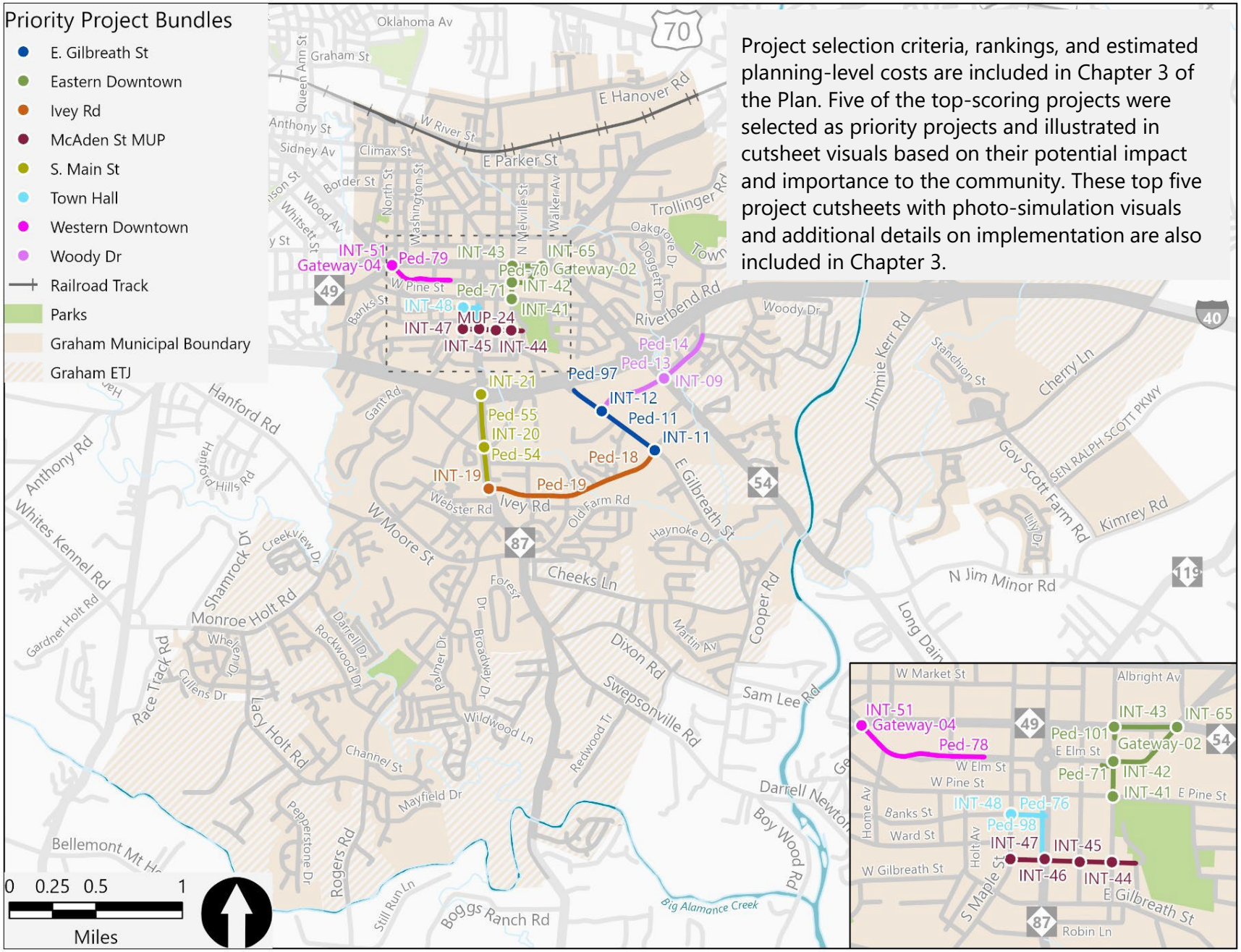


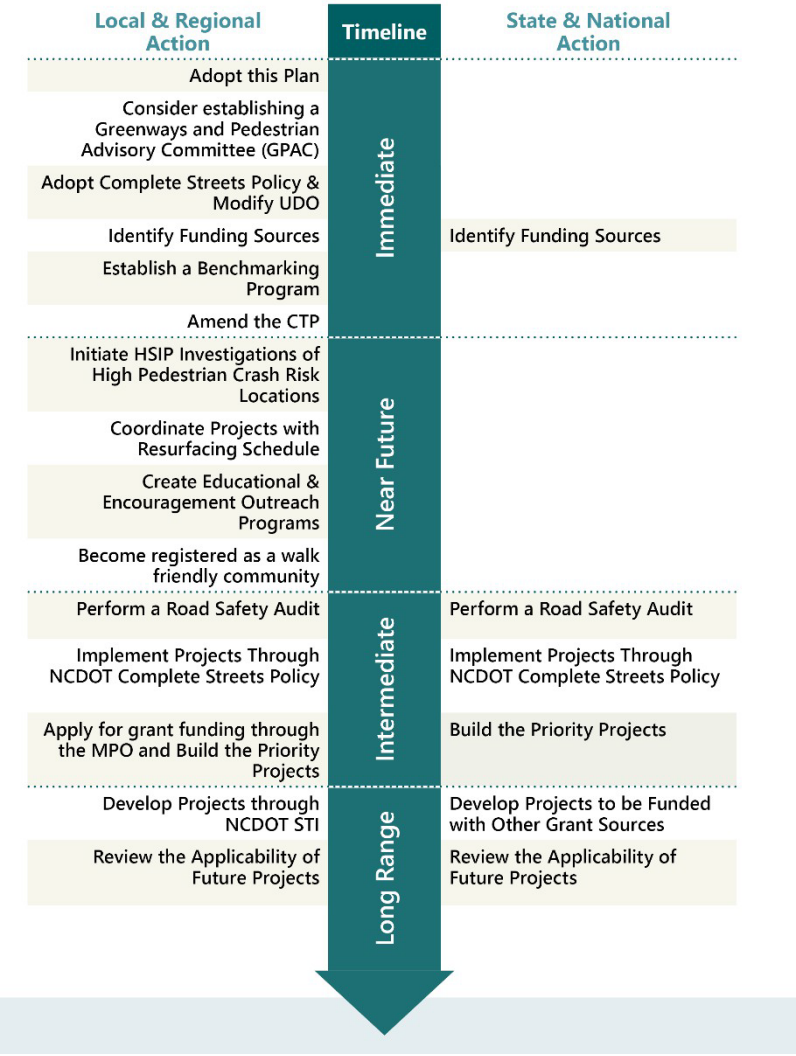
Figure I-1: Priority Projects

Implementation

Successful implementation of the Plan will require the cooperation of several agencies and organizations. These include the local and regional partners like the City of Graham, Alamance County, and the Burlington-Graham Metropolitan Planning Organization (BGMPO), as well as state and federal support from NCDOT Division 7, The NCDOT Division of Integrated Mobility (NCDOT IMD), and the Federal Highway Administration (FHWA).

Not all of the Plan's recommendations are expected to be implemented simultaneously. There are certain steps, such as adoption of the Plan, which should occur before projects are constructed or new educational programs are conducted. These recommended implementation steps, their champions, frequencies, and other supporting details are identified in Chapter 5.

Implementation Timeline



1. Introduction

This chapter reviews the background and the purpose for the City of Graham Pedestrian Plan update. The plan vision and goals are reviewed. The plan approach and process is described.

1.1 Project Background

In 2022, the City of Graham was awarded a planning study grant from the NCDOT Integrated Mobility Division in support of a Pedestrian Plan update. The Plan will update the previous City of Graham Pedestrian Transportation Plan (2006), which identified a number of pedestrian infrastructure improvements recommendations. The implementation of prior plan recommendations has been limited. The Plan update is expected to follow the template of NCDOT Multimodal Planning Grant Program (MMPG) that outlines requirements for bicycle and pedestrian plans as well as other multimodal plans. Established in 2004, the grant program encourages local communities to develop comprehensive bicycle and pedestrian plans. This plan is intended to provide a framework for identifying pedestrian needs for the City of Graham, both in terms of physical infrastructure and encouragement programs. The project recommendations outlined in this document will be eligible for inclusion in local Comprehensive Transportation Plans (CTP) and project prioritization.

1.2 Project Vision and Goals

The Study Steering Committee provided feedback to help develop a vision and goals for the City of Graham pedestrian plan. The Vision Statement for Graham Pedestrian Plan is as follows:

The Graham Pedestrian Plan will support the long-term vision of a more pedestrian friendly Graham where residents and visitors of all ages and abilities can walk safely. The Plan will create a more interconnected City linking key destinations such as grocery stores, multi-family housing, schools, parks, and downtown with residential neighborhoods and the regional network. The City of Graham pedestrian network will encourage the choice to walk, support alternatives to automobile travel, increase recreation opportunities, and advance the community's mobility, quality of life, and economic development.

As part of the project vision, a set of six goals were created for the Plan. These goals directly relate to the Plan's vision and seek to set up comparative measures of the success of the Plan. These goals include:

- **Safety:** Prioritize safe transportation for vulnerable roadway users
- **Connectivity** to destinations, the exiting network, and the regional network
- **Recreation:** Ability of residents to connect to parks, trails and other recreation opportunities
- **Mobility and Accessibility** for all to be able to walk
- **Equitable Access** both geographically and to those without reliable access to transportation
- **Quality of Life and Economic Development**

To make the goals quantifiable objectives for each goal were established. These objectives will help the City measure its progress towards accomplishing each goal and the overall vision of the plan. These objectives include:

- **Safety**: prioritize safe transportation for vulnerable roadway users
    a. Decrease the average number of pedestrian crashes resulting in injuries
    b. Address unsafe crossing locations
    c. Implement and support pedestrian and driver safety education programs
    d. Implement traffic calming and speed reduction on key corridors to improve safety
- **Connectivity** to destinations, the existing network, and the regional network
    a. Prioritize pedestrian improvements in downtown and near grocery stores, multi-family housing, schools, and parks
    b. Prioritize sidewalk implementation that expand or fill-in gaps in the existing pedestrian network
- **Recreation:** ability of residents to connect to parks, trails and other recreation opportunities
    a. Support pedestrian improvements that connect gyms, recreation centers, parks, and regional trails
- **Mobility and Accessibility** for all to be able to walk
    a. Increase the number of miles of sidewalks and greenways
    b. Prioritize installing and upgrading sidewalks and curb ramps to ADA standards near key community destinations
    c. Encourage commuting (to work/school) by walking
- **Equitable Access** both geographically and to those without reliable access to transportation
    a. Increase the number of miles of sidewalks in greenways south of the I-85/40 corridor
    b. Prioritize pedestrian facilities near transportation disadvantaged communities
- **Quality of Life and Economic Development**
    a. Support current and future residents of Graham in being able to walk around their neighborhood and to walk to key destinations for recreation, errands and physical activity
    b. Provide additional opportunities for social interaction through welcoming pedestrian environment
    c. Support community growth through a well-developed transportation infrastructure, including pedestrian infrastructure

1.3 Why this Plan is Important

1.3.1 Accessibility

Improving accessibility to local destinations by walking is important to be able to reduce the dependence of many residents on a motor vehicle and to provide transportation alternatives for residents who can not drive or would prefer not to drive for shorter trips. To do this, many higher-trafficked corridors will need dedicated pedestrian and/or cyclist facilities installed along the roadside or along parallel routes, and safety countermeasures will need to be installed for safe crossing locations. These will be especially important along NC 49 (West Elm Street, East Webb Avenue, and East Elm Street), NC 54 (West Harden Street and East Harden Street), NC 87 South Main Street, and sections of E. Gilbreath Street and South Maple Street where roadways cross I-85/40. A detailed map of existing bicycle and pedestrian facilities can be found in Figure 1.

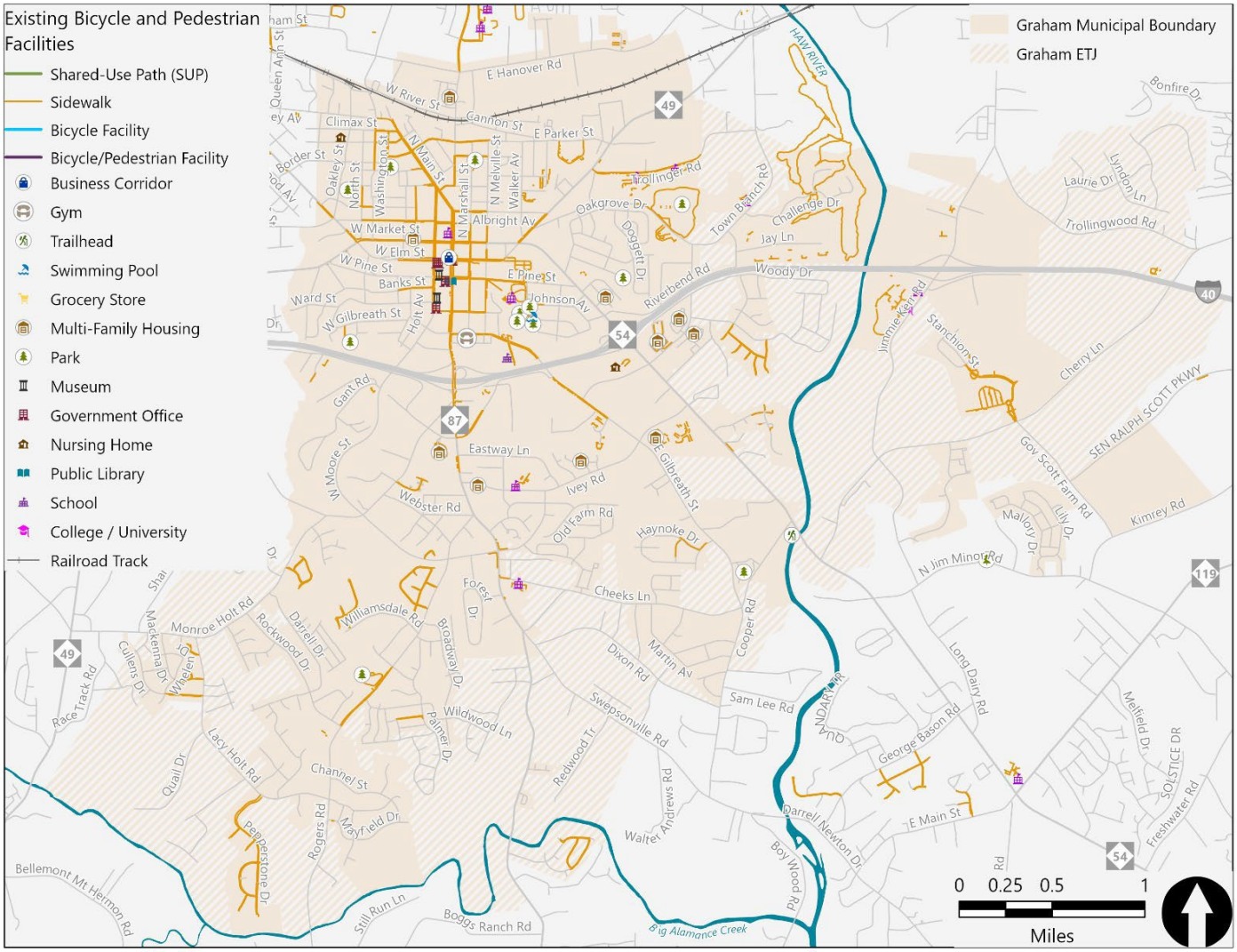


Figure 1 Existing Facilities

1.3.2 Safety

From a national perspective, pedestrian and bicycle fatalities have increased both in number of fatalities and proportion of all traffic fatalities in recent years. Pedestrian and bicyclist fatalities in the United States rose by 46 and 38 percent, respectively, from 2011 to 2020, while total traffic fatalities increased nearly 4 percent during the same time period.[1]According to the Pedestrian and Bicycle Information Center (PBIC), 7,388 pedestrians and 966 bicyclists were killed in collisions with motor vehicles in the United States in 2021[2]. These trends underscore the need for safety improvements to protect these vulnerable users through active safety-focused planning and programming.

Roadways that lack sidewalks force pedestrians to walk with vehicular traffic, leading to potentially unsafe conditions. Likewise, the absence of adequate crossing facilities along certain corridors within Graham may force pedestrians to cross at unsafe intersections or mid-block locations. Bicycle and pedestrian facilities will provide easier and safer access to elderly, non-driving, and low-income residents in Graham. Section 2.1.5 presents crashes within the City of Graham between 2012 and 2021.

Investments in pedestrian infrastructure can significantly improve pedestrian safety. The safety benefits of providing safer pedestrian routes are a key part of this[3]; sufficient infrastructure and routine maintenance help to reduce opportunity of pedestrian and bicyclist injury.

1.3.3 Public Health

Choosing to walk or cycle for short trips to and from schools, local parks, restaurants, retail stores, or even work is one of the best ways to lead a healthier lifestyle. The Centers for Disease Control and Prevention (CDC) recommends 150 minutes of moderate physical activity per week. Infrastructure and encouragement programs can directly support this physical activity goal.[4] Additionally, a 2010 study found that communities were more likely to achieve that activity goal and have lower incidences of diabetes and obesity if they tended to commute to work by bicycle or on foot.[5]

By connecting residences with desired destinations, residents feel empowered to walk and bike to complete daily activities for recreation. Social interactions between neighbors are another benefit of being more physically active. Steering Committee members discussed the importance of connecting destinations within Graham to county-wide recreational opportunities. This not only contributes to a stronger sense of place, but it also instills civic pride and reinforces the perception that Graham is a wonderfully unique place to live and work.

1.3.4 Economic Impacts

Walkability and bikeability can have a positive economic benefit to the local community through indirectly increasing property values, job creation, economic development, and tourism. The City emphasized the importance of revitalization and reinvestment in its community through its Bicycle and Pedestrian Planning Grant

[1] https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813310

[2] Pedestrian and Bicycle Information Center. Safety. http://www.pedbikeinfo.org/data/factsheet_crash.cfm

[3] http://www.pedbikeinfo.org/data/factsheet_crash.cfm

[4] https://www.cdc.gov/physical-activity-basics/health-benefits/adults.html

[5] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2937005/

application. A 2018 study by NCDOT found that every $1.00 of shared-use path construction supports $1.72 annually from local business revenue, sales tax revenue, and benefits related to health and transportation.[6] Additionally, WalkBikeNC suggested that a one-time public investment of $6.7 million in paths and paved shoulders along the Outer Banks has returned $60 million in annual revenue from tourism and supported 1,400 jobs.[7] The Ecusta rails-to-trails project in Henderson County, North Carolina was estimated to potentially generate $50 million in total benefit for the local community based on a $13.4 million project cost.[8] And a 2022 study that looked at the impact of six trails that are part of the Carolina Thread Trail Network in the greater Charlotte region found that each of the six trails supports over $3 million in annual business sales, while the reduced healthcare costs due to the physical activity increase associated with the trails was linked with an additional benefit of approximately $3.9 million[9].

Investing in active transportation may also have indirect economic benefits of lowering health care costs, improving safety, and reducing congestion or improving commute times. These benefits stem from lower incidents of chronic disease, reduced injuries from crashes, and fewer vehicle miles driven.[10] For instance, the American Heart Association estimated that every $1 spent on building bicycle and pedestrian trails could yield $3 in savings on medical costs.[11] Additionally, the installation and maintenance of bicycle and pedestrian facilities in low-income areas will both increase access to jobs and services for these residents and provide additional revenues for Graham's local merchants and economy. While these are not the most visible results of encouraging active transportation, they are essential in achieving the goal of making Graham a more livable community for residents.

1.3.5 Environmental Benefits

Choosing an active transportation option rather than using a traditional vehicle—called mode shift—will reduce vehicular traffic along roadways and shift capacity to sidewalks or bicycle lanes. This moves toward a more efficient use of space in the transportation system. In addition to reduced roadway demand, this shift towards alternative transportation also reduces parking demand. Provision of parking is particularly important for downtowns and environmentally-sensitive areas where impervious surfaces generate the need to manage stormwater runoff. Travel mode shifts also indirectly improve air quality and reduce greenhouse gas emissions. According to the EPA, transportation accounts for over a quarter of all greenhouse gas emissions in the United States.[12] By allowing for walking or biking for short trips or trip-chaining with public transportation instead of driving, walkable communities can help reduce the number of vehicular miles traveled, and, consequently, vehicular emissions.[13]

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[6] https://itre.ncsu.edu/focus/bike-ped/SUP-Economic-Impacts/

[7] https://issuu.com/walkbike/docs/walkbikenc_fullplan/141

[8] https://www.hendersonvillenc.gov/community-development/ecusta-rail-trail-planning-study-economic-impact-analysis

[9] Carolina Thread Trail (2022). Trail Benefits: Evaluting the Economic, Physical Health, and Environmental Impacts of Completing Six Key Segments of the Carolina Thread trail. https://www.carolinathreadtrail.org/wp-content/uploads/2022/12/CTT-Econ-Impact-Report_Dec2022_Final.pdf

[10] https://www.ncdot.gov/bikeped/walkbikenc/pictures/EconomyImpact-Analysis.pdf

[11] https://www.heart.org/-/media/files/about-us/policy-research/fact-sheets/physical-activity/active-transportation-fact-sheet-2019.pdf

[12] http://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014

[13] Gotchi, T. & Mills, K. (2008). Active transportation for America. Rails-to-Trails Conservancy.

1.4 Plan Components

This Plan assists the City of Graham with moving from planning into implementation phase. The Plan is composed of the following sections:

- Section 1 establishes a clear purpose for the plan and reviews the plan process
- Section 2 reviews current conditions
- Section 3 identifies facility recommendations
- Section 4 documents policy and program recommendations, and
- Section 5 outlines a plan for implementation

Appendices include a summary of facility types and guidelines, potential funding sources, proposed infrastructure projects, and public comments received by the project team.

1.5 Plan Process

1.5.1 Data Collection, Analysis, and Documentation

Using data collected from previous related projects, available GIS data, and historic and recent crash data, the project team documented existing conditions and prepared a series of maps. This assessment also included field investigations to confirm physical conditions, photo-document the project area, and observe pedestrian, bicyclist, and automobile behavior. The project team presented the existing conditions mapping, as well as preliminary findings and observations, to the Steering Committee and during the public event in July 2023.

1.5.2 Plan Development and Public and Stakeholder Involvement

The planning process began with a virtual kickoff meeting with the City staff and NCDOT IMD staff on February 21, 2023. Project team members reviewed the study process, schedule, key tasks, expectations, and immediate next steps.

The Steering Committee first meeting took place on July 19, 2023, at the Graham Civic Center. The Steering Committee members provided their thoughts and feedback regarding the vision and goals for the Pedestrian Plan. In addition, Steering Committee members participated in a mapping exercise where they were able to document desired pedestrian connections, opportunities to improve active transportation connections and problematic locations and safety concerns areas. Steering Committee feedback in addition to online survey results, public engagement results and field survey results were utilized to inform the draft recommendations.

Field Visit in July 2023

A field visit was conducted on July 19, 2023, to document the existing conditions at several key activity centers throughout the City of Graham, with participation from the study team members as well as NCDOT IMD and NCDOT TPD staff members.

Steering Committee Members Engaged in a Mapping Exercise during the First Steering Committee Meeting

During the second Steering Committee meeting on August 30, 2023, the results of field site visits were shared with the Committee and the goals and objectives for the Plan were further developed and refined. The results of the first public input survey were also shared with the Steering Committee. The survey indicated that residents of Graham prioritize safety, connections to key destinations, and accessibility the most for new pedestrian facilities and prioritization.

Improving networks for both new residents and residents who need access, community engagement, and improved bicyclist and pedestrian safety were identified as essential to the success of this initiative.

The third and final Steering Committee meeting was conducted on October 10, 2023. Steering Committee members reviewed the priority network, project recommendations, and policy and program recommendations.

In addition to the Steering Committee meetings, there were two public events held on July 27, 2023 and on October 29, 2023. At these events, the project team gathered observations of existing conditions and engaged the public to identify potential opportunities and obstacles within the City.

At the July 2023 meeting, the project team presented existing conditions, pedestrian and bicyclist safety, and potential facility types. Attendees were encouraged to provide feedback via an online survey.

At the October 27, 2023 pop up public engagement meeting held as part of the Pumpkin Bash event in downtown Graham, the project team presented results of the public outreach, a draft network plan, and non-infrastructure recommendation. The project team interacted with over 200 members of the public, including many families with children. Public feedback on the draft set of recommended projects was positive, with excitement around the proposed network of multi-use paths. Respondents noted the need for a more robust sidewalk network in the fast-developing southern portion of Graham below the interstate that would allow them to walk to a variety of destinations and see family and friends without taking their vehicle. Several community residents also noted the need for reduced vehicle speeds and more pedestrian crossings to make it easier and safer to cross roadways such as S. Main Street, Harden Street, Elm Street, Rogers Road and South Maple Street.

Pop Up Public Engagement during the Pumpkin Bash Event on October 27, 2023

The Appendix A provides summary documentation of the public comments and themes.

2. Current Conditions

A comprehensive Pedestrian Master Plan builds upon and enhances the existing network of sidewalks, paths, and roadway crossing infrastructure. An important first step is to accurately document the current conditions as a benchmark moving forward.

2.1 Local Context

The City of Graham is a community with approximately 17,273 residents and is in Alamance County directly southeast of the City of Burlington, with a distance of approximately 2.8 miles separating the two downtowns. Webb Avenue connects Graham and Burlington. The I-85/40 interstate is a key east-west corridor that bisects the City of Graham and connects to the City of Greensboro approximately 24 miles to the west and the City of Mebane approximately 9 miles to the east. South Main Street (NC 87) and Harden Street (NC 54) are two additional key arterial corridors serving the City of Graham.

As part of its location in the greater Piedmont Triad region, while also being located in proximity to the Triangle, the City of Graham presents an opportunity for residents who might choose to commute to the Piedmont Triad job centers (i.e. in Greensboro) or to the Triangle job centers (i.e. Durham and Chapel Hill). Alamance Community College is a local education resource, and PART Express Bus routes travel along the I-85/40 Corridor.

There are a wide variety of natural resources and parks that make Graham a great place for families, active adults, and seniors. The community has seven parks, including the Graham Regional Park and Bill Cooke Park, in addition to its several neighborhood parks. The city also borders the Haw River and includes part of the Long Meadow Trail within its borders. Also within the municipal limits are the Graham Swimming Pool and the Challenge Golf Club, both private facilities that are open to the public for a fee.

Influenced by the growth in the Piedmont Triad region as well as in the Triangle region, the City of Graham is facing increased development pressure. As reflected in Figure 2 below, there are several major residential developments in Graham that are expected to occur over the next few years. Current development pressure is concentrated south of the I-85/40 corridor, with most pending and under construction developments being planned for south of Hanford Road.

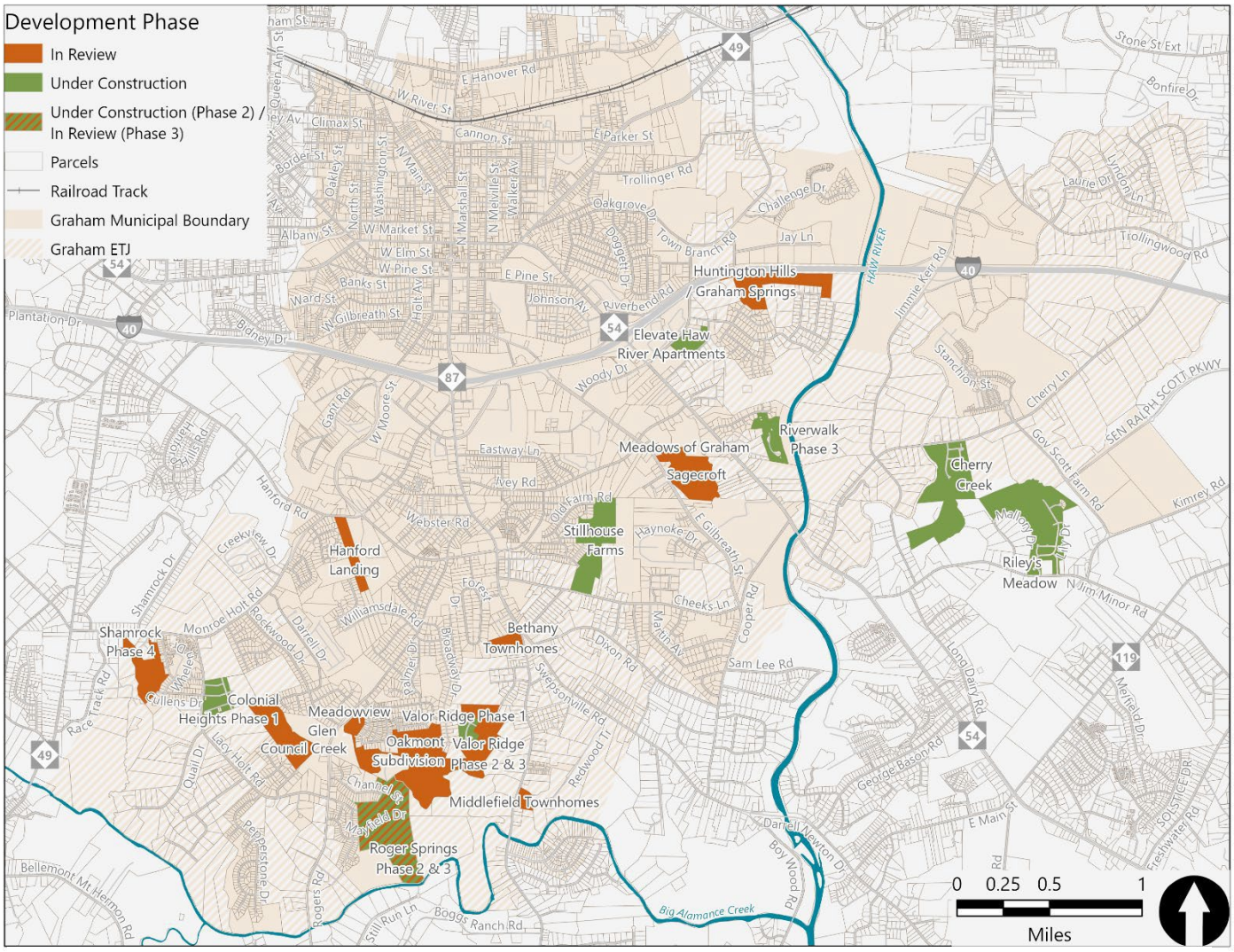


Figure 2 Graham Residential Development Map

2.1.1 Demographics and Mode Share

Since local travel and commuting data were not available, the US Census Bureau's American Community Survey (ACS) (Table 1) dataset was utilized to review the commute patterns. This dataset is a rolling five-year average. Indicating that the latest year in the five-year window would only account for 20 percent of the data.

Table 1 - Demographics Comparison

Location	Total Population	Median Household Income ($)	Median Age	Zero Vehicle Households	% Zero Vehicle Households	% Bike to Work	% Walk to Work
Graham	**17,157**	**$45,152**	**37.9**	**284**	**4.00%**	**0.90%**	**0.20%**
Burlington	57,303	$47,158	38.8	1,578	6.70%	0.50%	0.60%
Mebane	17,797	$69,947	35.8	169	2.50%	0.20%	0.10%
Alamance County	171,415	$55,078	39	3,117	4.70%	0.70%	0.60%
North Carolina	**10,439,388**	**$60,516**	**39**	**221,908**	**5.50%**	**1.30%**	**1.60%**

**Based on the 2020 U.S. Survey Data (Total Population column) and 2021 ACS 5-year estimates (other columns. The ACS uses sample data to estimate these figures.*

The median age of Graham residents (37.9) is slightly younger than the state average (39). According to the 2021 ACS 5-year estimates, an estimated 1.1% percent of Graham residents walk or bike to work, which is lower than the State average (1.6%). These numbers consider COVID pandemic trends during 2020 and 2021, when more commuters were able to work from home.

2.1.2 Opportunities

Graham has a historic downtown with a variety of shops and restaurants which is attractive for people to park once and walk to several nearby destinations. However, once leaving the core of downtown area, existing pedestrian network starts to break down and is not well-connected enough with surrounding key pedestrian destinations. Many of commercial businesses in Graham are located along Harden Street (NC 54) and South Main Street (NC 87) corridors, and along Webb Avenue on the way to Burlington.

Downtown Graham provides opportunities for City residents and visitors to access a variety of key destinations. Key community destinations and attractions identified in Graham with public and stakeholder feedback include the following:

- Downtown Graham
- Court Square
- Graham City Hall
- Graham Public Library
- Alamance Arts
- Movie theater, Restaurants, Convenience Stores, Hardware Store, Daycares, Churches, Public Art, Shopping
- Children's Museum of Alamance County
- Graham Historical Museum
- Maple Street Center
- Alamance County Office Building and Civil Courts Building
- Graham Memorial Park
- Graham Regional Park
- South Graham Municipal Park
- Haw River Trail
- Graham Swimming Pool
- Graham Paddle Access-Haw River near E. Harden St and Cooper Rd
- Ray Street Academy
- Alamance Community College
- River Mill Academy
- Graham High School
- Graham Middle School
- North Graham Elementary School
- South Graham Elementary School
- Alamance Christian School
- Alamance Community School
- Harman Park
- Oakley Street Park
- Bill Cooke Park
- Greenway Park

- Waterside Apartments
- Oneida Mill Lofts (225 W Harden St, Graham, NC 27253)
- Watercourse Apartments
- Elevate Haw River Apartments (2310 Vantage Point)
- Elevate 54 Apartments (230 Pine Knot Lane)
- Crescent Oaks Apartments (185 Rosewood Loop)
- Walmart Supercenter at 530 S. Graham Hopedale Road (just north of city limits)
- Ivey Ridge Apartments (115 Ivey Road, Graham, NC 27253)
- The Pines Apartments (720 Ivey Road, Graham NC 27253)
- Norfolk Village Apartments (1011 Ivey Road, Graham, NC 27253)
- Planet Fitness
- Mobile Home Park-off Mobile Park Road

2.1.3 Existing Pedestrian and Greenway Network

The City of Graham provides an opportunity for short walking and bicycling trips to a variety of destinations clustered in downtown. The majority of the pedestrian sidewalk network within the City lies north of the I-85/40 corridor in the historic area of Graham. The pedestrian network is most complete in and around downtown Graham and to the northwest of the downtown core. Sidewalks within the downtown core are sufficiently wide and well-maintained, with some improvements needed on ADA accessibility measures. Sidewalks outside of the downtown core along S. Main Street become intermittent; this intermittent presence of sidewalks is also prevalent in other parts of the community. South of the I-85/40 corridor, the pedestrian network is sparser, with sidewalks primarily located within residential developments with little connectivity to the greater network of collector and arterial roadways. Figure 3 illustrates the existing and planned pedestrian facilities in Graham.

South Main Street (NC 87) south of McAden Street (top) has gaps in sidewalks and lacks safe pedestrian crossings; Downtown Graham (bottom) features sidewalks, high visibility crossings and placemaking features such as planters, benches, wayfinding signage.

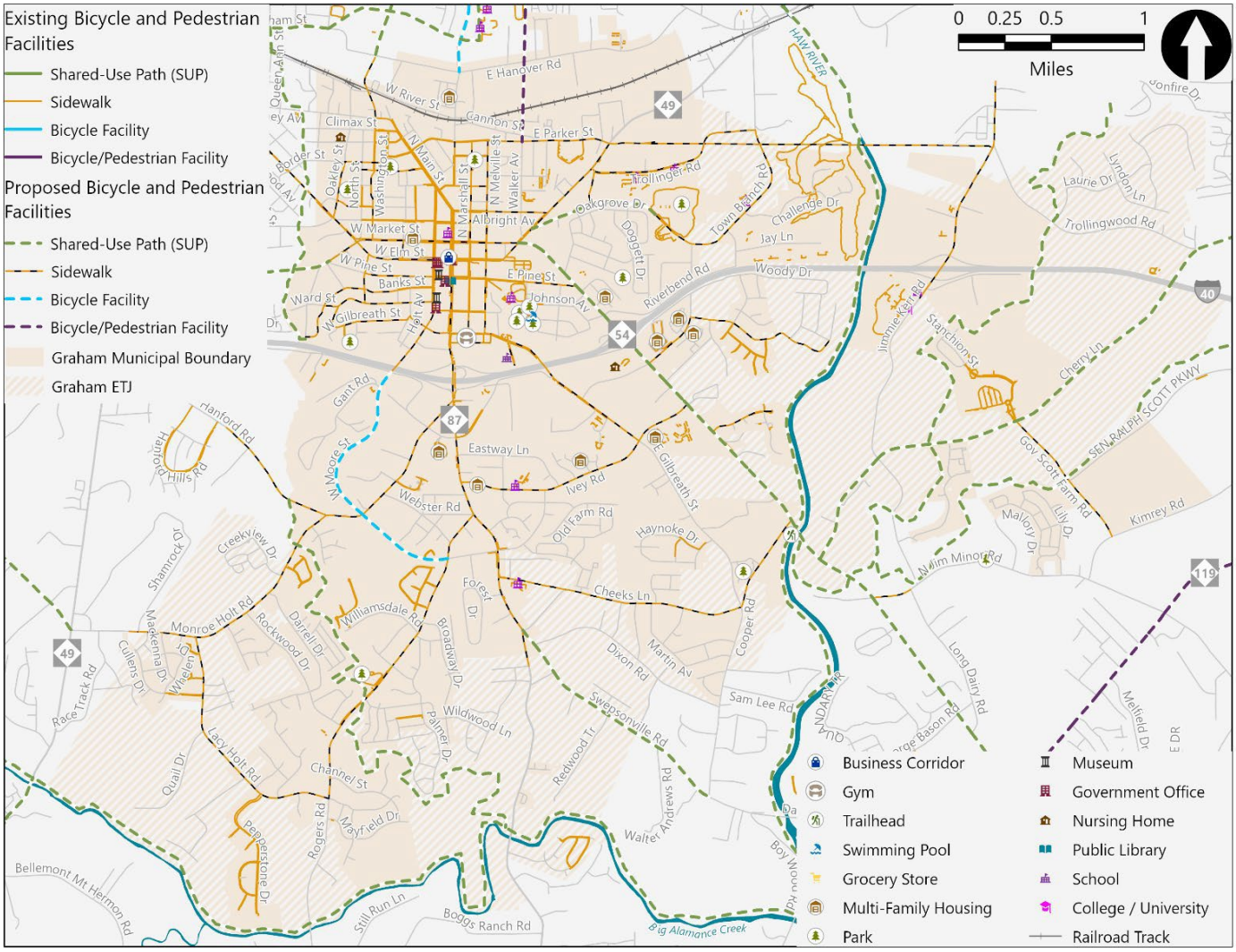


Figure 3 Graham Existing and Proposed Facilities

Walk Score is an online service that provides measures of walkability and search tools for apartments and retail businesses. Walk Score helps people find walkable places to live. Graham has a Walk Score of 71 (www.walkscore.com), with above average scores for proximity to errands, shopping, grocery stores, culture and entertainment, and dining and drinking, but limited proximity to schools and almost no connections to parks (Figure 4). This score indicates a community that has high walkable assets, but there are opportunities to improve connectivity between destinations like parks and schools. The city is currently identified as very walkable, and the compact urban form provides a clear opportunity to increase the walkability of Graham within and surrounding the downtown core. The city is bisected by interstate 40, limiting the current crossing opportunities for residents living south of the interstate to major destinations in the north to just seven grade-separated locations.

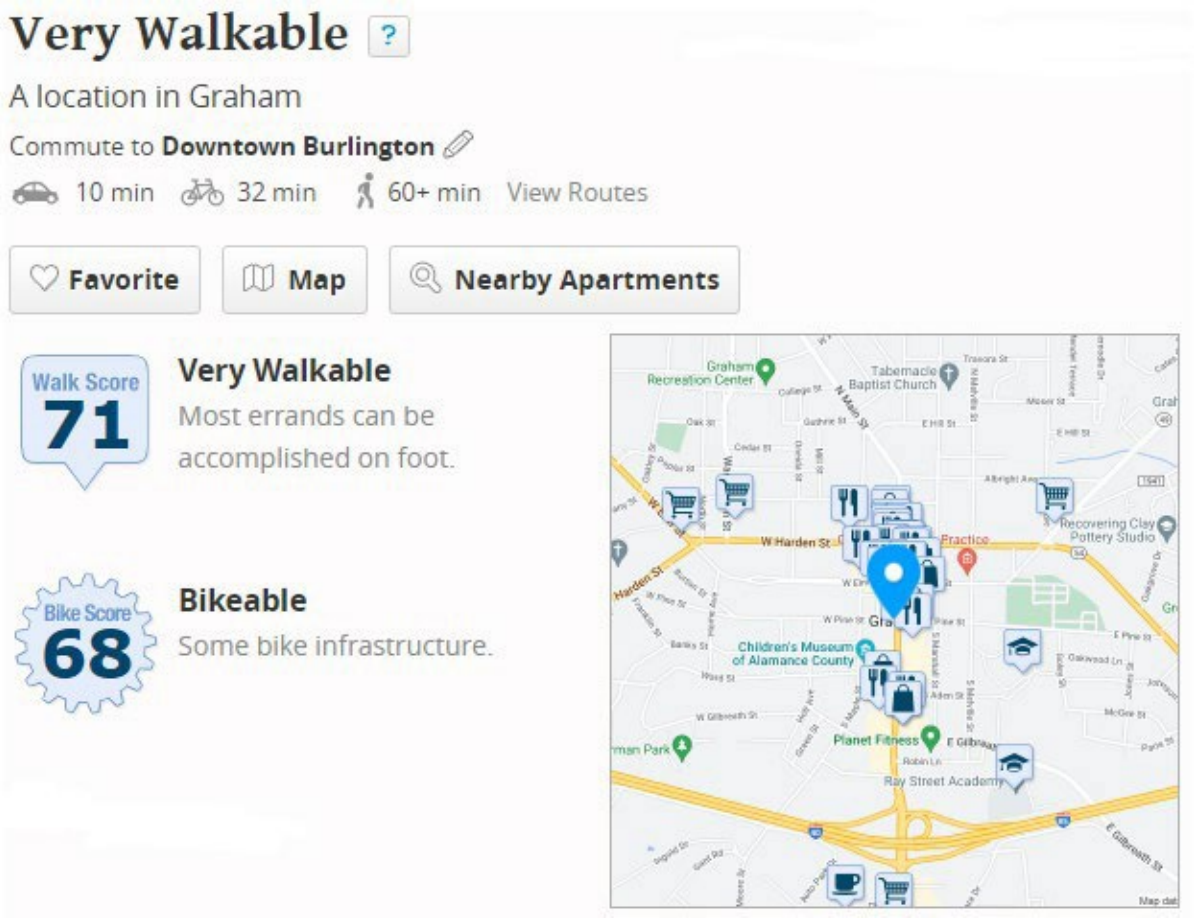


Figure 4 City of Graham Walk Score (March 28, 2023)

2.1.4 Challenges

Graham faces challenges to improving and expanding on existing pedestrian infrastructure. These challenges include a heavy presence of freight vehicle traffic along NC 87 (South Main Street) through downtown area, limited right of way, lack of safe pedestrian crossing opportunities and Americans with Disabilities Act (ADA)-compliant walkways, a disconnected street network and a limited existing system of sidewalks and trails. I-85/40 serves as an important regional transportation network spine and connects Graham residents and businesses with the rest of the region; I-85/40 also acts as a barrier to walking and bicycling in the absence of safe and improved underpasses and overpass bridges retrofitted with sidewalks and multi-use path facilities. A fast rate of growth in residential developments means that there will likely be some growing pains where the City's infrastructure will need to catch up with the new demand to support the newly-added neighborhoods. An additional challenge to improving walking in the City is the homogenous zoning pattern where commercial destinations are often clustered along the main corridors, away from residential neighborhoods and often challenging for many of the City's residents to walk to.

2.1.5 Crash Data

As illustrated in Table 2 below, 32 reported pedestrian crashes occurred in Graham between 2012 and 2021.

Table 2 - Pedestrian Crash Data Summary (2012 - 2021)

Crash Type	Total	Percent of Total
Backing Vehicle – Roadway	2	6%
Crossing an Expressway	2	6%
Dart-Out	1	3%
Dash	2	6%
Entering / Exiting Parked Vehicle	1	3%
Lying in Roadway	1	3%
Motor Vehicle Loss of Control	2	6%
Motorist Left Turn – Parallel Paths	3	9%
Motorist Left Turn – Perpendicular Paths	1	3%
Motorist Right Turn – Parallel Paths	1	3%
Motorist Right Turn – Perpendicular Paths	1	3%
Motorist Right Turn on Red – Other	1	3%
Non-Intersection – Other / Unknown	1	3%
Pedestrian Failed to Yield	1	3%
Play Vehicle – Related	1	3%
School Bus – Related	1	3%
Standing in Roadway	1	3%
Vehicle – Vehicle / Object	1	3%
Walking Along Roadway Against Traffic – From Front	3	9%
Walking Along Roadway With Traffic – From Behind	4	12%
Working in Roadway	1	3%
Total	**32**	

Note: Data from the North Carolina Department of Transportation Traffic Safety Unit

Analyzing the data helps to identify contributing factors and common trends in the crashes. These findings could help with selecting pedestrian improvements to target specific contributing factors and trends with the goal to reduce the severity and number of crashes in the future. Table 2 presents a summary of pedestrian and bicycle crash data.

The crash data analysis suggests the following findings about observed concentrations of crash locations (see Figure 7 below for maps of crash locations):

- Pedestrian crashes are concentrated along the main NC routes NC 87 (S. Main St) and NC 54 (Harden St) with the most serious crashes occurring on NC 54 (E. Harden St), Interstate 85/40, and at the Courthouse Square of Main Street and Elm Street.
- Pedestrian-involved crashes resulted in 12 serious injury and fatal crashes in the 10-year study period. Crash types that resulted in a serious injury or fatality included one backing vehicle, two crossing an expressway, one dash/dart-out, one pedestrian in roadway – unknown circumstances, 1 unique midblock crossing, for unusual circumstances, one walking along roadway, and one working or playing in the roadway.
- The majority of serious injury and fatal crashes occurred at non-intersection locations with three occurring on NC 54 (E. Harden Street), three along the I-85/40 corridor, and two on NC 87 (S. Main Street).

The summary statistics represent reported crashes. The data shows a recurring pattern of conflicts at intersections and along roadways with all fatal crashes occurring along roadways and serious injury crashes being split between roadway and intersections.

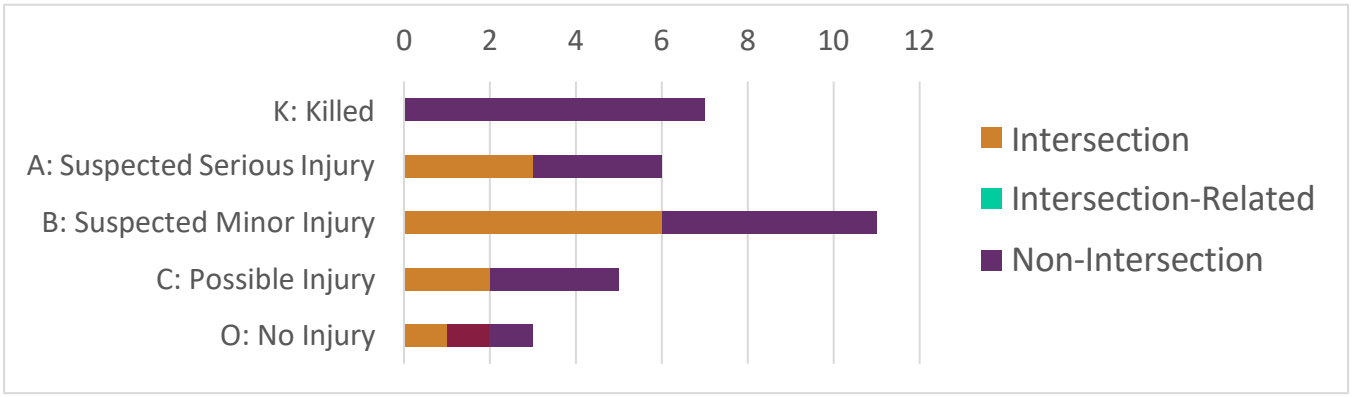


Figure 5 – Graham Pedestrian Crashes by Severity and Location (2012 – 2021)

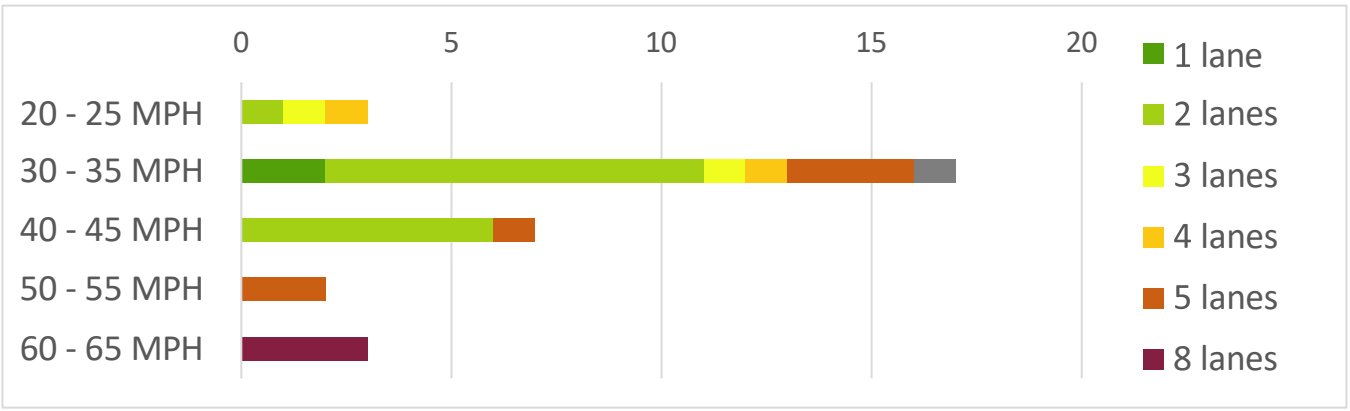


Figure 6 – Graham Pedestrian Crashes by Speed Limit and Number of Lanes (2012 – 2021)

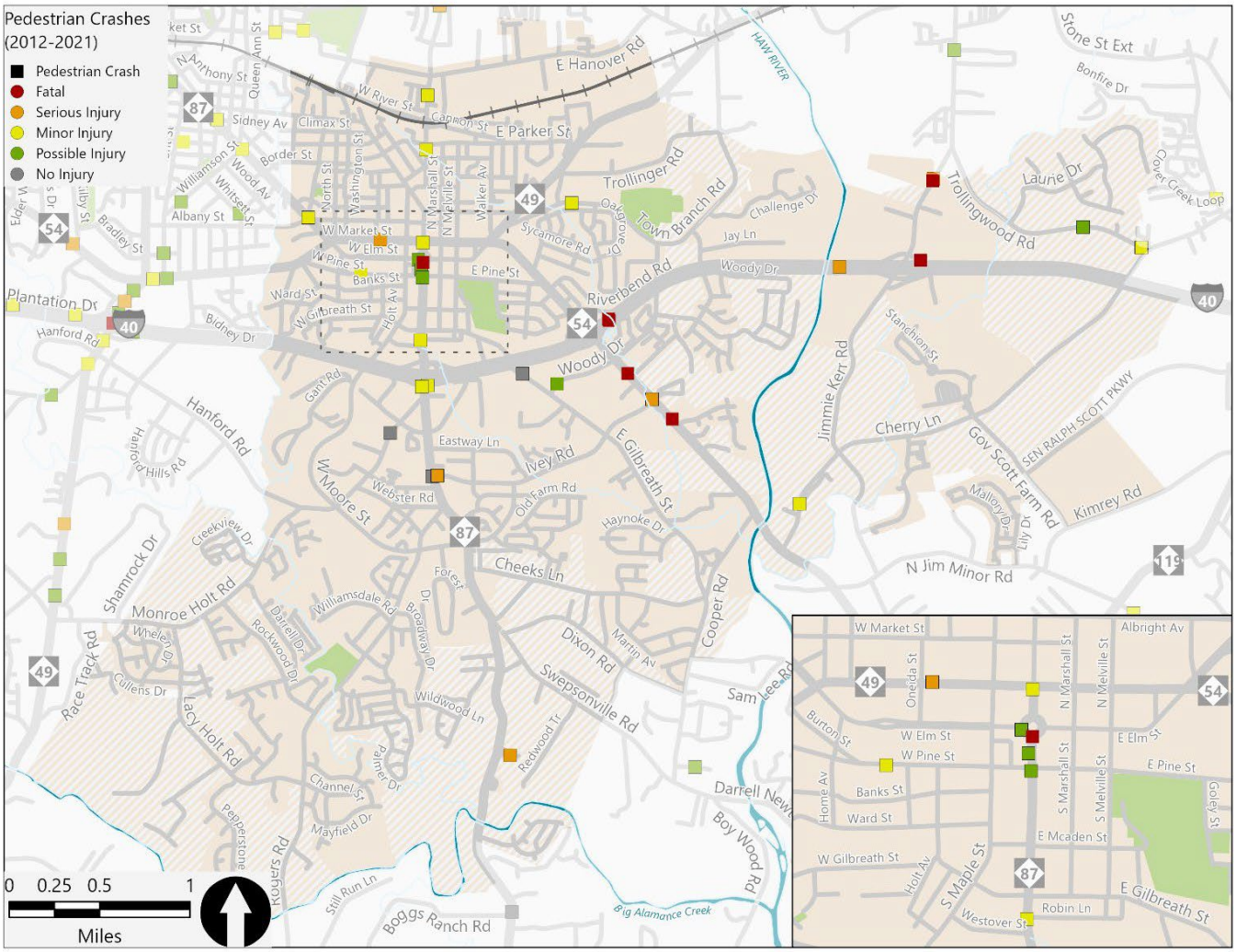


Figure 7 Graham Pedestrian Crashes (2012 - 2021)

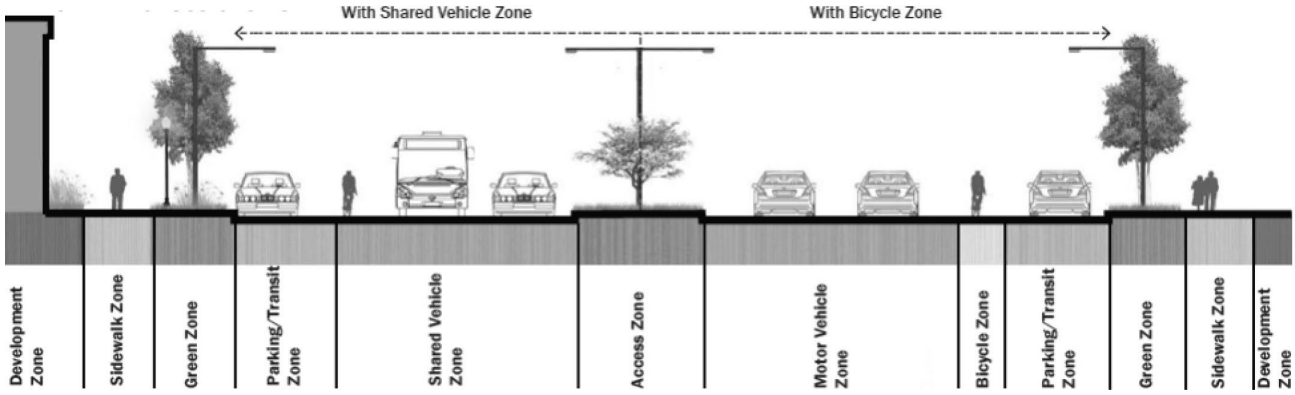
2.3 Existing Institutional Framework

Graham is located in Alamance County and falls within the regional transportation planning area served by the Burlington-Graham Urban Area MPO (BGMPO). Many of the infrastructure projects undertaken in the City are planned through interrelated City, County, and BGMPO planning processes. The Piedmont Land Conservancy (PLC) [14] is a regional land conservation group that supports trails development as part of overall land conservation strategy across the nine-county region; PLC serves nine northern Piedmont counties – Alamance, Caswell, Forsyth, Guilford, Randolph, Rockingham, Stokes, Surry and Yadkin.

The City of Graham Development Ordinance governs development within the City limits. This document, including Appendix C: Street Standards, provides regulations for the dimensions and cost-share of installing new sidewalks, speed limits, parking, among other regulations. Section 4 of this Plan provides recommendations for improving existing policies to promote consideration and consistent installation of bicycle, pedestrian, and multi-use path facilities such as sidewalks and easements for greenways.

City of Graham Development Ordinance

The City of Graham Development Ordinance includes several regulations related to active transportation. The City requires sidewalks on at least one side of the street for residential streets and industrial streets, and on two sides of the street for commercial streets and residential wide streets (Graham Development Ordinance Appendix C). Some street lighting requirements are included in the Development Ordinance, but they could be updated to include additional pedestrian-scale lighting requirements for a variety of street types and at mid-block crossing locations. Graham Development Ordinance Appendix C Street Standards currently specifies that "street lights shall be installed at 500 foot intervals and where major streets intersect"; requirements for avenues specify that



	Shared Vehicle/Motor Vehicle Zone *(lane width)*[2,3,4]	Sidewalk Zone[5]	Green Zone[6]	Parking/ Transit Zone[2,7]	Bicycle Zone[2,3,8]	Access Zone[4,9]
Avenue	10′	6′	7′	8′	4′	variable

Figure 8 Avenue Cross-Section, Graham Development Ordinance (06/14/2022 Update), Appendix C Street Standards

[14] https://www.piedmontland.org/

"pedestrian lighting should be considered at mid-block crossings and near locations where nighttime pedestrian activity is likely."

Some of the sections in the Development Ordinance relevant to Graham Pedestrian Plan are highlighted below:

Section 10.136 #23
Group home and care facilities are encouraged to have sidewalks on at least one side of the street unless it has been documented that the residents do not need said facility.

Section 10.246 #6
The first five feet of residential yard can only be developed sidewalk, grass, and plants. This area cannot be used for street parking.

Section 10.347 #5
Applicants can make payments in lieu of having paved sidewalks along the developed area where said funding will go to City-planned pedestrian projects. Priority funding goes to the highest-scoring projects in the most recently adopted plan. Payments in lieu cannot be made if the projected sidewalk is adjacent to another proposed sidewalk, or if the sidewalk would span 150ft or more.

Section 10.355 #6
Front-facing sites where there is existing sidewalk infrastructure must provide safe and direct pedestrian access between the building and existing sidewalk.

Section 10.356 #2
Streets must be constructed in accordance with the required lane width, greenspace, and sidewalk minimums. The minimums vary with street width. Streets must include roadway surface, curb and gutter, sidewalk, streetlights, and bridges/culverts where applicable.

Section 10.399 #1E
Free-standing signs must clear all pedestrian access areas by a minimum of 9 feet.

Appendix C Street Design Standards
Residential streets are classified as residential narrow, residential medium, and residential wide. Narrow streets must adhere to a minimum 5 feet wide sidewalk on one side, 4 feet wide green zone, and 47 feet right-of-way.

2.4 Related Plans and Policies

This section reviews relevant local and regional plans and policies applicable to Graham active transportation planning recommendations.

2017 Alamance County Comprehensive Recreation Master Plan

Based off 2007 Comprehensive Master Plan, the county plans to fulfill the recreational needs of its citizens through 2020. Along with proposing new facilities, the county aims to renovate existing parks and trails as well. The document includes several community surveys of demographics and opinions of recreational facilities in the county. 62% of respondents claimed to be 'very interested' in new hiking and walking trails. Plans of relevance include the following updates to existing parks and addition of new parks:

- Swepsonville River Park: the County plan calls out a goal to update the park and renovate the existing trail/ recreation system.

- Pleasant Grove Community Center: constructing a walking trail (paved greenway to expand residents' access to outdoor recreation) through use of a grant application was identified.
- New park: Mountain Bike Park, based on the identified need for developing a mountain biking park facility
- New park: Saxapahaw Island Park, a small park in the center of Saxapahaw, is currently in planning stages; the park will feature trailheads, hiking trails, and connectivity to the north and south of the island. Two grants have been obtained to aid in funding. This park is projected to be the highly visited by locals and tourists alike.

The county's recommended park acreage is said to allow for the creation of 20 new park facilities, but focus remains at district and community levels. A Programs Superintendent position as created to oversee program offerings. The county also commits to bringing amenities to special populations by working with Special Olympics Alamance County and the Visually Impaired Program. In addition, the Special Populations Coordinator is expected to help lead these efforts. The addition of an Outdoor Program Specialist is expected to diversify project portfolios as well.

Alamance County Trails Plan (2015)

Alamance County Trails plan lays out the existing trail network in Alamance County and identifies the areas of which can be updated as well as built upon. The Trails plan describes the existing trail network, with a total length of 27.8 miles as of 2015. The plan addresses areas of highest priority to run along the Haw River, as denoted by the dark purple buffer in Figure 9. The plan states that this area is expected to connect the county and provide opportunities for economic growth and development.

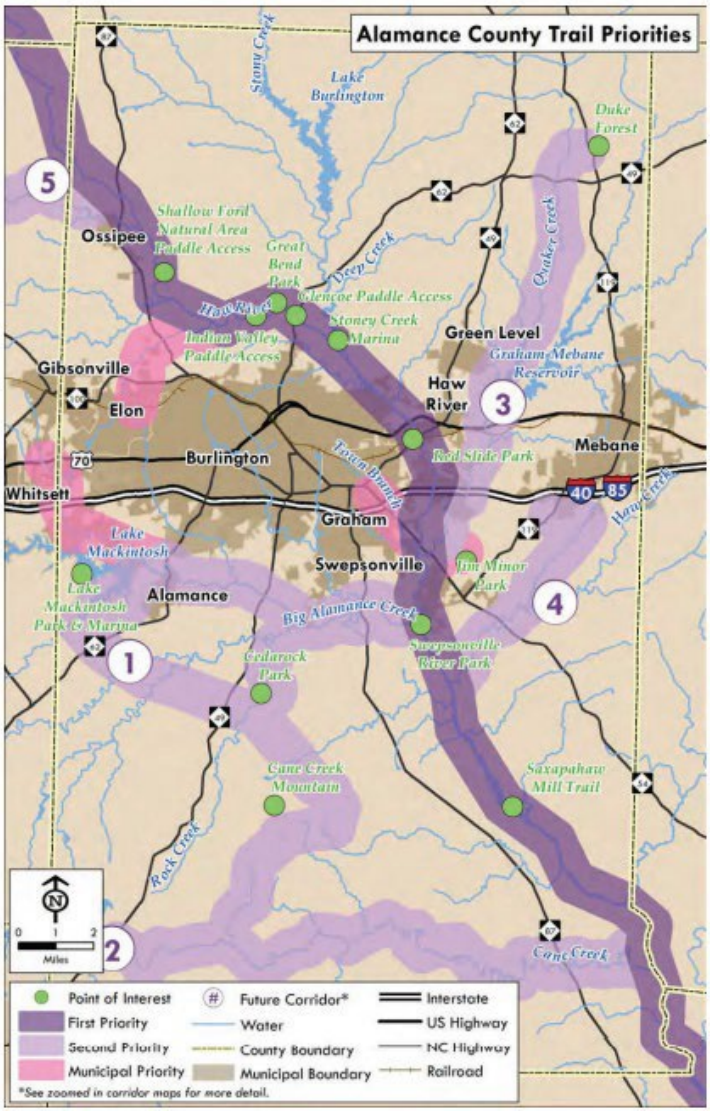


Figure 9 Alamance County Trails Priority Corridors

BGMPO 2045 MTP ("Getting There 2045") & BGMPO Comprehensive Transportation Plan

The Burlington-Graham Metropolitan Planning Organization (BGMPO) is a federally designated agency tasked to work with residents, local and state agencies to coordinate and plan for transportation improvements in the BGMPO planning area, which includes Alamance County and portions of Guilford and Orange Counties. A Metropolitan Transportation Plan (MTP) update is a federally-required long

range transportation plan with a fiscally-constrained list of transportation improvements across modes for the next twenty-five years, which has to be updated every five years. The 2045 MTP was adopted in 2020. Most projects identified in the 2045 MTP focused on intersection and interchange projects, while 14 of the fiscally-constrained projects consisted of bicycle, pedestrian and transit improvements. Several other bicycle, pedestrian and transit improvement projects were considered but not selected for the fiscally-constrained list. The map in Figure 10 below documents fiscally-constrained and unfunded bicycle and pedestrian projects.

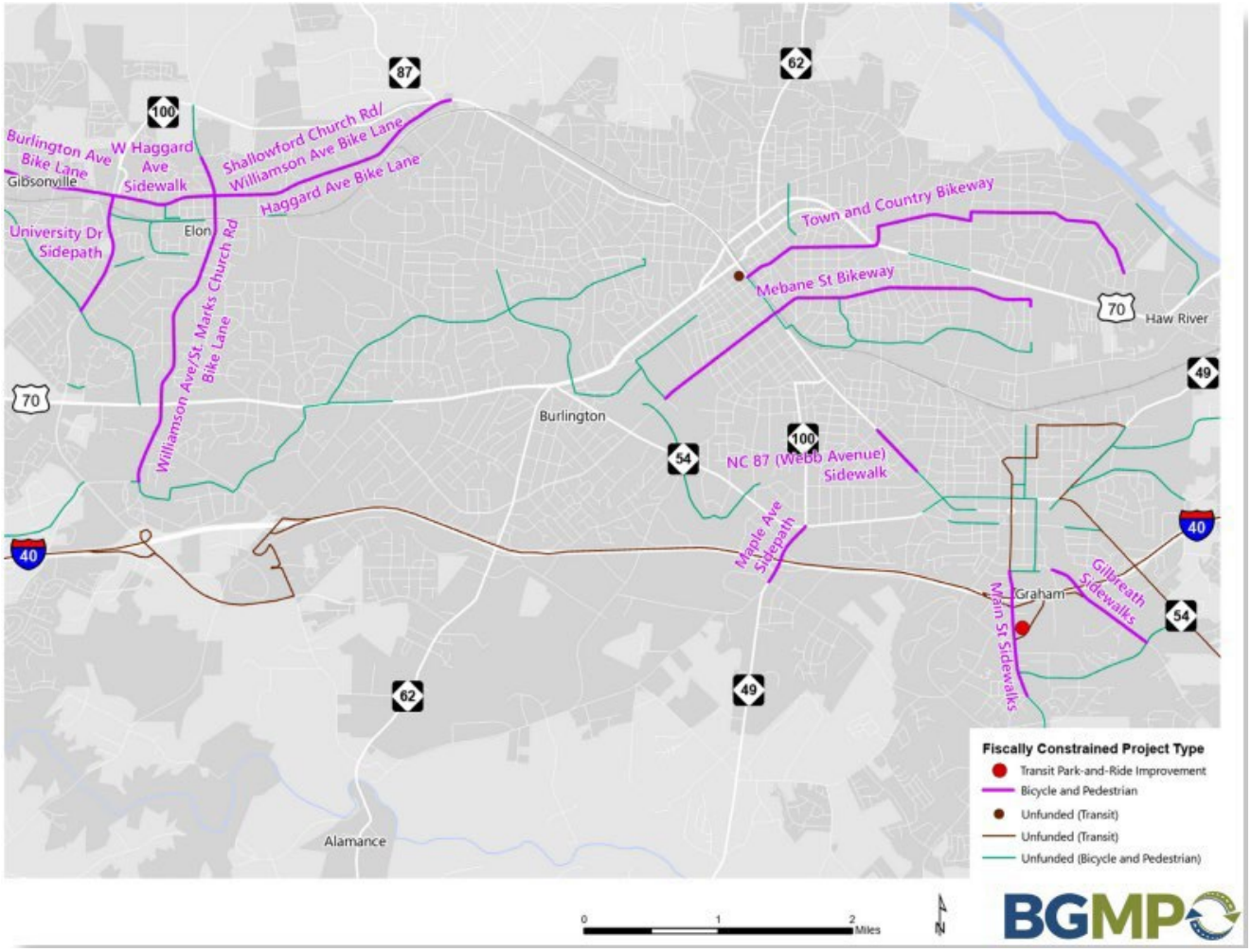


Figure 10 BGMPO Bicycle and Pedestrian Projects, 2045 MTP.

As part of the goals and objectives developed for the 2045 MTP, Goals 2 and 4 most closely relate to developing an improved pedestrian network:

- Goal 2: Provide a transportation system that enables mobility choices
- Goal 4: Promote equity and accessibility in transportation options for disadvantaged populations.

The existing conditions review for BGMPO 2045 MTP noted that existing sidewalks across the region currently add up to 431.94 miles; the region proposes to increase the sidewalk mileage by 41 miles. Similarly, 13.90 miles of existing multi-use paths (SUP), greenways, and regional trails currently exist, and the regional plan proposed

128.25 additional greenway and shared use miles All bicycle and pedestrian projects identified in the BGMPO 2045 MTP out to 2045 are expected to cost $42,760,944

Similar to a Metropolitan Transportation Plan (MTP), a Comprehensive Transportation Plan (CTP) is a long range transportation plan which includes an evaluation of transportation needs across modes, and provides maps and descriptions of recommended projects. A CTP is not fiscally-constrained and looks to a slightly longer time horizon, beyond 25 years.

The BGMPO CTP Bicycle and Pedestrian Recommendations for the city of Graham aimed to enhance pedestrian networks in the downtown area. The projects recommended in the CTP included additional multi-use paths that would link to the outer shell of downtown, thereby increasing accessibility. Additionally, the plan suggested the creation of multi-use paths and pedestrian walkways south of the I-85/40 corridor to further enhance pedestrian mobility.

The CTP Public Transit and Rail recommendations proposed the connection of Main Street to existing bus corridors using NC 87 (Main Street). This route would stretch south of I-85/40 and loop up NC 54, providing a local transit network. Furthermore, the CTP recommended connecting I-85/40 to the downtown area using regional bus corridors that would link to urban fixed bus corridors, thus ensuring seamless transit connectivity.

The CTP Highway Recommendations proposed the addition of more lanes on I-85/40 and along NC 54 and NC 49 to increase mobility. The plan also suggested access management, including the installation of medians, for NC 54 from the downtown area to the city limits and NC 49 through downtown. To accommodate the increased bus presence, the plan recommended modernization for wider lanes on NC 87 running up through the heart of downtown.

Graham Pedestrian Plan 2006

Graham Pedestrian Plan (2006) focused on prioritizing sidewalks and pedestrian improvements in proximity to schools, recreation, and key community centers (Figure 11).

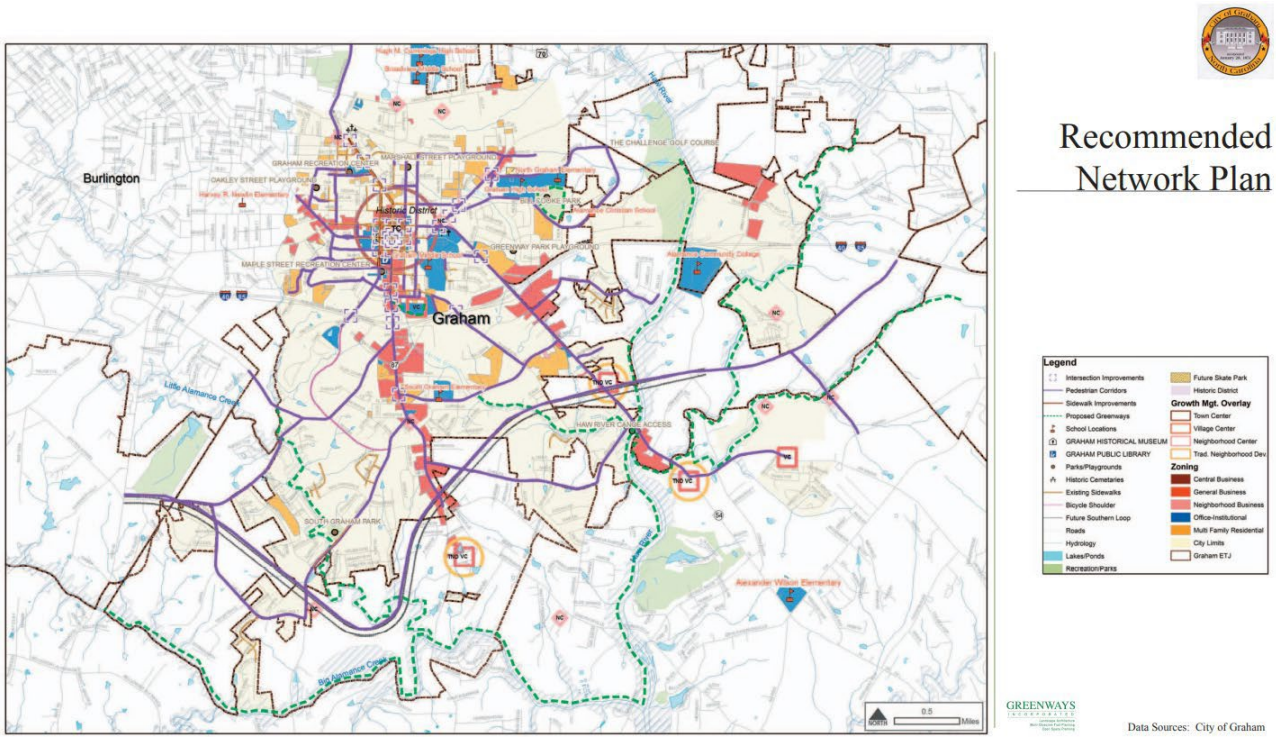


Figure 11 Recommended Pedestrian Network Plan for the City of Graham

The recommended pedestrian network plan included 40 miles of new sidewalks, 1.2 miles of sidewalk and 25 intersections to be improved, and 24 miles of new greenways. As part of geographic screening, priority was given to existing communities without multi-use path and sidewalk facilities. The proposed and existing pedestrian facilities are listed in Figure 11,Figure 12, and Figure 13. Some improvements that have been completed from the prior plan include intersection improvements at Courthouse Square and E. Harden Street at E. Elm Street (U-6017) and sidewalk implementation along E. Pine Street.

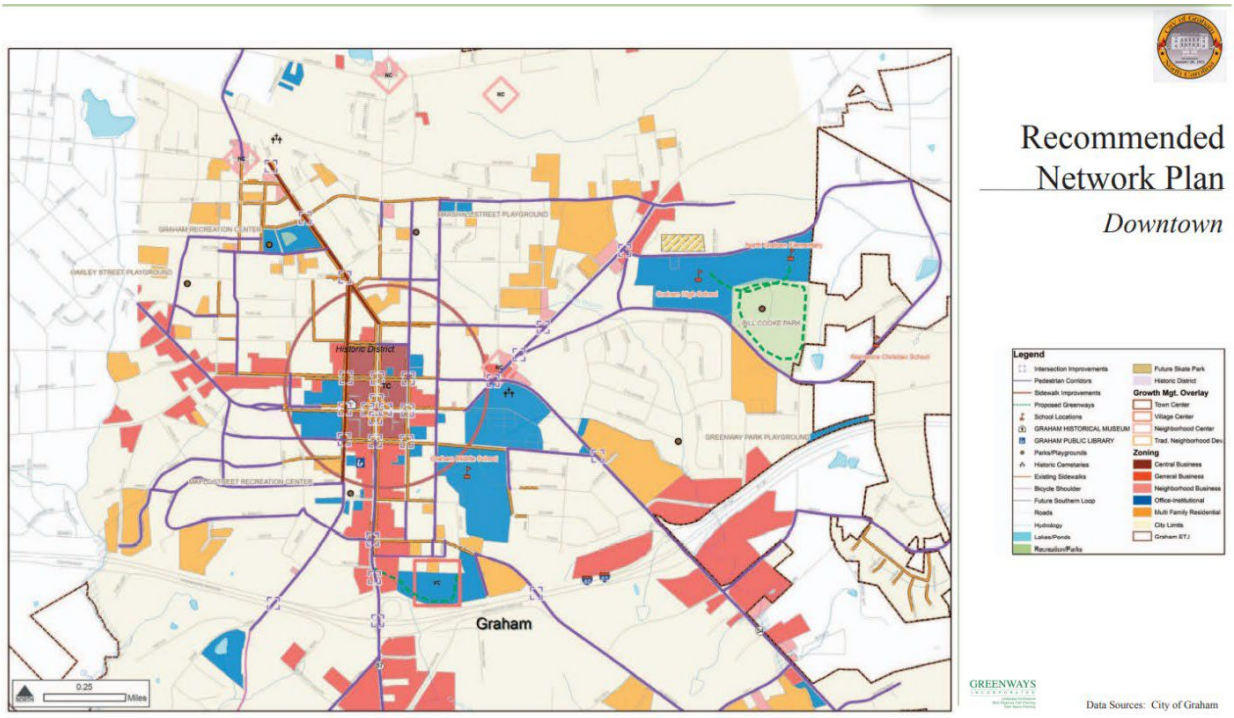


Figure 12. Recommended Network plan for Downtown Graham. The purple lines indicate recommended pedestrian improvements, and the purple boxes indicate intersection improvement projects.

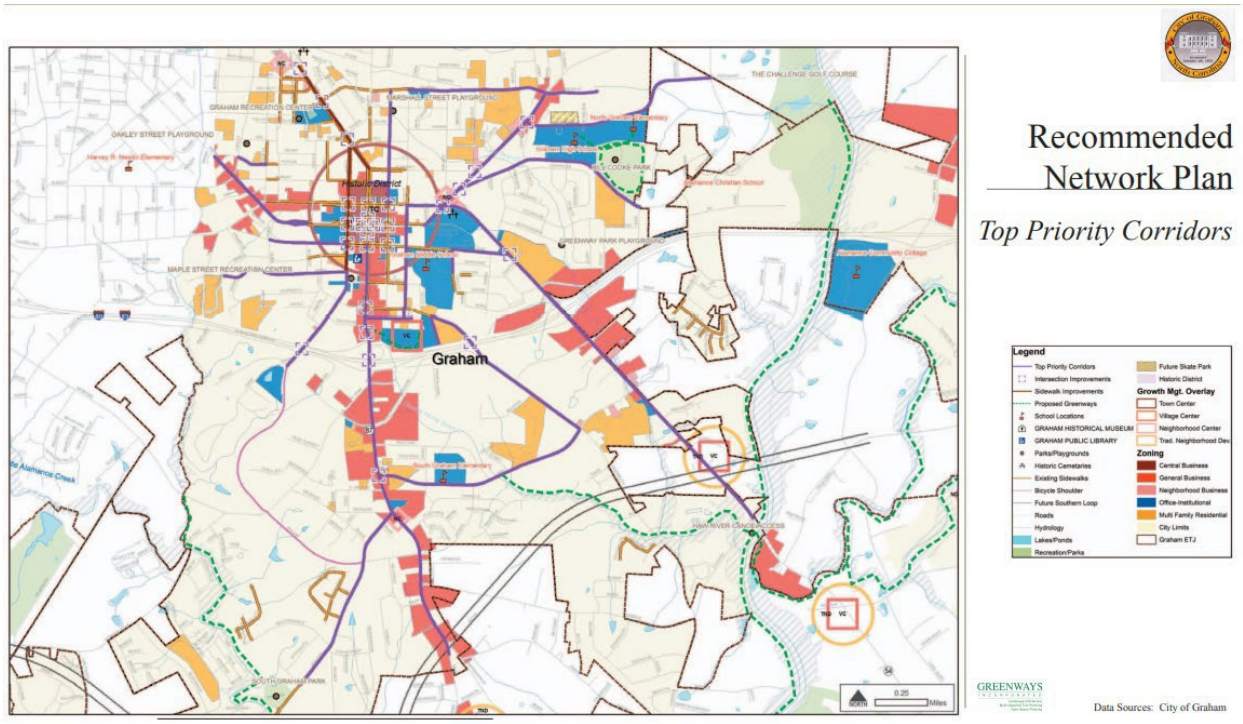


Figure 13 Priority Pedestrian Corridors. The purple lines indicate recommended pedestrian improvements, and the purple boxes indicate intersection improvement projects.

Graham Downtown Master Plan 2020

The City of Graham Master Plan (2020) establishes a vision for creating a thriving destination around the Court Square and gateways into the community. The historic downtown and its preservation has been a recurring demand from residents for many years. Local residents were surveyed while developing the Downtown Master Plan and it was made clear what Graham Residents Want to protect Downtown's historic character, visitors to feel drawn to Court Square, which is the heart of downtown, to support small business and arts in downtown, downtown to be a welcoming destination for both locals and regional visitors, people to feel safe downtown after dark, to design spaces for people of all ages, to retain the small-town charm, and to build a vibrant community. The Graham Downtown Master Plan addresses the need to additional multimodal infrastructure and has identified key areas that are in need of additional pedestrian sidewalks.

Figure 14. Sidewalk Inventory Identified in the Downtown Master Plan.

Graham Parks and Recreation Plan 2021

Graham Recreation and Parks Plan (2021) reviews the existing recreation facilities and identifies recommended improvements for park facilities, recreation centers as well as improved active transportation connections between parks and recreation centers in the City of Graham. The Haw River Trail features as one of the major active transportation connectors across Graham and the larger region. A network of on-road improvement recommendations was identified as well.

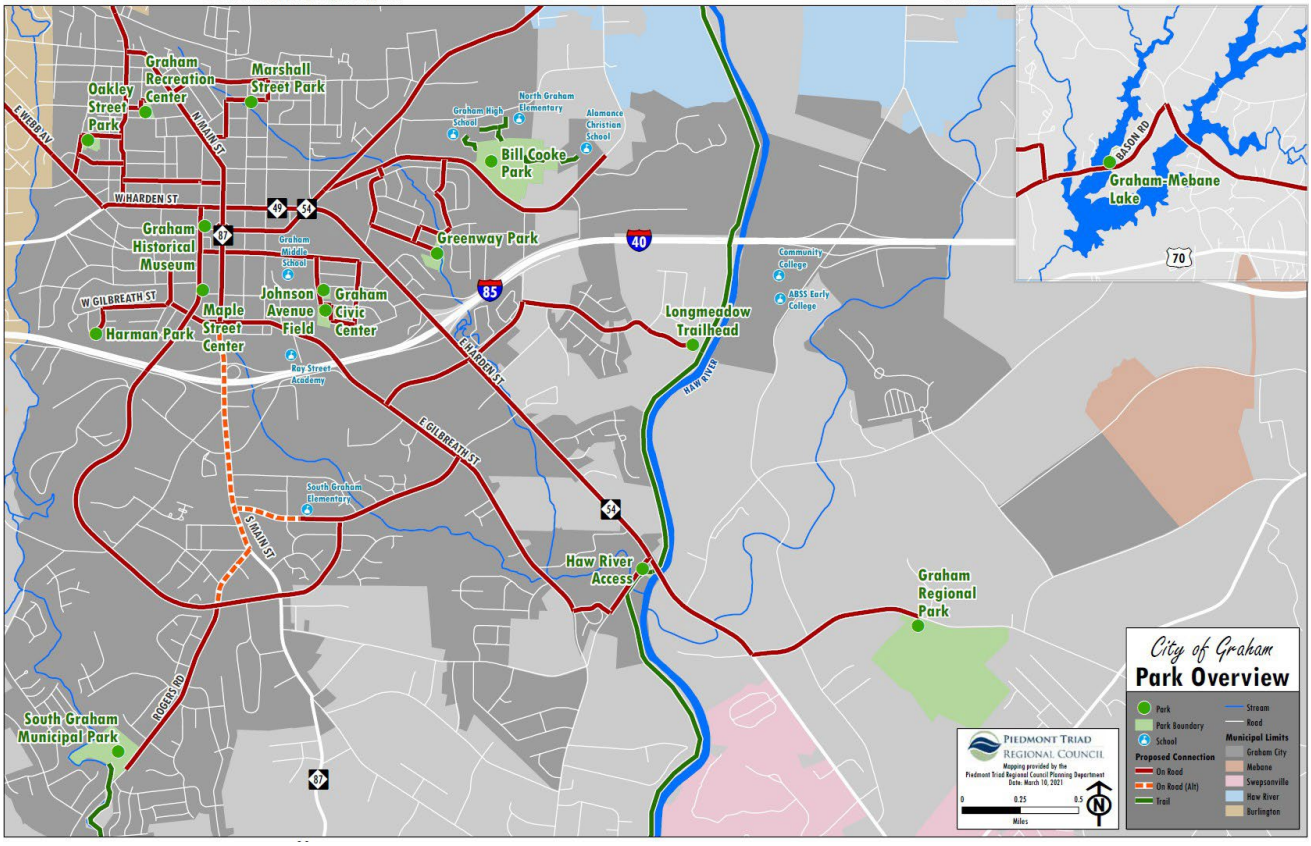


Figure 15 Graham Park Overview Map with Recommended Connectors (Trails and On-Road Facilities)

Graham 2035 Comprehensive Plan

Graham 2035 Comprehensive Plan reviews the current goals and objectives of city planning and addresses new strategies for bolstering the downtown area, primarily by increasing walkability, investing in schools, and expand the city's economic opportunities.

Limiting the number of new suburban neighborhoods that end in cul-de-sacs lead the strategy for walkability. Planning blocks that are shorter than 600ft (intersection to intersection) to increase the attractiveness of walking second. In planning streets, Graham looks to add off-street multi-use paths (SUP) to existing and proposed roadways to promote pedestrian and bicycle use. This planning should take into consideration the road widths when designing neighborhoods to accommodate biking and walking. Adequate parking is a must to consider based on number of bedrooms, anticipated number of cars, length of driveway from sidewalk, future potential for additional development that might connect to existing streets, driveway width, garage size, overflow parking, and on street parking. When cars park in their driveway but block the sidewalk crossing the driveway or on the street and block these pathways because adequate parking is not planned, it significantly diminishes the use of these pathways and creates an unsafe environment.

Graham defines neighborhoods as compact, walkable, and diversely connected. The city is looking to decrease block size and incorporate alleys in new neighborhoods and districts to reduce the need for long driveways, and general ease of access. The city plans for increased street parking of vehicles to append this. The 'greening' of neighborhoods is defined as placing parks in the center of new neighborhoods and advocate for 'pocket parks' that are a quarter acre. This is said to reduce 'automobile-centric' areas. Neighborhood connectivity to greenways will also be a priority. These are mid-to-long term goals. Other transportation goals are long term.

NC 54 West Corridor Study

The NC 54 West Corridor Study was initiated by the Durham-Carrboro-Chapel Hill MPO (DCHC) and concluded in 2019. The study area covers a stretch of 20.4 miles of NC 54 from Old Fayetteville Road in Carrboro to I-85/40 Interchange in Graham. A variety of roadway and multi-modal improvements were identified. The study recommendations most relevant to Graham are denoted in Figure 16 below

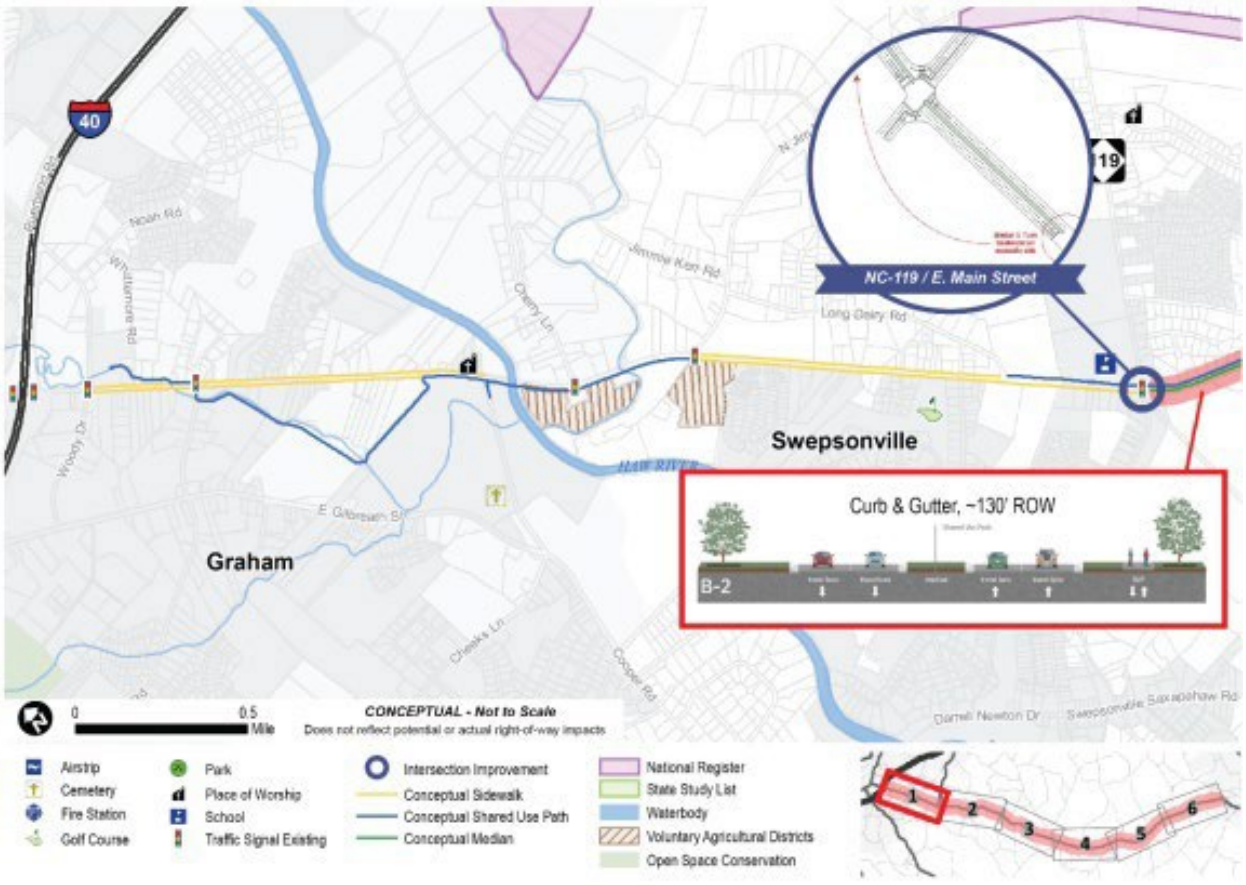


Figure 16 NC 54 Segment 1 Recommendations, with Inclusion of a Multi-use path and Sidewalks

Two bridges (Haw River Bridge, and Back Creek Bridge) and one culvert were identified within the study area relevant to Graham, with some deficiencies noted related to pedestrian conditions:

- The Haw River Bridge is 365 feet long (longest in the study area), 64 feet wide with 5 lanes. A 4 foot sidewalk runs along the western side of the bridge deck. NC 54 Corridor study noted that low guardrails, high AADT and traffic speeds, and poor delineation of lanes, curbs, and sidewalks contributed to substandard conditions for pedestrians on the bridge.

- The Back Creek Bridge is 175ft long and also has 5 lanes. There are no sidewalks that run along the bridges approach, but a 4ft sidewalk runs along the western side of the bridge. Travel lanes and high traffic speeds were noted as the reason for low pedestrian use.

NC 54 corridor study also reviewed crash trends and safety concerns, and noted that two pedestrian crashes have occurred during the 2007-2014 timeframe in the section of the corridor within Graham. One pedestrian crash was fatal, the other disabling. The study recommended increasing the presence of pedestrian facilities, particularly within residential areas, near schools and in and mixed-use areas to help address pedestrian safety issues.

NCDOT Improvement Projects (STIP, Resurfacing)

The State Transportation Improvement Program (STIP) is a multi-year capital improvement plan that encompasses scheduling, funding, and construction of projects across the entirety of North Carolina over a 4-year minimum period. Projects Related to Graham are:

- EB-5887 : NC 49/NC 54/ Harden Street sidewalks, West Pine Street to North Marshall Street
- U-6014 : Graham-Hopedale Road from West Hanover Road to Morningside Drive, lane widening with bike/ped improvements
- U-6017 : NC 54 Harden Street at NC 49 East Elm Street, intersection improvements
- U-6115A : Johnson Street, intersection improvements
- U-6115B : Upgrade ramp intersections
- U-6115C : Woody Drive, intersection improvements
- U-6115D : Woody Drive and Whittemore Road, intersection and pipe culvert upgrades
- U-6131 NC 54 Harden Street at NC 49 Maple Avenue
- U-6132 : Graham-Hopedale Road at W Parker Street, improve intersection
- I-6009 : I-85/40/I-85, construct additional left turn lane and improve ramp operations
- HS-2007F : I-85/40 East on-ramp: install pedestrian accommodations

3. Recommended Facilities

3.1 Overview

This section documents a full list of facility improvement recommendations developed for Graham Pedestrian Plan, the project selection and scoring approach identified based on the Plan Vision and Goals, the top eight priority project bundles selected, and the five Pilot Projects identified from the top eight best-scoring project bundles based on a combination of high scores and representation of a variety of facility types for illustrative visuals.

3.2 Priority Corridors

The priority corridors for the plan were broken down into primary and secondary corridors (see Figure 17 below.) The primary corridors focus on the major arterial routes within the City of Graham, and corridors that provide for longer north-south and east-west movement. The primary corridors include NC 49 (West Elm Street, East Webb Avenue, and East Elm Street), NC 54 (West Harden Street and East Harden Street), NC 87 South Main Street, and sections of E. Gilbreath Street and South Maple Street where roadways cross I-85/40. The secondary corridors include collector streets and other key corridors that connect from primary corridors to residential neighborhoods, schools, parks and other key destinations throughout the City. The secondary corridors include Rogers Road, West Moore Street, East Gilbreath Street south of Woody Drive, Ivey Road, North Main Street, Melville Street, sections of South Maple Street, Town Branch Road and Trollinger Road.

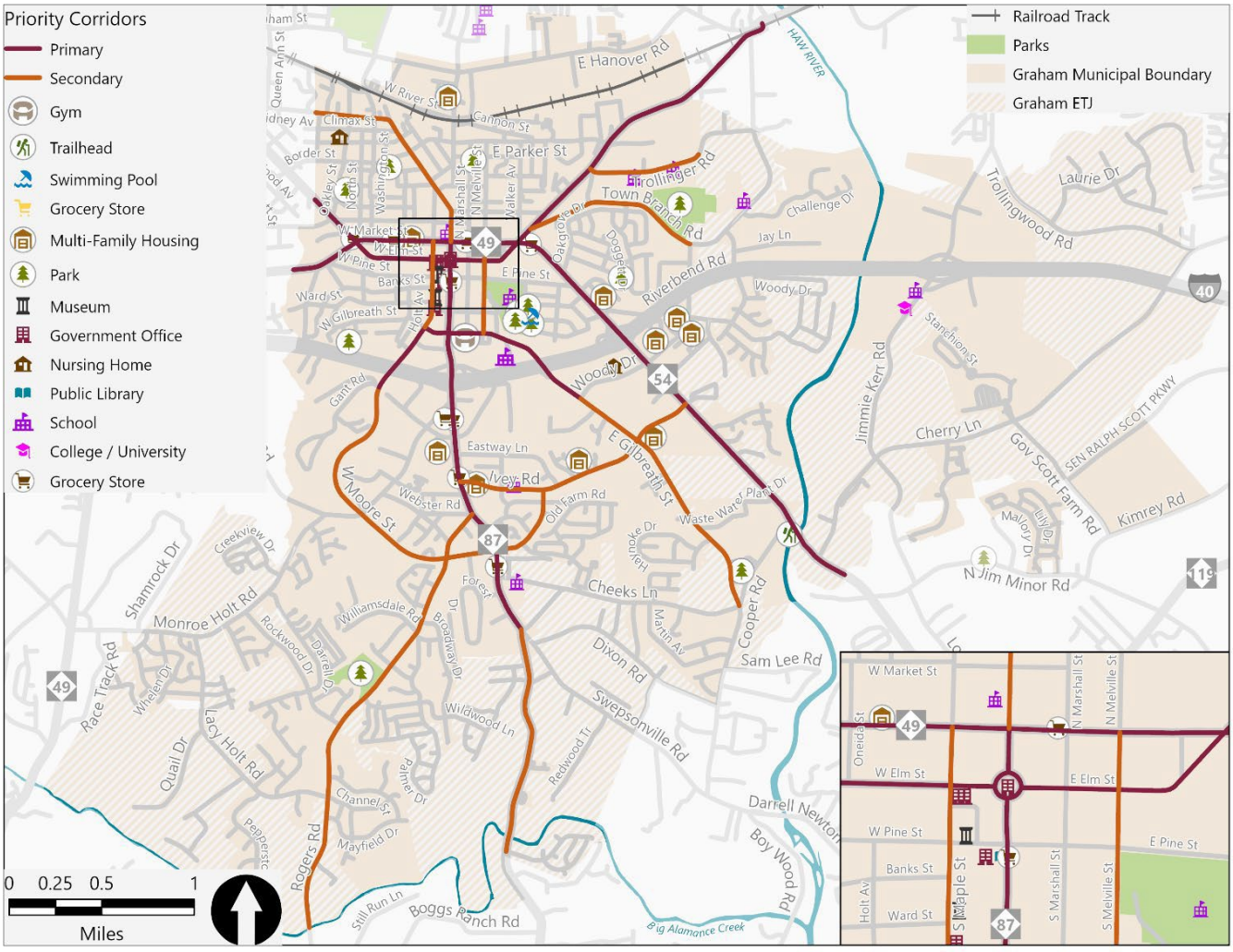


Figure 17 Graham Pedestrian Plan Priority Corridors

3.3 Facility Recommendations

This section outlines the process for developing recommendations and the final list of recommended infrastructure projects.

Drafting a list of recommended facilities is an iterative process. The first step included a review of the City's prior Pedestrian Plan and any related plans where pedestrian facilities may be recommended, including BGMPO MTP, BGMPO CTP, Graham Downtown Plan, Graham Comprehensive Plan, and other related documents. An inventory of existing and proposed facilities was then created to understand which projects have already been implemented. A field visit was carried out to identify current deficiencies and areas where additional facilities need to be added or existing facilities need to be upgraded. Steering committee, and public feedback assisted with local knowledge to further highlight problem areas for consideration and desired pedestrian links.

Once the initial draft of recommended facilities was complete, the project team reviewed these recommendations with the Steering Committee. Additional stakeholder and Steering Committee feedback was considered, and the draft list of recommendations was revised based on the feedback. The revised list of recommended facilities was then ready to be scored to identify top implementation priority projects.

The projects were scored and ranked according to a set of evaluation criteria described in the following section. The project team applied an iterative process involving stakeholder direction, geographic distribution, significant destinations, the existing pedestrian network, and priority corridors to identify these projects. Specific facility recommendations, such as sidewalks and multi-use path locations, were identified partly upon best practices for active transportation design. These recommendations are anticipated for continued refinement throughout the project development process. It should be noted that the following projects list includes a planning level cost estimate; those estimates are subject to change throughout the project development and implementation process.

The updated recommended network plan along with a list of priority projects was presented for public comment during the second public engagement meeting on October 27, 2023. The public had the opportunity to comment on the full network plan and the list of priority projects through a second online survey.

Based on the existing conditions of the City and a thorough needs assessment, 209 pedestrian facility projects were identified (illustrated in **Figure 18**). Of these projects, 138 are linear facilities and 70 are crossing, intersection, or bridge projects. There are 103 recommended sidewalk projects, 38 multi-use path projects, and one unpaved trail project. There are 70 pedestrian crossing and intersection recommendations.

Table 3 - Linear Facility Recommendations

Project	Project Type	Facility	From	To	Description
MUP-01	Multi-Use Path	New Greenway Connector	Jimmie Kerr Rd	Post Oak Dr	Add a new greenway connector from Jimmie Kerr Rd to Post Oak Dr along Sewer easement corridor to connect to proposed Back Creek Greenway
MUP-02	Multi-Use Path	New Greenway Bridge over the Haw River	Proposed Haw River Greenway	Alamance Community College	Add a new greenway connector and bridge across the Haw River from the proposed Haw River Greenway to Alamance Community College. Update the bridge to include at least a 10-ft wide multi-use path facility on one side, 5 ft wide sidewalk on the other side, with pedestrian railing.
MUP-03	Multi-Use Path	Little Alamance Creek Greenway Connector	Darrell Dr	Proposed Little Alamance Creek Greenway	Add a new greenway connector from Darrel Dr to proposed Little Alamance Creek Greenway
MUP-04	Multi-Use Path	Little Alamance Creek Greenway Connector	Williamsdale Rd	Proposed Little Alamance Greenway	Add a new greenway connector from Williamsdale Rd to the proposed Little Alamance Creek Greenway
MUP-05	Multi-Use Path	Monroe Holt Rd / Hanford Rd	Proposed Little Amanace Creek Greenway	W. Moore St	Add a Multi-Use Path along one side of Monroe Holt Rd / Hanford Rd from the proposed Little Amanace Creek Greenway to W. Moore St
MUP-06	Multi-Use Path	Rogers Rd	Rockwood Dr	South Graham Municipal Park	Add a Multi-Use Path along one side of Rogers Rd from Rockwood Dr to South Graham Municipal Park
MUP-07	Multi-Use Path	Rogers Rd	Lacy Holt Rd	Rockwood Dr	Add a Multi-Use Path along Rogers Rd from Lacy Holt Rd to Rockwood Dr
MUP-08	Multi-Use Path	Rogers Rd	Proposed Big Alamance Creek Greenway	Lacy Holt Rd	Add a Multi-Use Path on one side of Rogers Rd from the proposed Big Alamance Creek Greenway to Lacy Holt Rd
MUP-09	Multi-Use Path	Swepsonville Rd	NC 87 (S. Main St)	Proposed Haw River Greenway	Add a Multi-Use Path along one side of Swepsonville Rd from NC 87 (S. Main St) to the proposed Haw River Greenway
MUP-09	Multi-Use Path	NC 87 (S. Main St)	Moore St	Swepsonville Rd	Add a Multi-Use Path along one side of NC 87 (S. Main St) from Moore St to Swepsonville Rd
MUP-10	Multi-Use Path	W. Moore St	Rogers Rd	NC 87 (S. Main St)	Add a Multi-Use Path along W. Moore St from Rogers Rd to NC 87 (S. Main St)
MUP-11	Multi-Use Path	W. Moore St	Hanford Rd	Rogers Rd	Add a Multi-Use Path along one side of W. Moore St from Hanford Rd to Rogers Rd
MUP-12	Multi-Use Path	W. Moore St	Gant Rd	Hanford Rd	Add a Multi-Use Path along one side of W. Moore St from Gant Rd to Hanford Rd
MUP-13	Multi-Use Path	W. Moore St	Holt Ave	Gant Rd	Add a Multi-Use Path along one side of W. Moore St from Holt Ave to Gant Rd
MUP-14	Multi-Use Path	W. Moore St	W. McAden St	Holt Ave	Add a Multi-Use Path along W. Moore St from W. McAden St to Holt Ave
MUP-15	Multi-Use Path	New Greenway Connector	W. Moore St	Stearns Dr	Add a new Multi-Use Path to connect W. Moore St to Stearns Dr
MUP-16	Multi-Use Path	NC 54 (E. Harden St)	Cooper Rd	N. Jim Minor Rd	Add a Multi-Use Path along one side of NC 54 (E. Harden Rd) from Cooper Rd to N. Jim Minor Rd
MUP-17	Multi-Use Path	NC 54 (E. Harden St)	Woody Dr	Cooper Rd	Add a Multi-Use Path along one side of NC 54 (E. Harden St) from Woody Dr to Cooper Rd
MUP-18	Multi-Use Path	NC 54 (E. Harden St)	Riverbend Rd	Woody Dr	Add a Multi-Use Path along one side of NC 54 (E. Harden St) from Riverbend Rd to Woody Dr
MUP-19	Multi-Use Path	NC 54 (E. Harden St)	E. Elm St	Riverbend Rd	Add a Multi-Use Path along one side of NC 54 (E. Harden St) from E. Elm St to Riverbend Rd
MUP-20	Multi-Use Path	Town Branch Rd	NC 49 (E. Elm St)	Bill Cooke Park	Add a Multi-Use Path along Town Branch Rd from NC 49 (E Harden St.) to Bill Cooke Park
MUP-21	Multi-Use Path	NC 49 (E. Elm St)	NC 54 (E. Harden St)	Town Branch Rd	Add a Multi-Use Path along Town Branch Rd from NC 49 (E Harden St.) to Bill Cooke Park
MUP-22	Multi-Use Path	Riverbend Rd	NC 54 (E. Harden St)	Haw River	Add a Multi-Use Path along one side of Riverbend Rd from NC 54 (E. Harden St) to Haw River. Update the bridge to include at least a 10-ft wide multi-use path facility on one side, 5 ft wide sidewalk on the other side, with pedestrian railing.
MUP-23	Multi-Use Path	Teer Rd	Riverbend Rd	Town Branch Rd	Add a Multi-Use Path along one side of Teer Rd from Riverbend Rd to Town Branch Rd
MUP-24	Multi-Use Path	McAden St	S Maple St	E McAden St	Add a Multi-Use Path along one side of McAden St from S Maple St to Field St
MUP-25	Multi-Use Path	NC 87 (E. Webb St)	Oakley St	Queen Ann St	Add a Multi-Use Path along one side of NC 87 (E. Webb St) from Oakley St to Queen Ann St
MUP-26	Multi-Use Path	Washington St	Providence Rd	Piedmont Way	Add a Multi-Use Path along one side of Washington St from Providence Rd to Piedmont Way
MUP-27	Multi-Use Path	Greenway Park	Granite Mill Dr	Brookgreen Ter	Add a Multi-Use Path along Greenway Park from Granite Mill Dr to Brookgreen Ter
MUP-28	Multi-Use Path	North Graham Elementary School	Park Rd	Trollinger Rd	Add a Multi-Use Path along North Graham Elementary School from Park Rd to Trollinger Rd
MUP-29	Multi-Use Path	Goley St	E Pine St	Mcgee St	Add a Multi-Use Path along one side of Goley St from E Pine St to Mcgee St
MUP-30	Multi-Use Path	Little Alamance Creek Greenway	Hanford Rd	Big Alamance Creek	Add a new 10ft greenway corridor from Hanford Rd to Big Alamance Creek Greenway
MUP-31	Multi-Use Path	Big Alamance Creek Greenway	Haw River Trail	Little Alamance Creek Greenway	Add a new 10-ft greenway corridor from the Haw River Trail to the Little Alamance Creek Greenway
MUP-32	Multi-Use Path	Big Alamance Creek Greenway	Little Alamance Creek Greenway	Rogers Rd	Add a new 10-ft greenway from the Little Alamance Creek Greenway to Rogers Rd
MUP-33	Multi-Use Path	Big Alamance Creek Greenway	Rogers Rd	NC 49	Add a new 10-ft greenway from Rogers Rd to NC 49

Project	Project Type	Facility	From	To	Description
MUP-34	Multi-Use Path	Bowden Branch Greenway	Banks St	Railroad St	Add a new 10-ft greenway corridor from Banks St to Railroad St in Burlington
MUP-35	Multi-Use Path	Haw River Trail	Swepsonville Rd	NC 49	Add a new greenway corridor beside the Haw River from Swepsonville Rd in Swepsonville to NC 49 in Haw River. Update the bridge to include at least a 10-ft wide multi-use path facility on one side, 5 ft wide sidewalk on the other side, with pedestrian railing
MUP-36	Multi-Use Path	New Greenway Connector	Lancelot Ln	Haw River Greenway	Add a new greenway connector from Lancelot Ln to the Haw River Greenway
MUP-37	Multi-Use Path	Back Creek Greenway	NC 54 (E. Harden St)	Outback Dr	Create a new 10-ft greenway as part of the proposed Back Creek Greenway from NC 54 (E. Harden St) to Outback Dr along the Back Creek. Update the bridge to include at least a 10-ft wide multi-use path facility on one side, 5 ft wide sidewalk on the other side, with pedestrian railing
Ped-01	Sidewalk	Cherry Ln	Jimmie Kerr Rd	Gov Scott Farm Rd	Add sidewalk along one side of Cherry Ln from Jimmie Kerr Rd to Gov Scott Farm Rd
Ped-02	Sidewalk	Cherry Ln	NC 54 (E. Harden St)	Jimmie Kerr Rd	Add sidewalk along one side of Cherry Ln from NC 54 (E. Harden St) to Jimmie Kerr Rd
Ped-03	Sidewalk	Jimmie Kerr Rd	Cherry Ln	I-85/40 Eastbound Ramps at Jimmie Kerr Rd	Add sidewalk along one side of Jimmie Kerr Rd from Cherry Ln to the I-85/40 Eastbound Ramps at Jimmie Kerr Rd
Ped-04	Sidewalk	Jimmie Kerr Rd	I-85/40 Eastbound Ramps at Jimmie Kerr Rd	I-85/40 Westbound Ramps at Jimmie Kerr Rd	Add sidewalk along one side of Jimmie Kerr Rd from I-85/40 Eastbound Ramps at Jimmie Kerr Rd to I- 85/40 Westbound Ramps at Jimmie Kerr Rd
Ped-05	Sidewalk	Jimmie Kerr Rd	I-85/40 Westbound Ramps	Alamance Community School	Add sidewalk along one side of Jimmie Kerr Rd from the I-85/40 Westbound Ramps to the Alamance Community School
Ped-06	Sidewalk	Cooper Rd	E. Gilbreath St	NC 54	Add sidewalk along one side of Cooper Rd from E. Gilbreath St to NC 54
Ped-07	Sidewalk	Cheeks Ln	Nicks St	Cooper Rd	Add sidewalk along one side of Cheeks Ln from Nicks St to Cooper Rd
Ped-08	Sidewalk	Cheeks Ln	NC 87 (S. Main St)	Nicks St	Add sidewalk along one side of Cheeks Ln from NC 87 (S. Main St) to Nicks St
Ped-09	Sidewalk	Nicks St	NC 87 (Swepsonville Rd)	Cheeks Ln	Add sidewalk along one side of Nicks St from NC 87 (Swepsonville Rd) to Cheeks Ln
Ped-10	Sidewalk	E. Gilbreath St	Ivey Rd	Cooper Rd	Add sidewalk along one side of E. Gilbreath St from Ivey Rd to Cooper Rd
Ped-100	Sidewalk	Stearns Dr	End of Stearns Dr	Auto Park Dr	Add sidewalk along one side of Stearns Dr from End of Stearns Dr to Auto Park Dr
Ped-101	Sidewalk	N. Melville St	E. Harden St	Existing Sidewalk	Add a new sidewalk on the east side of N. Melville St from E. Harden St to the existing sidewalk on N. Melville St
Ped-102	Sidewalk	NC 87 (W Elm St)	E. Harden St	Queen Ann St	Add a sidewalk along one side of NC 87 (W Elm St) from Oneida St to Queen Ann St
Ped-11	Sidewalk	E. Gilbreath St	Sarah Williams Ave	Ivey Rd	Add sidewalk along one side of E. Gilbreath St from Sarah Williams Ave to Ivey Rd
Ped-12	Sidewalk	E. Gilbreath St	E. Interstate Service Rd	Existing Sidewalk Network	Add sidewalk along one side of E. Gilbreath St from E. Interstate Service Rd to the Existing Sidewalk Network
Ped-13	Sidewalk	Woody Dr	E. Gilbreath St	NC 54 (E. Harden St)	Add sidewalk along one side of Woody Dr from E. Gilbreath St to NC 54 (E. Harden St)
Ped-14	Sidewalk	Woody Dr	NC 54 (E. Harden St)	Noah Rd	Add sidewalk along one side of Woody Dr from NC 54 (E. Harden St) to Noah Rd
Ped-15	Sidewalk	Noah Rd	Woody Dr	Whittemore Rd	Add sidewalk along one side of Noah Rd from Woody Dr to Whittemore Rd
Ped-16	Sidewalk	Whittemore Rd	NC 54 (E. Harden St)	Noah Rd	Add sidewalk along one side of Whittemore Rd from NC 54 (E. Harden St) to Noah Rd
Ped-17	Sidewalk	Ivey Rd	E. Gilbreath St	NC 54 (E. Harden Rd)	Add sidewalk along one side of Ivey Rd from E. Gilbreath Rd to NC 54 (E. Harden St)
Ped-18	Sidewalk	Ivey Rd	E. Moore St	E. Gilbreath St	Add sidewalk along one side of Ivey Rd from E. Moore St to E. Gilbreath St
Ped-19	Sidewalk	Ivey Rd	NC 87 (S. Main St)	E. Moore St	Add sidewalk along one side of Ivey Rd from NC 87 (S. Main St) to E. Moore St.
Ped-20	Sidewalk	Eastway Ln	NC 87 (S. Main St)	Ivey St	Add sidewalk along one side of Eastway Ln from NC 87 (S. Main St) to Ivey St
Ped-21	Sidewalk	Ross St	Eastway Ln	Ivey Rd	Add sidewalk along one side of Ross St from Eastway Ln to Ivey Rd
Ped-22	Sidewalk	E. Moore St	NC 87 (S. Main St)	Ivey Rd	Add sidewalk along one side of E. Moore St from NC 87 (S. Main St) to Ivey Rd
Ped-23	Sidewalk	NC 87 (S. Main St)	Swepsonville Rd	W. Shannon Dr	Add sidewalk along one side of NC 87 (S. Main St) from Swepsonville Rd to W. Shannon Dr
Ped-24	Sidewalk	NC 87 (S. Main St)	W. Shannon Dr	Mallard Creek Dr	Add sidewalk along one side of NC 87 (S. Main St) from W. Shannon Dr to Mallard Creek Dr
Ped-25	Sidewalk	W. Shannon Dr	Parham Dr	NC 87 (S. Main St)	Add sidewalk along one side of W. Shannon Dr from Parham Dr to NC 87 (S. Main St)
Ped-26	Sidewalk	Parham Dr	Wildwood Ln	W. Shannon Dr	Add sidewalk along one side of Parham Dr from Wildwood Ln to W. Shannon Dr
Ped-27	Sidewalk	Wildwood Ln	Broadway Dr	Parham Dr	Add sidewalk along one side of Wildwood Ln from Broadway Dr to Parham Dr
Ped-28	Sidewalk	Wildwood Ln	Rogers Rd	Broadway Dr	Add sidewalk along one side of Wildwood Ln from Rogers Rd to Broadway Dr
Ped-29	Sidewalk	Broadway Dr	Ridgecrest St	Wildwood Ln	Add sidewalk along one side of Broadway Dr from Ridgecrest St to Wildwood Ln
Ped-30	Sidewalk	Ridgecrest St	Rogers Rd	Broadway Dr	Add sidewalk along one side of Ridgecrest St from Rogers Rd to Broadway Dr
Ped-31	Sidewalk	Rogers Rd	W. Moore St	Thompson Rd	Add sidewalk along one side of Rogers Rd from W. Moore St to Thompson Rd
Ped-32	Sidewalk	Rogers Rd	NC 87 (S. Main St)	W. Moore St	Add sidewalk along one side of Rogers Rd from NC 87 (S. Main St) to W. Moore St
Ped-33	Sidewalk	Aloha Dr	Hanford Rd	Rogers Rd	Add sidewalk along one side of Aloha Dr from Hanford Rd to Rogers Rd
Ped-34	Sidewalk	Hanford Rd	W. Moore St	NC 87 (S. Main St)	Add sidewalk along one side of Hanford Rd from W. Moore St to NC 87 (S. Main St)
Ped-35	Sidewalk	Auto Park Dr	W. Moore St	Hanford Rd	Add sidewalk along one side of Auto Park Dr from W. Moore St to Hanford Rd

Project	Project Type	Facility	From	To	Description
Ped-36	Sidewalk	W. Crescent Square Dr	Hanford Rd	NC 87 (S. Main St)	Add sidewalk along one side of W. Crescent Square Dr from Hanford Rd to NC 87 (S. Main St)
Ped-37	Sidewalk	E. Crescent Square Dr / E. Interstate Service Rd	NC 87 (S. Main St)	E. Gilbreath St	Add sidewalk along one side of E. Crescent Square Dr / E. Interstate Service Rd from NC 87 (S. Main St) to Gilbreath St
Ped-38	Sidewalk	Williamsdale Rd	End of Williamsdale Rd	Rogers Rd	Add sidewalk along one side of Williamsdale Rd from the end of Williamsdale Rd to Rogers Rd
Ped-39	Sidewalk	Rockwood Dr	Monroe Holt Rd	Rogers Rd	Add sidewalk along one side of Rockwood Dr from Monroe Holt Rd to Rogers Rd
Ped-40	Sidewalk	Darrell Dr	Monroe Holt Rd	Rockwood Dr	Add sidewalk along one side of Darrell Dr from Monroe Holt Rd to Rockwood Dr
Ped-41	Sidewalk	Lacy Holt Rd	Council Rd	Rogers Rd	Add sidewalk along one side of Lacy Holt Rd from Council Rd to Rogers Rd
Ped-42	Sidewalk	Lacy Holt Rd	Monroe Holt Rd	Council Rd	Add sidewalk along one side of Lacy Holt Rd from Monroe Holt Rd to Council Rd
Ped-43	Sidewalk	Council Rd / NS-95870 / Darrell Dr	Lacy Holt Rd	Rockwood Dr	Add sidewalk along one side of Council Rd / NS-95870 / Darrell Dr from Lacy Holt Rd to Rockwood Dr
Ped-44	Sidewalk	Channel St	Rogers Rd	Mayfield Dr	Add sidewalk along one side of Channel St from Rogers Rd to Mayfield Dr
Ped-45	Sidewalk	Lacy Holt Rd	Rogers Rd	Channel St	Add sidewalk along one side of Lacy Holt Rd from Rogers Rd to Channel St
Ped-46	Sidewalk	Sunfield Dr	Lacy Holt Rd	Mayfield Dr	Add sidewalk along one side of Sunfield Dr from Lacy Holt Rd to Mayfield Dr
Ped-47	Sidewalk	Mayfield Dr	Rogers Rd	Channel St	Add sidewalk along one side of Mayfield Dr from Rogers Rd to Channel St
Ped-48	Sidewalk	Monroe Holt Rd	Lacy Holt Rd	Proposed Little Alamance Greenway	Add sidewalk along one side of Monroe Holt Rd from Lacy Holt Rd to the proposed Little Amanance Greenway
Ped-49	Sidewalk	Cooper Rd	Cheeks Ln	Dixon Rd	Add a sidewalk along one side of Cooper Rd from Cheeks Ln to Dixon Rd
Ped-50	Sidewalk	Cooper Rd	Dixon Rd	Swepsonville Rd	Add a sidewalk along one side of Cooper Rd from Dixon Rd to Swepsonville Rd
Ped-51	Sidewalk	Dixon Rd	Swepsonville Rd	Cooper Rd	Add a sidewalk along one side of Dixon Rd from Swepsonville Rd to Cooper Rd
Ped-52	Sidewalk	NC 87 (S. Main St)	Rogers Rd	Moore St	Add sidewalk on both sides of NC 87 (S. Main St) from Rogers Rd to Moore St
Ped-53	Sidewalk	NC 87 (S. Main St)	Ivey Rd	Rogers Rd	Add a sidewalk on both sides of NC 87 (S. Main St) from Ivey Rd to Rogers Rd
Ped-54	Sidewalk	NC 87 (S. Main St)	Crescent Square Dr	Ivey Rd	Add a sidewalk on both sides of NC 87 (S. Main St) from Crecent Square Dr to Ivey Rd
Ped-55	Sidewalk	NC 87 (S. Main St)	I-85/40 Eastbound Ramps	Crescent Square Dr	Add a sidewalk on both sides of NC 87 (S. Main St) from the I-85/40 Eastbound Ramps to Crescent Sqaure Dr
Ped-56	Sidewalk	NC 87 (S. Main St)	I-85/40 Westbound Ramps	I-85/40 Eastbound Ramps	Widen and separate the existing sidewalk through the I-85/40 interchange along NC 87 (S. Main St) between I-85/40 Westbound ramps and I-85/40 Eastbound Ramps
Ped-57	Sidewalk	S Graham Hopedale Rd	Providence Rd	Piedmont Way	Add a sidewalk along one side of Washington St from Providence rd to Piedmont Way
Ped-58	Sidewalk	W Hanover Rd	S Graham Hopedale Rd	S Sellars Mill Rd	Add a sidewalk along one side of W Hanover Rd from S Graham Hopedale Rd to S Sellars Mill Rd
Ped-59	Sidewalk	E Hanover Rd	S Sellars Mill Rd	W Main St	Add a sidewalk along one side of E Hanover Rd from S Sellars Mill Rd to W Main St
Ped-60	Sidewalk	Pomeroy St	W Hanover Rd	Travora St	Add a sidewalk along one side of Pomeroy St from W Hanover Rd to Travora St
Ped-61	Sidewalk	E Parker St	Seymour St	NC 49 (E. Elm St)	Add a sidewalk along one side of E Parker St from Seymour St to NC 49 (E. Elm St)
Ped-62	Sidewalk	NC 49 (E. Elm St)	E Parker St	W Main St	Add a sidewalk along one side of NC 49 (E. Elm St) from E Parker St to W Main St
Ped-63	Sidewalk	Town Branch Rd	Bill Cooke Park	North Graham Elementary School	Add a sidewalk along one side of Town Branch Rd from Bill Cooke Park to North Graham Elementary School
Ped-64	Sidewalk	Oakgrove Dr	NC 54 (E. Harden St)	Town Branch Rd	Add a sidewalk along one side of Oakgrove Dr from NC 54 (E. Harden St) to Town Branch Rd
Ped-65	Sidewalk	NC 49 (E. Elm St)	Town Branch Rd	E Parker St	Add a sidewalk along one side of NC 49 (E. Elm St) from Town Branch Rd to E Parker St
Ped-66	Sidewalk	Carter Rd	Town Branch Rd	Trollinger Rd	Add a sidewalk along one side of Carter Rd from Town Branch Rd to Trollinger Rd
Ped-67	Sidewalk	Walker Ave	NC 49 (E. Elm St)	E Parker St	Add a sidewalk along one side of Walker Ave from NC 49 (E. Elm St) to E Parker St
Ped-68	Sidewalk	Albright Ave	N Melville St	NC 49 (E. Elm St)	Add a sidewalk along one side of Albright Ave from N Melville St to NC 49 (E. Elm St)
Ped-69	Sidewalk	NC 54 (E. Harden St)	N Melville St	NC 49 (E. Elm St)	Add a sidewalk along one side of NC 54 (E. Harden St) from N Melville St to NC 49 (E. Elm St)
Ped-70	Sidewalk	E Elm St	N Melville St	NC 54 (E. Harden St)	Add a sidewalk along one side of E Elm St from N Melville St to NC 54 (E. Harden St)
Ped-71	Sidewalk	S Melville St	E Pine St	E Elm St	Add a sidewalk along one side of S Melville St from E Pine St to E Elm St
Ped-72	Sidewalk	E. Elm St	S Melville St	Existing sidewalk	Add a sidewalk along the south side of E. Elm St from S. Melville St to the existing sidewalk
Ped-73	Sidewalk	S Melville St	E Mcadon St	Existing sidewalk along S Melville St	Add a sidewalk along one side of S Melville St from E Mcadon St to existing sidewalk connection on Mcadon St
Ped-74	Sidewalk	NC 87 (S. Main St)	I-85/40 Westbound Ramps	E Gilbreath St	Add a sidewalk along one side of NC 87 (S. Main St) from I-85/40 Westbound Ramps to E Gilbreath St
Ped-75	Sidewalk	W McAden St	S Maple St	NC 87 (S. Main St)	Add a sidewalk along one side of W McAden St from S. Maple St to NC 87 (S. Main St)
Ped-76	Sidewalk	Banks St	S Maple St	NC 87 (S. Main St)	Add a sidewalk between S Maple St and NC 87 (S. Main St) along Banks St
Ped-77	Sidewalk	Oneida St	W Elm St	W Market St	Add a sidewalk along one side of Oneida St from W Elm St to W Market St
Ped-78	Sidewalk	W Elm St	Oneida St	Existing sidewalk along W Elm St	Add a sidewalk along one side of W Elm St from Oneida St to existing sidewalk connection on W Elm St

Project	Project Type	Facility	From	To	Description
Ped-79	Sidewalk	NC 87 (W Elm St)	Oneida St	W. Harden St	Add a sidewalk along one side of NC 87 (W Elm St) from Oneida St to Poplar St
Ped-80	Sidewalk	Oakley St	NC 87 (W Elm St)	Providence Rd	Add a sidewalk along one side of Oakley St from NC 87 (W Elm St) to Providence Rd
Ped-81	Sidewalk	Providence Rd	Oakley St	N Main St	Add a sidewalk along one side of Providence Rd from Oakley St to N Main St
Ped-82	Sidewalk	Oak St	Oakley St	Washington St	Add a sidewalk along one side of Oak St from Oakley St to Washington St
Ped-83	Sidewalk	Washington St	NC 49 (W. Harden St)	College St	Add a sidewalk along one side of Washington St from NC 49 (W. Harden St) to College St
Ped-84	Sidewalk	College St	Washington St	Existing sidewalk along College St	Add a sidewalk along one side of College St from Washington St to existing sidewalk along College St
Ped-85	Sidewalk	NC 49 (W. Harden St)	NC 87 (W Elm St)	Oneida St	Add a sidewalk along one side of NC 49 (W. Harden St) from NC 87 (W Elm St) to Oneida St
Ped-86	Sidewalk	NC 49 (W. Harden St)	Graham Municipal Boundary	NC 87 (W Elm St)	Add a sidewalk along one side of NC 49 (W. Harden St) from Graham Municipal Boundary to NC 87 (W Elm St)
Ped-87	Sidewalk	W Pine St	NC 49 (W. Harden St)	S Maple St	Add a sidewalk along W Pine St from NC 49 (W. Harden St) to S Maple St
Ped-87	Sidewalk	Home Ave	Ward St	W Elm St	Add a sidewalk along Home Ave from Ward St to W Elm St
Ped-88	Sidewalk	Ward St	Denny Cir	S Maple St	Add a sidewalk along one side of Ward St from Denny Cir to S Maple St
Ped-89	Sidewalk	W Gilbreath St	Ward St	Holt Ave	Add a sidewalk along one side of W Gilbreath St from Ward St to Holt Ave
Ped-90	Sidewalk	Holt Ave	W Gilbreath St	W Pine St	Add a sidewalk along one side of Holt Ave from W Gilbreath St to W Pine St
Ped-91	Sidewalk	Banks St	Wilson St	Mcbride St	Add a sidewalk along one side of Banks St from Wilson St to Mcbride St
Ped-92	Sidewalk	Ward St	Banks St	Denny St	Add a sidewalk along one side of Ward St from Banks St to Denny St
Ped-93	Sidewalk	Holt Ave	S Maple St	W Gilbreath St	Add a sidewalk along Holt Ave from S Maple St to W Gilbreath St
Ped-94	Sidewalk	N Melville St	Existing sidewalk along N Melville St	E Parker St	Add a sidewalk along N Melville St from Existing sidewalk along N Melville St to E Parker St
Ped-95	Sidewalk	N Mashall St	Existing sidewalk along N Marshall St	E Parker St	Add a sidewalk along N Marshall St from Existing sidewalk along N Marshall St to E Parker St
Ped-96	Sidewalk	E Hill St	Pomeroy St	N Mashall St	Add a sidewalk along E Hill St from Pomeroy St to N Marshall St
Ped-97	Sidewalk	E Gilbreath St	E Interstate Service Rd	Sarah Williams Ave	Add a sidewalk along E Gilbreath St from E Interstate Service Rd to Sarah Williams Ave
Ped-98	Sidewalk	NC 87 (S. Main St)	Existing sidewalk south of W. Pine St	W. McAden St	Add a sidewalk on the west side of NC 87 (S. Main St) from the existing sidewalk south of W. Pine St to W. McAden St.
Ped-99	Sidewalk	Noah Rd / Valley Dr	Wittlemore Rd	Lancelot Ln	Add a sidewalk along one side of Noah Rd / Valley Dr from Wittlemore Rd to Lancelot Dr (proposed connection to Haw River Trail)
Trail-01	Unpaved Trail	New Unpaved Trail	Oakley Street Park	North St	Add a new unpaved trail from Oakley Street Park to North Street

Table 4 - Point Facility Recommendations

Project	Project Type	Facility	Intersection	Description
INT-01	Intersection Improvements	Cherry Ln	Jimmie Kerr Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of Cherry Ln and Jimmie Kerr Rd
INT-02	Intersection Improvements	Jimmie Kerr Rd	I-85/40	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at all interchange ramps
INT-03	Intersection Improvements	Jimmie Kerr Rd	Truby Dr	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of Jimmie Kerr Rd and Truby Dr
INT-04	Intersection Improvements	Cherry Ln	Gov Scott Farm Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of Cherry Ln and Gov Scott Farm Rd
INT-05	Intersection Improvements	NC 54 (E. Harden Rd)	Cherry Ln	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 54 (E. Harden Rd) and Cherry Ln
INT-06	Intersection Improvements	NC 54 (E. Harden Rd)	Cooper Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of NC 54 (E. Harden Rd) and Cooper Rd
INT-07	Intersection Improvements	NC 54 (E. Harden Rd)	Ivey Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 54 (E. Harden Rd) and Ivey Rd
INT-08	Intersection Improvements	NC 54 (E. Harden Rd)	Whittemore Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of NC 54 (E. Harden Rd) and Whittemore Rd
INT-09	Intersection Improvements	NC 54 (E. Harden Rd)	Woody Dr	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 54 (E. Harden Rd) and Woody Dr
INT-10	Intersection Improvements	NC 54 (E. Harden Rd)	Interstate 85/40	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 54 (E. Harden Rd) and Interstate 85/40 on-ramps and off-ramps

Project	Project Type	Facility	Intersection	Description
INT-11	Intersection Improvements	E. Gilbreath St	Ivey Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of E. Gilbreath St and Ivey Rd
INT-12	Intersection Improvements	E. Gilbreath St	Woody Dr	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of E. Gilbreath St and Woody Dr
INT-13	Intersection Improvements	E. Gilbreath St	E. Interstate Service Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of E. Gilbreath St and E. Interstate Service Rd
INT-14	Intersection Improvements	E. Gilbreath St	Cheeks Ln	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of E. Gilbreath St and Cheeks Ln
INT-15	Intersection Improvements	NC 87 (S. Main St)	Nicks St	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of NC 87 (S. Main St) and Nicks St
INT-16	Intersection Improvements	NC 87 (S. Main St)	Cheeks Ln	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of NC 87 (S. Main St) and Cheeks Ln
INT-17	Intersection Improvements	NC 87 (S. Main St)	Moore St	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 87 (S. Main St) and Moore St
INT-18	Intersection Improvements	NC 87 (S. Main St)	Rogers Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 87 (S. Main St) and Rogers Rd
INT-19	Intersection Improvements	NC 87 (S. Main St)	Ivey Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 87 (S. Main St) and Ivey Rd
INT-20	Intersection Improvements	NC 87 (S. Main St)	Crescent Square Dr	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 87 (S. Main St) and Crescent Square Dr
INT-21	Intersection Improvements	NC 87 (S. Main St)	Interstate 85/40	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at all interchange ramps
INT-22	Intersection Improvements	NC 87 (S. Main St)	Gilbreath St	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of NC 87 (S. Main St) and Gilbreath St
INT-23	Intersection Improvements	W. Moore St	W. Interstate Service Rd / Auto Park Dr	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of W. Moore St and W. Interstate Service Rd / Auto Park Dr
INT-24	Intersection Improvements	W. Moore St	Hanford Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of W. Moore St and Hanford Rd
INT-25	Intersection Improvements	W. Moore St	Rogers Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and pedestrian warning signage at the intersection of W. Moore St and Rogers Rd
INT-26	Intersection Improvements	Rogers Rd	Williamsdale Rd / Ridgecrest St	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of Rogers Rd and Williamsdale Rd / Ridgecrest St
INT-27	Intersection Improvements	Rogers Rd	Thompson Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, Rectangular Rapidly Flashing Beacon (RRFB), and pedestrian warning signage at the intersection of Rogers Rd and Thompson Rd
INT-28	Intersection Improvements	Rogers Rd	Wildwood Ln	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, Rectangular Rapidly Flashing Beacon (RRFB), and pedestrian warning signage at the intersection of Rogers Rd and Wildwood Ln
INT-29	Intersection Improvements	Rogers Rd	Lacy Holt Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, Rectangular Rapidly Flashing Beacon (RRFB), and pedestrian warning signage at the intersection of Rogers Rd and Lacy Holt Rd
INT-30	Intersection Improvements	Monroe Holt Rd	Lacy Holt Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of Monroe Holt Rd and Lacy Holt Rd
INT-31	Intersection Improvements	NC 87 (S. Main St)	W. Shannon Dr	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage at the intersection of NC 87 (S. Main St) at W. Shannon Dr
INT-32	Intersection Improvements	W. Harden St	N. Maple St	Upgrade to high visibility crosswalks, add directional curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-33	Intersection Improvements	NC 49 (Harden St)	NC 87 (N. Main St)	Add high visibility crosswalks, improve curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-34	Intersection Improvements	NC 49 (E. Harden St)	N. Marshall St	Add high visibility crosswalks, improve curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-35	Intersection Improvements	E. Elm St	Marshall St	Add high visibility crosswalks, improve curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-36	Intersection Improvements	Main St	Elm St	Add high visibility crosswalks on all legs, improve curb cuts and curb ramps, add mountable pedestrian refuge islands on all approaches, and remove first parking spot in roundabout adjacent to N. Main St
INT-37	Intersection Improvements	E. Elm St	Maple St	Add high visibility crosswalks, improve curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads

Project	Project Type	Facility	Intersection	Description
INT-38	Intersection Improvements	W. Pine St	S. Maple St	Add high visibility crosswalks, improve curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-39	Intersection Improvements	NC 87 (S. Main St)	Pine St	Add high visibility crosswalks on all approaches, improve curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-40	Intersection Improvements	S. Marshall St	E. Pine St	Add high visibility crosswalks on all approaches, improve curb cuts and curb ramps, ADA truncated domes, and add enhanced pedestrian signal heads
INT-41	Intersection Improvements	E. Pine St	S. Melville St	Add high visibility crosswalks on all approaches, improve curb cuts and curb ramps, ADA truncated domes, and add enhanced pedestrian signal heads
INT-42	Intersection Improvements	E. Elm St	Melville St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, pedestrian warning signage, and a Pedestrian Hybrid Beacon (PHB)
INT-43	Intersection Improvements	NC 54 (E. Harden St)	N. Melville St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, pedestrian warning signage, and a Pedestrian Hybrid Beacon (PHB)
INT-44	Intersection Improvements	E. McAden St	S. Melville St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and make the intersection a 4-way stop controlled intersection.
INT-45	Intersection Improvements	E. McAden St	S. Marshall St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, and ADA truncated domes
INT-46	Intersection Improvements	McAden St	NC 87 (S. Main St)	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, pedestrian warning signage, and Pedestrian Hybrid Beacon (PHB)
INT-47	Intersection Improvements	W. McAden St	S. Maple St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage
INT-48	Intersection Improvements	S. Maple St	Banks St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage
INT-49	Intersection Improvements	S. Maple St	W. Gilbreath St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage
INT-50	Intersection Improvements	NC 54 (W. Harden St)	W. Pine St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-51	Intersection Improvements	NC 54 (W. Harden St)	NC 87 (W. Elm St)	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, including island with right slip lane from W. Harden St onto W. Elm St, ADA truncated domes, and enhanced pedestrian signal heads
INT-52	Intersection Improvements	NC 54 (W. Harden St)	Washington St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage
INT-53	Intersection Improvements	NC 54 (W. Harden St)	Oneida St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage
INT-54	Intersection Improvements	Oneida St	W. Market St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage
INT-55	Intersection Improvements	Washington St	W. Market St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage
INT-56	Intersection Improvements	NC 87 (W. Elm St)	W. Market St / Albany St / Oakley St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, enhanced pedestrian signal heads, and align Albany Street with Oakley Street at intersection of W. Elm St
INT-57	Intersection Improvements	Providence Rd	Washington St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, pedestrian refuge island at right slip line from Providence Rd to Washington St, and enhanced pedestrian signal heads
INT-58	Intersection Improvements	Washington Street	Railroad Tracks / Longest St / W. River St	Add high visibility crosswalks, curb cuts and curb ramps, and ADA truncated domes at the intersection of W. River St and Longest St at Washington St, and at-grade pedestrian crossing facilities for sidewalk on the east side and Multi-Use Path on the west side of the railroad tracks
INT-59	Intersection Improvements	Pomeroy St	W. Hanover Rd	Add high visibility crosswalks, curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-60	Intersection Improvements	Pomeroy St	Railroad Tracks / River St / Cannon St	Add high visibility crosswalks, curb cuts and curb ramps, and ADA truncated domes at the intersections of River St at Pomeroy St and Cannon St at Pomeroy St and at-grade pedestrian crossing facilities for sidewalk
INT-61	Intersection Improvements	NC 49 (E. Elm St)	E. Parker St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, pedestrian warning signage, and a Pedestrian Hybrid Beacon (PHB)
INT-62	Intersection Improvements	NC 49 (E. Elm St)	Trollinger Rd	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-63	Intersection Improvements	NC 49 (E. Elm St)	Albright Ave	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage
INT-64	Intersection Improvements	NC 49 (E. Elm St)	Town Branch Rd	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, pedestrian warning signage, and a Pedestrian Hybrid Beacon (PHB)

Project	Project Type	Facility	Intersection	Description
INT-65	Intersection Improvements	NC 49 (E. Elm St)	NC 54 (E. Harden St)	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage in accordance with STIP project U-6017
INT-66	Intersection Improvements	NC 54 (E. Harden St)	E. Pine St	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-67	Intersection Improvements	NC 54 (E. Harden St)	Riverbend Rd / Johnson Ave	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and enhanced pedestrian signal heads
INT-68	Intersection Improvements	NC 54 (E. Harden St)	Oakgrove Dr	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, pedestrian warning signage, and Pedestrian Hybrid Beacon (PHB)
INT-69	Intersection Improvements	Town Branch Rd	Weaver Way	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, pedestrian warning signage, and evaluate for a Pedestrian Hybrid Beacon (PHB) across Town Branch Rd to Graham High School
INT-70	Intersection Improvements	Goley St	Johnson Ave / Graham Middle School Driveway	Add high visibility crosswalks on all approaches, curb cuts and curb ramps, ADA truncated domes, and pedestrian warning signage across Goley St at Johnson Ave and evaluate Graham Middle School driveway for pedestrian refuge island and sidewalk realignment for enhanced pedestrian comfort and visibility

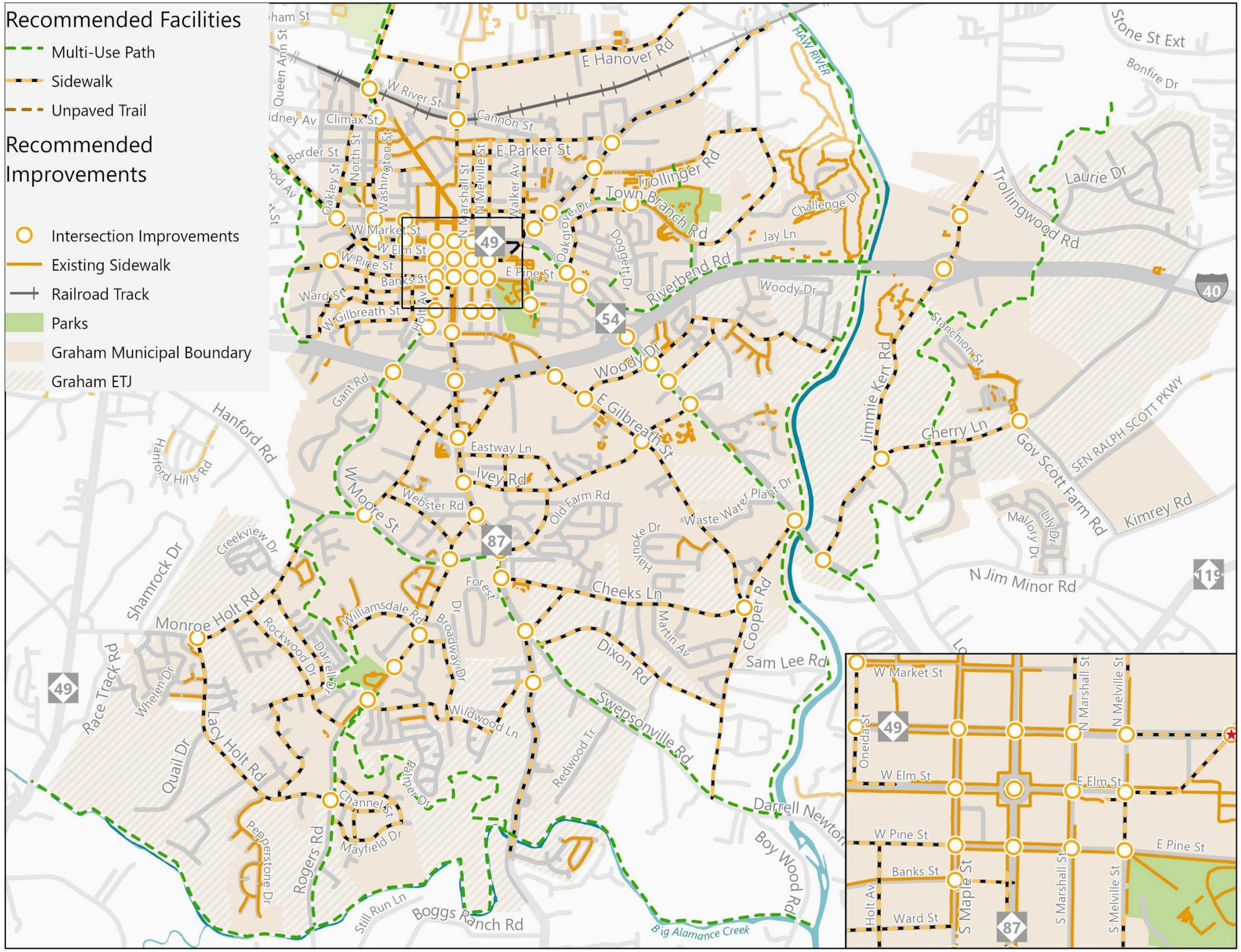


Figure 18 Recommended Facilities

3.3.1 Evaluation Criteria

Recommended projects were objectively scored based on 7 scoring criteria. These scoring criteria were developed based on the plan's vision, goals, and objectives set forth at the beginning of the planning process. The scoring guidelines assigned a score out of 100 possible points to each project. The criteria used for scoring included the following: Connections to Destinations, Completing the Network, Recreation, Safety, Overlap with Priority Corridors, Equitable Access, and Cost Effectiveness. The project scoring matrix can be found in Table 5.

Table 5 - Project Scoring Matrix

Criteria	Score
Connections	**20%**
Facility connects to 5 or more destinations*	20
Facility connects to 3-4 destinations*	10
Facility connects to 1 – 2 destinations	5
Facility does not connect to a destination*	0
Completing the Network	**15%**
Facility fills a gap or extends the network	10
Bonus: Facility overcomes a major barrier (interstate overpass/underpass, railroad, bridge) +5 points in addition to points above	+5
Recreation	**10%**
Facility connects to a recreation center, gym, park, or regional trail	10
Facility does not connect to a recreation center, gym, park, or regional trail	0
Safety	**20%**
Facility is on a High-Risk crash corridor (upper quintile)**	20
Facility is a Moderate-Risk crash corridor (3rd or 4th quintile)**	10
Facility meets neither of the above criteria but provides separation from the roadway	5
Facility does not provide separation from the roadway	0
Priority Corridors	**5%**
Facility is on or connects to a Primary Priority Corridor	5
Facility is on or connects to a Secondary Priority Corridor	3
Facility is not on and does not connect to a Priority Corridor	0

Equitable Access	**20%**
Facility is south of the I-85/40 interstate corridor and overlaps with a block group with a score 1 standard deviation above the Burlington-Graham MPO average for the Transportation Disadvantage Index***	20
Facility is south of the I-85/40 interstate corridor	10
Facility overlaps with a block group with a score 1 standard deviation above the Burlington-Graham MPO average for the Transportation Disadvantage Index	10
Cost Effectiveness	**10%**
Project is in the lowest third by cost	10
Project is in the middle third by cost	5
Project is in the highest third by cost	0

*Destinations defined as schools, colleges/universities, grocery stores, social services, commercial centers, libraries, government buildings, multi-family residential (existing or planned), or major employment sites (50+ jobs)

**Crash corridor categorization based on NCDOT pedestrian exposure model based on statewide comparison of similar road types and characteristics

***Transportation Disadvantaged Index score developed by NCDOT and effective as of September 2023 is based on the presence of 7 transportation disadvantaged population categories including: Elderly Individuals (Aged 65+), Youth, Zero Vehicle Households, Individuals with Disability, Households in Poverty, Limited English Proficiency, and Concentration of Minority Race/Ethnic Groups

Each scoring criteria is broken down into two to four scoring levels. The greater the match to the scoring criteria, the higher the project will score. Each project is scored on all six criteria and assigned a composite score between 0 – 100 points. Projects are then compared to one another utilizing the composite score. Projects that have higher composite scores will be recommended for earlier implementation than those with lower composite scores.

In determining the cost of each project, this study utilized the North Carolina Department of Transportation's Bicycle and Pedestrian Facility Cost Tool (2019). The tool provides cost estimates for design, right-of-way acquisition, utilities, and construction based in 2019 dollars. This Plan updated the cost estimates for inflation to 2023 dollars using the National Highway Construction Cost Index (NHCCI). The tool provides planning-level estimates and does not include detailed estimates that project-specific engineering analysis would provide.

3.3.2 Project Scoring

Table 6 and Table 7 below includes the scoring results for the bicycle and pedestrian projects considered, based on the scoring criteria identified.
***Disclaimer: Project Pricing is not exact and should not be considered to be when making decisions on which to fund.**

Table 6 - Linear Project Scoring Results

Linear Project Scoring Results										
Project ID	**Cost (2023 $USD)**	**Length (Mi)**	**Connections**	**Expand Network**	**Recreation**	**Safety**	**Equity**	**Cost Effectiveness**	**Priority Corridor Bonus**	**Total**
Ped-76	$113,064	0.1	20	10	10	20	10	5	5	80
Ped-54	$494,655	0.24	20	10	0	20	20	0	5	75
Ped-14	$395,724	0.34	10	10	0	20	20	5	5	70
Ped-10	$904,512	1.08	5	10	10	20	20	0	3	68
Ped-19	$395,724	0.46	10	10	0	20	20	5	3	68
MUP-17	$2,890,197	1.14	0	10	10	20	20	0	5	65
MUP-24	$890,379	0.35	10	10	10	20	10	0	5	65
Ped-12	$134,263	0.14	0	15	0	20	20	5	5	65
Ped-13	$367,458	0.42	5	10	0	20	20	5	5	65
Ped-55	$522,921	0.26	10	10	0	20	20	0	5	65
Ped-69	$183,729	0.17	5	10	10	20	10	5	5	65
Ped-70	$226,128	0.22	5	10	10	20	10	5	5	65
Ped-78	$113,064	0.09	0	10	10	20	10	10	5	65
Ped-86	$374,524	0.38	5	10	10	20	10	5	5	65
Ped-17	$388,657	0.33	5	10	0	20	20	5	3	63
Ped-34	$664,251	0.78	10	10	0	20	20	0	3	63
Ped-72	$49,465	0.03	0	10	10	20	10	10	3	63
Ped-101	$49,465	0.03	5	10	0	20	10	10	5	60
Ped-102	$1,059,974	0.76	5	10	10	20	10	0	5	60
Ped-36	$155,463	0.17	10	0	0	20	20	5	5	60
Ped-37	$600,652	0.71	5	10	0	20	20	0	5	60
Ped-56	$261,460	0.13	0	10	0	20	20	5	5	60
Ped-79	$1,059,974	0.28	5	10	10	20	10	0	5	60

Linear Project Scoring Results

Project ID	Cost (2023 $USD)	Length (Mi)	Connections	Expand Network	Recreation	Safety	Equity	Cost Effectiveness	Priority Corridor Bonus	Total
Ped-80	$544,120	0.56	5	10	10	20	10	0	5	60
Ped-83	$374,524	0.38	0	10	10	20	10	5	5	60
Ped-85	$254,394	0.25	10	10	0	20	10	5	5	60
Ped-98	$148,396	0.14	20	10	0	20	0	5	5	60
MUP-10	$657,184	0.27	5	10	0	20	20	0	3	58
MUP-20	$1,568,762	0.66	5	10	10	20	10	0	3	58
Ped-11	$190,795	0.21	0	10	0	20	20	5	3	58
Ped-18	$600,652	0.59	5	10	0	20	20	0	3	58
Ped-57	$268,527	0.75	0	10	10	20	10	5	3	58
Ped-71	$113,064	0.1	0	10	10	20	10	5	3	58
MUP-18	$1,081,174	0.36	0	10	0	20	20	0	5	55
MUP-21	$268,527	0.11	5	10	0	20	10	5	5	55
MUP-25	$1,413,299	0.57	0	10	10	20	10	0	5	55
Ped-08	$325,059	0.37	5	10	0	20	10	5	5	55
Ped-35	$431,056	0.5	5	0	0	20	20	5	5	55
Ped-53	$374,524	0.19	5	0	0	20	20	5	5	55
Ped-77	$219,061	0.2	5	10	0	20	10	5	5	55
Ped-58	$395,724	0.46	0	10	10	20	10	5	0	55
Ped-68	$325,059	0.33	0	10	10	20	10	5	0	55
Ped-82	$176,662	0.17	0	10	10	20	10	5	0	55
Ped-94	$452,256	0.46	0	10	10	20	10	5	0	55
Ped-95	$459,322	0.47	5	10	10	20	10	0	0	55
Trail-01	$197,862	0.08	0	10	10	20	10	5	0	55
MUP-06	$558,253	0.26	0	10	10	20	10	0	3	53
MUP-11	$1,286,102	0.54	0	10	0	20	20	0	3	53
MUP-26	$1,837,289	0.75	0	10	10	20	10	0	3	53
Ped-31	$565,320	0.67	0	10	10	20	10	0	3	53
Ped-73	$91,864	0.07	0	10	10	10	10	10	3	53
MUP-09	$3,780,575	0.46	5	10	0	20	10	0	5	50
MUP-15	$141,330	0.06	0	0	0	20	20	5	5	50

Linear Project Scoring Results

Project ID	Cost (2023 $USD)	Length (Mi)	Connections	Expand Network	Recreation	Safety	Equity	Cost Effectiveness	Priority Corridor Bonus	Total
MUP-16	$2,508,606	0.62	0	5	10	20	10	0	5	50
MUP-19	$1,469,831	0.62	5	10	0	20	10	0	5	50
Ped-16	$480,522	0.44	5	10	0	10	20	0	5	50
Ped-52	$466,389	0.24	5	10	0	20	10	0	5	50
Ped-65	$600,652	0.62	5	10	0	20	10	0	5	50
Ped-67	$607,719	0.52	5	10	0	20	10	0	5	50
Ped-74	$219,061	0.18	0	10	0	20	10	5	5	50
Ped-97	$367,458	0.37	0	10	0	20	10	5	5	50
Ped-48	$657,184	0.78	0	10	0	20	20	0	0	50
Ped-60	$452,256	0.5	5	10	0	20	10	5	0	50
Ped-28	$445,189	0.51	0	10	10	10	10	5	3	48
Ped-32	$254,394	0.28	0	0	0	20	20	5	3	48
Ped-63	$1,095,307	1.31	5	10	10	20	0	0	3	48
Ped-81	$240,261	0.22	0	10	0	20	10	5	3	48
MUP-13	$628,918	0.26	0	0	0	20	20	0	5	45
MUP-34	$2,063,417	0.91	0	0	10	20	10	0	5	45
Ped-06	$473,455	0.55	0	0	10	20	10	0	5	45
Ped-61	$593,586	0.61	0	10	0	20	10	0	5	45
Ped-75	$113,064	0.09	5	10	0	20	0	5	5	45
Ped-87	$558,253	0.58	10	10	0	20	0	0	5	45
MUP-29	$494,655	0.2	5	10	10	10	10	0	0	45
Ped-100	$134,263	0.14	0	0	10	20	10	5	0	45
Ped-84	$219,061	0.21	0	10	0	20	10	5	0	45
Ped-96	$183,729	0.18	0	10	0	20	10	5	0	45
MUP-05	$1,010,509	0.42	0	0	0	20	20	0	3	43
MUP-28	$211,995	0.12	5	10	10	10	0	5	3	43
Ped-22	$409,857	0.47	5	10	0	10	10	5	3	43
Ped-39	$784,381	0.82	0	10	0	10	20	0	3	43
MUP-22	$3,052,726	1.48	5	10	0	20	0	0	5	40
Ped-09	$289,726	0.33	0	0	0	20	10	5	5	40

Linear Project Scoring Results

Project ID	Cost (2023 $USD)	Length (Mi)	Connections	Expand Network	Recreation	Safety	Equity	Cost Effectiveness	Priority Corridor Bonus	Total
Ped-15	$105,997	0.11	5	0	0	20	10	5	0	40
Ped-42	$897,445	1.07	0	10	0	10	20	0	0	40
Ped-59	$1,109,440	1.32	0	10	0	20	10	0	0	40
MUP-30	$8,663,524	3.86	0	10	10	5	10	0	3	38
Ped-23	$254,394	0.28	0	0	0	20	10	5	3	38
Ped-24	$1,010,509	0.95	0	5	0	20	10	0	3	38
Ped-33	$388,657	0.45	0	0	0	10	20	5	3	38
Ped-38	$395,724	0.46	0	10	0	10	10	5	3	38
MUP-09	$3,780,575	1.75	0	0	0	20	10	0	5	35
MUP-35	$12,698,494	4.85	0	5	10	5	10	0	5	35
Ped-62	$961,043	1.09	0	0	0	20	10	0	5	35
MUP-36	$148,396	0.06	0	0	10	10	10	5	0	35
MUP-12	$1,731,292	0.83	0	0	0	10	20	0	3	33
Ped-07	$812,647	0.96	0	0	0	20	10	0	3	33
Ped-20	$529,987	0.62	0	0	0	10	20	0	3	33
Ped-21	$169,596	0.18	5	0	0	0	20	5	3	33
Ped-25	$84,798	0.08	0	0	0	10	10	10	3	33
Ped-49	$480,522	0.56	0	0	0	20	10	0	3	33
MUP-14	$614,785	0.24	5	0	0	20	0	0	5	30
MUP-27	$211,995	0.09	5	0	10	10	0	5	0	30
Ped-40	$628,918	0.65	0	0	10	10	10	0	0	30
Ped-51	$961,043	1.14	0	0	0	20	10	0	0	30
Ped-89	$501,721	0.52	0	10	10	10	0	0	0	30
Ped-92	$84,798	0.07	0	0	10	10	0	10	0	30
Ped-99	$706,650	0.74	0	10	0	10	10	0	0	30
MUP-23	$452,256	0.21	0	0	10	10	0	5	3	28
Ped-30	$134,263	0.14	0	0	0	10	10	5	3	28
Ped-88	$515,854	0.53	5	10	0	10	0	0	3	28
Ped-01	$904,512	0.78	0	10	0	0	10	0	5	25
Ped-87	$558,253	0.27	0	0	0	10	10	0	5	25

Linear Project Scoring Results

Project ID	Cost (2023 $USD)	Length (Mi)	Connections	Expand Network	Recreation	Safety	Equity	Cost Effectiveness	Priority Corridor Bonus	Total
MUP-03	$247,327	0.06	0	0	10	0	10	5	0	25
MUP-04	$310,926	0.13	0	0	10	0	10	5	0	25
Ped-03	$897,445	1.07	5	10	0	0	10	0	0	25
Ped-26	$282,660	0.32	0	0	0	10	10	5	0	25
Ped-27	$226,128	0.25	0	0	0	10	10	5	0	25
Ped-50	$423,990	0.49	0	0	0	20	0	5	0	25
MUP-07	$862,113	0.41	0	10	0	0	10	0	3	23
MUP-31	$4,557,890	2.03	0	5	0	5	10	0	3	23
Ped-47	$466,389	0.47	0	10	0	0	10	0	3	23
Ped-93	$120,130	0.11	0	0	0	10	0	5	5	20
Ped-04	$148,396	0.15	0	5	0	0	10	5	0	20
Ped-43	$727,849	0.86	0	0	0	10	10	0	0	20
Ped-91	$643,051	0.67	0	10	0	10	0	0	0	20
MUP-33	$4,020,836	1.86	0	0	0	5	10	0	3	18
Ped-41	$254,394	0.28	0	0	0	0	10	5	3	18
Ped-45	$325,059	0.37	0	0	0	0	10	5	3	18
Ped-66	$190,795	0.18	0	10	0	0	0	5	3	18
MUP-37	$10,536,146	4.18	0	0	0	0	10	0	5	15
Ped-02	$579,453	0.65	0	0	0	0	10	0	5	15
Ped-64	$621,852	0.65	0	0	0	10	0	0	5	15
MUP-01	$558,253	0.21	5	0	0	0	10	0	0	15
MUP-02	$678,384	0.09	0	5	0	0	10	0	0	15
Ped-29	$381,591	0.44	0	0	0	0	10	5	0	15
Ped-44	$431,056	0.5	0	0	0	0	10	5	0	15
Ped-46	$169,596	0.16	0	0	0	0	10	5	0	15
Ped-90	$247,327	0.24	0	0	0	10	0	5	0	15
MUP-08	$1,441,565	0.69	0	0	0	0	10	0	3	13
MUP-32	$4,296,430	1.91	0	0	0	0	10	0	3	13
Ped-05	$438,123	0.48	0	0	0	0	0	5	0	5

Table 7 - Intersection Project Scoring Results

Intersection Project Scoring Results									
Project	**Cost**	**Connections**	**Expand Network**	**Recreation**	**Safety**	**Equity**	**Cost Effectiveness**	**Priority Corridor Bonus**	**Total**
INT-20	$91,864	10	10	0	20	20	10	5	75
INT-39	$91,864	20	10	0	20	10	10	5	75
INT-12	$70,665	0	10	0	20	20	10	5	65
INT-13	$70,665	0	10	0	20	20	10	5	65
INT-19	$91,864	10	0	0	20	20	10	5	65
INT-22	$91,864	0	10	10	20	10	10	5	65
INT-28	$70,665	0	10	10	20	10	10	3	63
INT-38	$91,864	20	10	0	20	0	10	3	63
INT-17	$91,864	5	10	0	20	10	10	5	60
INT-27	$91,864	0	10	10	20	10	10	0	60
INT-32	$91,864	5	10	0	20	10	10	5	60
INT-33	$91,864	5	10	0	20	10	10	5	60
INT-34	$91,864	5	10	0	20	10	10	5	60
INT-40	$91,864	0	10	10	20	10	10	0	60
INT-53	$91,864	5	10	0	20	10	10	5	60
INT-64	$70,665	5	10	0	20	10	10	5	60
INT-65	$91,864	5	10	0	20	10	10	5	60
INT-11	$91,864	5	0	0	20	20	10	3	58
INT-07	$91,864	0	0	0	20	20	10	5	55
INT-08	$70,665	0	0	0	20	20	10	5	55
INT-16	$70,665	5	10	0	20	10	10	0	55
INT-21	$63,598	0	10	0	20	10	10	5	55
INT-23	$91,864	0	5	0	20	20	10	0	55
INT-42	$91,864	0	10	0	20	10	10	5	55
INT-43	$91,864	0	10	0	20	10	10	5	55
INT-51	$240,261	5	10	0	20	10	5	5	55
INT-62	$70,665	0	10	0	20	10	10	5	55

Intersection Project Scoring Results

Project	*Cost*	*Connections*	*Expand Network*	*Recreation*	*Safety*	*Equity*	*Cost Effectiveness*	*Priority Corridor Bonus*	*Total*
INT-70	$70,665	5	10	10	10	10	10	0	55
INT-41	$91,864	0	10	10	10	10	10	3	53
INT-57	$91,864	0	10	0	20	10	10	3	53
INT-06	$70,665	0	0	10	20	10	10	0	50
INT-09	$91,864	0	0	0	20	20	10	0	50
INT-15	$70,665	5	0	0	20	10	10	5	50
INT-30	$70,665	0	0	0	20	20	10	0	50
INT-35	$91,864	0	10	0	20	10	10	0	50
INT-37	$91,864	10	10	0	20	0	10	0	50
INT-44	$91,864	0	10	10	10	10	10	0	50
INT-45	$91,864	0	10	0	20	10	10	0	50
INT-48	$70,665	10	10	0	20	0	10	0	50
INT-52	$70,665	0	10	0	20	10	10	0	50
INT-54	$91,864	0	10	0	20	10	10	0	50
INT-55	$91,864	0	10	0	20	10	10	0	50
INT-56	$91,864	0	10	0	20	10	10	0	50
INT-59	$91,864	0	10	0	20	10	10	0	50
INT-63	$70,665	0	10	0	20	10	10	0	50
INT-47	$70,665	5	10	0	20	0	10	3	48
INT-18	$91,864	0	0	0	20	10	10	5	45
INT-24	$91,864	5	0	0	20	10	10	0	45
INT-46	$91,864	5	10	0	20	0	10	0	45
INT-50	$91,864	0	10	0	20	0	10	5	45
INT-25	$91,864	0	0	0	20	10	10	3	43
INT-26	$91,864	0	0	0	20	10	10	3	43
INT-31	$70,665	0	0	0	20	10	10	3	43
INT-14	$91,864	0	0	0	20	10	10	0	40
INT-58	$91,864	0	0	0	20	10	10	0	40
INT-60	$91,864	0	0	0	20	10	10	0	40
INT-04	$91,864	0	10	0	5	10	10	0	35

Intersection Project Scoring Results

Project	Cost	Connections	Expand Network	Recreation	Safety	Equity	Cost Effectiveness	Priority Corridor Bonus	Total
INT-10	$63,598	0	5	0	20	0	10	0	35
INT-61	$91,864	0	0	0	20	0	10	5	35
INT-66	$70,665	0	0	0	20	0	10	5	35
INT-67	$91,864	5	0	0	20	0	10	0	35
INT-68	$70,665	0	0	0	20	0	10	5	35
INT-69	$70,665	0	0	0	20	0	10	3	33
INT-49	$91,864	0	0	0	20	0	10	0	30
INT-05	$70,665	0	0	0	0	10	10	5	25
INT-36	$141,330	10	10	0	0	0	5	0	25
INT-01	$91,864	0	0	0	0	10	10	0	20
INT-29	$91,864	0	0	0	0	10	10	0	20
INT-02	$63,598	0	5	0	0	0	10	0	15
INT-03	$70,665	0	0	0	0	0	10	0	10

3.3.3 Priority Projects

Table 10 and Figure 18 detail eight priority project bundles (or groups) of the highest-scoring linear and intersection improvement projects. The projects are geographically distributed in a way where half of those project groups are located north of I-85/40 and half are located south of I-85/40. Several project groups target improvements in proximity to downtown Graham, in order to extend and improve upon the existing well-connected pedestrian network in the center of Graham.

Table 8 - Priority Projects

Project Bundle Name	*Pedestrian Projects*	*Intersection Projects*	*Description*	*Estimated Cost*
Eastern Downtown	Ped-65 Ped-69, Ped-70, Ped-71, Ped-72, Ped-101	Int-41, Int-42, Int-43, Int-65	Connect Harden Street north of Linwood Cemetery via sidewalk along E. Harden Street, E. Elm Street. Create sidewalk connection from E Pine Street to E. Elm Street with signalized intersection and high visibility markings at each intersection. Implement gateway signage at E. Harden Street and E. Elm Street to increase driver awareness in the downtown area.	$989,309
Western Downtown	Ped-78, Ped-79	Int-51	Implement sidewalk along W. Elm Street. Establish a signalized intersection and gateway signage at the intersection of W. Elm Street and W. Harden Street to increase driver awareness and provide crossing access to communities north of the project bundle's extent.	$643,051
City Hall	Ped-76, Ped-98	Int-48	Implement a sidewalk along the west side of S. Main Street from McAden Street to alleyway at Banks Drive, connect Banks Drive at Graham Public Library and Graham Police Department. Introduce signalized crossing at Banks Street and S. Maple Street connection.	$332,125
McAden Street Multi-use Path	MUP-24	Int-44, Int-45, Int-46, Int-47	Implement a multi-use path along E. McAden Street beginning at S. Maple Street and ending at Graham Middle School. Implement signalized crossings or evaluate for other pedestrian crossing treatments (All Way Stop, Pedestrian Hybrid Beacon or Rectangular Rapid Flashing Beacon) at all intersections along the corridor.	$1,236,637
S. Main Street	Ped-54, Ped-55	Int-19, Int-20, Int-21	Connect communities south of the existing I-85/40 bridge via sidewalk along S. Main Street from S. Main Street at I-85/40 to Ivey Road.	$1,264,903
Ivey Road	Ped-18, Ped-19	Int-19	Connect S. Main Street to E. Gilbreath Street via sidewalk along Ivey Road; connect communities south of the existing I-85/40 bridge.	$1,088,240
E. Gilbreath Street	Ped-11, Ped-97	Int-11, Int-12	Implement sidewalks and crossing improvements along E. Gilbreath Street from Ivey Road to the I-85/40 bridge.	$720,783
Woody Drive	Ped-13, Ped-14	Int-09, Ped-13, Ped -14	Connect E. Gilbreath Street to Noah Road via sidewalk along Woody Drive. Implement crossing improvements at intersection of Woody Drive and NC 54.	$855,046
Total Cost				**$7,130,094**

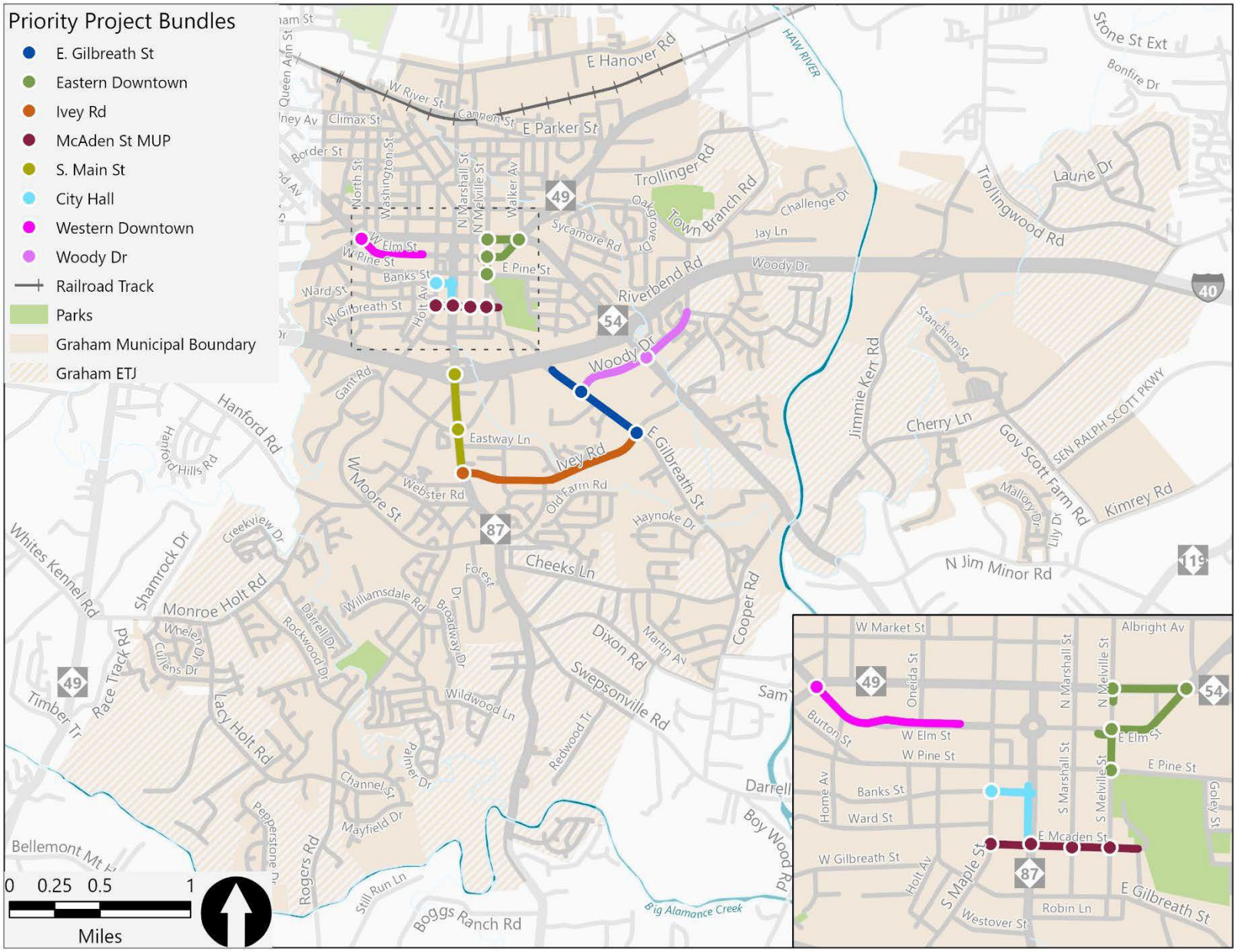


Figure 19 Priority Projects Map

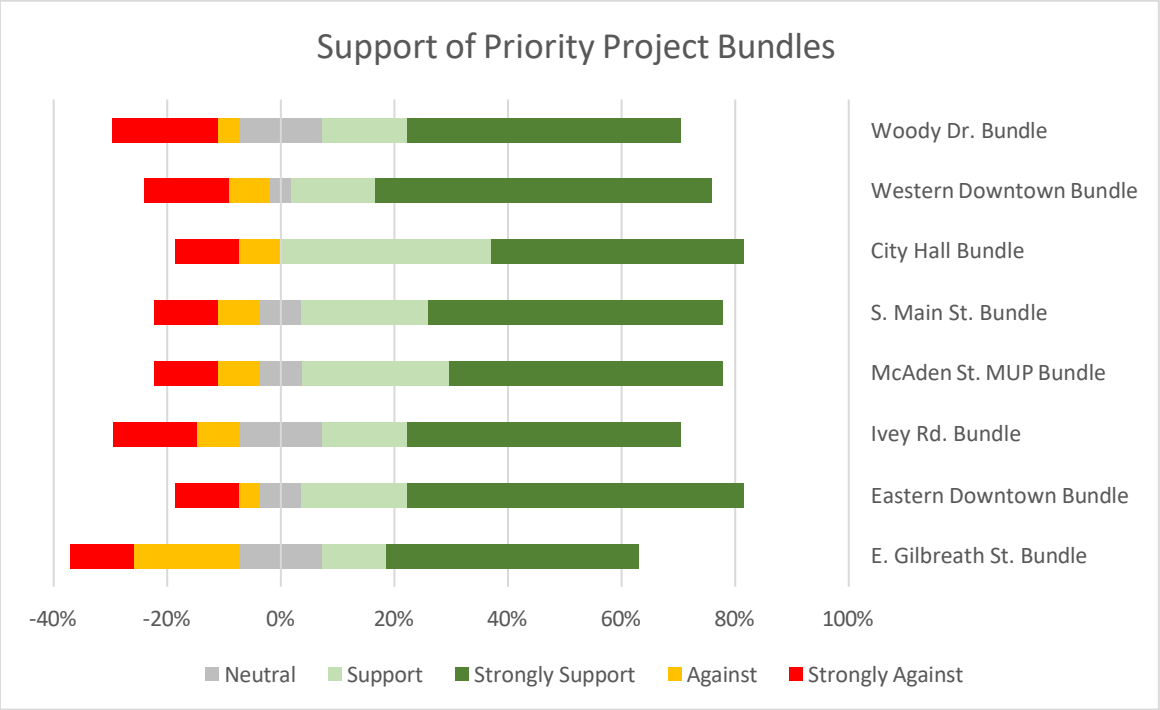


Figure 20 Survey #2 Results-Support of Priority Projects

During the second public survey opportunity (October 25 – December 18, 2023), 27 residents provided their opinion on the priority projects. As shown in Figure 20, the priority projects were well-received by members of the public who responded to the survey, with most projects achieving 70% support or more. It was noted in the survey that respondents are largely excited about additional pedestrian opportunities, especially for the separation of pedestrians from traffic. A concern along the priority project locations was high vehicle volume and speed, which reduced the level of comfort for pedestrians and increased stress. These priority projects would help address these challenges and increase pedestrian connectivity and opportunities.

3.4 Traffic Calming, Placemaking and Small Improvements Recommendations

In addition to the facility recommendations, the Plan also recommends traffic calming along several corridors, as well as several placemaking and small improvement strategies in key locations. Recommended traffic calming treatments are described in detail in Table 9 and illustrated in Figure 21. Placemaking focuses on transforming and defining a public space to strengthen the connection between those who use the space and the

physical environment. For the purpose of this Plan, placemaking will focus on wayfinding signage, landscaping, public art, and pedestrian facilities. As described in Table 10 and illustrated in Figure 21 map, the following locations are recommended for placemaking efforts: N. Main Street at Albright Avenue, E. Harden Street at E. Elm Street, S. Main Street at McAden Street, and W. Harden Street at W. Elm Street.

Table 9 - Recommended Traffic Calming Treatments

Roadway	Recommended Traffic Calming Treatments
E. Gilbreath St. (E. Interstate Service Rd to Ivey Rd)	Reduce speed limit from 45MPH to 35MPH to match future land use policies; add high visibility crosswalks and pedestrian refuge islands for pedestrian visibility; add street trees; utilize posted speed pavement markings.
Monroe Holt Rd. (City Limits to Little Alamance Creek)	Reduce speed limit from 45MPH to 35MPH to match future land use policies; add high visibility crosswalks and pedestrian refuge islands for pedestrian visibility; add street trees; utilize posted speed pavement markings; perform feasibility analysis for a roundabout at Lacy Holt Rd.
E. Elm St. (E. Harden St to E. Parker St.)	Consider a road diet from a 4-lane cross-section to 3-lane with center two-way left turn lane; add high visibility crosswalks and pedestrian refuge islands for pedestrian visibility; add street trees; consider narrowing lanes; evaluate for a four-way stop, or traffic signal.
E. Harden St. (N. Marshall St to E. Pine St)	Consider a road diet from a 4-lane cross-section to 3-lane with center two-way left turn lane; add high visibility crosswalks and pedestrian refuge islands for pedestrian visibility; add street trees; utilize posted speed pavement markings; consider narrowing lanes; planned roundabout at E. Elm St. will assist in traffic calming and speed reduction.
E. Harden St. (Melville St to E. Elm St.)	Consider a road diet in order to add the missing section of sidewalk on the N. side of E. Harden to complete the connection to downtown.
Rogers Rd. (S. Main St to Lacy Holt Rd)	Add Rectangular Rapidly Flashing Beacons (RRFBs) or evaluate for Pedestrian Hybrid Beacons (PHBs) at key pedestrian crossing opportunities; add high visibility crosswalks and pedestrian refuge islands for pedestrian visibility; add street trees; utilize posted speed pavement markings; deploy mobile speed feedback signs.
S. Maple St (Interstate 85/40 to W. Elm St)	Add high visibility crosswalks for pedestrian visibility; add Rectangular Rapidly Flashing Beacons (RRFBs) at key pedestrian crossing opportunities; deploy mobile speed feedback signs.

Table 10 - Placemaking Recommendations

Placemaking Location	Placemaking Recommendation
N. Main St at Albright Ave	Evaluate for a single lane roundabout with welcoming landscaping, public art, and directional wayfinding
E. Harden St at E. Elm St	Evaluate for a single lane roundabout with welcoming landscaping, public art, and directional wayfinding
S. Main St at McAden St	Evaluate for a single lane roundabout with welcoming landscaping, public art, and directional wayfinding
W. Harden St at W. Elm St	Evaluate for a single lane roundabout with welcoming landscaping, public art, and directional wayfinding
E. Pine St at S. Melville St	Add directional wayfinding
N. Main St at College St	Add directional wayfinding
Town Branch Rd at Bill Cooke Park	Add directional wayfinding
City Hall	Add directional wayfinding
Elm St at Main St (Sesquicentennial Park)	Add directional wayfinding
South Graham Municipal Park	Add directional wayfinding
S. Main St at Ivey Rd	Add directional wayfinding
E. Hard St at Woody Dr	Add directional wayfinding
Alamance Community College	Add directional wayfinding

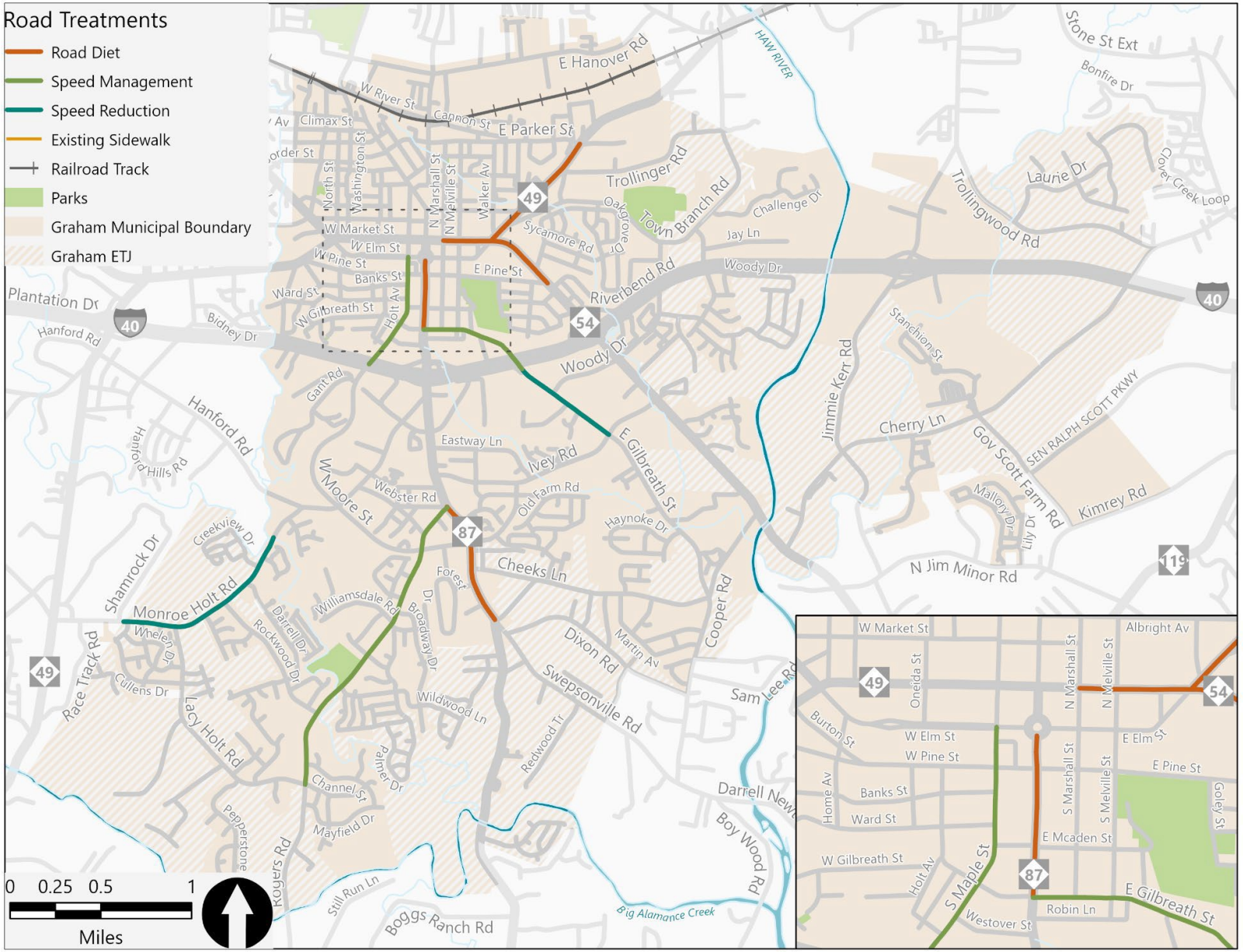


Figure 21 Recommended Traffic Calming Treatments Map

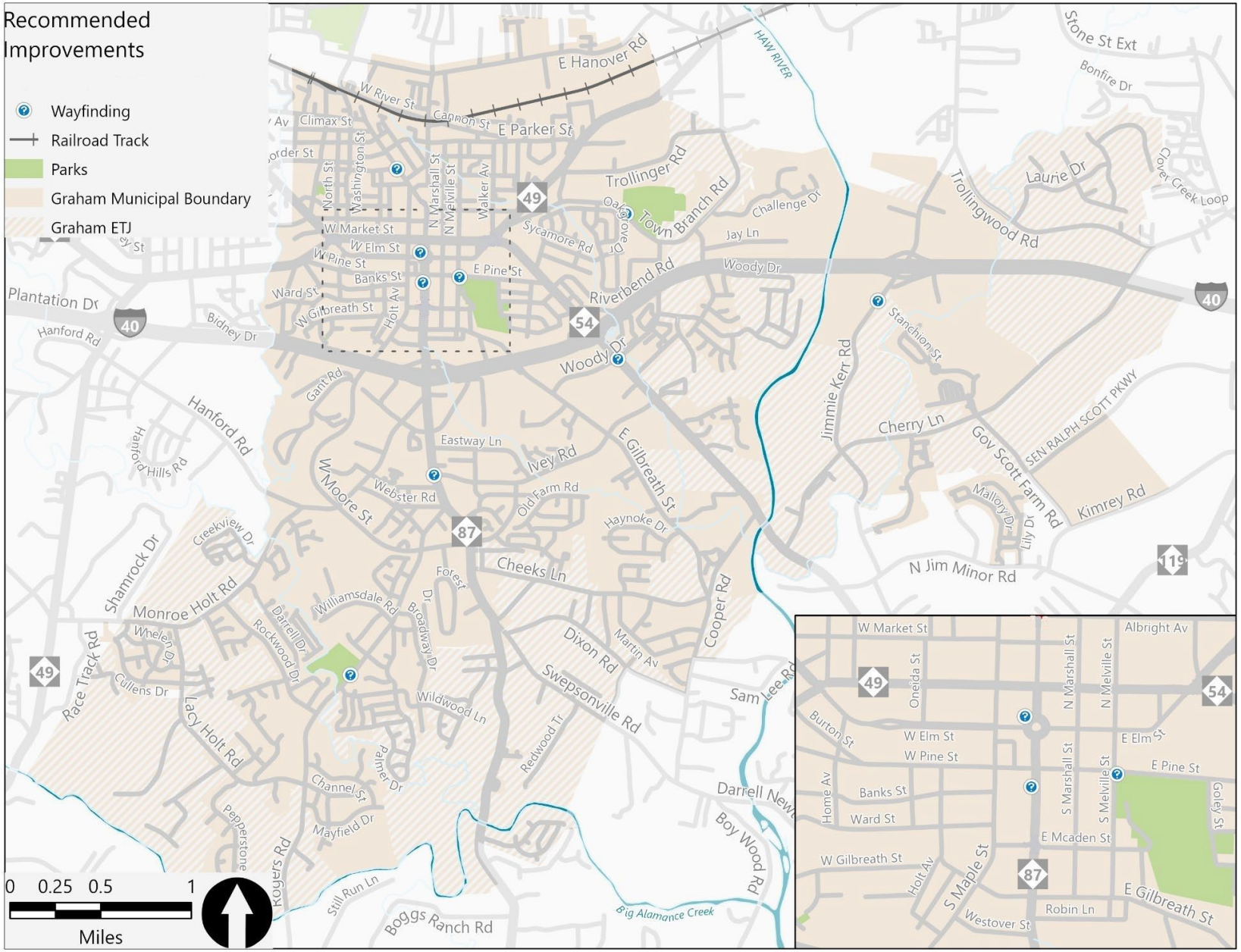


Figure 22 Recommended Placemaking Improvements

3.5 Five Pilot Projects: Project Examples and Visuals

A subset of five pilot projects from the top eight scoring project groups was selected to provide more detailed illustrations and visuals. Those six pilot projects were selected based on project scores, with additional consideration for providing examples of projects across multiple project types and categories. Table 11 below lists the pilot projects, and the cutsheet visuals on the following pages provide additional information.

Table 11 - Five Pilot Projects

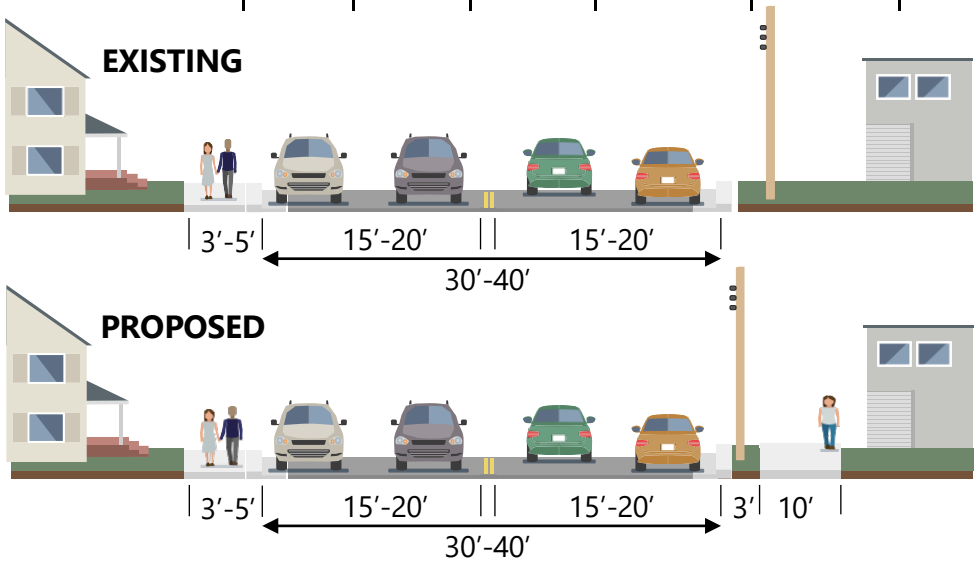
Bundle Name	Pedestrian Projects	Intersection Projects	Description	Estimated Cost
Eastern Downtown	Ped-69, Ped-70, Ped-71, Ped-72, Ped-101	Int-41, Int-42, Int-43, Int-65	Connect Harden Street north of Linwood Cemetery via sidewalk along E Harden Street, E Elm Street. Create sidewalk connection from E Pine Street to E Elm Street with signalized intersection and high visibility markings at each intersection. Implement gateway signage at E Harden Street and E Elm Street to increase driver awareness in the Downtown area.	$989,309
City Hall	Ped-76, Ped-98	Int-48	Implement a sidewalk along the west side of S Main Street from McAden Street to alleyway at Banks Drive, connect sidewalks from Banks Drive to S. Main Street across the City Hall/ Graham Public Library/Graham Police Department parking lot area. Add a signalized crossing at Banks Street and S Maple Street for improved east-west connection.	$332,125
McAden Street Multi-use Path	MUP-24	Int-44, Int-45, Int-46, Int-47	Implement a multi-use path along E McAden Street beginning at S Maple Street and ending at Graham Middle School. Implement signalized crossings or evaluate for other pedestrian crossing treatments (All Way Stop, PHB or RRFB) at all intersections along the corridor.	$1,236,637
Ivey Road	Ped-18, Ped-19	Int-19	Connect S Main Street to E Gilbreath Street via sidewalk along Ivey Road; connect communities south of the existing I-85/40 bridge.	$1,088,240
E. Gilbreath Street	Ped-11, Ped-97	Int-11, Int-12	Implement sidewalks and crossing improvements along E Gilbreath Street from Ivey Road to the I-85/40 bridge.	$720,783

Projects
MUP-24

McAden Street Multi-Use Path

EXISTING CONDITIONS

Route	AADT (2020)	Speed Limit	Length	Roadway Width (ft)	ROW (ft)	System
McAden St	1,800	35 mph	1,350′	30′-40′	55′	Local



Person-level view of existing East McAden Street conditions (looking east)

CONSIDERATIONS

- Coordinate with projects Int-46, Int-45, Int-44
- Connections with Graham Middle School and Main Street
- Consider Road Diet to incorporate sidewalk in order to retain residential lot and yard size or consider installing the MUP on the N side of McAden St. McAden where the existing sidewalk exists.
- Introduce a safe east-west pedestrian connection across multiple neighborhoods

CONSTRAINTS

- Wide street, limited ROW outside of curb, and utility poles
- Lack of lane and parking markings
- Major roadway crossing at NC 87 South Main Street

Total Planning Level Cost: $1,236,637

Design: $ 175,131
ROW: $ 33,954
Utilities: $ 42,889
Construction: $ 984,663

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD ($)

Aerial conceptual rendering of Project MUP-24, showing the proposed addition of the sidepath along the south of roadway.

RECOMMENDATIONS

Improve access for pedestrians to Graham Middle School and businesses and neighborhoods along McAden Street by adding a new multi-use path link along the south side of East McAden Street from S. Maple Street to end of E McAden Street at Graham Middle School (east of Field Street). Add high visibility crossings, evaluate for ped signals, all way stop and PHB.

Project MUP-24 conceptual rendering from person-level perspective showing the addition of new sidepath along the south side of McAden Street.

Key Destinations

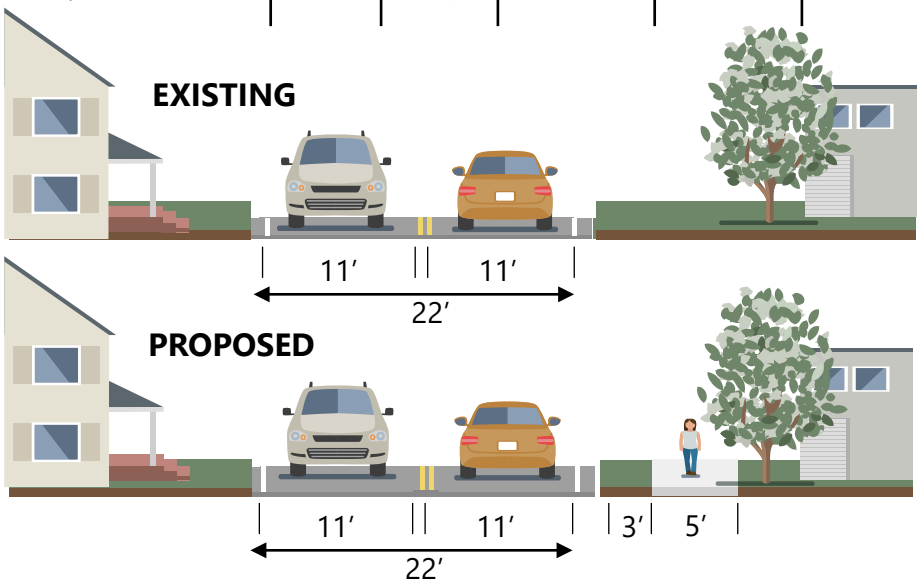
- Graham Middle School
- McAden Place Apartments
- S Main Street destinations and businesses
- Tar Heel Drug
- Alamance County Rescue

Projects
Ped-18, Ped-19
Int-19

Ivey Road Sidewalk Improvements

EXISTING CONDITIONS

Route	AADT (2020)	Speed Limit	Roadway Width (ft)	ROW (ft)	System
Ivey Rd	6,100	20 mph	25-48′	60′	NCDOT



Person-level view of existing roadway.

CONSIDERATIONS

- Coordination with projects Int-19
- Low speed limit through city, consider lowering throughout corridor

CONSTRAINTS

- Limited roadway width
- Existing on-street parking

COST

Total Planning Level Cost: $1,088,240.41

Design: $ 154,115
ROW: $ 29,879
Utilities: $ 37,742
Construction: $ 866,504

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD ($)

RECOMMENDATIONS

Connect S Main Street to E Gilbreath Street via sidewalk along Ivey Road; connect communities south of the existing I-40 bridge.

Aerial conceptual rendering of Project Ped-19, showing sidewalk along Ivey Rd

Conceptual rendering of Project Ped-18 and Ped-19 from person-level perspective showing the proposed sidewalks along Ivey Road and an improved crosswalk in front of the Elementary School

Key Destinations

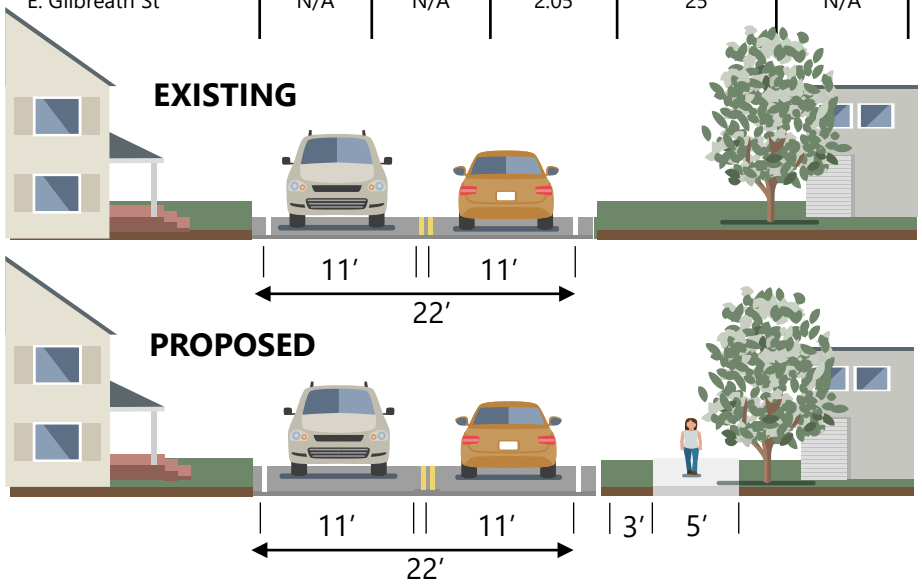
- South Graham Elementary School
- Commercial Destinations/Grocery along S. Main Street
- Ivey Ridge Apartments
- The Pines Apartments

Projects
Ped-97, Ped-11, Int-12 , Int-13

E. Gilbreath St

EXISTING CONDITIONS

Route	AADT (2020)	Speed Limit	Length	Roadway Width (ft)	ROW (ft)	System
E. Gilbreath St	N/A	N/A	2.05	25	N/A	NCDOT



Person-view of existing East Gilbreath Street

CONSIDERATIONS

- Coordinate with Int-15
- Improves safety in high pedestrian area
- Coordinate with Ivey Road Sidewalk Improvements

CONSTRAINTS

- Limited ROW, possible impact to parking spaces

COST

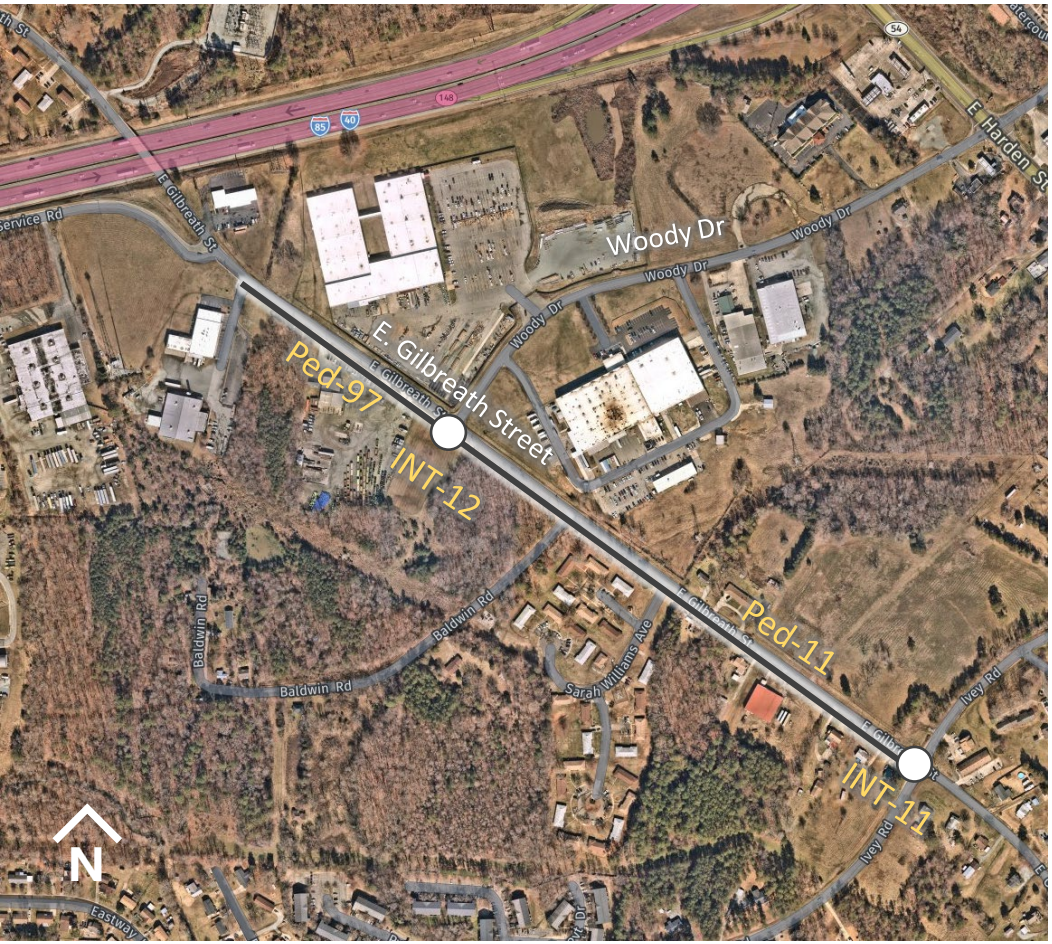
Total Planning Level Cost: $720,783

Design: $ 102,076
ROW: $ 19,790
Utilities: $24,998
Construction: $ 573,918

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD ($)

RECOMMENDATIONS

Implement sidewalks and crossing improvements along E. Gilbreath Street from Ivey Road to south of the I-40 interchange.



Aerial conceptual rendering of Project Ped-97 and Ped 11, showing sidewalk Improvement and pedestrian scale lighting along Gilbreath St.

Project Ped-97/Ped-11 person-view shows proposed sidewalk improvements along E. Gilbreath Street (west side).

Key Destinations

- Graham Housing Authority Apartments-Sarah Williams Ave
- Meadows of Graham Apartments
- Norfolk Village Apartments
- Mobile Home Park off Davis Lane

Projects

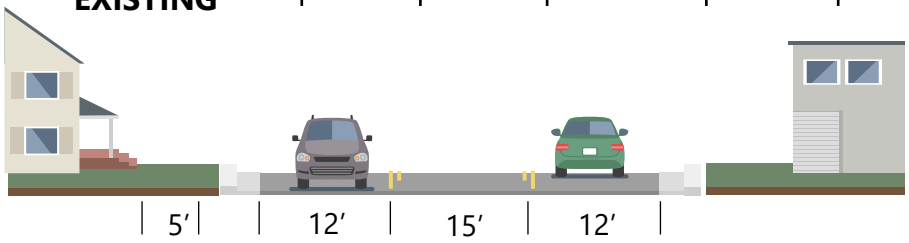
Ped-69, Ped-70, Ped-71, Ped-72, Ped-101, Int-41, Int-42, Int-43, Int-65

Eastern Downtown Bundle

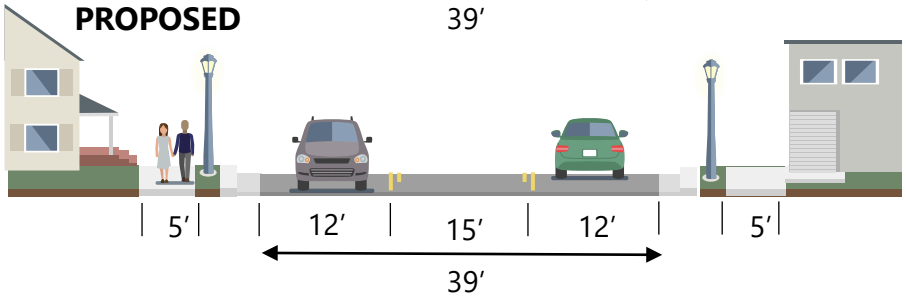
EXISTING CONDITIONS

Route	AADT (2020)	Speed Limit	Length	Roadway Width (ft)	ROW (ft)	System
E. Harden St.	N/A	N/A	2.05	25-39	56	NCDOT/City

EXISTING



PROPOSED



Person-view of existing E. Harden Street

CONSIDERATIONS

- Coordinate with STIP Project U-6017 (Harden Street and Elm Street Intersection Improvements)
- Improves safety in high pedestrian traffic area

CONSTRAINTS

- Limited ROW, possible impact to parking spaces

COST

Total Planning Level Cost: $989,309

Design: $ 40,104
ROW: $ 27,163
Utilities: $ 34,311
Construction: $ 787,730

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD ($)

RECOMMENDATIONS

Connect Harden Street north of Linwood Cemetery via sidewalk along .E Harden Street, E Elm Street. Create sidewalk connection from E. Pine Street to E Elm Street with signalized intersection and high visibility markings at each intersection. Implement gateway signage at E. Harden Street and E Elm Street to increase driver awareness in the Downtown area.

Aerial conceptual rendering of Eastern Downtown Bundle projects, including sidewalk and gateway improvements along E. Harden Street, E. Elm Street and N. Melville Street.

Project Ped-69 person-view shows proposed pedestrian scale lighting and improved sidewalk along E Harden Street.

Key Destinations

- Linwood Cemetery
- Cone Health Crissman Family Practice
- Children's Chapel United Church
- City Hall
- Graham Public Library
- Downtown
- Children's Chapel United Church
- Family Dollar Store

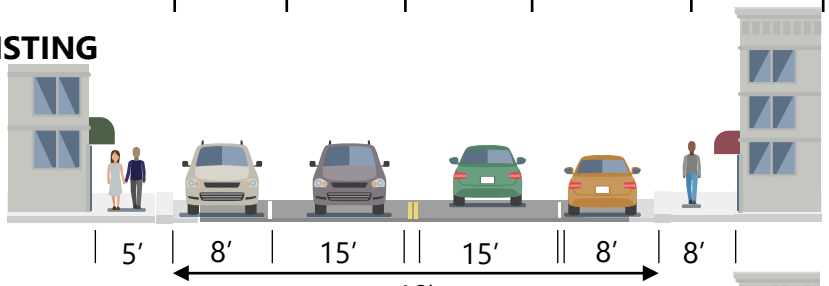
Project
Ped-76, Ped-98, Int-48

City Hall Connector

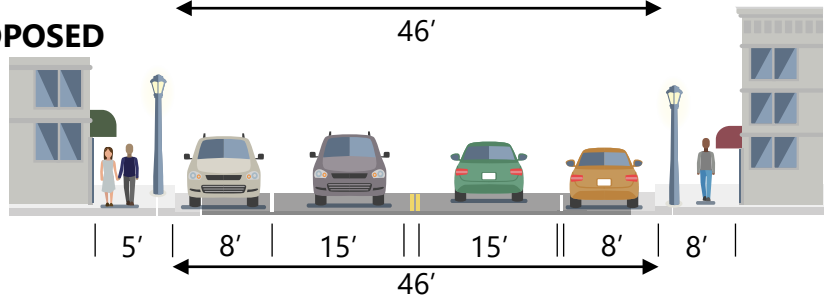
EXISTING CONDITIONS

Route	AADT (2020)	Speed Limit	Length	Roadway Width (ft)	ROW (ft)	System
S Main St	15,500	35	2.05	65	85	NCDOT/City

EXISTING



PROPOSED



Person-view of existing S. Main Street (NC 87) looking North

CONSIDERATIONS

- Coordinate with MUP-24 (McAden Street Multi-Use Path), Ped-75
- Improves pedestrian safety in high pedestrian traffic area with a variety of community destinations

CONSTRAINTS

- Limited ROW, some topography, possible impact to parking spaces

COST

Total Planning Level Cost: $332,125

Design: $ 47,035
ROW: $ 9,119
Utilities: $ 11,519
Construction: $264,452

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD ($)

Aerial conceptual rendering of Project Ped-98

RECOMMENDATIONS

Implement a sidewalk along the west side of S Main Street from McAden Street to alleyway at Banks Drive, connect from S. Main Street to Banks Drive across Town Hall/Graham Public Library/Graham Police Department parking lot with a continuous sidewalk. Add a signalized pedestrian crossing at Banks Street and S. Maple Street.

Project Ped-98 person-view shows proposed sidewalk improvements and sidewalk gap closure along South Main Street (NC 87) looking North.

Key Destinations

- City Hall
- Graham Public Library
- Downtown
- Children's Museum of Alamance County
- McAden Place Apartments
- Graham Townhouse Apartments

4. Recommended Programs and Policies

In addition to infrastructure improvements recommended in the previous section, strong programs and policies can help encourage and support pedestrians within the City of Graham.

4.1 Overview

While development of facilities relates directly to engineering, pedestrian programs are concerned with the other five of the six E's: encouragement, education, enforcement, equity, and evaluation of the Safe Routes to School 6 E's Framework[15]. Active transportation policies can improve pedestrian and bicycle-friendly design and development of both public and private sector projects. The project team encourages the City to explore a comprehensive approach to the six E's, so that those initiatives can have a mutually-reinforcing and strengthening effect to create a walk and bicycle-friendly place. This requires ongoing communication and collaboration with a wide range of government agencies, organizations, the community, and individual stakeholders.

Many of the following activities represent continuations and/or enhancements of programs and policies that the City is already administering. Recommendations in this section support ongoing activities to enhance overall livability and walkability for the City's growing population. Many programs and resources listed in this section are subject to the availability of grant funding.

The City should follow up directly with the organizations listed for more information on the status of these programs or newer funding resources.

4.2 Existing Programs

While there is not currently a formal walking advocacy group in Graham, organizations such as the Haw River Trail and the Alamance County Task Force of the Friends of the Mountains-to-Sea Trail (MST) support land conservation, trail building volunteer opportunities and general awareness around trails and greenways in Alamance County.

[15] https://www.saferoutespartnership.org/safe-routes-school/101/6-Es

4.3 Program Recommendations and Resources

4.3.1 Encouragement Programs

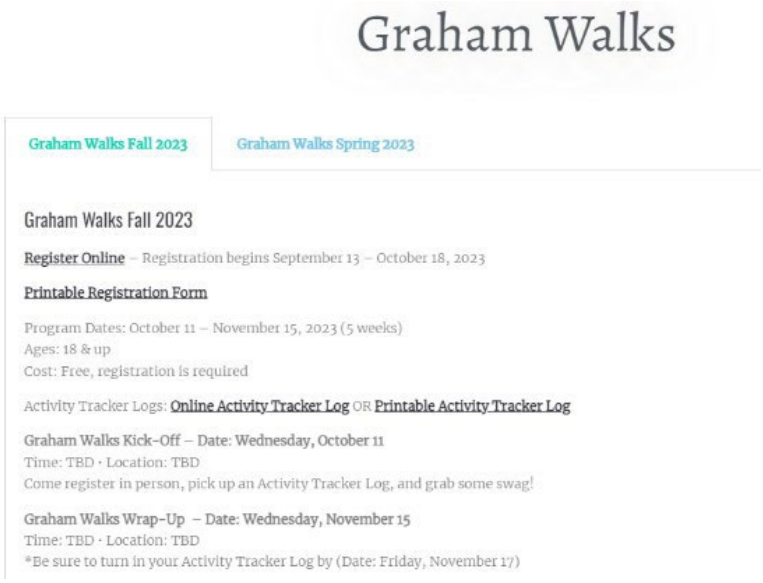
The City can use encouragement programs to strengthen the walking culture within the community. Local businesses and City departments can all play a role in encouraging pedestrian activities through a variety of local opportunities and incentives. Graham Walks is an existing walking encouragement program that the City already hosts. Increasing the amount and coverage of encouragement programs is recommended based on feedback from the community outreach.

Lead agencies and stakeholders:

- City staff
- County health department
- Community leaders/stakeholders

Elements of a good encouragement program:

- Provides residents casual introductions to walking in a non-competitive setting.
- Uses a variety of print and electronic strategies to disseminate pedestrian information.
- Celebrates and promotes community wins through print or online media, and word of mouth.



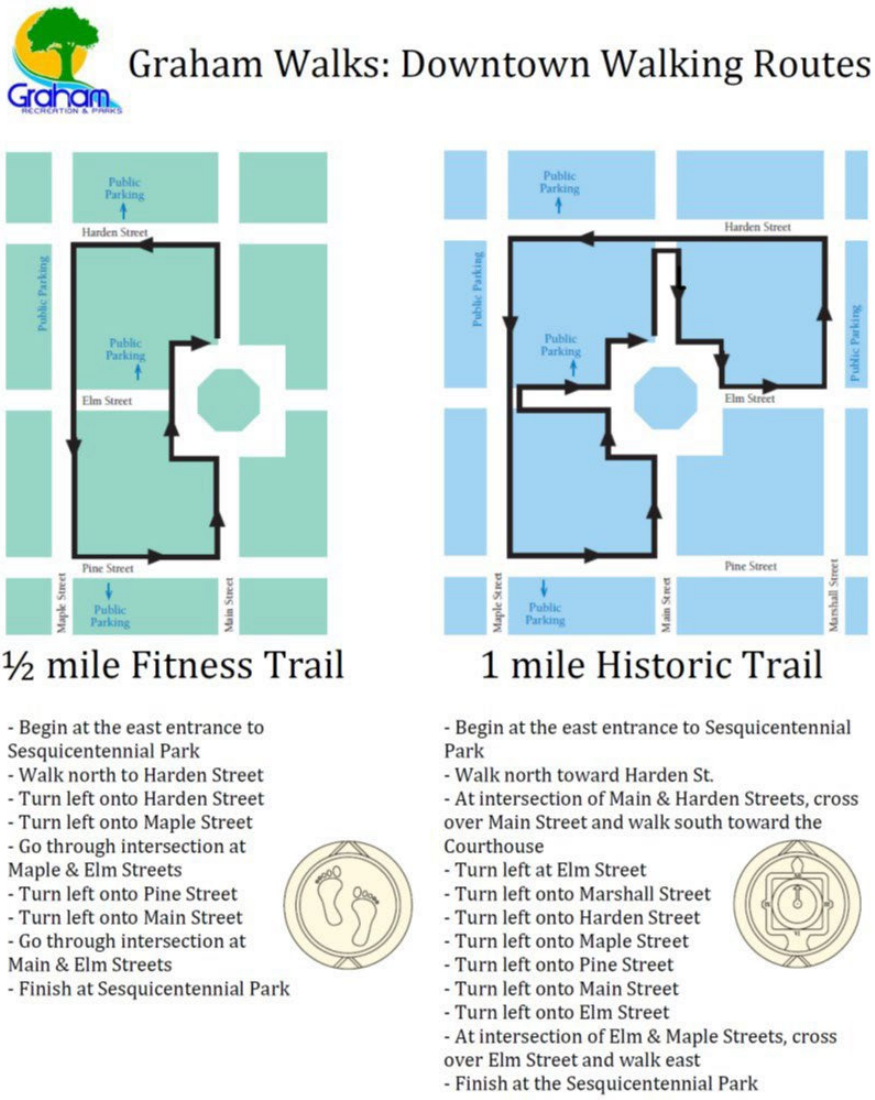
Graham Walks is an example of an existing walking encouragement program in Graham, NC

Non-Infrastructure Transportation Alternatives Program

NCDOT has transitioned the Active Routes to School program, a project under NC Safe Routes to School, to a grant-based program funded through the Non-Infrastructure Transportation Alternatives Program. Agencies may request up to three years of funding for projects that encourage children to walk to school, make walking more appealing, and facilitate the development of projects and activities to improve transportation safety near schools. Funding may be requested to support activities for community-wide, regional, or statewide programs. The City may choose to coordinate with schools, the school district, or the county to pursue funding and recommend projects.

Walking Route Maps

User maps are important tools for encouraging walking. The City of Graham already publishes Downtown Walking Routes maps on its website, to help residents and visitors identify a potential walking route. Similar walking routes maps could be created for other areas of Graham, to enable residents in different neighborhoods to find enjoyable walking routes that they can take for exercise and recreation. In addition to electronic maps online, the City could consider printed maps and smart phone applications that identify common walking routes, identify key destinations, and other available or planned features. As new pedestrian facilities are developed, the City of



Graham Walks Downtown Walking Routes, Courtesy of the City of Graham

Graham will need to review and update the walking route maps. Colorful, graphic maps should appeal to all ages and abilities and can also include educational information about the rules of the road for drivers, cyclists, and pedestrians; safety; and etiquette.

Walking Tours and Walking Clubs

Walking tours encourage walking and present an opportunity for residents to socialize. By developing and advertising one or more formal tour routes in association with the walking maps previously described, the City could identify routes to connect pedestrians to recreational, shopping, dining, and scenic destinations. Tour routes could begin with existing facilities and expand as the pedestrian network develops. Walking tours could include organized groups with City-sponsored tour guides. Alternatively, neighborhoods and local non-profits could start walking clubs for residents of a specific neighborhood, seniors, or other groups to encourage active recreation in a friendly, social format.

A running club could be another way for residents to come together in small groups and experience the City on foot while enjoying active recreation and socialization.

Story Walks

Story walks, strolls, or trails are an interactive way to get people of all ages out walking while reading children's picture books. The StoryWalk® Project originally was created by Anne Ferguson of Montpelier, Vermont in 2007 and was developed in collaboration with the Kellogg-Hubbard Library[16]. These walks are simple and low cost to set up, requiring at minimum only a physical copy of a children's book. Pages from the book are separated and attached to a mount or stand for people to read as they walk. Many libraries in NC have partnered with communities, colleges and municipalities to install these the book pages along local walking paths. The City of Graham currently features at least one Story Walk location near the middle school. Additional locations could be considered, for example in coordination with new greenway projects.

Image: Existing Story Walk implemented near the Middle School in Graham. Image courtesy of the City of Graham.

Wayfinding Signs

As the pedestrian system develops, and especially as sidewalks are installed and neighborhoods are connected, wayfinding will help contribute to the overall pedestrian environment. Items such as mile markers, consistent themes and logos, and regular wayfinding kiosks will become important elements to encourage walking. The City can use services such as Walk [Your City] (https://walkyourcity.org) to purchase inexpensive, weather resistant signs to educate residents about the distance and direction between destinations.

[16] https://www.kellogghubbard.org/storywalk

Awareness Days and Events

The City can devote specific days of the year to raise awareness related to pedestrian promotion and encourage socializing, especially in the Downtown. Current events include events can be held in parks, schools, City facilities, or similar venues.

The City can use national events to increase use of pedestrian facilities, create new versions specific to local events, and add pedestrian topics to existing City events. Examples of national events include National Walk to Work Day (April), Earth Day (April 22), National Trails Day (First Saturday in June), PARK(ing) Day (September), National Open Streets Day (September), and National Walk to School Day (October).

Temporary Installations and Open Streets

The City can use temporary installations to get the public invested and excited about Graham's multimodal future. There are several types of temporary projects the City can conduct:

- Open Streets: an event where a section of a street or multiple connecting streets are closed to cars and activities occur in the public right-of-way, often including group walks, outdoor seating, and other potential uses for the public space. These events often occur on a weekend and engage residents in imagining community-focused public spaces. This type of activity could be sponsored by the City, arts groups, or the county. Special consideration should be made to businesses and how street closures might affect them during business hours and access for their customers. Street closures should not create a hardship on businesses that depend on public access for their livelihood." at the end of the Temporary Installations and Open Streets section. https://openstreetsproject.org/

Image: Open Streets in Downtown Wake Forest. Image Courtesy of Craig Makepeace from This is Raleigh

Demonstration Projects: short-term installations of pedestrian infrastructure using low-cost and temporary materials. These projects can evaluate the effectiveness of different facilities or recommendations without investing in the development of them. Potential examples include application of continental crosswalk marking patterns and curb extensions with flex posts and pavement markings.

National Programs in Support of Walk Friendly Community Designations

Several national recognition programs encourage towns and cities to promote pedestrian activity. The City can pursue or strive for progress towards one of the programs that recognize communities that are working to improve access, safety, mobility, and transportation options. Recognition programs include the following examples:

- Walk Friendly Community http://www.walkfriendly.org/
- Active Towns https://www.activetowns.org/
- AARP Age Friendly Communities https://www.aarp.org/livable-communities/network-age-friendly-communities/
- CDC Healthy Communities Program

https://www.cdc.gov/nccdphp/dch/programs/healthycommunitiesprogram/index.htm

Encouragement Program Resources

- Non-Infrastructure Transportation Alternatives Program https://connect.ncdot.gov/projects/BikePed/Pages/Non-Infrastructure-Alternatives-Program.aspx
- *Healthy Aging Research Network Archives.* http://depts.washington.edu/hprc/resources/products-tools/healthy-aging-research-network-archives/
- *Livable Communities: Livable in Action.* http://www.aarp.org/livable-communities/livable-in-action/
- Story Walk https://letsmovelibraries.org/storywalk/
- Move More Walking Map Guide. https://www.eatsmartmovemorenc.com/resource/walking-map-guide/
- National Center for Safe Routes to School. http://saferoutesinfo.org/
- *Walk Wise, Drive Smart: A Senior Pedestrian Safety Program in Hendersonville, North Carolina.* http://www.pedbikeinfo.org/cms/downloads/WalkWise_Hunter.pdf

4.3.2 Education Programs

The City can take advantage of existing educational materials from state and federal programs and tailor these to the specific needs of the community. Educational materials should promote safe behaviors, rules, and responsibilities for all roadway users including bicyclists, pedestrians, and motorists, and overcome barriers to bicycling on shared facilities. Local businesses, City departments, and local advocates can all play a role in developing and distributing education materials.

Lead agencies and stakeholders:

- City staff
- Alamance County health department
- AARP (Smart Driver Course and other programs offered as part of AARP Driver Safety)
- Dedicated and committed community leaders/stakeholders

Elements of a good education program:

- Provides the community with information on pedestrian laws, safe behaviors, and skills.
- Reaches people of all skill levels, physical abilities, and ages.
- Delivers information through a variety of print and electronic messages and hands-on training.
- Includes all roadway users: motorists, bicyclists, and pedestrians.

Project-Related Efforts

The City should coordinate closely with NCDOT and other local stakeholders when elements of the Plan and other pedestrian roadway improvements are planned or implemented. Public involvement and education are essential throughout the project process. Communication with the public during the planning phase ensures the community is aware of upcoming events or potential impacts to their roadway, construction schedules, improvements, and proposed completion dates. This also provides an opportunity for community feedback, which can help inform future educational efforts on the project. Once a project is completed, education efforts should provide information on how to use the facility. Project-related coordination efforts can be distributed through

local media outlets, on-site, at special events/community events, project-related meetings, local and City websites, and in coordination with NCDOT outreach.

Driver Education

Stakeholders from the community expressed the need for driver education in the community. City staff, Steering Committee members, and community leaders can work together to identify priority educational topics, key audiences, and outreach methods (e.g., signage, workshops, print media). Potential educational campaigns, as discussed by both community stakeholders and Steering Committee members, include the following:

- General rules of the road conducted at day cares and churches (for young residents).
- Friendly Driver Certification Program https://www.littlerock.gov/for-residents/bikeped-little-rock/education/friendly-driver-program/
- Street Smart NJ – Drive Smart/Walk Smart Campaign https://bestreetsmartnj.org/

Internal Education

Education is not limited to the community but should also include all key staff involved in Plan implementation. This includes City staff, Board members, and Steering Committee members as well as NCDOT Division staff and regional or county staff, when relevant. Opportunities for education include, but are not limited to, the following:

- Staff presentations on sessions or conference events.
- Meetings or retreats on the Plan to discuss status, potential funding opportunities, roadblocks to implementation, or other similar pertinent information.
- Coordination between agencies and departments, such as information or resource sharing between transportation, planning, health, facilities, parks and recreation, and other such City or county departments.
- Training opportunities—webinars, brown bag lunch presentations—to educate staff on pedestrian guidelines and designs and best practices from across the state and nation.

Let's Go NC – Pedestrian and Bicycle Curriculum

NCDOT sponsors this free educational program and provides instructional lesson plans, videos, and other downloadable programming to teach elementary age children how to walk and bicycle safely. Instructors do not need to receive training. The City should work with local agencies, schools, or community organizations to identify one or more individuals willing to take responsibility for conducting the training.

Eat Smart, Move More NC

Eat Smart, Move More NC is a North Carolina program that promotes physical activity and healthy eating. They provide free, downloadable resources to encourage communities, schools, grocery stores, and similar businesses to make the healthy choice the easier choice. Community-based tools support creating active outdoor play spaces, information on coalitions to support the movement, and handouts for distribution, among others.

Education Program Resources

- Eat Smart, Move More NC. https://www.eatsmartmovemorenc.com/
- *Guide to Creating Active Outdoor Play Spaces.* https://www.eatsmartmovemorenc.com/wp-content/uploads/2019/08/PlaySpacesGuide-HiRez.pdf

- *Eat Smart, Move More Coalitions.* *https://www.eatsmartmovemorenc.com/resource/eat-smart-move-more-coalitions/*
- *Eat Smart, Move More Manual.* https://www.eatsmartmovemorenc.com/wp-content/uploads/2019/08/070317_lpan_manual.pdf
- Federal Highway Administration Pedestrian and Bicycle Safety. http://safety.fhwa.dot.gov/ped_bike/.
- Institute for Transportation Research and Education: Education and Training – Bicycle and Pedestrian. https://itre.ncsu.edu/training/bike-ped/
- Let's Go, NC! https://connect.ncdot.gov/projects/BikePed/Pages/LetsGoNC.aspx
- National Highway Traffic Safety Administration Pedestrian Safety. https://www.nhtsa.gov/road-safety/pedestrian-safety
- NCDOT Integrated Mobility Division. https://connect.ncdot.gov/projects/BikePed/Pages/default.aspx
- Pedestrian and Bicycle Information Center. http://www.pedbikeinfo.org/
- WalkBikeNC. https://www.ncdot.gov/bikeped/walkbikenc/

4.3.3 Enforcement Programs

Much like education programs, the purpose of enforcement programs can be used to educate all roadway users about traffic laws and encourage safer behaviors. Programs include periodic reminders or events to obey traffic rules and ongoing monitoring of public spaces. Enforcement programs also reinforce and support the other E's.

Lead agencies and stakeholders:

- Law enforcement agencies
- City staff

Elements of a good enforcement program:

- Reviews and updates North Carolina laws that impact safety.
- Ongoing enforcement of relevant laws.
- Reduces the number of pedestrian crashes.

Watch for Me NC

This statewide pedestrian and bicycle safety campaign is designed to reduce pedestrian and bicycle injuries and deaths through education and enforcement. Watch for Me NC targets all roadway users and provides useful resources and tools for municipalities and residents. The program provides free training to law enforcement on state traffic laws supporting pedestrian safety, in exchange for commitments to conduct an operation campaign locally. The program also provides free safety materials for distribution during local operations or special community events. The City can use the program to improve relationships between residents and law enforcement through educational events and safety materials giveaways (such as reflective gear and bike lights). It can also deploy the vehicle enforcement operations to those locations with higher failure to yield to pedestrians incidents along its higher speed and higher volume arterials such as those identified in for RSAs in the evaluations efforts section below.

SeeClickFix

Community members can use this website to report neighborhood concerns related to infrastructure, such as

potholes, streetlight issues, or graffiti. The comments are routed to the local officials who can respond to the comment with information. The City can use this resource to better track community concerns and identify areas in need of attention.

Speed Feedback Signs

The City can use temporary traffic calming devices at key locations. These devices are mobile and can be placed along key corridors identified for traffic calming such as South Main Street, South Maple Street, East Gilbreath Street, Monroe Holt Road, East Elm Street, East Harden Street, Rogers Road, and other locations where motorists may be traveling at higher speeds, there are multiple commercial and community destinations present likely to attract pedestrian trips and pedestrian may be walking or using mobility devices.

Motorist Enforcement

Local police should work together with City officials to use any of the programs and resources to coordinate one-time or ongoing motorist enforcement campaigns. Enforcement may include monitoring vehicle speeds and traffic signal compliance.

Another approach to motorist enforcement is to incentivize or offer rewards for appropriate behavior. Local law enforcement can conduct a pedestrian enforcement campaign that commends pedestrians for using crosswalks. The City can work with local business owners to provide gift certificates, coupons, or other small tokens as rewards. They should conduct these enforcement efforts at highly visible locations and publicize them in the community and via social media.

Enforcement Program Resources

- FHWA *Partnering with Law Enforcement*. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/ntpp/partner_law.cfm
- Watch for Me NC. http://www.watchformenc.org/
- SeeClickFix. https://seeclickfix.com/
- Pedestrian and Bicycle Information Center Training and Events. https://www.pedbikeinfo.org/webinars/
- Pedestrian and Safety Guide and Countermeasure Selection System. http://www.pedbikesafe.org/pedsafe/

4.3.4 Evaluation Efforts

The City can use evaluation efforts to understand how well the strategies in the plan are working over time. Evaluation activities include setting goals, collecting baseline data (where possible), setting timetables, and collecting follow up data for all projects. Not all evaluation activities are data-driven; qualitative feedback and partnerships can assist with achieving the goal of evaluating program/strategy effectiveness and identifying improvements.

Lead agencies and stakeholders:

- Pedestrian Committee
- Steering Committee
- City staff
- Public Works maintenance staff

Elements of a good evaluation effort:

- Dedicated staff or volunteer who will take responsibility of monitoring all elements of the Plan.
- Established metrics that are measurable and have associated timelines.

Annual Pedestrian Count Program

The City staff can work together to conduct annual pedestrian counts to identify high-traffic locations. Volunteers from schools or community organizations can conduct manual observational counts at different times of the day and days of the week. Counts for specific locations should be done prior to implementation of a project to establish a baseline and then continue annually or on a two-year cycle. Observational qualitative data can also be used to identify locations for specific safety, enforcement, and educational efforts.

Conduct Road Safety Audits

City staff and representatives can conduct Road Safety Audits on priority corridors to identify more specific engineering-related improvements. This is a formal and detailed process that involves a multidisciplinary team to identify roadway elements that present the most safety concerns and formulate solutions to eliminate or mitigate the safety issues. The City may request support from NCDOT Division 7, the NCDOT Traffic Safety Unit, and even request technical assistance from the Federal Highway Administration (alternatively, the City can consider hiring an outside consultant to organize and conduct RSAs).

Corridors that may be suitable candidates based on their traffic volumes, speeds, numbers of lanes, pedestrian crashes, pedestrian-focused land uses, and recommended facilities include:

- East Harden Street (NC 54) from N. Marshall Street to E. Pine Street
- East Elm Street (NC 49) from East Harden Street to East Parker Street
- East Gilbreath Street from south of I-85/40 to Ivey Road
- Monroe Holt Road from City limits to Little Alamance Creek
- S. Maple Street from W. Market Street to E. Gilbreath Street
- NC 87 South Main Street from Pine Street to Westover Street
- NC 87 South Main Street from Westover Street to Rogers Road
- NC 87 South Main Street from Rogers Road to Swepsonville Road
- Rogers Road from NC 87 South Main Street to Lacy Holt Road

Vision Zero /Local Transportation Safety Plan

Going beyond a Road Safety Audit for one specific corridor, the City could pursue a Local Transportation Safety Plan or a Vision Zero plan for the City of Graham to undertake a comprehensive review of transportation safety issues and to improve safety for all users. Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safety, healthy and equitable mobility for all through a safe system approach. Multiple municipalities and even regions across North Carolina have undertaken safety plans or Vision Zero plans in recent years, including the BGMPO, the City of Greensboro, the City of Charlotte, the Town of Davidson, and the Town of Mooresville. Under the Safe Streets and Roads for All (SS4A), federal grant funding for safety planning and implementation is available through an annual call for projects. Additional Vision Zero and Local Transportation Safety Plan resources are available as follows:

- Vision Zero Network https://visionzeronetwork.org/resources/
- NC Vision Zero https://ncvisionzero.org
- FHWA Local Road Safety Plan Resources https://safety.fhwa.dot.gov/provencountermeasures/local_roads.cfm
- U.S. DOT Safe Streets and Roads for All (SS4A) Grant Funding Resources https://www.transportation.gov/grants/SS4A

Community Surveys

The City can use surveys and other similar feedback mechanisms as tools to gauge community-wide acceptance and understanding of new projects; needs and interests for other future projects; and other community concerns that may be addressed through Encouragement and Education programming. The City should work with stakeholder groups who reach broad audiences to help disseminate survey tools and collect feedback. This Plan demonstrated the City's outreach through electronic surveys was capable of reaching hundreds of residents from across the City.

Facility Inspection and Maintenance

A key piece of evaluation is measuring and identifying maintenance needs, particularly after implementation. Public Works maintenance and facility staff should conduct routine maintenance checks of installed pedestrian projects to identify general wear and tear and immediate fixes—such as potholes and broken asphalt—that may impede use. The City should establish a plan and timeline for addressing such issues. This encouragement initiative relies upon crowd-sourcing to report maintenance needs.

Evaluation Resources

- National Highway Traffic Safety Administration – Walkability Checklist. https://www.nhtsa.gov/sites/nhtsa.gov/files/walkingchecklist.pdf
- Pedestrian and Bicycle Information Center – Counts. http://www.pedbikeinfo.org/planning/tools_counts.cfm
- FHWA – Road Safety Audits. https://safety.fhwa.dot.gov/rsa/

4.4 Policy Recommendations

The NCDOT Integrated Mobility Division web page includes references and links to state and federal policies to support accommodation of pedestrians as part of the transportations system. See https://www.ncdot.gov/divisions/integrated-mobility/safety/Pages/bike-ped-laws.aspx along with the summaries below.

4.4.1 Complete Streets Policy and Guidelines

Complete Streets Policy and Guidelines

The USDOT defines Complete Streets as "streets designed and operated to enable safe use and support mobility for all users...[including] people of all ages and abilities, regardless of whether they are travelling as drivers, pedestrians, bicyclists, or public transportation riders."[17] The City of Graham does not have a Complete Streets policy or design guidelines as of 2023.

NCDOT adopted its first Complete Streets Policy in 2009, revised it in 2019, and updated implementation guidance in 2022.[18] The updated policy and guidance documents reinforced that NCDOT is committed to partnering with local agencies to deliver Complete Streets. NCDOT highway projects (as defined by the STIP with a primary purpose of improving mobility for motor vehicles) that do not yet have an environmental document (as of August 30, 2019) are subject to the new policy. Revisions or clarification to the policy and guidance will be considered by a NCDOT Complete Streets Technical Team on an ongoing basis.

The 2019 policy and updated guidelines require NCDOT staff to incorporate multimodal facilities into the design of all transportation projects led by NCDOT, with few exceptions. Those exceptions may include facilities where non-motorized travel is prohibited by law (i.e. interstates and controlled access highways); areas with low densities

[17] USDOT https://www.transportation.gov/mission/health/complete-streets

[18] https://connect.ncdot.gov/projects/Project-Management/Documents/CS%20Policy%20Update%20Memo%20Secretary%208.28.19.pdf

of population and employment; areas with low demand for transit service; emergency repair or some routine maintenance projects.

The NCDOT Roadway Design Manual is the authoritative reference for Complete Streets design for NCDOT projects. NCDOT has recently moved to use the roadway cross sections developed for the SPOT process as illustrative examples for Complete Streets. There are additional resources to the standard roadway drawings, including curb ramp details.

The City of Graham should consider the 2019 NCDOT policy when developing language, policy and strategies to meet the objectives of this plan but need to consider the local stakeholders as their concerns should be paramount in the decision and policy making process. New policies should consider:

1. **Vision and intent**: Includes an equitable vision for how and why the community wants to complete its streets. Specifies need to create complete, connected, network and specifies at least four modes, two of which must be biking or walking.
2. **Diverse users**: Benefits all users equitably, particularly vulnerable users and the most underinvested and underserved communities.
3. **Commitment in all projects and phases**: Applies to new, retrofit/reconstruction, maintenance, and ongoing projects.
4. **Clear, accountable exceptions**: Makes any exceptions specific and sets a clear procedure that requires high-level approval and public notice prior to exceptions being granted.
5. **Jurisdiction**: Requires interagency coordination between government departments and partner agencies on Complete Streets.
6. **Design**: Directs the use of the latest and best design criteria and guidelines and sets a time frame for their implementation.
7. **Land use and context sensitivity**: Considers the surrounding community's current and expected land use and transportation needs.
8. **Performance measures**: Establishes performance standards that are specific, equitable, and available to the public.
9. **Project selection criteria**: Provides specific criteria to encourage funding prioritization for Complete Streets implementation.
10. **Implementation steps**: Includes specific next steps for implementation of the policy.

Recommendation: The City of Graham should consider new policies that summarizes principles and goals consistent with 2019 NCDOT policy, references design best practices, identifies responsible parties and activities for implementation, and defines exceptions to application of the policy.

4.5 Six E's Recommendation Overview

Table 12 - Six E's Recommendation Overview

Strategy	Target Audience	Lead Agency/ Stakeholder	Partnerships for Success	Time Frame	Duration	Costs
Encouragement						
Non-Infrastructure Transportation Alternatives Program	Schoolchildren, Parents	City of Graham	County Department of Public Health, School District	Immediate	Ongoing	$
Walking Maps	General Public	Tree Board	City Staff, Volunteers	Near Future – Long-Range	Ongoing	$ - $$
Self-Guided / Group Walking Tours	General Public	Tree Board	City Staff, Volunteers	Near Future – Long-Range	Periodic	$
Story Walks	Schoolchildren, Parents	Parks and Recreation	City Staff, Alamance County Schools, Volunteers, PGAC	Near Future – Long-Range	Periodic	$
Wayfinding Signs	General Public	Tree Board	City Staff, Tourism Bureau, Volunteers	Immediate	Ongoing	$ - $$
Awareness Days/Events	General Public	City of Graham	PGAC, Volunteers, Alamance County DSS, Alamance County Schools, Piedmont Land Conservancy	Immediate – Long-Range	Ongoing	$
Temporary Installations	General Public	Tree Board	Volunteers, NCDOT	Near Future – Intermediate	Ongoing	$-$$
City Designations	General Public	City of Graham	Tree Board	Long-Range	Ongoing	$
Education						
Project-Related Efforts	General Public	City of Graham	NCDOT	Immediate –	Ongoing	$

				Long-Range		
Driver Education	General Public	City of Graham	NCDOT	Near Future – Long-Range	Ongoing	$ - $$$
Internal Education	City staff/ representatives	City of Graham	NCDOT, Regional, County staff	Immediate – Long-Range	Periodic	$
Let's Go NC	General Public, schoolchildren	City of Graham	NCDOT, Active Route to School Coordinator	Immediate	Periodic	$
Eat Smart, Move More NC	General Public	City of Graham	NCDPH, ESMM	Immediate	Ongoing	$
Enforcement						
Watch for Me NC	Motorists	City of Graham	Law Enforcement, NCDOT	Immediate – Long-Range	Periodic	$
SeeClickFix	General Public	City of Graham		Immediate – Long-Range	Ongoing	$
Speed Feedback Signs	Motorists	City of Graham	Law Enforcement, NCDOT	Long-Range	Ongoing	$$ - $$$
Motorist Enforcement	Motorists	City of Graham	Law Enforcement	Immediate	Periodic	$$ - $$$
Evaluation						
Tree Board	City Staff / General Public	Tree Board	City Staff, Steering Committee	Near Future – Long-Term	Ongoing	$
Annual Pedestrian Count Program	General Public	Pedestrian and Greenway Advisory Committee	City Staff, Steering Committee	Near-Future – Long-Range	Periodic	$ - $$$
Road Safety Audits	City Staff	City of Graham	Tree Board, NCDOT	Near-Future – Long-Range	Periodic	$$ - $$$
Community Surveys	General Public	Pedestrian and Greenway Advisory Committee	City Staff, Steering Committee	Near Future – Long-Range	Periodic	$$ - $$$
Facility Inspection/Maintenance	City Staff	City of Graham	Facilities	Near Future – Long-Range	Periodic	$$$
Equity – Foundation of the Plan Elements, Included in All Activities						

Time Frame: Immediate = initial steps in Plan, short-term; Near Future = implementation phases; Long-Range = post-implementation, evaluation, and maintenance phases
Duration: Ongoing = continual updates needed, no clear end; Periodic = occasional, non-specified milestones

Costs: $ = Minimal costs/free; $$ = Moderate costs, may be available through local funds/investments; $$$ = Requires investment, grants, additional funding resources

4.6 City of Graham Code of Ordinances and Other Ordinances

The City of Graham Development Ordinance is the current legislation adopted by the City that governs the requirements associated with development, last updated on June 14, 2022 and available at https://www.cityofgraham.com/wp-content/uploads/2022/06/Development-Ordinance-adopted-06-14-2022.pdf

Table 13 below outlines Graham existing standards and guidelines and recommended improvements to the standards.

Table 13 - Recommended Unified Development Ordinance and Other Ordinance Updates

Development Standard or Guideline	Improvement Needed Detailed	Reference	Additional Comments
Increase required points of entry/egress for subdivisions	Increase required points of entry/egress for subdivisions to at least three when the exterior frontage of the subdivision on a particular public road is more than 750 ft (see Block Length) or when the subdivision contains more than 100 lots. State that additional points of ingress/egress may be required when the Planning Board determines that physical characteristics (such as the location of opposing driveways) would render the additional entrance practical for vehicles and pedestrian use.	Graham Development Ordinance Section 10.355 Access Standards	Current Standard: Site Plan and parking permit requirement: Plan showing proposed points of vehicle ingress and egress, together with the proposed pattern of internal circulation. For subdivisions: a permanent means of ingress and egress is recorded for each lot." 1 roadway connection required for every 1250-1500 linear feet. Multiple connections needed if the length is exceeded. . Minimum of 2 at the 25-lot level, Residential projects have been too small to determine the walkability usage/additional connections needed. .
Set/Decrease required block length and exceptions.	Update the Graham Development Ordinance Section 10.354 Block Standards to set the maximum block length to no more than 600 feet for all zoning districts where it's currently greater (industrial, R-1) Clarify exception based on "unusual topography"- recommended standards: slopes exceeding 15% for a sustained	Graham Development Ordinance Section 10.354 Block Standards	Current: Blocks shall not exceed one thousand (1,000) feet in length; provided that for sufficient reason the Planning Board may approve longer blocks upon such conditions as it shall prescribe. (This section does not apply to minor subdivisions or to site plans.)

	length (fifty feet), or stream valley widths in excess of 20 feet.		
Development Standard or Guideline	**Improvement Needed Detailed**	**Reference**	**Additional Comments**
Set required block length and exceptions for all Street Classification.	Update Development Ordinance Appendix C. Street Standards, General Standards and Requirements to set the maximum block length to no more than 600 feet for all street classifications, with sufficient reasoning submitted to the Planning Board for approval of longer blocks upon such condition as it shall prescribe.	Graham Development Ordinance Appendix C. Street Standards, General Standards and Requirements	Current standards only set maximum block length on Avenues: "Street Design Standards Avenues: Block length should not exceed 600' to provide more frequent and accessible opportunities for crossings and to enhance connectivity for all modes."
Increase street connectivity by limiting cul-de-sac development. Reduce allowable length of cul-de-sacs to 400 feet	Amend Graham Development Ordinance to reduce allowable length of cul-de-sacs to 400 feet. Improved street network connectivity can support walking trips, resiliency and redundancy of the roadway network and improved emergency services response times.		As an example, the Town of Waxhaw passed a connectivity ordinance as part of the LDC (Engineering), which requires connectivity ratio between link and nodes, and max length on cul-de-sac streets of 400 feet. See Waxhaw LDC section 7.2.1 (p. 141) and 7.1.4 (p. 140)
Institute a connectivity ratio for all subdivisions which uses an established mathematical standard for street connections both within the subdivision and connections to other streets and properties at the subdivision periphery.	Amend Graham Development Ordinance to specify node-intersection connection with a connectivity ratio of 1.4 or better for all new subdivisions. Specify cases where a developer may apply for a hardship exception (i.e. topography, streams above a certain size, etc.) Improved street network connectivity can support walking trips, resiliency and redundancy of the roadway network and improved emergency services response times.		As an example, the City of Durham includes a required street network connectivity ratio as part of the UDO Section 13.6: "The street network, including common access driveways... for any subdivision with internal roads or access to any public road shall achieve a minimum connectivity ratio of 1.15 in the Rural Tier, 1.40 in the Suburban Tier, 1.60 in the Urban and Compact Tiers" See Durham UDO section 13.6.3 https://durham.municipal.codes/UDO/13.6.3
Crosswalk/Pedestrian Traffic Controls: Special Use rezoning for potential generators of pedestrian use	Update policy /Graham Development Ordinance to require that all uses that might typically generate a significant amount of pedestrian traffic (e.g. schools, parks) be subject to a special use; a condition could be placed on such facilities	Graham Development Ordinance; Consult NCDOT Pedestrian Crossing Guidelines	No language for crossing required or review within special use rezoning (review for crosswalks) currently since most would access a DOT facility with access permit for requirement.

	require/ the installation of crosswalks on major streets that abut such facilities, requiring review for crosswalks and pedestrian signals at all signalized intersections adjacent to developed areas		
Development Standard or Guideline	**Improvement Needed Detailed**	**Reference**	**Additional Comments**
Crosswalk/Pedestrian Traffic Controls: Crosswalks and Midblock Connections	Update policy /Graham Development Ordinance to require crosswalks at any residential street intersection and at midblock locations for long blocks. Require review for additional crossing treatments at all midblock connections. Amend Graham Development Ordinance to require midblock crosswalks along collector streets within subdivisions for block lengths of greater than 500 feet.	Graham Development Ordinance; Subdivision Standards Section 10.339 and Section 10.346 Site Plan Procedures; Consult NCDOT Pedestrian Crossing Guidelines	No language for this as most would access a DOT facility with access permit for requirement.
Sidewalk Installation Requirements: include a condition on schools for the installation of an internal sidewalk system connecting to sidewalks along major streets	In order to provide safe pedestrian connections to schools, amend the Graham Development Ordinance to match the proposed recommendation within the Graham Ped Plan (2006) include a clear requirement for schools for the installation of an internal sidewalk system (sidewalk on both sides) connecting to sidewalks along major streets that abut or join school facilities. This would apply to schools and limited other uses for internal sidewalk networks to encourage pedestrian connectivity to school. Coordinate with walk to school programs. Current GDO Section 10.135 requires sidewalks on both sides of the street for School Land Uses within their respective Zoning Districts as-right (C-R, C-O-1,C-B,C-1,C-MXR,C-MXC). Condition to be added to Special-Use cases for sidewalk	Graham Development Ordinance Section 10-136 Notes to the Table of Permitted Uses	Sidewalks are already required on both sides for all council-approved Zoning Districts where schools are allowed by-right, Special Use cases should require both sides as council sees fit.

	on both sides unless a waiver is provided by the City Engineer.		
Development Standard or Guideline	**Improvement Needed Detailed**	**Reference**	**Additional Comments**
Greenway Installation and Connectivity	• Update the Graham Development Ordinance to include objective guidelines by which the Zoning Administrator can base a determination of conditions being "impractical" for sidewalk or multi-use trail connections. These guidelines should include maximum degree of slope, maximum distance, or presence of wetlands. Recommended standards: slopes exceeding 15% for a sustained length (fifty feet), or distance of paved road separation exceeding 500 feet. • Include a reference the City's Comprehensive Pedestrian Plan and other future related planning documents for location of proposed greenways and multi-use trails.	Graham Development Ordinance Section 10.577 Potential Uses and Associated Requirements	Greenways shall be approved by the Zoning Administrator and can be installed in existing ROW, or using private property easement where required. This language is not in the City's current document. Section 10.577 – Section 10.16 Definitions, has blanket determination, but no guidance within City planning documents.
Ensure adequate pedestrian-scale lighting	Update the Graham Development Ordinance to specify pedestrian scale lighting requirements for Neighborhood Commercial areas and other districts that are likely to generate pedestrian activity (downtown, commercial, campus locations...); expand the requirements for pedestrian scale lighting that currently applies to avenues only. Ensure adequate pedestrian scale lighting is provided at mid-block crossing locations.	Graham Development Ordinance Section 8.15 Lighting; Development Ordinance Appendix C Street Standards; and City of Graham Standard Specifications and Details for Water, Sewer and Street Improvements (2020)	Current City of Graham Standard Specifications and Details for Water, Sewer and Street Improvements do not address street lights or light spacing, including additional lighting at mid-block crossing locations; Graham Development Ordinance Appendix C Street Standards specifies "Street lights shall be installed at 500 foot intervals and where major streets intersect"; requirements for avenues specify that "pedestrian lighting should be considered at mid-block crossings and near locations where nighttime pedestrian activity is likely"

Development Standard or Guideline	**Improvement Needed Detailed**	**Reference**	**Additional Comments**
Access Management and Street Entrances: • Driveway consolidation	Recommend modifying Graham Development Ordinance to promote the consolidation of new driveways to minimize conflict points along mixed-use corridors with higher levels of pedestrian activity. Standards for minimum distances between curb cuts to be based upon the permitted travel speed of the road. For example, see the table below: 30 mph - 100' 35 mph - 150' 40 mph - 200' 45 mph - 250' 50 mph - 300' 55 mph - 350' Continue to coordinate with NCDOT on driveway access permits to reduce conflict points and promote access points for pedestrians	Graham Development Ordinance Section 10.240, Section 10.444, and NCDOT Driveway Permit Manual.	Language this specific not within the Development Ordinance and not in the City of Graham Standard Specifications and Details for Water, Sewer and Street Improvements
Speed and Operation of Vehicles • Modification of speed limits for specificized roadways	Recommend modifying Graham Development Ordinance and the Street Design Standards to include a list of roadways with 20 mph speed limit for roadways that are pedestrian-focused corridors in downtown (for City-maintained streets)	Graham Development Ordinance Appendix C Street Standards	

Development Standard or Guideline	Improvement Needed Detailed	Reference	Additional Comments
Building Setbacks and Parking	Revise parking maximums to add language for EVSE-Installed electric vehicle charging stations and Accessible Parking Spaces to be exempted from the parking calculation. Consider adding language for marking reserved pick/up and drop-off spaces for delivery, ride-hailing, and exchange zones. Expand hours of operation language for Section 10.242 Combining Uses, with percentages of units and time frames.	Graham Development Ordinance Section 10.240	Hours of operation language to be added to allow shared parking spaces. Example: 20% of the total number of spaces are provided for public use as shared spaces available from 8:00 a.m. to 6:00 p.m., Monday through Friday, and spaces needed from 6:00 p.m. to 8:00 a.m., seven days a week.

Implementation	Improvement Needed Detailed	Reference	Additional Comments
Set aside a dedicated funding stream for sidewalk implementation	Set aside a dedicated funding stream for sidewalk implementation through a General Fund allocation, bonds referendum or other sources.		Lack of internal mechanism to provide regular construction of sidewalks currently. Congestion is an overriding concern for transportation, focus on crossing safety over building sidewalks. Municipalities trying to figure out how to prioritize and fund. Not very effective method. Sidewalk development has been very grant dependent. Safety and economic reasons will tend to drive sidewalk location choice
Consider adopting a public art policy and Set aside a dedicated funding stream for public art to enhance the pedestrian realm (murals, sculptures). Target key locations that could benefit from additional activation of the pedestrian realm (vacant storefronts, underutilized lots).	Set aside a dedicated funding stream to allocate funding to public art projects on a regular basis. No Public art criteria are included within Land Development Code currently	Graham Development Ordinance	Note that public art funded by the City must be approved by the City Council or public review panel and must meet criteria set forth by policies.
Maintenance	**Improvement Needed Detailed**	**Reference**	**Additional Comments**
Ensure crosswalk markings and signalized crossing equipment elements are regularly maintained	Review maintenance schedule for city-maintained crosswalk markings and signals. Implement a process to review and check for maintenance needs on a regular basis.		

Coordinate with NCDOT resurfacing/maintenance project schedule to ensure that crosswalk markings and ADA curb ramps are addressed as part to resurfacing	Review NCDOT maintenance schedule on a regular basis (6 months or at least annually). Hold a coordination call with NCDOT Division 10 staff to identify opportunities to address crosswalk marking and ADA curb ramp replacement needs that could be addressed in conjunction with maintenance activities.		
Planning	**Improvement Needed Detailed**	**Reference**	**Additional Comments**
Consider drafting an ADA Transition Plan and ensure the latest PROWAG and NCDOT curb ramp standards are incorporated	As part of an ADA Transition Plan, review PROWAG and NCDOT curb ramp standards for inclusion. Include general language for curb ramp requirements.	Planning / NC Building Code / Municipal Street Design	
Work with the BGMPO to reflect the latest Pedestrian Plan recommendations in the BGMPO CTP	Reflecting pedestrian recommendations in the CTP would ensure that they are taken into account as part of future roadway improvement projects based on NCDOT Complete Streets Policy		
Update Comprehensive Pedestrian Plan on a regular basis (at least every 10 years or more frequent if significant new expansion of City limits occurs). Consider a combined bicycle and pedestrian plan update as the next iteration.			
Coordinate with Alamance County and New Leaf Society on Trails Plan update for Alamance County	Include greenway improvements identified in Graham Pedestrian Plan in the next update of the County Trails and Greenways Plan		

5. Implementation Plan

Following through on the Plan recommendations will require a coordinated effort, persistence, and leadership from the local community and key stakeholders. Although local sources of funding can go a long way in achieving community aims, there are a variety of ways for the residents of Graham to encourage walking in their community.

5.1 Implementation Overview

This section outlines the organizational structure and steps necessary to successfully achieve the goals set forth by this Plan. The recommendations within this section include:

- Organizational structure for administering programs.
- Action items for building a culture of active living.
- Methods for monitoring progress and continuing encouragement.
- Potential funding sources.

5.2 Organizational Framework for Implementation

Successful implementation of the Plan will require the cooperation of several agencies and organizations. Many of these partnerships already exist, and this Plan will build on those partnerships. Examples of these partnerships include the relationships between NCDOT, the City, and the Burlington Graham Metropolitan Planning Organization (BGMPO). Still other connections will be formed through the implementation of this Plan. These coalitions will likely be formed within the community itself, as the City coordinates its efforts with local schools, athletic associations, and other community groups.

Role of NCDOT

As the administrator of the Multimodal Planning Grant Initiative and the primary agency concerned with transportation planning, engineering, and construction in the State of North Carolina, NCDOT will be an important partner in the implementation of this Plan. After the adoption of this Plan, NCDOT should continue to provide technical assistance and consulting regarding pedestrian and bicycle transportation planning in Graham. NCDOT Division 7 is responsible for construction and maintenance of pedestrian facilities in the City. It will be the primary partner for the design and construction of recommended projects made in Section 3 of this Plan.

The Strategic Prioritization Office of Transportation (SPOT) process prioritizes most NCDOT division projects, per the state's Strategic Transportation Investment (STI) law. SPOT is a data-driven approach to project prioritization for all transportation mode projects, including bicycle and pedestrian project improvements. STI provides three funding tiers for transportation projects: Statewide Mobility, Regional impact, or Division needs. Standalone

pedestrian projects are eligible for funding as part of the Division Needs category. Bicycle and pedestrian projects compete against highway and other transportation projects in this category. Half of the score is based on data-centric methodology determined by NCDOT and the other half of the score is dependent on local input from the NCDOT Division 7 office and the BGMPO.

The NCDOT Division of Integrated Mobility is the primary resource for guidance on bicycle and pedestrian policies, laws, and safety education (Section 4). It is also the administrator for a wide variety of statewide initiatives aimed at promoting safety and participation in active transportation. As the City progresses with the implementation of this Plan, it should consult the online resources available through the Division of Integrated Mobility for guidance on specific pedestrian treatment issues.

Role of the Burlington-Graham Metropolitan Planning Organization (BGMPO).

As the Metropolitan Planning Organization (MPO) responsible for transportation planning within Alamance County and portions of Orange County, the BGMPO would play a role in supporting the agency in implementing the projects recommended in this Plan. For the infrastructure needs of Graham to be met, BGMPO should continue to consider the multimodal transportation needs of the City in the region's comprehensive transportation plan (CTP). Opportunities to improve the bicycle and pedestrian environment should be taken when roadways are scheduled for maintenance or construction. Some of the projects outlined in this report can be good candidates for funding through the STI Prioritization process to include a stand-alone pedestrian project in the State Transportation Improvement Program (STIP). Other improvements can be achieved as part of roadway improvements in City funded in the STIP.

The BGMPO holds regular calls for transportation funding for projects to be funded through a combination of CMAQ (Congestion Mitigation and Air Quality) and CPR (Carbon Reduction Program) federal grant funds. The BGMPO has also been looking at opportunities to apply for SS4A safety implementation grant funding, where local government members are invited to submit project ideas and participate in a group application. A local match (a contribution of funds from the City towards the cost of the project; typically, 20% but can vary) is required from the City of Graham to pursue federal grant funding through the BGMPO.

Role of Alamance County

While Counties in North Carolina typically do not own or maintain roadways, planning by the Alamance County government has a direct effect on the City of Graham. Especially when it comes to implementation and maintenance of sidewalk and multi-use path links outside of Graham municipal limits or on sections connecting two incorporated areas through an unincorporated area, the County would have to be a partner to support long term maintenance of implemented facilities under an agreement with the City of Graham and NCDOT.

The County is the primary organization governing land use planning, transportation planning, and public health initiatives outside of municipal limits. It is vital that these plans align with common goals that span municipal boundaries. There are several crucial ways for the County to support this Plan:

- Support active transportation through regional trails and networks.
- Promote active transportation and public health through county-wide programming.
- Include the Plan's facility recommendations as an amendment to the existing Alamance County Transportation Master Plan, where they do not already overlap.

Role of the City of Graham

Graham is responsible for implementing this Plan. Through its adoption, the City will be empowered to act as a champion for bicycle and pedestrian needs. This includes advocating for the project and programmatic recommendations in this Plan, as well as developing other events and programs as they work in the community. A great example of this is in practice is a wayfinding signage program. This would be functional for pedestrians and would enhance the sense of community and aesthetics in Graham.

Role of the New Leaf Society

The New Leaf Society is a private, non-profit organization focused on beautification and community partnerships in the heart of central North Carolina. The City of Graham will collaborate with the New Leaf Society in efforts to target the proposed corridor, gateway, and public area improvements inside of this plan in order to generate partners and funding to install landscaping enhancements. This partnership will help continue the mission of the New Leaf Society by enhancing the quality of life and economic prosperity in Alamance County by planting trees and creating landscaping projects.

5.3 Implementation Action Steps

This section outlines general steps to fully implement this Plan. Steps are assigned to three categories: policy, programming, and infrastructure. A timeline of these actions is provided in Table 14.

5.3.1 Policy Action Steps

Adopt This Plan and Integrate into the Regional Comprehensive Transportation Plan (CTP)

The first step for the City of Graham to build upon the existing regional plans and policies is adopting this plan. Adoption will improve the City's eligibility to receive priority funding for projects.

In addition to local adoption, the City should work with the Greensboro-Burlington Area MPO and NCDOT to amend the GBMPO CTP to incorporate the plan's recommendations and seek the GBMPO endorsement. This inclusion in the regional Comprehensive Transportation Plan (CTP) would solidify the plan's recommendation for Graham and make it easier to implement pedestrian improvements recommended in the plan under the NCDOT Complete Streets policy.

Multimodal Pathways, Bike Lanes, and Sidewalks

While the City of Graham highly recommends and acknowledge the health benefits of walking and biking and therefore encourage bike lanes and multimodal pathways to be put in new residential development, the city needs to take safety into consideration when bike lanes are proposed in high traffic areas or proposed to be added in an already developed area. Criteria to consider when determining whether a bike path is encouraged in a particular area include but are not limited to:

Speed – speed can pose a significant safety risk for cyclists

Traffic Volume and Safety of Intersections – High traffic volumes increase the likelihood for potential conflicts between bicyclists and vehicles especially when merging or turning. Conjected roads can lead to driver frustration and potential aggressive behavior toward bicyclists. Planners should study the number of intersection crashes and whether the addition of bicyclists would create an unsafe environment if a pathway was added.

Pedestrians and bicyclists have a reasonable expectation that if these pathways are added, that they are reasonably safe and that not only adults but small children can use them and cross intersections safely. This potential liability

should be considered in planning and if a bike pathway is added, the city should make every effort to ensure that it is safe.

Bike Path will decrease parking – the need for on street parking should be considered and whether the greater good is served by replacement

Bike Path will decrease additional traffic lane – the city needs to consider whether the installation of a bike path will increase traffic congestion and make it unsafe for bicyclists.

Lack of space – New construction should take into consideration the road widths when designing neighborhoods to accommodate biking and walking. Adequate parking is a must to consider based on number of bedrooms, anticipated number of cars, length of driveway from sidewalk, future potential for additional development that might connect to existing streets, driveway width, garage size, overflow parking, and on street parking. When cars park in their driveway but block the sidewalk crossing the driveway or on the street and block these pathways because adequate parking is not planned, it significantly diminishes the use of these pathways and creates an unsafe environment.

Sidewalk width and Obstructions – Sidewalk width should be considered when added a bike pathway. Hazards such as opening doors (per code commercial doors open out into sidewalk traffic), high pedestrian traffic, benches, planters, tree planting should all be considered when determining whether a bike pathway should be added. Need – Areas near schools and key destinations are ideal for consideration of additional bicycle and pedestrian pathways, however, the demographics should be weighed against the cost of making such improvements and their future usability.

Consider Complete Streets Policy

The City of Graham should consider the 2019 NCDOT policy when developing language, policy and strategies to meet the objectives of this plan but need to consider the local stakeholders as their concerns should be paramount in the decision and policy making process. This will support the future pedestrian improvements in both City and NCDOT projects.

Modify the UDO to Support Plan Implementation

The City should review the recommended policy changes identified in Table 13 and adopt those that support the implementation of pedestrian projects, and the overall walkability of Graham's streets and neighborhoods.

Continue to Enforce State and Local Regulations

Ensuring that motor vehicles obey the speed limit, pedestrian signals, and other traffic regulations can improve the perception and desirability of walking Graham. Additionally, ensuring that pedestrians and other non-motorized road users are familiar with the operation of pedestrian signals and beacons and obey traffic laws themselves can ensure that these travelers stay out of harm's way. This creates an environment that is safe for all roadway users. The NCDOT Division of Integrated Mobility offers helpful links to many of these regulations through its website: https://www.ncdot.gov/bikeped/lawspolicies.

5.3.2 Program Action Steps

Create Educational Outreach Programs

Education provides people of all ages the confidence to navigate along Graham's sidewalks, multi-use path facilities, and local road network. Educational outreach should also extend to drivers of motor vehicles as well. Awareness by drivers of the presence of pedestrians and bicyclists is a skill that is learned and can be improved

upon with active engagement.

Create Encouragement Outreach Programs

Many of these encouragement programs serve to remind individuals how convenient and attainable an active lifestyle can be. Walk or bike to work and school events can illustrate how easy it is to complete daily activities through active transportation. Open streets bring people together, build a sense of community, and allow them to engage with the community without needing to drive and find a parking space.

Establish a Monitoring and Benchmarking Program

The PGAC should devise ways of monitoring pedestrian and bicycling activity, as well as preferred routes and destinations. The needs and preferences of the community will evolve over time. To ensure that City officials and planners can respond effectively, there should be an established methodology for tracking these changes, evaluating current programs, and generating new priorities.

Become Registered as a Walk Friendly Community

The City could choose to apply for a designation as a Walk Friendly Community through the University of North Carolina's Highway Safety Research Center (Walk Friendly, https://www.walkfriendly.org/). This designation offers the opportunity for Graham to assess its current conditions and receive feedback from third party perspectives. By undergoing this process, the City may be more equipped to apply for future grant funding through organizing its existing conditions and refining its vision as a leading pedestrian and bicycle friendly community. Other Walk Friendly and Bicycle Friendly recognized communities in North Carolina include Charlotte, Davidson, Asheville, Cary, and Boone.

5.3.3 Infrastructure Action Steps

While there are several phases involved in infrastructure project implementation, the steps outlined in this section are fundamental for the City to take as it implements the new infrastructure projects. The process for implementation depends on the funding source the City is seeking for execution.

Identify Implementation Opportunities

Federal, state, and local funding sources will be necessary to implement this Plan. No one source should be relied upon to complete all of the proposed recommendations. The implementation strategy for each project depends on the cost, facility recommendation, roadway type, and other elements. The following are possible implementation opportunities the City can seek:

- NCDOT Pedestrian Projects selected for funding in the STIP (State Transportation Improvement Program) through STI (Strategic Transportation Improvements) Prioritization process (10 to 15 years).
- NCDOT Highway Projects with bicycle and pedestrian improvements included under the NCDOT Complete Streets Policy, selected for funding in the STIP through STI Prioritization process (5 to 15 years).
- NCDOT Pedestrian Safety Improvements (1 to 5 years).
- NCDOT Resurfacing Projects (1 to 5 years).
- BGMPO Discretionary Funding (3 to 7 years).

Refer to Section 5 for more detail on each NCDOT funding source and the process the City should follow for each source.

Perform Road Safety Audits

NC 87 (South Main Street), East Elm Street, East Harden Street, Est Gilbreath Street, Rogers Road and South Maple Street were identified during the study as ideal candidates for a Road Safety Audit (RSA). An RSA is a formal examination of mobility safety performance to identify potential road safety issues and identifies opportunities for improvements in safety for all road users. The FHWA works with State DOTs and local jurisdictions to encourage RSAs along existing roads and intersections. The goal of an RSA is to identify elements of the road that may present a safety concern and recommend a standard approach to elimination or mitigation.

Prioritize Projects

The most highly scored projects in Section 3 should be considered for implementation in the near to mid-term. However, should opportunities arise to implement this Plan's projects concurrent with related capital, NCDOT, or private improvements, the City should pursue those options to support the completion of its bicycle and pedestrian network. As the City progresses on project implementation, it should re-prioritize the list of projects on a semi-annual basis (e.g. two or three year cycle) with updated costs, facility specifications (as needed), and meeting the community's need, especially those with persistent transportation barriers.

Review the Applicability of Future Projects

Many of the projects in this Plan, as well as others concerning transportation in Graham, will need to undergo more detailed site-specific evaluation as future revisions are made. Graham's priorities will change over time, and projects should be constantly re-evaluated for future needs. City staff and the PGAC should work jointly to this end. These priority projects should be the City's focus as it works with the County and the MPO for funding and implementation through local and regional plans.

5.3.4 Action Item Timeline

Table 14 - Action Item Timeline

Strategy	Contributing Stakeholders	Lead Agency/ Stakeholder	Time Frame	Duration
Policy				
Adopt this Plan	City Council	City Staff	Immediate	Initial
Amend the CTP	City Council, Alamance County Commissioners, BGMPO	BGMPO	Near Future	Once
Consider a Complete Streets Policy	City Council, City Staff, Tree Board	City Council	Near Future	Once
Update UDO	City Staff, City Council	City Council	Near Future	Periodic
Continue to Enforce State and Local Regulations	City Staff, Law Enforcement, Tree Board	Police	Near Future – Long-Range	Ongoing
Update the Pedestrian Plan every 7-10 years	City Council, City Staff	City Staff	Intermediate-Long Range	Periodic
Program				
Create Educational Outreach Programs	Tree Board	City Staff	Near Future – Long-Range	Ongoing
Create Encouragement Outreach Programs	Tree Board	City Staff	Near Future – Long-Range	Ongoing
Establish a Monitoring and Benchmarking Program	City Staff, Pedestrian and Tree Board	City Staff	Immediate – Long-Range	Ongoing
Become Registered as a Walk Friendly Community	City Staff, Tree Board	City Staff	Near Future – Long Range	Periodic
Infrastructure				
Identify Funding Sources	City Staff, Tree Board	NCDOT & City Staff	Immediate – Long-Range	Periodic
Perform a Road Safety Audit	NCDOT Transportation Safety & Mobility Unit, FHWA Division Office, City Staff	NCDOT & City Staff	Near Future – Intermediate	Once

Build the Priority Projects Outlined in this Plan	NCDOT, Alamance County, City Staff, BGMPO	NCDOT	Near Future – Intermediate	Ongoing
Review the Applicability of Future Projects	NCDOT, BGMPO, Alamance County, City Staff, Tree Board	NCDOT	Long Range	Periodic

5.4 Performance Measures

Performance measures should be developed to evaluate this Plan's action items and programs. Baseline conditions, such as pedestrian/cyclist counts and event attendance, should be gathered before any of the action items are implemented. This allows the City and the PGAC to track the progress of successful programs as they grow and mature. Determining which programs are effective and which ones are less effective within the context of Graham will be critical in making future decisions regarding the full implementation of this Plan. The following goals and their multiple performance measures were identified by the Steering Committee to ensure the continual improvement of pedestrian facilities in Graham.

Safety

Reduce Bicycle and Pedestrian Crashes	Decrease the average number of pedestrian and bicycle crashes resulting in injuries.
Crossing Locations	Increase the number of crossing locations with high visibility crosswalks and additional treatments.

Mobility and Accessibility

Increase the Network	Increase the number of miles of sidewalks, bike lanes, and greenways.
Access for All	Prioritize upgrading sidewalks and curb ramps to ADA standards near key community destinations.

Outdoor Recreation and Health

Connection to Recreation	Support bicycle and pedestrian improvements that connect to gyms, parks, and Tanglewood Park.
Implement Greenways	Increase the number of miles of greenways to promote healthy, outdoor recreational opportunities.

Connectivity

Improve Walkability	Prioritize bicycle and pedestrian improvements in downtown and near schools and work destinations, as well as short greenway links between neighborhoods.
Regional Movement	Increase the number of connections to existing and future Carolina Thread Trail and state and regional bicycle routes.

Carless Commutes	Increase the share of the population who commutes to work or school by active transportation modes.

Economic Development

Commercial Connections	Support sidewalk and greenway improvements in proximity to commercial activity centers.
Wayfinding	Enhance wayfinding and signage for pedestrian and bicycle routes.

Equity

Equitable Access	Increase the percentage of transportation disadvantage population who have access to pedestrian and bicycle facilities.
Equitable Implementation	Ensure equitable distribution of bicycle and pedestrian facilities to all Graham residents.

5.5 Funding Sources

The list below provides a description of some of the key funding sources available to support implementation of active transportation improvements. This is not meant to be an exhaustive list.

5.5.1 Federal

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) is a core federal-aid program that provides funding for safety projects and programs on any publicly owned roadway to reduce fatal and serious injury crashes. The FHWA has developed a variety of resources to help states plan, implement, and evaluate the effectiveness of the efforts. HSIP funding can be used for either location-based or systemic projects or programs, but obtaining funding requires detailed data evaluation to ensure the best use of funds. In North Carolina, NCDOT oversees the project selection for HSIP funding. The North Carolina Strategic Highway Safety Plan guides the priorities for HSIP project selection in North Carolina.

National Priority Incentive Programs (Section 405) and State and Community Highway Safety Program (Section 402)

National Highway Traffic Safety Administration (NHTSA) administers the highway safety grants included in the Bipartisan Infrastructure Law and distributed to Highway Safety Offices in all 50 states, the District of Columbia, United States territories, and the U.S. Department of the Interior's Bureau of Indian Affairs. Those highway safety grants generally fall under two categories:

- State and Community Highway Safety Program (Section 402): this program covers initiatives such as high-visibility enforcement campaigns and other safe driving campaigns, as well as enforcement of and education about state laws on seat belt use and risky driving; in addition, this program supports improving traffic records and support programs on the proper use of child safety seats, including inspection stations where caregivers can confirm the proper installation of their child safety seats.

- National Priority Incentive Program (Section 405): this program includes categories of projects such as impaired driving countermeasures; state traffic safety information systems to help states build databases related to crashes; occupant protection including seat belt education and enforcement; distracted driving prevention; pedestrian and bicyclist safety programs; and motorcyclist safety.

In North Carolina, NCDOT Governor's Highway Safety Office is the agency the collects grant applications on an annual basis for projects to be funded with Section 402 and Section 405 funds.

Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Discretionary Grant Program

RAISE discretionary grant funding program, previously known as TIGER grants and then later as BUILD grants, includes eligibility for a wide variety of transportation projects planning and implementation. RAISE grants are expected to help communities carry out projects with significant local or regional impact. A competitive grant application process is required. The minimum award amount for planning projects is $5 million ($1 million in rural areas), and the maximum amount differs between two funding streams ($25 million if funded through Bipartisan Infrastructure Bill (BIL) funding and $45 million if funded through the FY 2022 Appropriations Act funding). A 20% local match is generally required, with a few exceptions in the following cases:

- Rural communities
- Areas of Persistent Poverty
- Historically Disadvantaged Communities are eligible to apply for 100% federal funding

Active Transportation Infrastructure Investment Program

This is a new funding program in the Infrastructure Investment and Jobs Act (IIJA, also known as the Bipartisan Infrastructure Bill (BIL)). Under the Active Transportation Infrastructure Investment Program, local, regional, state, and tribal governments can apply to receive funding for active transportation projects and planning grants that build upon a local, regional, or state network or key network corridors. The infrastructure projects and planning studies funded under this program must account for safety and facilitate more people walking and biking.

Safe Streets and Roads for All (SS4A) Grants

The Safe Streets and Roads for All (SS4A) discretionary program was a new program established under the Bipartisan Infrastructure Law (BIL). SS4A grant program is available for both safety action plans and implementation. A 20% local match is required. Funding amounts range as follows:

- For action plans, the range is between $200,000-1 million (for municipalities) or up to $5 million (for MPOs).
- For implementation applications, the range is $5 million-30 million for municipalities, $3 million-30 million for rural areas and $5 million-50 million (for MPOs).
- Any jurisdiction outside of an Urbanized Area or any Urbanized Area < 200,000 in population is considered "rural" for the purpose of this grant application.

Surface Transportation Block Grant (STBG)

The Surface Transportation Block Grant Program (STBG) provides a flexible funding source to best address State and local transportation needs and covers a wide variety of potential projects including highway, bridge, transit

capital and bicycle and pedestrian projects. A minimum of 20% local match is required. The State of North Carolina receives an apportionment on an annual basis based on an established allocation formula. NCDOT allocates STBG funding that is not designated for larger MPOs through the STI Prioritization process that informs the STIP development every two years.

Congestion Mitigation and Air Quality funding (CMAQ)

CMAQ funding supports surface transportation projects and other related efforts that contribute to air quality improvements and provide congestion relief. Funds may be used for a transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard and is included in an MPO's current transportation plan and TIP or the current STIP in areas without an MPO. A minimum of 20% local match is required.

5.5.2 State

Great State Trails Program

The 2023-2025 budget approved by the North Carolina General Assembly last week allocates a total of $54.9 million towards the enhancement of trail and greenway infrastructure in North Carolina. This includes the establishment of a new $25 million Great Trails State Program, which will provide $12.5 million annually for two years in competitive grants for both paved and natural surface trails. The grant program, designed to be competitive, will support the creation of new trails and the expansion of existing ones, including paved trails, greenways, and natural surface trails for activities such as biking, hiking, walking, equestrian use, and paddling. The City of Graham could apply for these competitive grants to begin planning for implementation of multi-use paths recommended in this plan. The North Carolina Department of Natural and Cultural Resources (NCDNCR) will oversee the fund. The funds can be used for various purposes such as planning, design, environmental assessment or permitting, land and easement acquisition, trail construction, trail structures like bridges, trail amenities like trailhead parking and signage, and maintenance. They can also serve as matching funds for federal or other non-state grants. A minimum of a 25% flexible match, which can be cash, in-kind services, or asset donations, is required. The maximum grant amount per project is capped at $500,000. The budget also increases the Complete the Trails Fund by $5 million, supporting 15 authorized state trails including the Overmountain Victory State Trail, the Wilderness Gateway Trail, and the Mountains-To-Sea State Trail. Additionally, it allocates $24.9 million in non-recurring funds for specific trail and greenway projects throughout the state.

STI Prioritization and STIP

NCDOT manages the STI Prioritization process which results in an update to the State Transportation Improvement Program every two years. STIP identifies construction funding for transportation projects, funded through a combination of federal and state funding sources. The City of Graham could submit a project through the GBMPO process to be considered for STI Prioritization and scoring and inclusion in the STIP. Both stand-alone bicycle and pedestrian improvements and roadway projects with inclusion of complete streets elements may be submitted.

NCDOT HSIP Hazard Elimination Program

Safety grant program utilizing federal and state funding to address safety and potential safety issues. Projects are selected based on a cost-benefit ratio with safety benefits being classified in terms of crashes reduced.

Governor's Highway Safety Program Grant

Safety grant program specifically related to preventing crashes on North Carolina roads. (https://www.ncdot.gov/initiatives-policies/safety/ghsp/Pages/Grants.aspx)

Eat Smart, Move More NC

This program provides a variety of links and resources, including potential funding sources for public health initiatives. (https://www.eatsmartmovemorenc.com/)

Non-Infrastructure Transportation Alternatives Program

Provides funding for programs and activities that aims to shift community behavior, attitudes, and social norms through education, encouragement, and enforcement strategies to increase the safety and convenience for children to walk and bicycle to school (https://connect.ncdot.gov/projects/BikePed/Documents/SRTS%20Non-Infrastructure%20Grant%20Guidelines.pdf)

NC Parks and Recreation Recreational Trails Grants

The North Carolina Division of Parks and Recreation manages grant funding under the Recreational Trails Program (RTP). The Recreational Trails Program (RTP) is a $1.5-million federal grant program designated to help states provide and maintain trails for motorized and non-motorized recreational trail use; RTP funding is provided on a reimbursement basis where the funds must be spent and reimbursement requested upon completion of the project; a state, federal or local government or qualified nonprofit organization is an eligible entity. Additional information available is at https://trails.nc.gov/trail-grants

Trust Fund PARTF Program

Since 1994, the North Carolina Parks and Recreation Trust Fund (PARTF) has been awarding matching grants to local governments for parks and recreational facilities. Counties, incorporated municipalities, and public authorities, as defined by G.S. 159-7, are eligible applicants. A local government can request a maximum of $500,000 with each application. The appraised value of land to be donated to the applicant can be used as part of the match. Grant applications are typically due in February. Additional information available at https://www.ncparks.gov/more-about-us/parks-recreation-trust-fund/applicants

Community Development Block Grant Program

State Community Development Block Grant (CDBG) funds are provided by the U.S. Department of Housing and Urban Development (HUD) to the state of North Carolina; smaller communities may apply for assistance for community projects that benefit low to middle income households. Projects are intended to support decent housing and suitable living environments and expanding economic opportunities. All North Carolina small cities are eligible to apply for funds except for 23 entitlement cities that receive funds directly from the U.S. Department of Housing and Urban Development (HUD) (Graham does not receive direct funds). Each year, CDBG provides funding to local governments for hundreds of critically-needed community improvement projects throughout the state. Priority is given to the counties in the top 80 ranking based on economic distress; Alamance County currently falls inside of the list of the 80 priority counties. Additional information is available https://www.nccommerce.com/grants-incentives/public-infrastructure-funds/infrastructure-state-rural-grants

Economic Development Grants

There are a variety of state grant funding categories that are geared towards economic development or other purposes not specific to transportation, that could have a positive impact on transportation mobility and safety.

For example, the Rural Transformation Grant program (first call for projects held in the spring 2022 with several future calls expected)[20] can fund a variety of projects including but not limited to "Main street and downtown investment and revitalization efforts" and "Initiatives that help create resilient neighborhoods"; sidewalk improvements are eligible as part of this grant. Additional information about the Rural Transformation Grants available at https://www.nccommerce.com/grants-incentives/rural-transformation-grants

Implementation as Part of Roadway Projects Implementation and Complete Streets Improvements

As part of roadway projects planning and implementation, NCDOT reviews roadway projects for multimodal elements based on the Complete Streets Policy. Pedestrian, bicycling, and transit stop improvements can be included as part of a roadway project, if recommendations for those improvements are reflected in a local or regionally adopted plan. (https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx)

Bridge replacement is a special case and it would be particularly important to consider bicycle and pedestrian improvements that can be included. Similarly, underpasses and overpasses under and over I-85/40 in and near Graham warrant a specific consideration for bicycle and pedestrian facilities that can be improved, to address the issue of I-85/40 serving as a barrier to multimodal transportation in and around Graham.

Implementation as Part of Maintenance Activities

Municipalities and NCDOT can implement some safety treatments as part of typical maintenance activities. For example, when repaving a secondary road, where sufficient width exists, NCDOT can add reflective shoulder striping as a low cost, high impact safety measure. NCDOT provides five-year plans that include resurfacing schedules. The following website includes a link to an interactive map of corridors scheduled for maintenance in over the current five-year cycle: https://connect.ncdot.gov/resources/Asset-Management/HMIP/Pages/default.aspx

Clean Water Management Trust Fund

The Clean Water Management Trust Fund is available to any state agency, local government, or non-profit whose primary purpose is the conservation, preservation, and restoration of North Carolina's environmental and natural resources. Conservation projects must address one or multiple of the following target areas:

- Enhance or restore degraded waters;
- Protect unpolluted waters, and/or
- Contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits;
- Provide buffers around military bases to protect the military mission;

[20] North Carolina Department of Commerce. Rural Transformation Grants. https://www.nccommerce.com/grants-incentives/rural-transformation-grants#resilient-neighborhoods

- Acquire land that represents the ecological diversity of North Carolina; and
- Acquire land that contributes to the development of a balanced state program of historic properties.

Additional information is available at nclwf.nc.gov/grants

5.5.3 Regional

BGMPO Discretionary Call for Projects

The BGMPO holds a competitive call for discretionary transportation projects funding on a regular basis-this includes Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds and Carbon Reduction Program (CRP) funds. A local match of at least 20 percent is required.

Complete Streets Implementation

Under the NCDOT Complete Streets Policy, as part of roadway projects planning and implementation, complete streets elements including bicycle, pedestrian and transit improvements recommended in local and regional plans are included. A local match is generally not required. (https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx)

5.5.4 Municipal/Local

Implementation as Part of Residential and Commercial Development

As required in the Unified Development Ordinance, the City should continue to monitor new developments to ensure that required sidewalk, greenway connections, on-road bicycle improvements and bicycle parking facilities are included and constructed up to required standards where applicable. Periodic updates to the Unified Development Ordinance may be needed to address the elements currently missing or not specific enough to address a variety of situations.

Municipal Property Tax

Municipal property tax proceeds are broadly eligible for transportation projects. Additional funds would require either raising the tax rate or re-allocating funding from other purposes.

Municipal Vehicle Tax for Transportation Improvements

NC statutes authorize the levy of an annual municipal vehicle tax upon vehicles registered in the city/municipality to be used to fund projects on public streets. Municipalities can designate a dedicated line item in the annual budget and Capital Improvement Program for neighborhood traffic calming, intersection, and safety improvements. As an example, the Village of Waxhaw, North Carolina sets aside funding for "Small Transportation Project Fund" partially funded with municipal vehicle tax. (https://www.ncleg.gov/EnactedLegislation/Statutes/PDF/BySection/Chapter_20/GS_20-97.pdf)

Powell Bill Funds

North Carolina municipalities receive financial assistance from the State to help pay for the construction, maintenance, and repair of municipal streets, bikeways, and sidewalks. North Carolina levies motor fuel taxes

under a formula that increases taxes when the wholesale price of motor fuels increases. The State appropriates a certain percentage of this revenue, plus an additional percentage of the North Carolina Highway Trust Fund's net proceeds, to eligible municipalities across the State. The legislation that first established this distribution is known as the Powell Bill. The available funds are distributed among eligible municipalities. Powell Bill funds can be used for street, sidewalk, and bikeway maintenance, improvements, and design, among other transportation uses. (https://connect.ncdot.gov/municipalities/State-Street-Aid/Pages/default.aspx)

General Obligation Bonds

Long-term bonds may be approved through voter referendum, to be repaid by property taxes. The purpose is established prior to the referendum vote. Transportation projects can be a specified purpose of a bond referendum package.

Municipal Service Districts (MSDs)

Municipalities can designate Municipal Service Districts, where additional property taxes may be assessed to fund projects and services within the districts. Downtown Municipal Service Districts are the most common.

5.5.5 Private Foundation Grants

AARP Community Challenge Grants

The AARP Community Challenge grant funding cycle in 2021 awarded $3.2 million to support 244 quick-action projects across the U.S., funding a variety of improvements in urban, rural, and suburban communities to support residents of all ages. Community Challenge grants help improve public spaces, transportation, housing, and civic engagement with an emphasis on the needs of people 50 or older. Some of the transportation improvements funded recently included bikeway and pedestrian improvements. Typically, those grants are under $20,000 each.[21]

Better Block Foundation Grants

The Better Block Foundation is a 501(c)3 nonprofit that educates, equips, and empowers communities and their leaders to reshape and reactivate built environments to promote the growth of healthy and vibrant neighborhoods. Its services support the reimagination of public spaces to include active transportation like walking and bicycling. (https://www.betterblock.org/)

National Association of Realtors Placemaking Grants

The Placemaking Grant funds the creation of new, outdoor public spaces and destinations in a community, and it is accessible through state and local REALTOR® Associations. Potential funded projects include demonstration projects like parklets, pop-up parks, pedestrian plazas, bike lanes, and amenities like street furniture, paint, signage, materials, landscaping, and murals. (https://www.nar.realtor/grants/placemaking-grant)

[21] AARP (July 28, 2021). AARP Community Challenge 2021 Grantees. https://www.aarp.org/livable-communities/community-challenge/info-2021/2021-grantees.html

Glossary

Glossary

Term	Definition
AADT	Average Annual Daily Traffic
ACS	US Census Bureau American Community Survey
Active Transportation	Transportation Methods that do not involve the use of a personal vehicle such as walking, running, bicycling, transit, etc.
ADA	Americans with Disability Act
Advisory Shoulder / Advisory Bike Lane	A roadway consisting of a single center lane which supports two-way vehicle traffic and an edge lane on either side reserved for bicyclists and pedestrians except when oncoming traffic necessitates the need for the vehicle to use the edge lane
Bicycle Lane	A portion of roadway that has been designated by striping, signage, and pavement markings for the exclusive use of bicyclists
CIP	Capital Improvement Plan
Couplet	A pair of parallel one-way roads that carry traffic in opposing directions
CTP	Comprehensive Transportation Plan
CTT	Carolina Thread Trail
FHWA	Federal Highway Administration
Greenway	A pathway (typically 10 feet wide) that can be used for both pedestrian and bicycle activity that parallels a natural or manmade feature
High Visibility Crossing	A crosswalk that uses patterns that are visible to both the driver and pedestrian from father away compared to traditional crosswalks
Local Match	A local government's financial contribution to an infrastructure project
Median Refuge Island	A small section of pavement or sidewalk surrounded by asphalt or other road materials where pedestrians can stop before finishing crossing a road

Mid-Block Crossing	A bicycle and pedestrian crossing opportunity that is not at a roadway intersection
MPO	Metropolitan Planning Organization
Multi-Use Path (MUP)	See the definition for a Shared Use Path.
NCDOT	North Carolina Department of Transportation
NHTSA	National Highway Traffic Safety Administration
Ped Signal Head	A lighted signal at a signalized intersection used to let pedestrian know when it is safe to cross the roadway
Pedestrian Scale Lighting	Luminaries that are directed toward the sidewalk, positioned lower than and spaced closer than roadway luminaries, that are designed to improve pedestrian safety and enhance placemaking
PHB	Pedestrian Hybrid Beacon - The pedestrian hybrid beacon (PHB) is a traffic control device designed to help pedestrians safely cross higher-speed roadways at midblock crossings and uncontrolled intersections. The beacon head consists of two red lenses above a single yellow lens.
Placemaking	A process of transforming and defining a public space to strengthen the connection between those who use the space and the physical environment
Planning-level cost estimate	A preliminary cost estimate due to the limited availability of project details
Rail Trail	A multi-use path created from former railroad corridors
RAISE	Rebuilding American Infrastructure with Sustainability and Equity Discretionary Grant Program
ROW	Right-of-way – real property and rights therein used for the construction, operation, or maintenance of a transportation or related facility
RPO	Rural Planning Organization
RRFB	Rectangular Rapidly Flashing Beacon - RRFBs consist of two, rectangular-shaped yellow indications, each with a light-emitting diode (LED)-array-based light source. RRFBs flash with an alternating high frequency when activated to enhance conspicuity of pedestrians at the crossing to drivers.

Shared Use Path (SUP) or Multi-Use Path (MUP)	A shared use path, also known as a multi-use path is a pathway larger than a sidewalk (typically 10-12 feet wide) that can be used for both pedestrian and bicycle activity; a shared use path can follow a roadway (with separation using a curb or a green buffer strip) or a natural corridor such as a creek.
Sharrow	A pavement marking indicating that roadway users are to share the road with bicyclists; Sharrows also indicate suggested position for bicyclists in the roadway
Sidewalk	A paved surface designated for pedestrian use parallel to the roadway, generally separated from the traffic lanes by a curb
SS4A	Safe Streets and Roads for All Grant
Stakeholder	A person or entity with an interest or concern in the project
STBG	Surface Transportation Block Grant
Steering Committee	A group of people who decide on the priorities, direction, and guidance of a project
STI	Strategic Transportation Investments
STIP	State Transportation Improvement Program
TIP	Transportation Improvement Program
Truncated Domes	A tractile warning strip of raised bumps designed to let pedestrians with vision impairments know that they are approaching an intersection
UDO	Unified Development Ordinance – a set of regulations designed to guide future development in a municipality
Vision Zero	A strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all
Wayfinding	The use of signage and design elements to help residents and tourists to navigate a space

Appendix A. Public and Stakeholder Engagement

Graham Pedestrian Plan Appendix A: Public and Stakeholder Engagement

This appendix provides additional detail for the public and stakeholder engagement that took place as part of Graham Pedestrian Plan update process.

Steering Committee

The purpose of the Steering Committee was to help guide the development of the Pedestrian Plan. City of Graham staff made recommendations for the Steering Committee make-up; this Committee met three times during the duration of the study. The Steering Committee members are listed below.

Table A1 Steering Committee Members

Name	Position
Noelle Purcell	Resident
Tommy Purcell	Resident
Colleen Walsh	Resident
Nicki Smith	City of Graham Parks and Recreation Commission
Cameron West	City of Graham Planning
April McCorvey	Resident
Pam Cook	NCDOT Transportation Planning Division
Colleen Walsh	Resident
Burke Robertson	City of Graham Public Works
Brian Faucette	City of Graham Parks and Recreation
Tony Velez	City of Graham Police Department
Aaron Holland	City of Graham Assistant City Manager
Alexius Farris	NCDOT Integrated Mobility Division
Jeanette Beaudry	Resident
Wannetta Mallette	Burlington-Graham Metropolitan Planning Organization
Frankie Tran	Burlington-Graham Metropolitan Planning Organization
Jennifer Talley	Mayor of the City of Graham
Evan Workman	City of Graham Staff
Chad Reimakoski	NCDOT Division 7

The first Steering Committee meeting occurred on July 19, 2023, where a review of existing conditions in the City of Graham was presented. The Steering Committee highlighted the sharp increase in bicycle and pedestrian crashes after COVID-19, with crashes trending towards higher injury severity in recent years. Attendees expressed the importance of Identifying key locations in the downtown core to recommend pedestrian and bicyclist facilities that would create the

most positive impact while using the least amount of the City's resources. This input would guide the recommendation process to emphasize locations for projects that would yield the most 'bang for buck'.

Steering Committee members review areas within the City in need of additional pedestrian connectivity.

The second Steering Committee meeting was held on August 30, 2023. A review of the first public engagement event and associated survey results were presented to the Steering Committee. A map of draft recommendations was shown to the Steering Committee for feedback. The Steering Committee advised focusing on bicyclist and pedestrian connections to local recreation opportunities, as well as keeping track of direct barriers to safe access to schools (traffic congestion, speed issues, and road volumes) to further bolster the City's network.

The third Steering Committee meeting took place on February 22, 2024. The study team presented a set of priority projects selected based on scoring using previously developed scoring criteria. The Steering Committee noted interest in adding traffic calming measures as part of Gilbreath Street, Ivey Road, and McAden Street projects. The Steering Committee also emphasized the importance of recognizing likely costs associated with each recommended project as a means of determining viability for future construction and implementation.

Stakeholder Meetings with NCDOT and BGMPO, Alamance County Regional Trails, and Graham Middle School

Several key stakeholder groups were identified for more detailed conversations, to discuss policy context and implementation opportunities and barriers.

NCDOT transportation engineers and Burlington-Graham Metropolitan Planning Organization staff were identified as a key stakeholder group. A conversation with NCDOT and BGMPO staff was held to gather background on additional projects in the region and potential funding sources for projects highlighted in the plan. Stakeholders identified the importance of creating a plan that is cohesive with the active BGMPO Metropolitan Transportation Plan (MTP) and BGMPO Regional Transportation Safety Plan. BGMPO staff indicated a high demand for bicycle

and pedestrian projects across the region based on SPOT P7.0 submittals. Funding was noted as a barrier, with stand-alone pedestrian projects requiring a minimum 20% match for project implementation. The stakeholders identified several additional funding sources such as funding for planning studies through the MPO Unified Planning Work Program (UPWP) for 2026-2027; and safety funding including the Highway Safety Improvement Program (HSIP) and safety analysis and improvements funding under the Vulnerable Road Users category.

The study team also held a stakeholder conversation with members of Alamance County staff including Parks and Recreation staff who are typically involved in regional trails planning and implementation. Alamance County representatives indicated that nearly all funding for trail and greenway projects in the region had come from grants in the past, also noted that construction labor (for unpaved trails) was largely volunteer based. Given multiple trail projects already underway in the County, the County stakeholders indicated some concerns with including additional projects as part of this Plan and being able to advance them in the near future. The County staff also discussed the importance of establishing a 'brand' for trail projects as a means of marketing trail importance to members of the public.

To gain a better understanding of the movement of students in the City of Graham, the study team interviewed Summer Rogers, Principal of Graham Middle School. Mr. Rogers noted a decrease of students commuting by bus and/or walking in favor of a single-family vehicles, which was associated with the return to schools post-COVID-19 pandemic. The principal noted that students who did commute to schools via walking and biking were navigating side streets and alleyways to avoid busier streets through the City, specifically Gilbreath Street. The principal has seen students making mid-block crossings along Gilbreath Street at unmarked locations, due to the lack of marked crosswalks and lack of pedestrian signal phasing at signals. The proximity to Graham High generated concern as well, given that many new drivers used the street to access student parking lots up the road. Interest was expressed for projects that reached north of the immediate City limits, with the principal noting numerous students commuting to and from the general area.

Public Meetings

The first public engagement meeting took place on July 27, 2023, as part of Thursdays at Seven, a concert series in downtown Graham. The project team interacted with 23 unique members of the public and distributed survey cards during this time.

The second public engagement event occurred on October 27, 2023. The study team set up a booth at the City of Graham's annual Pumpkin Bash, a Halloween themed event where streets in the downtown core are blocked off, allowing for music, games, and pedestrian activity around the downtown square. The study team set up a booth next to the City's Parks and Recreation Department, with poster maps of the recommended projects. The study team passed out candy to children and interacted with parents to better understand where and how they use pedestrian facilities in the City.

The study team interacting with families during Pumpkin Bash

Access to schools and creating safer connections between the outlying neighborhoods of the City and downtown core were the most prevalent point of discussion, with many parents expressing a concern with the idea of children walking along high traffic and high volume roads.

Online Survey Results

Survey 1

The first online survey was open from July 18, 2023 to August 21, 2023. A total of 108 survey responses were received. 85% of residents indicated they primarily use a vehicle to access resources in the City, with only 15% indicating that they walked. The typical trip length for respondents hovered between 5-10 minutes, meaning that residents are often making short trips within the City to reach community destinations. While most residents indicated interest in walking, the quality and safety of pedestrian facilities in the City stood out as a barrier. Respondents also noted traffic conditions and a lack of connectivity when attempting to reach destinations on foot, citing poor sidewalk conditions and a lack of safe crosswalks.

Figures A1 through A3 document some of the basic demographics and travel characteristics for survey respondents. Figures A4 through A9 document the preferred characteristics for selection criteria for various improvement types.

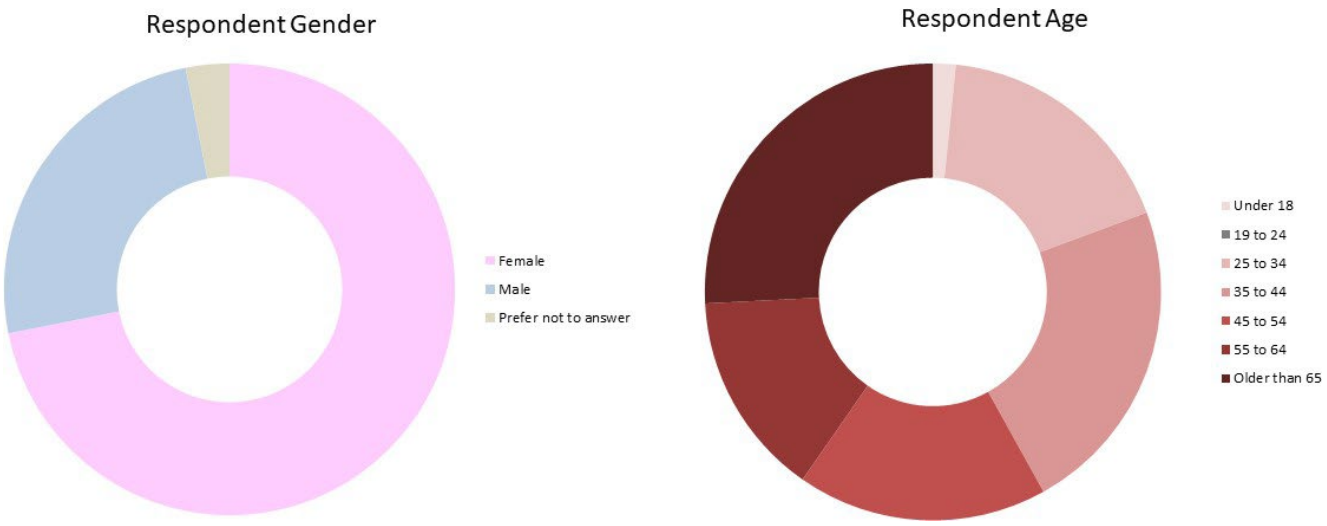


Figure A1. Survey Respondents Demographic Make-Up by Age, Gender.

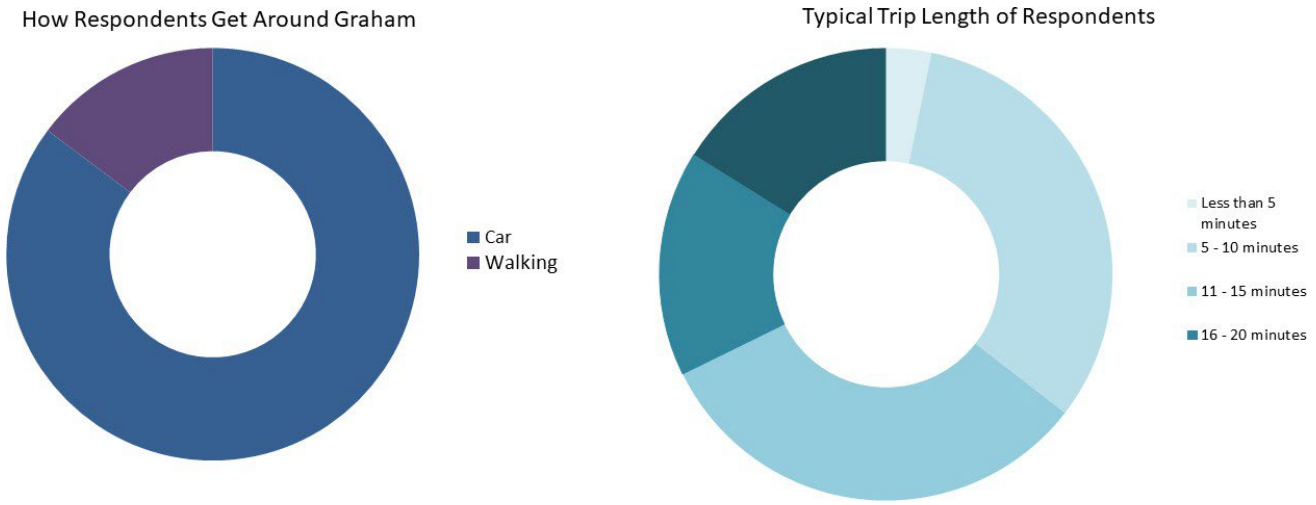


Figure A2. How Respondents Typically Get around Graham

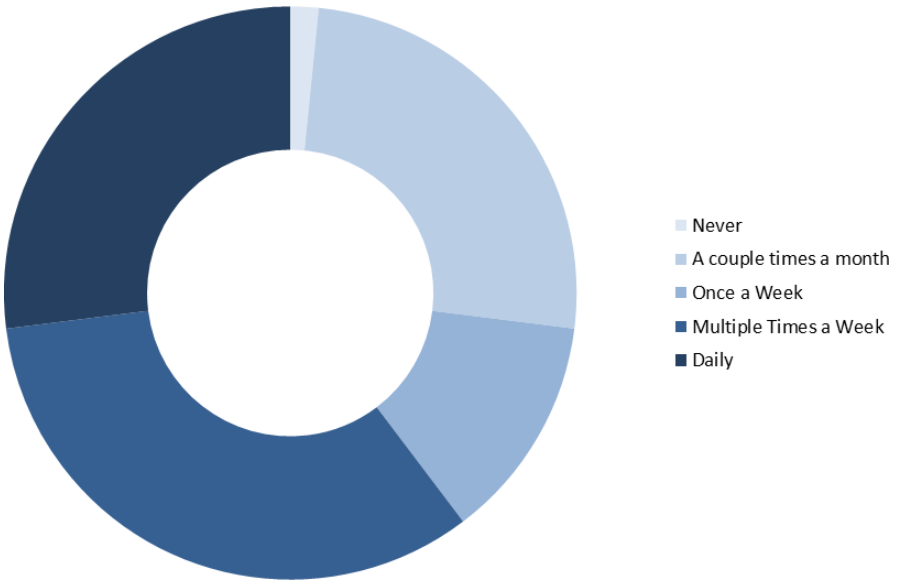


Figure A3. How Often Respondents Walk

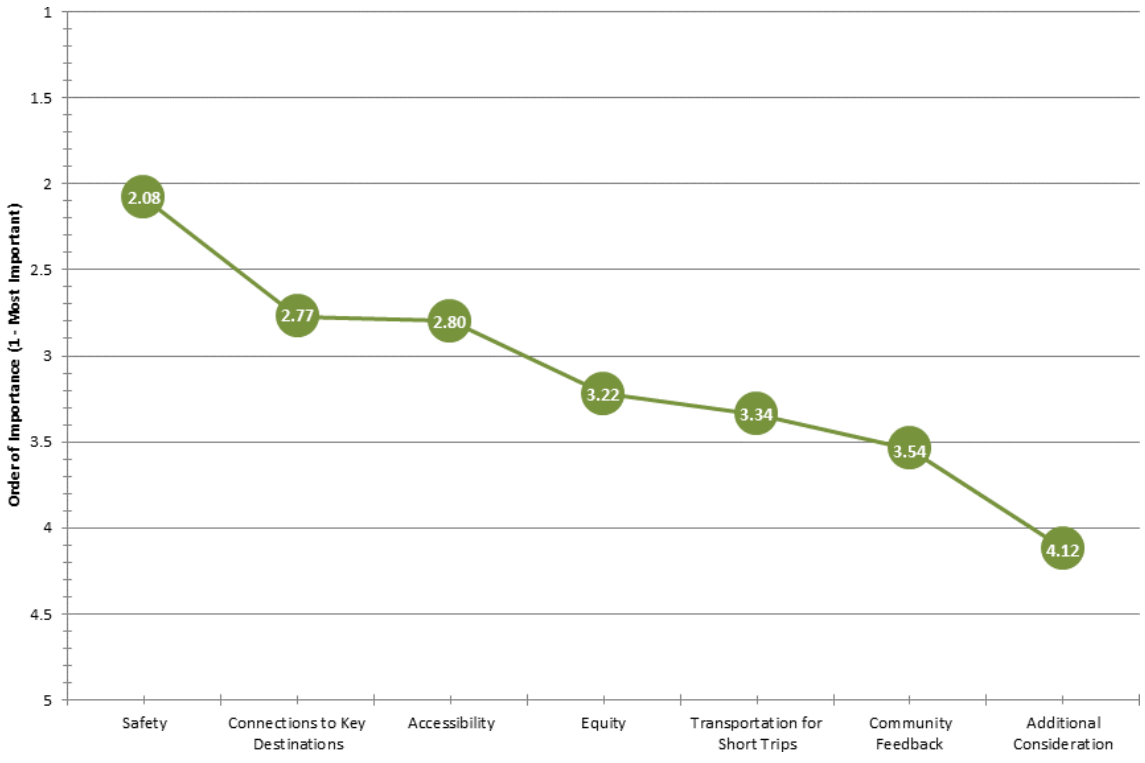


Figure A4. Prioritization of Pedestrian Facilities by Potential Factors, with 1 Being Most Important and 5 Being Least Important

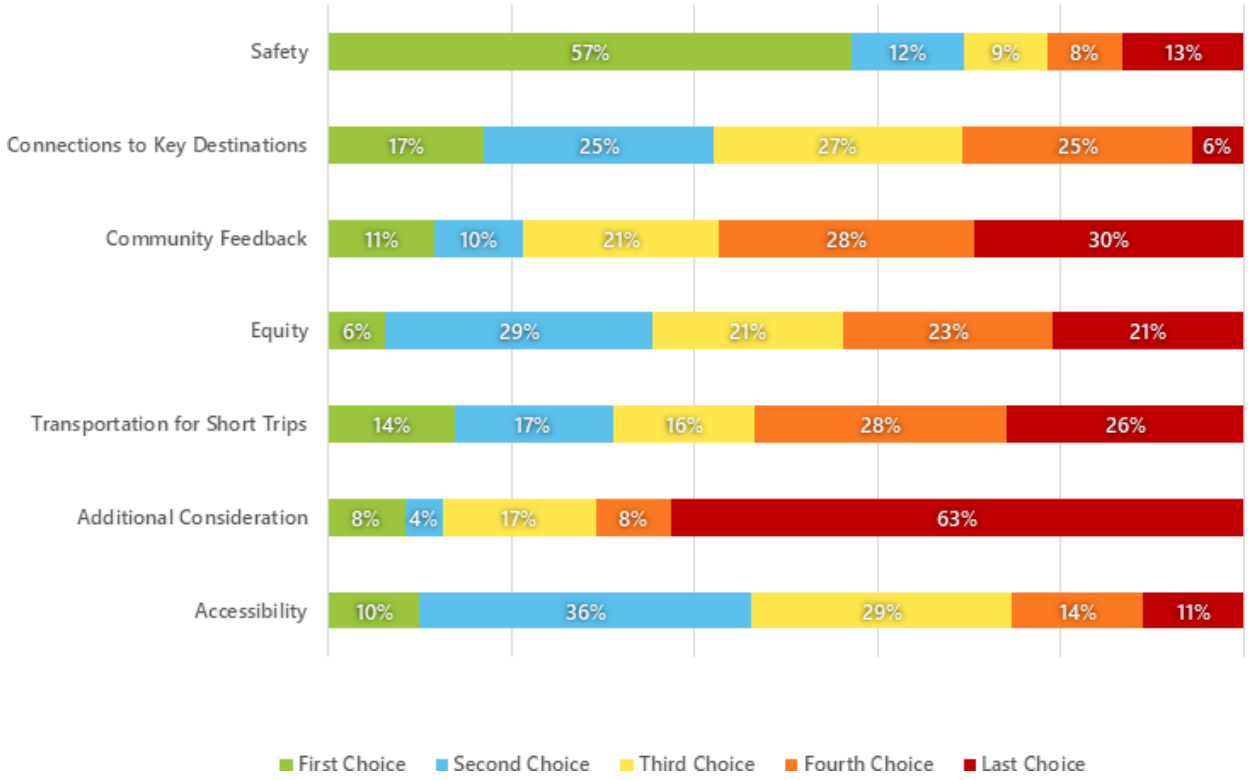


Figure A5. Prioritization of Pedestrian Facilities by Potential Factors, Continued

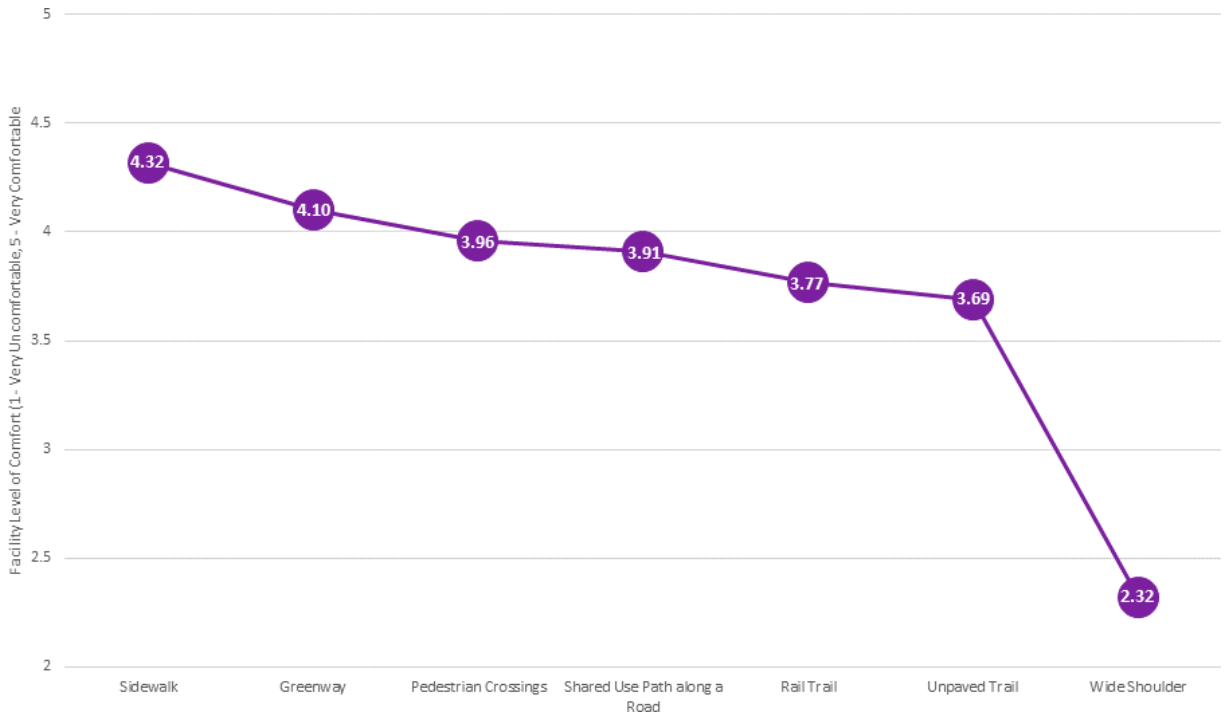


Figure A6. Preference for Type of Walking Paths

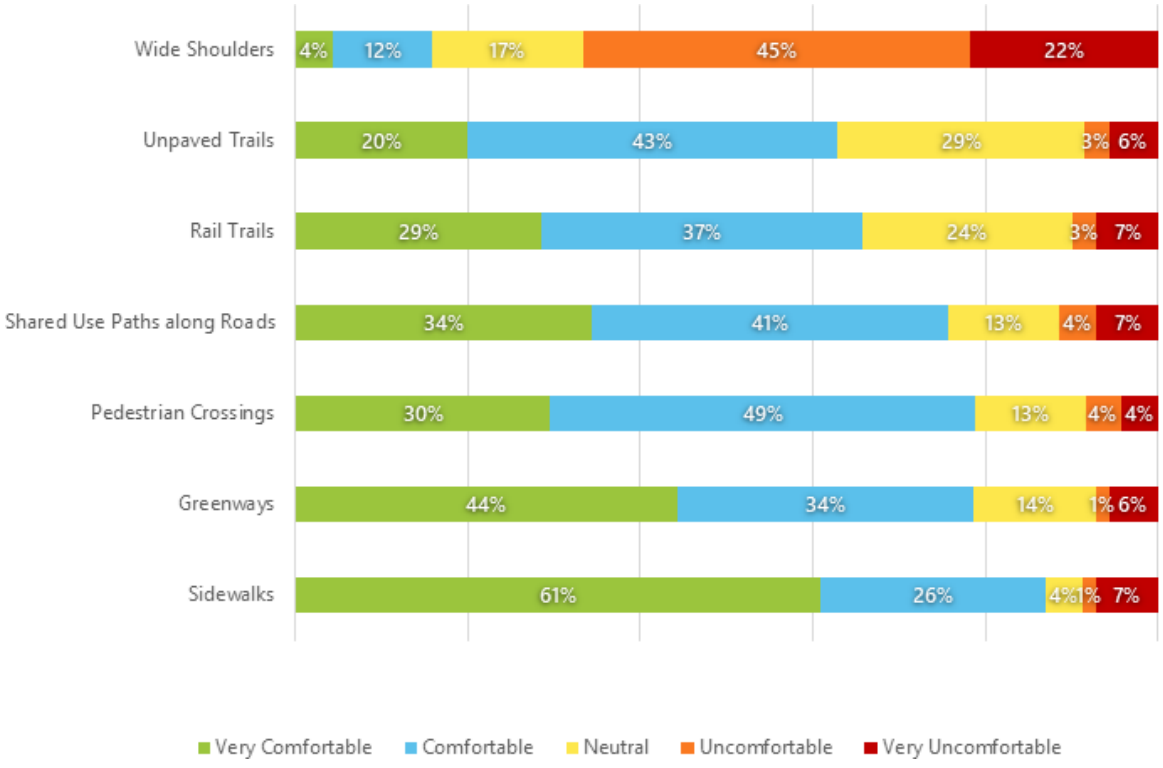


Figure A7. Preference for Type of Walking Paths, Continued

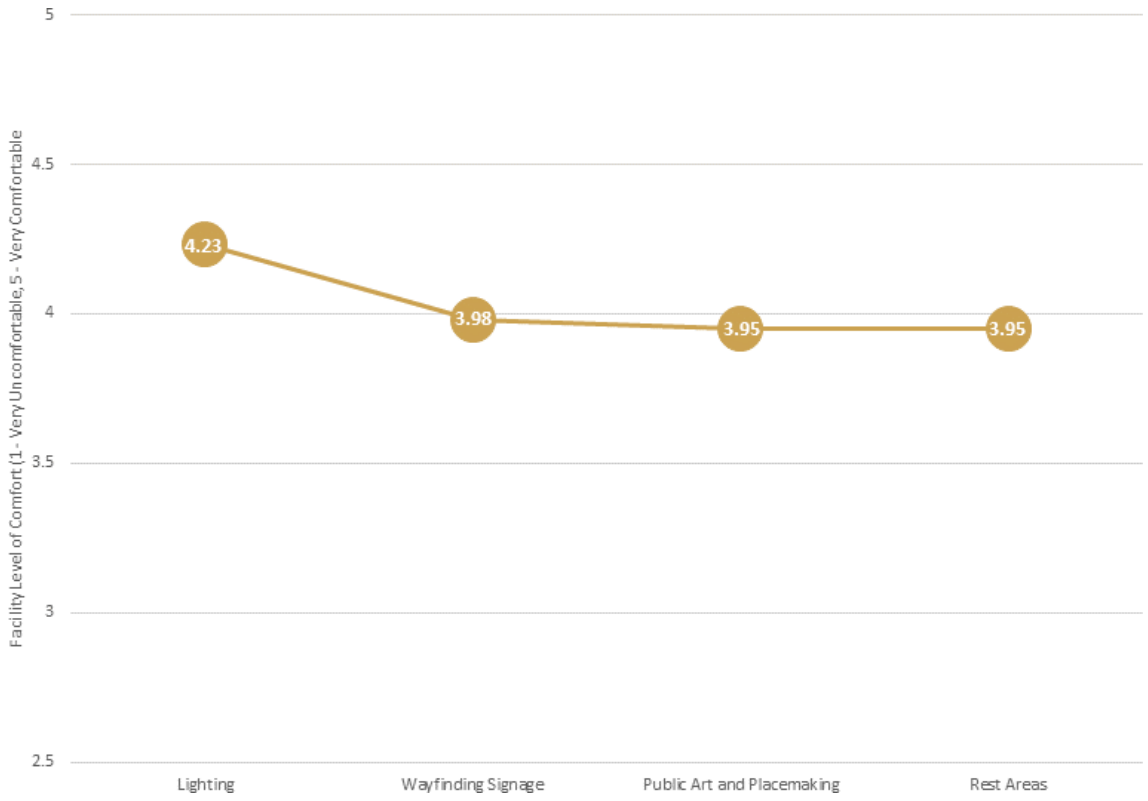


Figure A8. Preference of Amenities

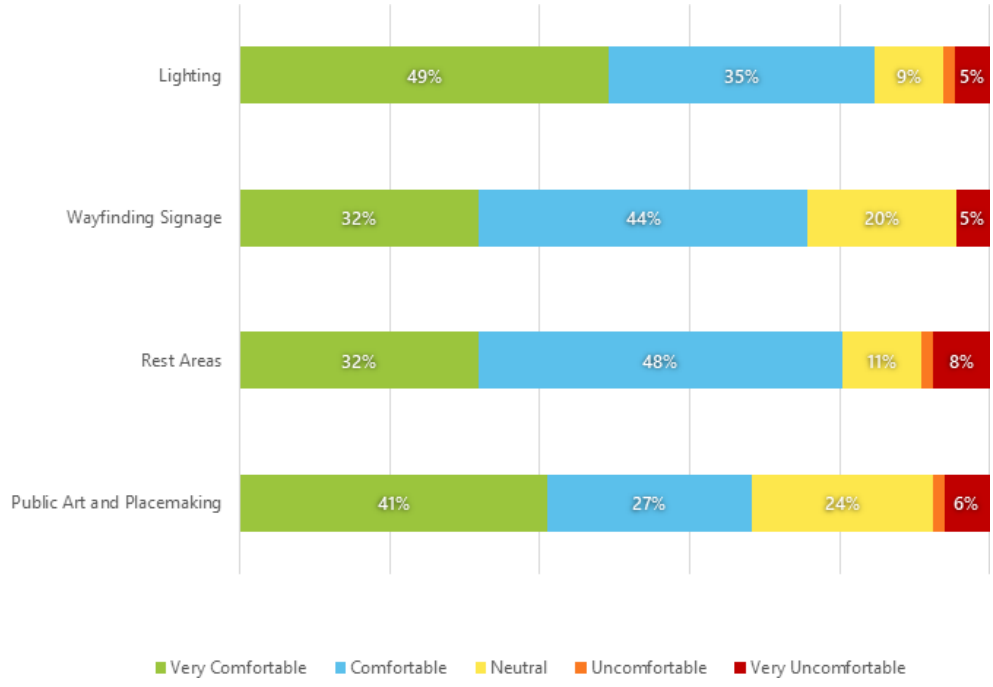


Figure A9. Preference of Amenities, Continued

Figures A10 through A13 document the respondents' home and work locations, typical destinations, walking locations and areas with known walking concerns.

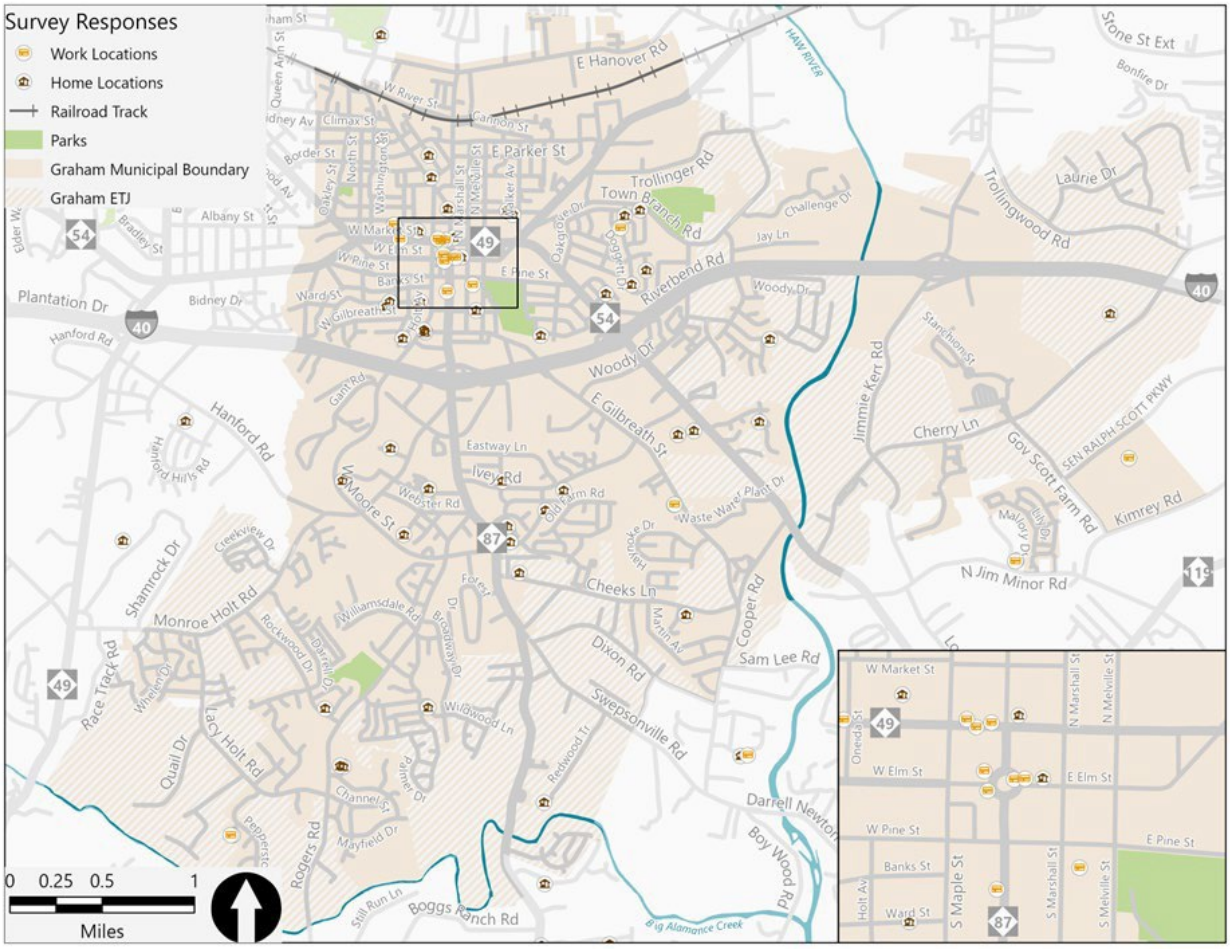


Figure A10. Home and Work Locations

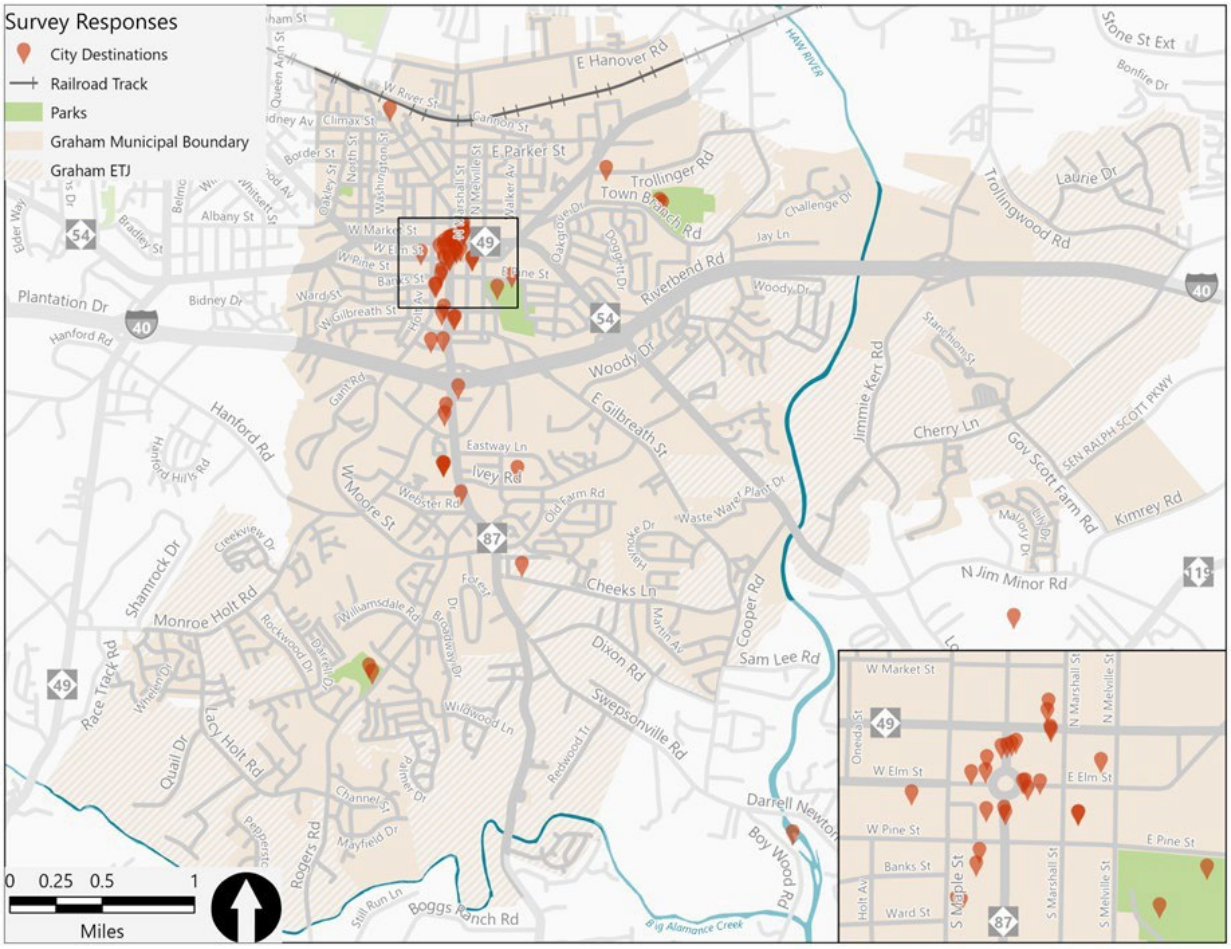


Figure A11. Destinations in Graham

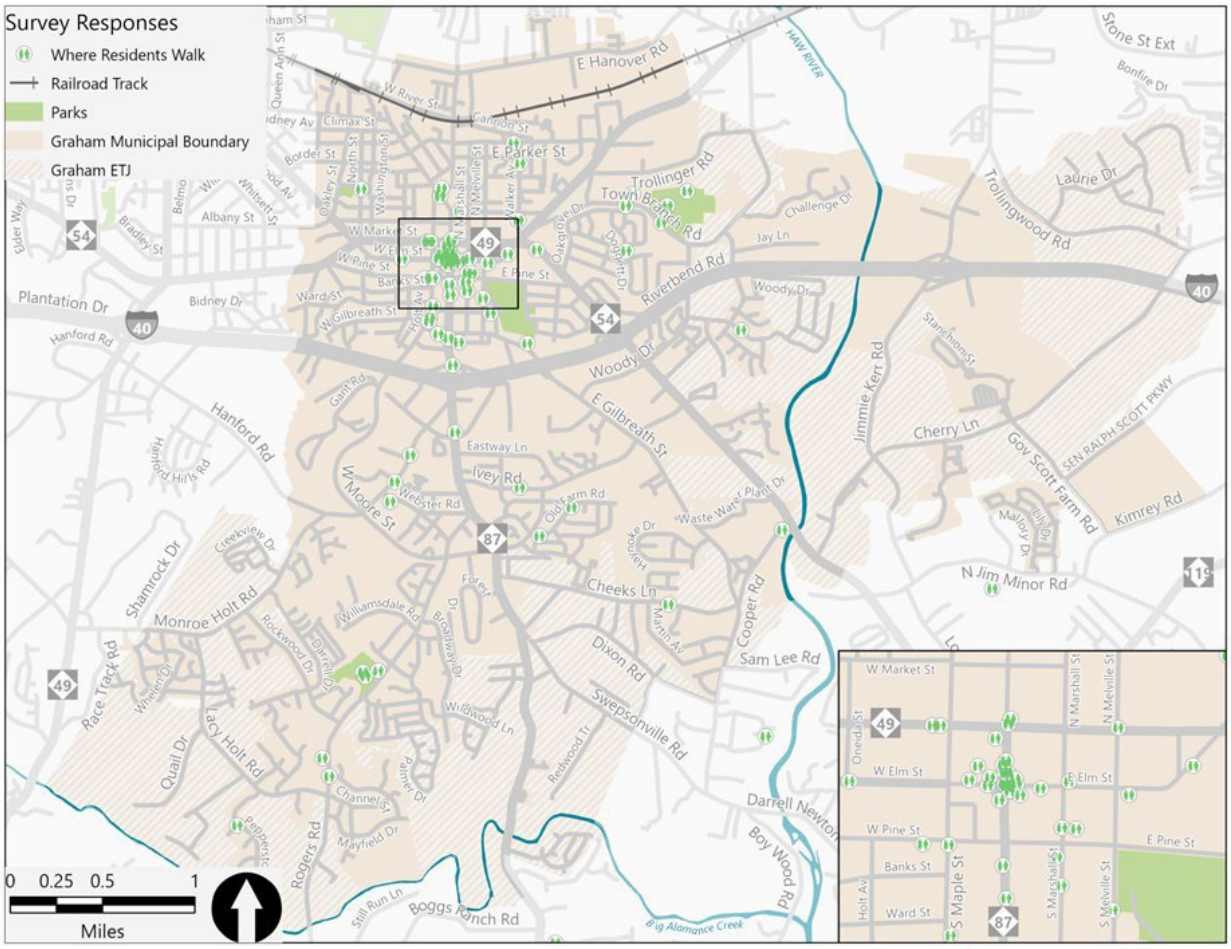


Figure A12. Where Respondents Walk

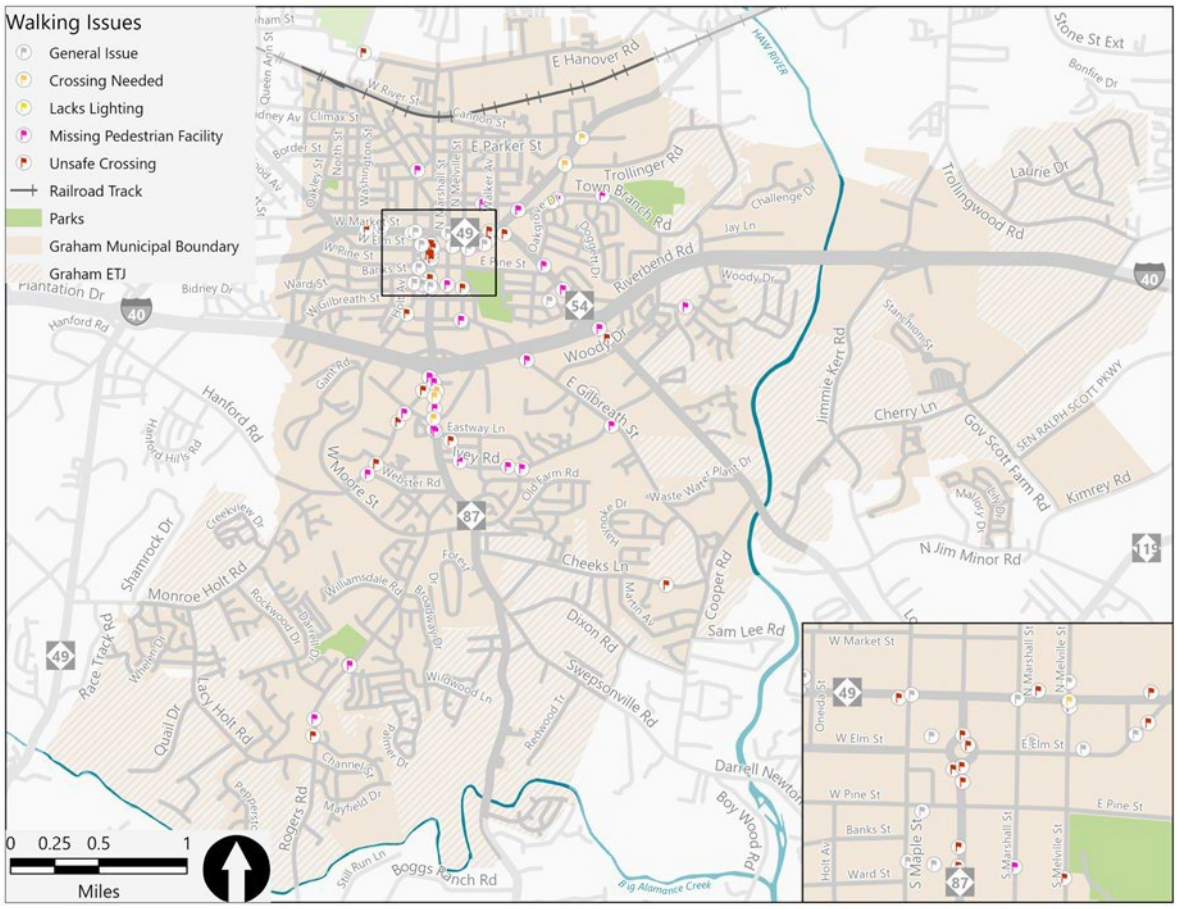


Figure A13. Walking Concerns

Additional detailed comments were submitted, some geotagged by location (Table A2 below).

Table A2 Detailed Comments Received, by Location

Latitude	Longitude	Comment
36.075688731241	-79.3875648494465	Elm Street from Townbranch Road to Parker Street needs to have a sidewalk for the students walking to and from Graham High/Middle School.
36.0706529048311	-79.3971360443594	Wrecks happen here
36.0704877334451	-79.3984701560311	Speed limit 35
36.071714488682	-79.4002458230809	Speed limit 20 mph
36.0731642393017	-79.4001974871717	Speed limit 35 Can't plant trees here, they keep getting wiped out by speeding cars
36.0707598623492	-79.4027551613047	Speed limit 35

36.0708410970892	-79.4021687624927	Speed limit 20
36.0681335054305	-79.4002392421	Speed limit 20
36.0647968234555	-79.400451455426	Sidewalks on both sides of road or more crossings with lights to notify drivers that pedestrians are trying to cross
36.0695511987984	-79.3996700579012	Aesthetically pleasing sidewalks and walkways that keep to the small, active, town look and feel will encourage people to get out and walk in the area.
36.0641069689755	-79.4024490140156	I believe the City of Graham is aware of the safety concerns at the intersection of Maple and Gilbreath. Beyond the reported accidents, there are numerous near misses. Children, teenagers, and adults cross through this intersection on foot and bike regularly to get to commercial uses on S Main Street. This intersection needs to improve.
36.0653575703374	-79.3861446597742	We definitely need more sidewalks!! There are hardly any in any neighborhoods. I noticed immediately when moving here in 2021. Me and many others push our strollers in the street.
36.0516064840794	-79.3930946308924	This area desperately needs a sidewalk
36.0557171847421	-79.393054909216	Walking is one of the best ways to exercise! we need to be able to be safe while walking in our community please figure out how to get safe continuous sideways throughout Graham. I like in south graham and the sidewalks remind me of a broken puzzle!! not together, lost parts etc etc Please figure this out to promote more people to walk in our community. Some people walk because they want to some people walk because they have to, please figure it out for the citizens of Graham!!
36.0519649089527	-79.3990473562582	This area needs more pedestrian sidewalks
36.0700953399584	-79.3993799541576	A parking lot would be nice to keep traffic away from the center retail areas. Making it safer for all. The roundabout is already busy enough - making it hard to park.
36.0715134864192	-79.3929414485847	Need road diet and multimodal walkway going on west side of Elm St to tie into new roundabout
36.0693838362251	-79.3960584150959	Sidewalk too narrow and in disrepair

36.0707019946582	-79.3951571928669	Need road diet to add sidewalk on north side of Harden to tie into existing sidewalk that ends at Melville St. This would connect the section to the downtown.
36.0735480221506	-79.3813884799304	No sidewalks and no right of way on edge of roadway make this unsafe for pedestrians. Curves in road make visibility difficult.
36.0697082174183	-79.400537164409	Need pedestrian signage and driver signage improvements. Need mirrors in islands so when drivers look left they can see pedestrians entering from the right.
36.0701259143029	-79.4004600696559	Need mid street crosswalk
36.0707021865183	-79.4004835179565	Many times I have witnessed cars going east on Harden St use the left turn lane to bypass traffic lines up to go straight through the intersection. They zip out as soon as the light changes, cutting in front of the cars going straight.
36.0706587044398	-79.3987698089793	Drivers will frequently run this light. Grab a drink at Forgotten Road Ales and just sit and watch one evening. It's unbelievable!
36.0675843134378	-79.391843842851	The bike lane on Pine St is great, but vehicles shouldn't be allowed to park in it. It defeats the purpose and makes cyclists have to veer out into the roadway.
36.0514406536715	-79.392537997836	Ivey Road should have sidewalks to connect the apartment complexes to the grocery stores on Main St (many people without cars walk to get groceries) and to allow children in the surrounding neighborhoods a safe option to walk to school at South Graham Elementary. Many people walk on this road and it is unsafe without sidewalks.
36.0303685383756	-79.412183414871	It would be nice to have a sidewalk from Lucy Hikt Rd down to S Graham Park
36.0710017710216	-79.4089883840259	Exercise
36.0678618782789	-79.3694143877819	There are apartments and townhomes being built in this area. Many residents are hoping they will extend the service road next to I-85/40 to meet the road at Arthur and Plateau Place so there are more walkable/billable roads in this neighborhood
36.0764413915592	-79.4061234093485	I wish the rec could be open to kids

36.0707379198133	-79.4000584294303	The crosswalk button on the corner of E Harden and N Main is broken.
36.0689382736181	-79.3999953164996	The only real walkable area is downtown. More sidewalks and bike lanes are needed to keep people safe in getting to the downtown area. There is a great informative YouTube about all of this. https://www.youtube.com/watch?v=ORzNZUeUHAM
36.0933816394979	-79.4060798230564	Roads leading out of town center like Providence need sidewalks, bike paths, and slower speed limits
36.0697123543027	-79.4004015331951	The crosswalks are a good thought but there is too much traffic in this circle for pedestrians to be safe.

General comments received as part of the survey were summarized around the following key themes: traffic and speed concerns; pedestrian safety and sidewalks; bicycle infrastructure; recreational trails and greenways; parking and sidewalk usage in downtown area; community safety and crime; accessibility and inclusion; environmental and weather considerations; community amenities and recreation; and general support and feedback for the planning process.

General comments summary by key theme is included below:

1. *Traffic and Speed Concerns:*
    - Many commenters expressed concerns about the high speed of vehicles, particularly on major state roads and thru streets. Specific areas mentioned include West Harden Street and near Linwood Cemetery on E. Elm Street.
    - Suggestions were made to reduce traffic speeds to 25 mph unless otherwise marked and to implement more stop signs in residential areas like North Street.
2. *Pedestrian Safety and Sidewalks:*
    - Sidewalks are a critical concern, with many noting the lack of sidewalks in their neighborhoods like Johnson Heights.
    - There is a call for improved maintenance of existing sidewalks, such as trimming bushes and trees that overhang and obstruct paths.
    - Connecting neighborhoods to downtown with sidewalks or trails was a recurring comment/suggestion
3. *Bicycle Infrastructure:*
    - A lack of bike lanes makes biking feel unsafe. There are requests for designated bike paths, especially on major roads like Main Street and Rogers Road.
    - Improved biking infrastructure could encourage more cycling within the community.

4. *Recreational Trails and Greenways:*
    - There is significant interest in developing more walking trails in parks and green spaces.
    - Some commenters oppose spending on new pedestrian greenways, suggesting they might not be widely used.
5. *Parking and Sidewalks in Downtown Area:*
    - Better parking solutions downtown are needed for both visitors and business owners/employees.
    - More sidewalks and proper signage, especially downtown and near businesses, are essential.
    - Residents currently drive to downtown and then park and walk.
6. *Community Safety and Crime:*
    - Concerns about increased crime make some residents reluctant to walk in certain areas.
    - Ensuring pedestrian paths are safe from criminal activities and heavy traffic is critical.
7. *Accessibility and Inclusion:*
    - Infrastructure improvements should consider accessibility for strollers, wheelchairs, and those with limited mobility.
    - Connecting residential areas to downtown and central locations can encourage more walking and biking.
8. *Environmental and Weather Considerations:*
    - Providing shaded pathways and weather-protected walkways could promote walkability, especially in hot weather conditions.
9. *Community Amenities and Recreation:*
    - Suggestions for additional community amenities like recreational centers for kids and better access to trails and waterways.
10. *General Feedback on the Planning Process and Pedestrian Improvements Expenditures:*
    - Some expressed gratitude for the opportunity to provide feedback and showed support for the community planning efforts.
    - Some comments support extensive pedestrian infrastructure improvements, while others believe existing infrastructure is sufficient and caution against spending large sums.

Survey 2

The second online survey ran from October 25, 2023, to December 17, 2023, and generated a total of 27 responses. The second survey focused on the recommended improvements in each part of the City. Respondents indicated overwhelming support for each of the priority project bundles, with the Eastern Downtown Bundle and Town Hall Bundle receiving the highest

approval rating. The Gilbreath Street Bundle received the lowest approval rating. Respondents were also able to leave comments at the end of the survey; most related to concerns with high speeds and on-street parking serving as barriers to the recommended project bundles.

General comments from survey #2 are summarized by key topic below. These themes reflect the community's concerns about pedestrian safety, infrastructure priorities, and the overall impact of urban planning decisions on daily life in Graham.

General comments summary by key theme is included below:

1. *Pedestrian Safety and Sidewalks:*
    - There is a strong emphasis on improving neighborhood sidewalks to enhance pedestrian safety and accessibility.
    - Concerns about on-street parking obstructing pedestrian pathways and causing safety hazards are recurrent. Suggestions include prohibiting overnight street parking and managing roadside parking better.
2. *Health and Environmental Benefits of Sidewalks:*
    - Sidewalks are seen as a means to promote a healthier lifestyle by encouraging walking over driving, thus reducing pollution.
3. *Trash Management:*
    - The need for more trash cans, particularly around Northeast Graham and North Main Street, is noted to maintain cleanliness.
4. *Speeding and Noise Concerns:*
    - Excessive vehicle speeding and noise are concerns that need addressing to ensure community safety and comfort, particularly for pets.
5. *General Feedback on the Planning Process and Pedestrian Improvements Expenditures:*
    - Several comments suggest that funds could be better utilized on different priorities such as police services, tearing down condemned houses, timely road repaving, and overall city maintenance.
    - Some believe that improving sidewalk infrastructure should take precedence, while others advocate for funneling funds into the local school system (ABSS).
    - Some commenters are excited about proposed improvements and the positive impact on businesses and personal convenience, despite temporary disruptions.

Figures A14 through A23 document the respondents' expressed support for various groupings of recommended pedestrian improvements, including priority projects, downtown Graham improvements, and other groupings of projects by geographic location in the city.

1. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the highest priority recommended pedestrian improvement project bundles?

More Details

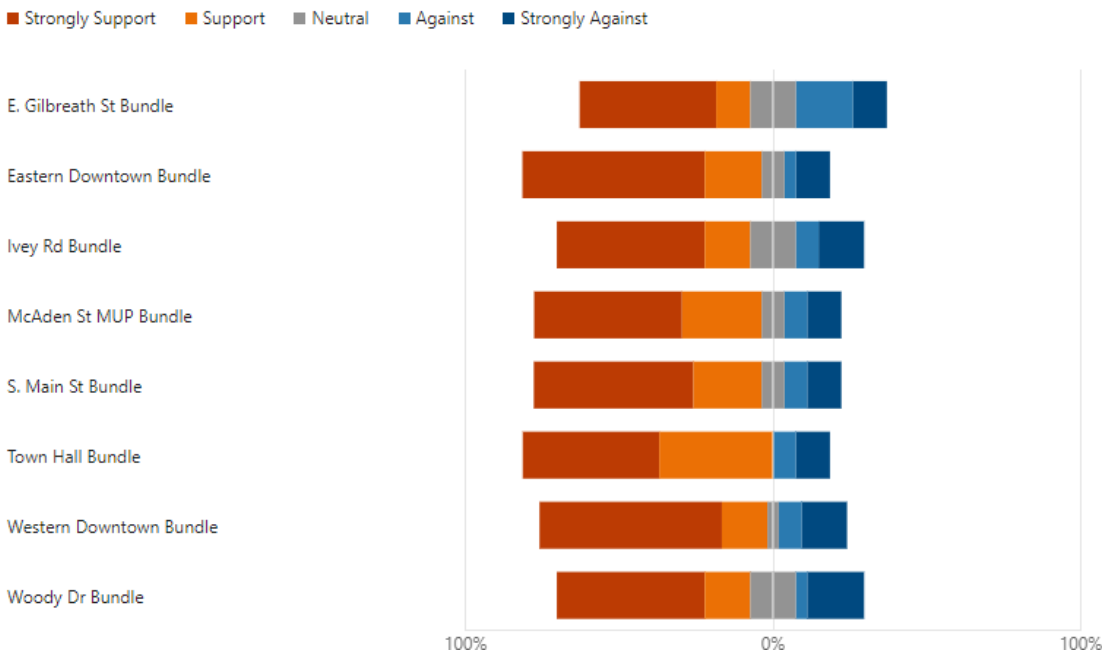


Figure A14. Survey Feedback for Priority Projects

2. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in downtown Graham?

   Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

   Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

   More Details

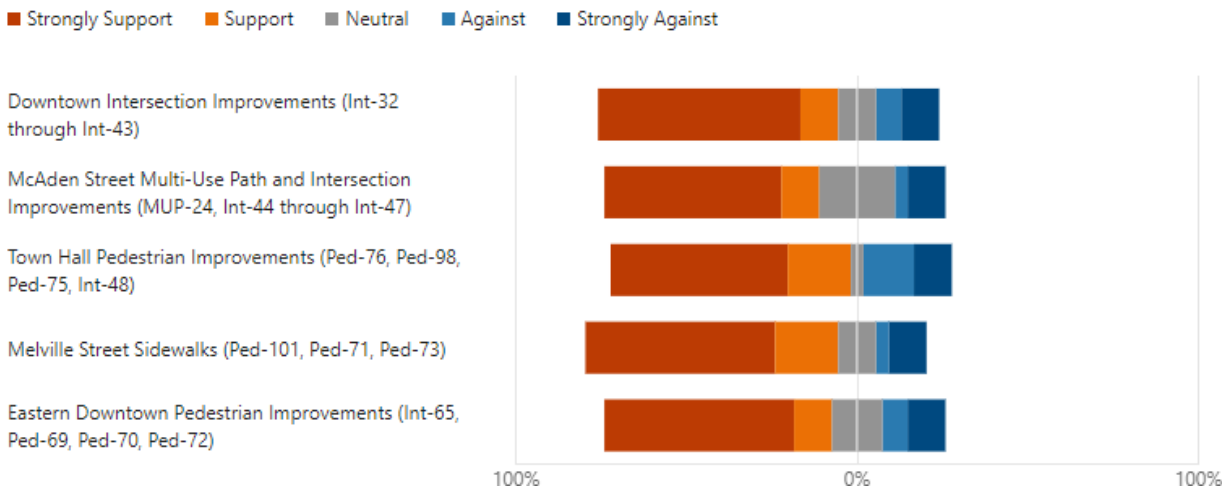


Figure A15. Survey Question 2 Feedback for Downtown Graham Pedestrian Improvements

3. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in Northeast Graham?

   Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

   Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

   More Details

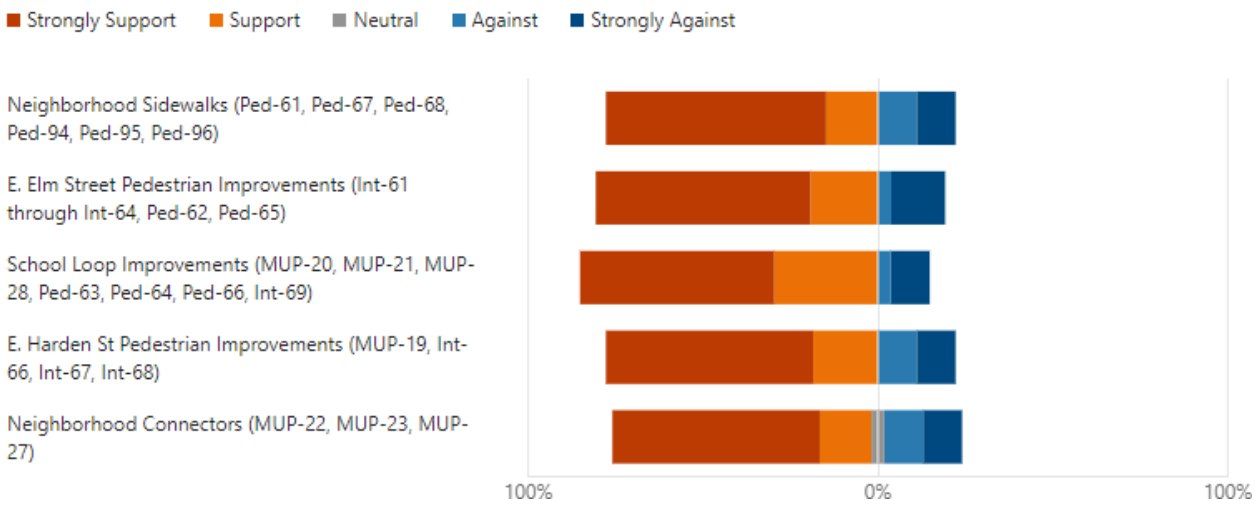


Figure A16. Survey Question 3 Feedback for Northeast Graham Pedestrian Improvements

4. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in Northwest Graham?

   Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

   Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

   More Details

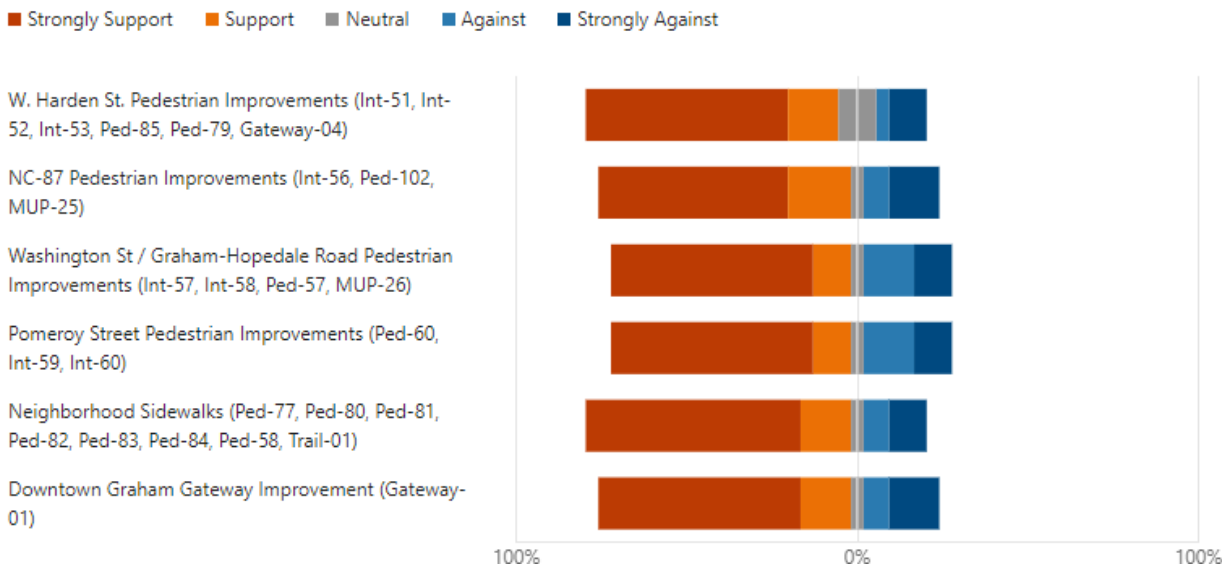


Figure A17. Survey Question 4 Feedback for Northwest Graham Pedestrian Improvements

5. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in Western Graham?

   Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

   Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

   More Details

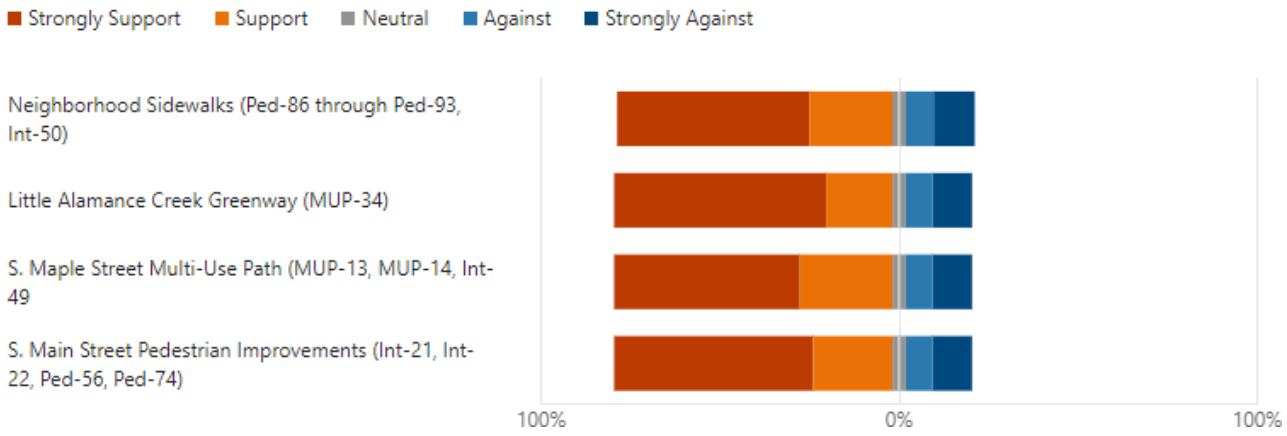


Figure A18. Survey Question 5 Feedback for Western Graham Pedestrian Improvements

6. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in South Graham?

   Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

   Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

   More Details

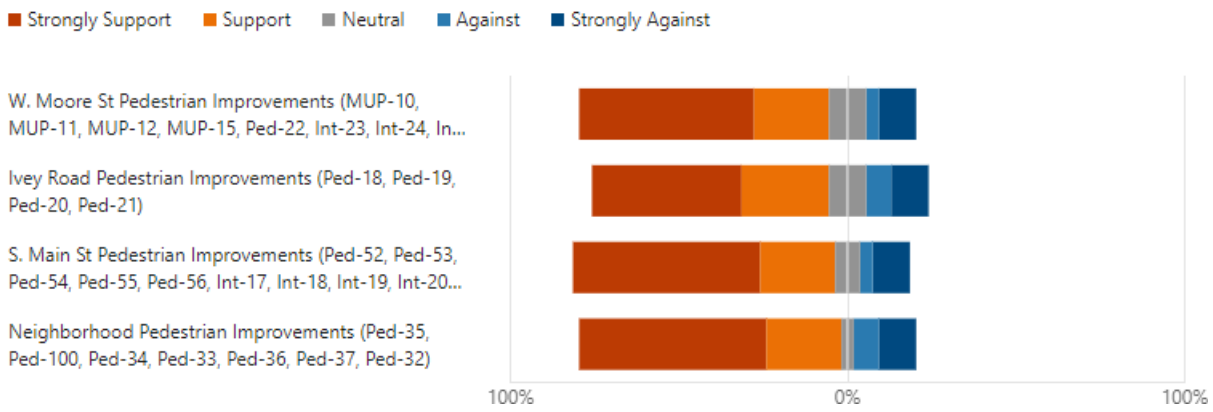


Figure A19. Survey Question 6 Feedback for South Graham Pedestrian Improvements

7. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in Southeastern Graham?

   Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

   Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

More Details

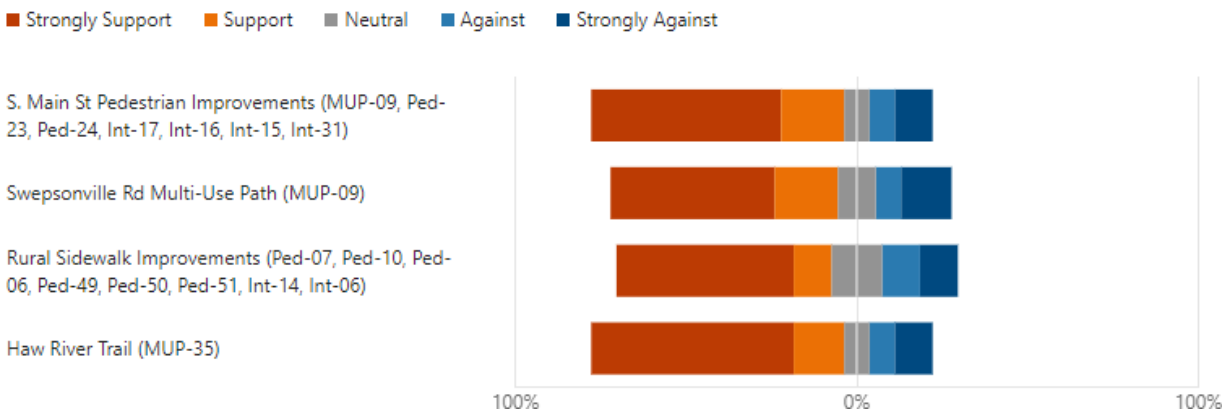


Figure A20. Survey Question 7 Feedback for Southeastern Graham Improvements

8. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in Southeastern Graham?

   Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

   Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

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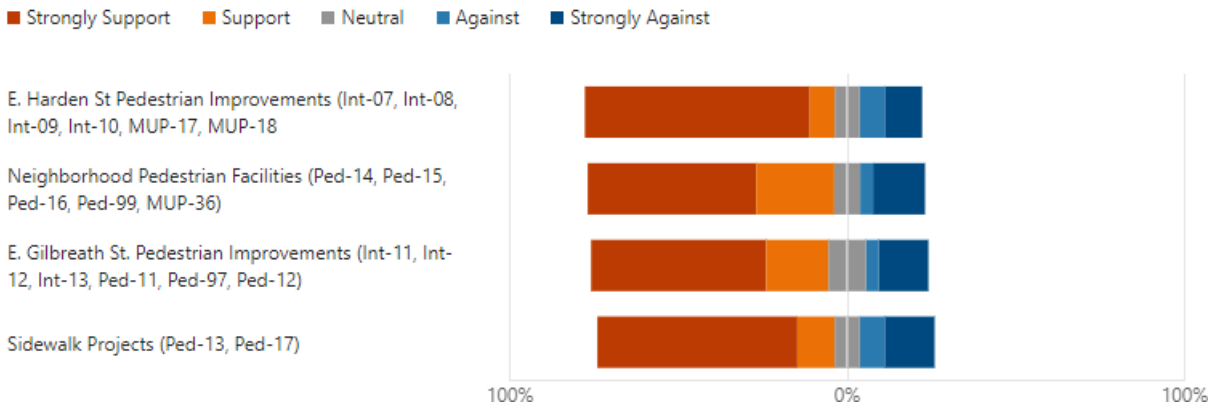

Figure A21. Survey Question 8 Feedback for Southeastern Graham Improvements-Part 2

9. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in Southwest Graham?

   Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

   Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

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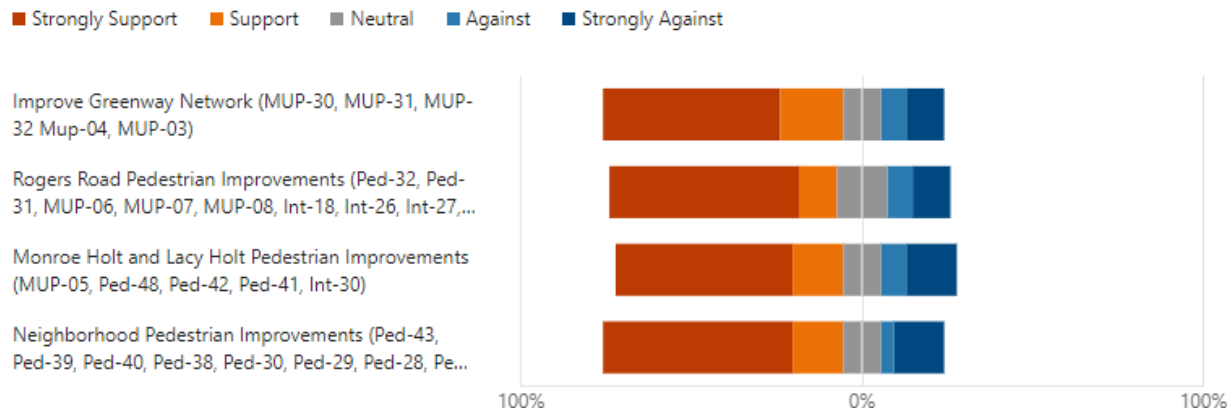

Figure A22. Survey Question 9 Feedback for Southwest Graham

10. On a scale of 1 (Strongly Against) to 5 (Strongly Support), how do you feel about the recommended pedestrian improvements in Haw River region of Graham?

    Intersection improvements include adding high-visibility crosswalks, improving ADA accessibility, and updating and installing pedestrian signal heads to improve pedestrian visibility and safety.

    Gateway improvements include adding welcoming landscaping, public art, directional wayfinding, and evaluation of a potential roundabout.

    More Details

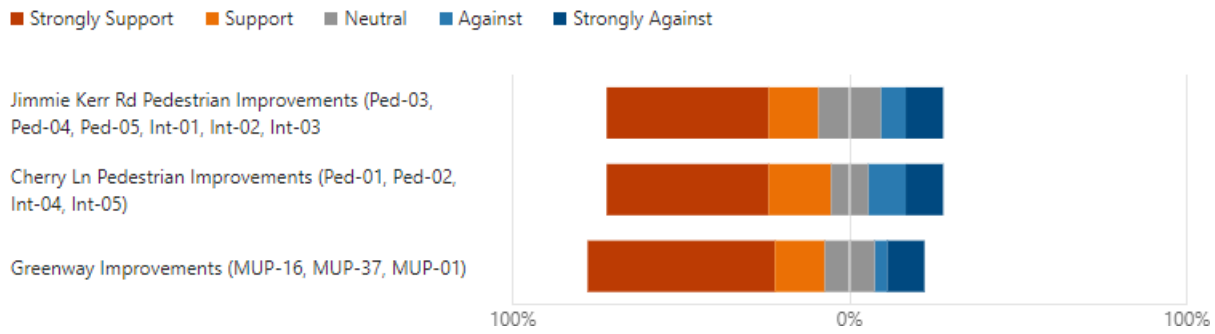

Figure A23. Survey Question 10 Feedback for Haw River Area Improvements

Appendix B. Pedestrian Design Guidance.

Graham Pedestrian Plan Appendix B: Pedestrian Design Guidance

This Design Guidance section documents current design guidance and standards resources in support of implementing bicycle and pedestrian improvements. This list of resources has been developed to complement the City's Pedestrian Plan and reflects best practices at the state and national level to support pedestrian safety and comfort.

Most of the projects identified in the plan will require a more detailed evaluation by a professional engineer prior to implementation, with considerations for physical constraints, rights-of-way, traffic counts and speed and other data to be reviewed at the time of the engineering study.

National Guidance

American Association of State Highway and Transportation Officials' (AASHTO) Guide for the Planning, Design, and Operation of Pedestrian Facilities.

The American Association of State Highway and Transportation Officials (AASHTO) is a non-profit organization with the goal of supportive multimodal transportation for the entire United States. The AASHTO *Guide for the Planning, Design, and Operation of Pedestrian Facilities* (2nd Edition, 2021) provides guidance on the planning, design, and application of various types of pedestrian facilities. The project team used this guide to help develop the recommendations in this Plan, and future updates to this Plan should involve consulting the guide. It will also provide specific guidance for design criteria of individual projects during the implementation phase.

American Association of State Highway and Transportation Officials' (AASHTO) *Guide for the Development of Bicycle Facilities*

The AASHTO *Guide for the Development of Bicycle Facilities* (4th Edition, 2012) provides similar types of guidance as the AASHTO Pedestrian Guide, and should be consulted in a similar manner as priority projects are advanced into design and construction.

American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets.*

A Policy on Geometric Design of Highways and Streets (2018) provides national guidance on the design of highways and streets. The 7th edition of the "The Green Book" offers an updated framework for geometric design that is more flexible, multimodal, and performance based than in previous editions.

Federal Highway Administration (FHWA) Guidance

FHWA provides guidance for accessibility, design, and facility operations for pedestrians and bicyclists, among other modes. Often, these are in the form of standalone publications that target a specific issue in transportation, such as planning in small towns, crossing guidance, and bikeway facility design. Their resources are especially

helpful for state and local governments who wish to implement the best practices. Several publications of note are included below:

- ***Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations***. The *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* (2018) is developed to assists State or local transportation or traffic safety departments that are considering developing a policy or guide to support the installation of countermeasures at uncontrolled pedestrian crossing locations. This document provides guidance to agencies, including best practices for each step involved in selecting countermeasures. By focusing on uncontrolled crossing locations, agencies can address a significant national safety problem and improve quality of life for pedestrians of all ages and abilities.
- ***Pedestrian Lighting Primer.*** The *Pedestrian Lighting Primer* (2022) was developed be a resource for transportation practitioners interested in the safety and security benefits of pedestrian lighting as well as lighting design considerations at locations with existing or future pedestrian activity.
- ***Small Town and Rural Multimodal Networks Guide.*** The *Small Town and Rural Multimodal Networks Guide* (2016) adopts existing street design guidance and facility types for bicycle and pedestrian safety and comfort for the context of smaller towns and rural places not addressed in guides such as the NACTO Street Design Guide and ITE Walkable Urban Thoroughfares report. The guide provides examples of how to interpret and apply design flexibility to improve bicycling and walking conditions.
- **STEP: Improving Visibility at Trail Crossings**. *STEP: Improving Visibility at Trail Crossings* is a resource focused on improving the driver's visibility of trail users at roadway crossings. The document presents a systemic approach to reviewing existing crossings or planning for improved at-grade trail crossings with engineering countermeasures, such as enhanced signs and traffic controls. This resource discusses ways to make crossings more visible to drivers. The document describes safety issues and countermeasures for several most frequent types of trail crossings and introduces a process for reviewing trail crossing locations for issues and opportunities to reduce the chances of fatal or severe injury crashes.

ITE Designing Walkalble Urban Thoroughfares: A Context Sensitive Approach

The Institute of Transportation Engineers' (ITE) *Designing Walkalble Urban Thoroughfares: A Context Sensitive Approach* (2010) was developed as a guide to support the understanding of the flexibility that is inherent in the AASHTO *A Policy on Geometric Design of Highways and Streets*. The chapters emphasize thoroughfares in "walkable communities" - compact, pedestrian-scaled villages, neighborhoods, town centers, urban centers, urban cores and other areas where walking, bicycling and transit are encouraged. It describes the relationship, compatibility and trade-offs that may be appropriate when balancing the needs of all users, adjoining land uses, environment and community interests when making decisions in the project development process.

Manual on Uniform Traffic Control Devices (MUTCD)

The MUTCD provides guidance on the use, design, and application of control devices such as signs, pavement markings, and signals. This manual defines the design criteria for specific implementation projects. The current edition of the MUTCD is the 11th Edition, dated December 2023[1]. The project team consulted the MUTCD during preparation of this Plan.

[1] https://mutcd.fhwa.dot.gov/kno_11th_Edition.htm

National Association of City Transportation Officials' (NACTO) *Urban Street Design Guide*

The National Association of City Transportation Officials' (NACTO) *Urban Street Design Guide* (2013) is a collection of nationally recognized street design standards, and offers guidance on the current state of the practice designs. Written by and for cities, NACTO's design guide centers around building streets that safely accommodate all road users, including people traveling on foot, bike, and on transit. This guide includes a toolkit of street design elements with key dimensions and applications.

United States Access Board

The US Access Board provides standards and guidelines for accessibility consistent with ADA. For more information about ADA accessibility requirements, the Town should consult the US Access Board's 1991 *ADA Accessibility Guidelines (ADAAG*) and the 2010 *Standards for Accessible Design* as minimum requirements for new construction or alterations.

The Town should also consult the 2011 *Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way* (proposed PROWAG) for additional best practices for accessibility. PROWAG has been published as a Notice of Proposed Rulemaking but is not standard as of 2022.

North Carolina Guidelines

MUTCD

North Carolina has its own supplement to the MUTCD to provide additional guidance on very specific issues, such as the implementation of speed limit signage. For more general instruction on signage and traffic markings, consult the national MUTCD provided by FHWA.

Roadway Design Manual

This document includes design specific elements and information required to prepare a detailed roadway design. The RDM is also intended to provide the designer with flexibility in the design process while still maintaining reasonable conformity to common NCDOT design practices. Part I, Chapter 4 – Cross Section Elements, describes the desirable and minimum widths for pedestrian and bicycle facilities and related projects.

Pedestrian Crossing Guidelines

This guide is designed to help local communities evaluate the existing conditions at pedestrian crossings in North Carolina. With this evaluation, it may be used to assess potential improvements based on these conditions. This guide is not designed to prioritize improvements, or assess the connectivity of a local pedestrian network. Additionally, this guide may not apply in special circumstances such as school crossings.

Complete Streets Implementation Guide and Evaluation Methodology

NCDOT describes the process for evaluating and incorporating pedestrian, bicyclist, and transit elements facilities in the Complete Streets Implementation Guide and the Complete Streets Project Evaluation Methodology. These resources are designed to help communities and NCDOT Divisions plan for a variety of transportation modes, including determining cost-share obligations. Through this multimodal approach, communities can become more active, sustainable, and connected.

Traffic Engineering Policies, Practices and Legal Authority (TEPPL)

This comprehensive resource provides a complete authority on federal and state policies and regulations regarding all transportation issues. This resource should be used a library for very intricate details regarding policy issues affecting active transportation.

Useful Web Links by Source

AASHTO

- AASHTO Publications. https://store.transportation.org/

FHWA

- Manual on Uniform Traffic Control Devices (2023): https://mutcd.fhwa.dot.gov/kno_11th_Edition.htm
- Bicycle and Pedestrian Program Publications: https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/
- Safe Transportation for Every Pedestrian (STEP) Resources: https://safety.fhwa.dot.gov/ped_bike/step/resources/

ITE

- ITE Transportation Planning Resources https://www.ite.org/technical-resources/topics/transportation-planning/

NACTO

- NACTO Guides https://nacto.org/publications/

NCDOT

- Active Travel Terminology (2015) https://connect.ncdot.gov/projects/BikePed/Documents/NC%20Terminology%20for%20Active%20Travel.pdf
- Bicycle and Pedestrian Project Development and Design Guidance Resources (including Bicycle and Pedestrian Facility Cost Tool; Greenway Construction Standards): https://connect.ncdot.gov/projects/BikePed/Pages/Guidance.aspx
- Complete Streets Planning and Design Guidelines: https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx
- Local Programs Management Handbook: https://connect.ncdot.gov/municipalities/Funding/Pages/LPM%20Handbook.aspx
- Manual of Uniform Traffic Control Devices-North Carolina Supplement (2009): https://connect.ncdot.gov/resources/safety/Documents/
- Roadway Design Manual: https://connect.ncdot.gov/projects/Roadway/Pages/RDM.aspx

- Pedestrian Crossing Guidance: https://connect.ncdot.gov/resources/safety/Teppl/TEPPL All Documents Library/Pedestrian_Crossing_Guidance.pdf
- Traffic Engineering Policies, Practices, and Legal Authority (TEPPL): https://connect.ncdot.gov/resources/safety/Teppl/Pages/teppl.aspx
- WalkBikeNC: https://www.ncdot.gov/bikeped/walkbikenc/

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