

WALK DUNN

DUNN Pedestrian Plan Update 2022

Stantec

July 2022

Table of Contents

Introduction 1

Existing Conditions 11

Public Engagement 21

Recommendations 29

Implementation 71

Appendix - Digital

Acknowledgments

This project was made possible by a planning grant initiative through the North Carolina Department of Transportation - Integrated Mobility Division (IMD), and City of Dunn Resolution R-2020-02 to support the development of a Comprehensive Pedestrian Plan Update.

Thank you to all those who participated in this planning process through meeting participation, virtual workshops, online survey or interactive map commenting, and focus group discussions. The full list of Advisory Committee members is included in Chapter 1.

"As we prepare for growth, pedestrian and bike safety is becoming a greater priority for our community. Improvements that encourage walking... make a community more attractive to investment while encouraging a healthy lifestyle."

- Dunn Area Chamber of Commerce

Executive Summary

Project Background

The purpose of this plan is to evaluate the existing conditions for pedestrians within the City of Dunn and recommend infrastructure projects, policies, and programs to **improve safety, connectivity, and well-being for people of all ages and abilities.**

Vision & Goals

This Pedestrian Plan is an important step towards creating a **a vibrant, healthy, safe, and attractive community**. This plan identifies new opportunities and ongoing initiatives to create and enhance the pedestrian network for those of **All-Ages-and-Abilities (AAA)**, connecting people with place and creating greater access to those destinations where they live, work, play, and learn.

IMPROVE SAFETY

Address areas of concern or acute danger for pedestrians within the transportation system in order to reduce the number of pedestrian crashes, injuries, and fatalities over time.

IMPROVE ACCESS

Create a connected network of pedestrian facilities that allow people of all-ages-and-abilities safe, convenient, affordable access to their destinations.

GROW THE ECONOMY

Realize the economic benefits of pedestrian-friendly communities, retain wealth within the community through affordable transportation alternatives and increasing access, sales, and growth in local businesses.

ENHANCE HEALTH

Improve community health statistics through more and greater opportunities for active transportation, outdoor recreation for health and wellness.

PROMOTE EQUITY

Ensure equal opportunity access to community destinations, facilities, and resources through improvements to the pedestrian facilities network.

PROTECT THE ENVIRONMENT

Improve air and water quality by replacing automobile trips with walking trips, reducing carbon emissions and stormwater runoff; protect and conserve natural resources and wildlife habitats through greenways and shared-use path dedication.

Planning Process

The Pedestrian Plan process began in May 2021 with the initial Steering Committee meeting, and concluded in March 2022 with its adoption.



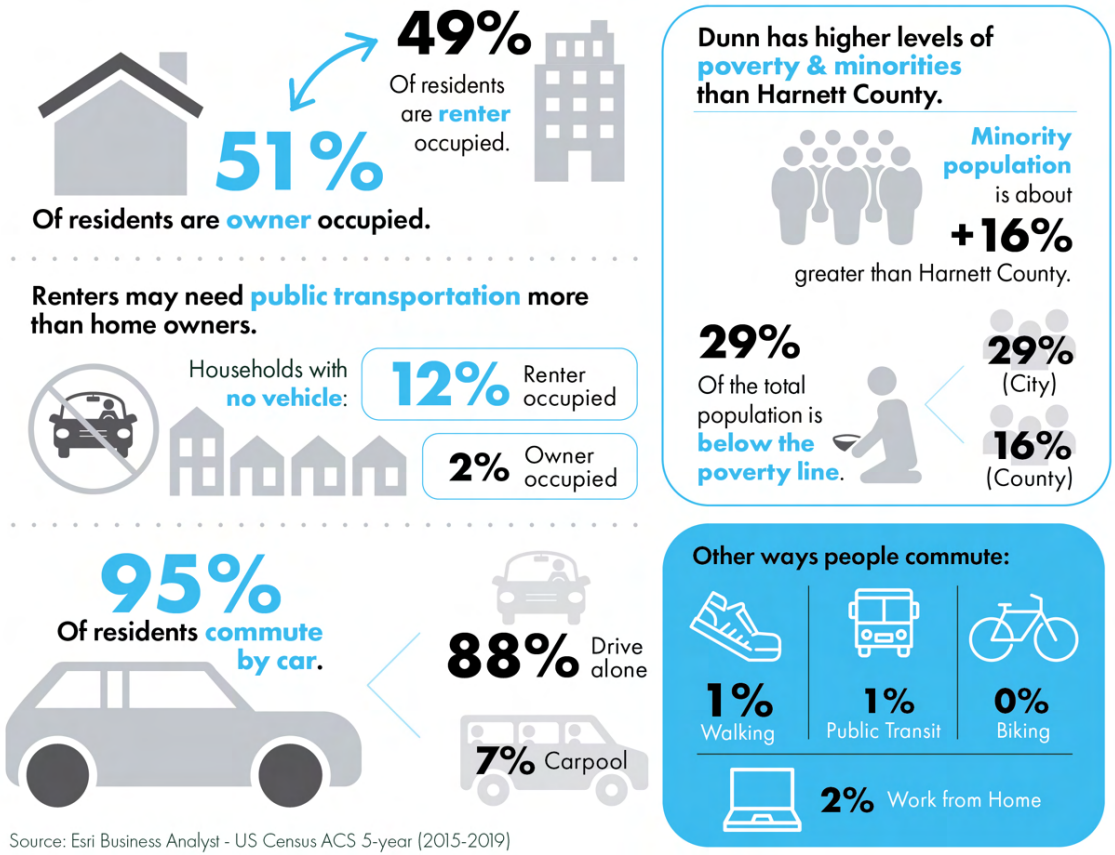
Benefits of Walking

Benefits of active transportation include health and economic benefits as well as reducing the ill effects of traffic congestion, including air pollution and noise. Generally speaking, the benefits of walking include:

- Walking is good for the local economy.
- Walking is good for education.
- Walking creates safer streets.
- Walking is good for the environment.
- Walking is good for community health.

Demographics

Demographics can help define the population characteristics within Dunn that use, or would like to use, pedestrian facilities. Lack of car ownership, commuting patterns, and income status are indicators of community needs and can project demand for a well-connected pedestrian network.



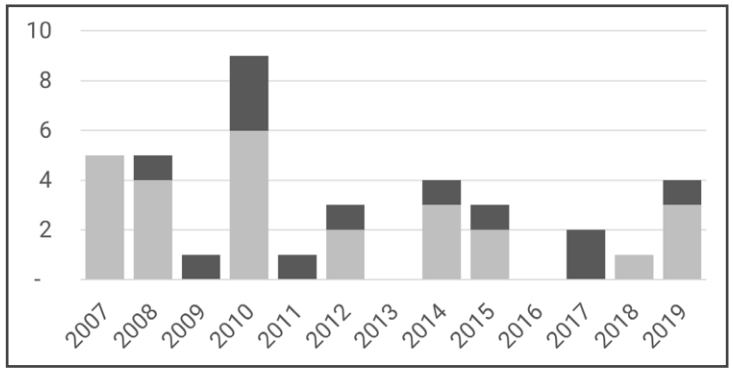
Source: Esri Business Analyst - US Census ACS 5-year (2015-2019)

Existing Facilities

Dunn's transportation network is defined by its major thoroughfares, upon which bicyclists and pedestrians rely to travel to their destinations. These thoroughfares play an important role in shaping this Plan's recommendations and the future Dunn pedestrian network. Currently there are **18 miles of existing sidewalks** that are primarily located along the Downtown street grid network, and the **Dunn-Erwin Rail Trail extending 5.3 miles westward** from Dunn.

Crash Analysis

Pedestrian crashes within Dunn are relatively **concentrated along Cumberland Street** (US 421) at multiple intersections: Elm Avenue, Washington Avenue, Broad Street. The NCDOT maintains a database of bicycle and pedestrian crashes since 2007, utilized for the purpose of this study. There was a noticeable decrease in pedestrian crashes between the years of 2014 and 2018, followed by an **increase in 2019** (image below).



Pedestrian Crashes by Injury Type, 2007-2019. Source: NCDOT.

Public Engagement

Feedback from the public was essential to this planning process, and we utilized the following formats to maximize participation.

PROJECT WEBSITE

The website for the Pedestrian Plan's development, **www.WalkDunn.com**, was established early to serve as a key resource for disseminating information and receiving feedback.

ONLINE SURVEY

The survey, which could be accessed through the project website, allowed members of the public to provide feedback on issues central to the Pedestrian Plan's developmen. **The survey generated 109 responses.**

INTERACTIVE MAP

The Interactive Map allowed respondents the opportunity to leave feedback on the existing Dunn transportation network from the convenience of their home rather than at an in-person public meeting on a specific date/time. **The Interactive map received 95 points/lines of interest by the end of the project.**



FOCUS GROUPS

Focus group meetings ('listening sessions' with community members) allowed the project team to verify data with group perspectives, as well as to supplement the same information with **local insight and perspectives not captured through data**.

PUBLIC WORKSHOP #1 - THURSDAY JULY 1, 2021

Attendees were informed of the project purpose, schedule, and how they can become more involved through the website, survey, and interactive map. Polling questions were used to better engage the audience, learn more about issues they encounter while walking, and what may encourage them to walk more frequently.

PUBLIC WORKSHOP #2 - THURSDAY SEPTEMBER 30, 2021

Posters of draft recommendations and policy implications were presented and discussed with attendees. Participants were asked to markup or comment with post-It notes on any items that could be revised or improved. Feedback was incorporated into draft recommendations, and helped to prioritize future investments for the City of Dunn.



View of Public Workshop #2 in action.

Map #	Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Facility Type
1	**Stony Run Greenway** From Vann Ln to Johnson St	2.20	Shared Use Path
2	**Vance Street Sidepath** From US 301 to Rest Haven Memorial Park	0.41	Shared Use Path
3	**Dunn-Erwin Rail Trail Extension** From McKay Ave to Clinton Ave	0.57	Shared Use Path
4	**Broad Street Connector** From Ellis Ave to Clinton Ave	0.50	Shared Use Path
10	**Ellis Ave Sidepath** From Dunn-Erwin Rail Trail to Broad St	0.28	Shared Use Path
11	**Clinton Ave Sidepath** From Johnson St to Broad St	0.41	Shared Use Path
12	**Johnson Street Connector** From US 301 to Stony Run Greenway	0.66	Shared Use Path
111	**Clinton Ave Sidewalk** From Granville St to Cleveland St	0.32	Sidewalk
112	**Magnolia Ave Sidewalk** From Johnson St to Edgerton St	0.34	Sidewalk
113	**Orange Ave Sidewalk** From Barrington St to Cole St	0.20	Sidewalk
118	**Elm Avenue Sidewalk** From Jackson Rd to Tart Park Entrance	0.48	Sidewalk
124	**Edgerton St Sidewalk** From Fayetteville Ave to Wilmington Ave	0.52	Sidewalk
125	**Johnson St Sidewalk** From Railroad Ave to Magnolia Ave	0.20	Sidewalk
128	**Johnson St Sidewalk** From Granville St to Burke St	0.06	Sidewalk
131	**Powell Ave Sidewalk** From Friendly Rd to Dunn-Erwin Rail Trail	0.27	Sidewalk
133	**General Lee Ave Sidewalk** From Broad St to Pearsall St	0.21	Sidewalk
134	**Cumberland St Sidewalk** From Washington Ave to Wilmington Ave	0.09	Sidewalk

Near-Term priority projects list.

Map #	Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Facility Type
139	**Ashe Ave Sidewalk** From Ponderosa Ave to Cole St	0.29	Sidewalk
144	**Hodges Avenue Sidewalk** From Best St to Magnolia Ave	0.10	Sidewalk
149	**Wilson Ave Sidewalk** From Duke Street to Divine St	0.41	Sidewalk
150	**Godwin St Sidewalk** From Wilson St to Magnolia Ave	0.14	Sidewalk
151	**Magnolia Ave Sidewalk** From Duke St to Canary St	0.13	Sidewalk
201	**Cumberland St / Wayne Avenue**	--	Intersection
202	**Ashe Ave / Dunn-Erwin Rail Trail (west)**	--	Intersection
203	**Ashe Ave / Dunn-Erwin Rail Trail (east)**	--	Intersection
204	**Ponderosa Ave / Dunn-Erwin Rail Trail**	--	Intersection
206	**Cumberland Street / IGA Grocery**	--	Intersection
207	**Cumberland Street / Elm Ave**	--	Intersection
208	**Cumberland Street / Simpson Ave**	--	Intersection
209	**Cumberland Street / Ellis Ave**	--	Intersection
210	**Cumberland Street / Wilson Ave**	--	Intersection
211	**Clinton Avenue / Godwin St**	--	Intersection
212	**Elm Avenue / Best St**	--	Intersection
213	**Watauga Ave / Rail Trail**	--	Intersection

Near-Term priority projects list (continued).

Recommendations

A mix of facilities and implementation strategies (detailed in Chapter 5) are recommended to create this network that include sidewalks, shared-use paths, and intersection improvements including crosswalks, improved ADA ramps and lighting.

Pedestrian Facility Network

This comprehensive network will be built incrementally over time. As Dunn continues to evolve, new development and roadway construction projects must incorporate these facilities as part of the new development.

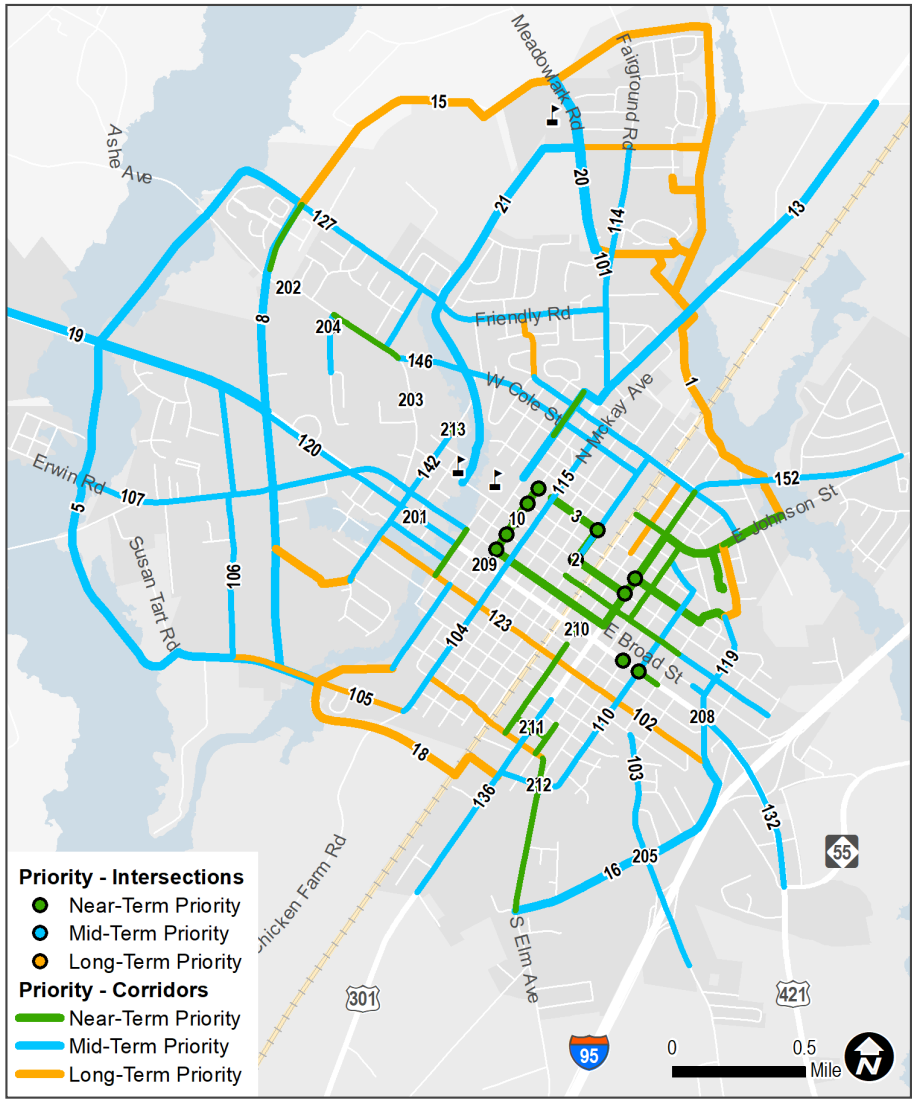
Prioritization

The project team identified five key evaluation criteria for ranking projects and remain relatively consistent with the 2008 Pedestrian Plan.

- Public Feedback (points of interest)
- Accessibility to key Destination (parks, schools, retail)
- Safety Issue (crashes + traffic volume)
- Connectivity (linkages with existing sidewalks)
- Constructibility (property constraints, such as right-of-way)

Prioritized Recommendations

The following map identifies a timeline for all projects recommended through this Plan. This plan is a **living document, and must be re-evaluated** as needs change. The prioritization timeline is a *suggestion* for the City of Dunn based on a data-driven process, and does not represent a rigid sequence for construction.



Project Prioritization map.

Priority Projects

Representing six (6) near-term, high-priority needs, and include conceptual design visuals and planning-level cost estimates. See chapter 4 for more details.

WAYNE AVE INTERSECTION AT CUMBERLAND AVE

Public feedback identified this intersection as a safety hazard and potential barrier to walking and pedestrian connectivity. For the short-term, this concept design utilizes the signalized intersection at Plaza Road to safely cross, and connects with future sidewalks that extend further north/south and east/west. Tyler Park is two blocks away.

Cost Estimate: **$160K-$190K**
(planning level)

ASHE AVE - WEST

The Dunn-Erwin Rail Trail is popular for walking and running, and its three roadway crossings (this priority project, and the next two) were identified by trail users and City staff as unsafe during the first round of public outreach. This westernmost crossing is badly skewed, with poor visibility due to the extreme angle causing unsafe conditions for cars and pedestrians alike.

Cost Estimate: **$125K-$140K**
(planning level)

PONDEROSA AVE - MIDDLE

The Advisory Committee identified the middle crossing of the Rail Trail across Ponderosa Avenue as a desirable location for an improved pedestrian connection. Currently there is no pedestrian connection to the dog park itself apart from walking on the street to access the parking lot.

Cost Estimate: **$25K-$40K**
(planning level)

ASHE AVE - EAST

Advisory Committee members suggested realigning the Rail-Trail at its intersection with Ashe Avenue to provide a more perpendicular crossing, creating better sight lines for pedestrians and approaching vehicles, and improving safety for trail users heading to/from the Dog Park.

Cost Estimate: **$125K-$140K**
(planning level)

ELLIS AVE - CORRIDOR

The Dunn-Erwin Rail Trail terminates between Ellis Avenue and McKay Avenue. The Ellis Avenue corridor was identified by City staff as a missing connection between this popular recreation corridor and the additional amenities within downtown (Broad Street). Enhancing intersection crossings and providing sidewalk maintenance along Ellis Avenue will improve the streetscape appearance and functionality of this pedestrian connection.

Cost Estimate: **$500K-$550K**
(planning level)

RAIL TRAIL TO CODRINGTON PARK

Connecting the Rail Trail to Codrington Park was identified during Advisory Committee meetings, and has become a point of emphasis for this plan. A sidepath will run from the furthest extent of the existing Rail Trail along Fayetteville Road, continue down Harnett Street utilizing the existing railroad crossing (additional safety features are warranted with a new pedestrian crossing).

Cost Estimate: **$1.8M - $1.2M**
(planning level)

Design Guidance

The set of challenges facing pedestrians and pedestrian facility selection and design, are quite different than those wishing to accommodate and promote safe bicycling or driving. In reality, pedestrians can be injured or killed by cars; seldom the reverse. Therefore, **streets and bridges need to be ready to accommodate them safely.** An encapsulation of this safety-first mentality has been represented by Vision Zero movements that put safety ahead of speed or other factors when planning, designing, or maintaining transportation infrastructure.

Policy & Program Recommendations

The project recommendations understandably receive the most attention in many plans, but **pedestrians are benefited the most in the long term by having favorable public and private policies**. The recommendations in this section are based on a review of Dunn's policy and program environment including specific ordinance and plan language, as well as feedback from the Steering Committee and staff on existing actions.

Implementation Plan

Completion of the Dunn Pedestrian Plan is only the first step in creating a walkable community. Chapter 5 provides a series of actions steps for moving forward with the recommendations of the Plan.

Partners

Successful implementation requires the cooperation of a variety of agencies and organizations. Several of these partnerships already exist, and this Plan will build on those partnerships. Examples of these partnerships include the relationship between NCDOT, the City, and the Mid-Carolina RPO (MCRPO). Still other connections will be created by this Plan.

Funding

Funding sources can be used for a variety of activities, including: programs, planning, design, implementation, and maintenance. This appendix outlines the most likely sources of funding from the federal, state, and local government levels as well as from the private and non-profit sectors.

FEDERAL FUNDING SOURCES

- Surface Transportation Block Grant (STBG)
- Congestion Mitigation and Air Quality (CMAQ)
- Highway Safety Improvement Program (HSIP)
- RAISE Grants
- Recreational Trails Program (RTP)
- Safe Routes to Schools (SRTS)

STATE FUNDING SOURCES

- Strategic Transportation Investments (STI)
- Governor's Highway Safety Program (GHSP)
- Powell Bill
- Parks & Recreation Trust Fund (PARTF)
- Spot Safety Program

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01

INTRODUCTION

Introduction

The City of Dunn is located approximately 40 miles from Raleigh and a thirty minute drive from Fayetteville, near the juncture of I-95, I-40, and US 301. The largest city in Harnett County with a population just under 10,000, Dunn is a community full of both cultural and educational attractions, including the Dunn-Erwin Rail Trail, the General William C. Lee Airborne Museum, and the Stewart Theatre in the walkable and revitalizing downtown.

Walking is a transportation choice for many in Dunn, due to necessity or for those people making environmental and health-conscience decisions. The purpose of this plan is to evaluate the existing conditions for pedestrians within the City of Dunn and recommend infrastructure projects, policies, and programs to **improve safety, connectivity, and well-being for people of all ages and abilities.** This Pedestrian Plan will create a direction for positive change in peoples' lives by designing better environments for walking throughout the city. Pedestrian infrastructure offers healthier access to jobs, schools, and health care by providing new outdoor options for walking. Overall, this plan aims to ensure that businesses, citizens, and visitors to Dunn **realize the health, mobility, safety, environmental, and economic benefits of walking.**



Vision & Goals

The Imagine Dunn Strategic Vision Plan, adopted by the Dunn City Council July 1, 2021 established Dunn's vision of itself in the future based on an extensive public engagement process: "Dunn is a **dynamic, engaged community** where a diversity of people want to live, visit, play, and do business. We embrace growth, opportunity, and progress while preserving the hometown character that makes our community proud." The City seeks to provide for its residents **a vibrant, healthy, safe, and attractive community**, and this Pedestrian Plan is an important step towards realizing that goal. This plan identifies new opportunities and ongoing initiatives to create and enhance the pedestrian network for those of **All-Ages-and-Abilities (AAA)**, connecting people with place and creating greater access to those destinations where they live, work, play, and learn.

The Pedestrian Plan's specific objectives were developed through this planning process, but all support these basic principles:



IMPROVE SAFETY

Address areas of concern or acute danger for pedestrians within the transportation system in order to reduce the number of pedestrian crashes, injuries, and fatalities over time.



IMPROVE ACCESS

Create a connected network of pedestrian facilities that allow people of all-ages-and-abilities safe, convenient, affordable access to their destinations.



GROW THE ECONOMY

Realize the economic benefits of pedestrian-friendly communities, retain wealth within the community through affordable transportation alternatives and increasing access, sales, and growth in local businesses.



ENHANCE HEALTH

Improve community health statistics through more and greater opportunities for active transportation, outdoor recreation for health and wellness.



PROMOTE EQUITY

Ensure equal opportunity access to community destinations, facilities, and resources through improvements to the pedestrian facilities network.

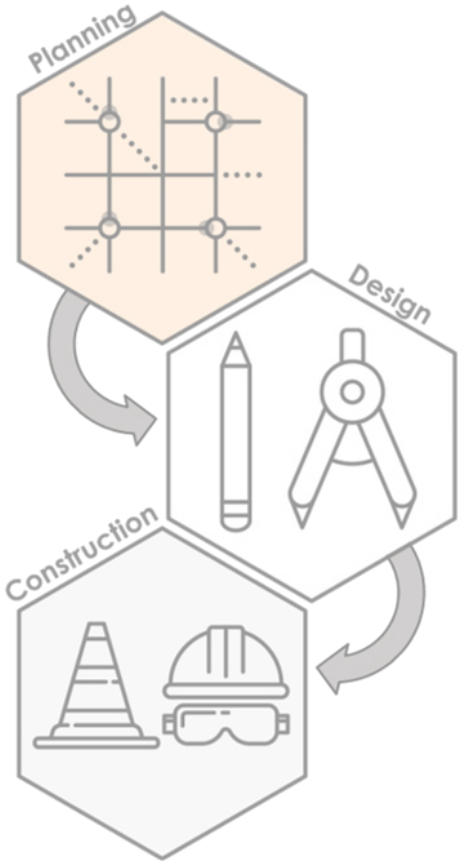


PROTECT THE ENVIRONMENT

Improve air and water quality by replacing automobile trips with walking trips, reducing carbon emissions and stormwater runoff; protect and conserve natural resources and wildlife habitats through greenways and shared-use path dedication.

Planning Process

Over the course of ten months, the Pedestrian Plan was guided through a three-phase process of design and pedestrian planning, with numerous opportunities for public participation. The Pedestrian Plan process began in May 2021 with the initial Steering Committee meeting, and concluded in March 2022 with its adoption.



Planning-Design-Construction Graphic.

The Advisory Committee contributed essential support to this ongoing process. Composed of representatives from many different organizations and backgrounds, the Advisory Committee guided the planning process, provided valuable insight on community needs and values, and integrated Dunn's goals and objectives within the final plan. At the initial Advisory Committee meeting, members were introduced to the planning process, planning team members, and the Plan's broad objectives. The Planning team sought initial direction on issue identification and the best means of engagement. Subsequent Committee meetings focused on the results of public engagement, defined specific, measurable goals and objectives, and prioritized project recommendations.

Advisory Committee members include:

- George Adler, City of Dunn Planning Director
- Lt. Cary Jackson, Dunn PD
- Chuck Turnage, Dunn City Council
- Billy Tart, Dunn City Council
- Jay Sikes, Harnett County
- Heather Lawson, Chamber of Commerce
- Dominique Smith, City of Dunn Parks & Recreation
- Mary Jane Sauls, Council on Aging
- Vincent Washington, City of Dunn Public Works
- Darius Sturdivant, NCDOT Division 6
- Bill Hammond, NCDOT Division 6
- Matthew Smith, Resident
- Joshua Walsh, Resident
- Tony Sumter, NCDOT Integrated Mobility Division

The Plan developed in three broad phases (**Fig. 1.1**):

Figure 1.1: Generalized Project Schedule



Outreach & Data Analysis, the first phase of the planning process, centered on project commencement, initial public engagement, and investigation of Dunn's overall transportation network, particularly as it influences pedestrian behavior. The initial Survey and Interactive Web Map identified community perspectives on walking within Dunn, highlighting both community trends, issues, and values, as well as (with the Map) specific locations of interest within the City. Coupled with data-driven analyses of the transportation network, this phase set the foundation for future stages of the process.

Discussion & Draft Recommendations, the second phase of the planning process, used feedback received and existing conditions data analysis to begin framing a pedestrian network. Higher-priority corridors that connect to key destinations became primary connections, and lower-priority corridors that complete the network secondary connections. From this network the project team individual projects, them within tables and maps, and with the Advisory Committee and second round of public outreach to prioritize (rank) into near-, mid-, and long-term needs.

Final Recommendations & Reporting, the third phase of the planning process, tied everything together into a graphically-friendly final plan with funding considerations and implementation strategy. The North Carolina Department of Transportation – Integrated Mobility Division provided the final review of the plan to ensure compatibility with other Bike and Pedestrian Plans across the State, integrated with regional Comprehensive Transportation Planning, and compliant for future funding opportunities.

Benefits of Walking

A pedestrian-friendly environment directly contributes to health, economic, environmental, and cultural benefits that impact all residents. When more people walk daily, benefits are gained by the individuals and the community where they live. Benefits of active transportation include health and economic benefits as well as reducing the ill effects of traffic congestion, including air pollution and noise. Generally speaking, the benefits of walking include:

- Walking is good for the local economy.
- Walking is good for education.
- Walking creates safer streets.
- Walking is good for the environment.
- Walking is good for community health.



The many benefits of improved walkability are shared by individuals and the community as a whole. The following pages demonstrate these fundamental benefits with sourced materials provided at the end of this chapter.



Walking is good for the local economy.

Walking is the most affordable mode of transportation. In 2020, The American Automobile Association (AAA) reports the cost of operating one motor vehicle for one year is nearly $10,000. Walking is basically free, and can result in savings each year if walking opportunities are available. Investing in pedestrian infrastructure can also boost tourism revenue, support local business, and create jobs. Many tourists seek out places where they feel comfortable walking to explore a new area, and when they do, they spend money.

A study of four North Carolina shared-use paths showed $19.4 million in annual sales revenues driven by traffic from the shared-use paths. The Pedestrian and Bicycle Information Center of the US Department of Transportation reports, "The 2012 Benchmarking Report on Bicycling and Walking in the U.S. found that bicycling and walking projects create 11-14 jobs per $1 million spent, compared to just 7 jobs created per $1 million spent on highway projects." Walkable communities generally have active streets that promote business exchange while providing a safe and efficient way for citizens to travel by walking.

Walking is good for businesses and residences alike. Studies have shown that property values may increase by as much as $7 per square foot for every foot closer to a greenway, trail, or shared-use path. **Prospective home buyers consistently ranked a community's walkability as one of the most important community amenities**. According to the Urban Land Institute, 50% of US residents say walkability is a high priority when considering where to live. This preference for communities that accommodate walking and bicycling is reflected in property values across the country.

Walking is good for education.

Schools and students also benefit from a more walkable community. Improved infrastructure and programs can improve the walking environment for students. **Increased numbers of students walking can reduce transportation costs for buses**, a significant operating cost for public and private school systems, and allow for greater funding to be spent on education. Walking can also improve educational outcomes: a growing body of literature demonstrates that increased physical activity, which includes walking to or from school, can improve test scores, increase on-task behaviors, and reduce the amount of time teachers spend managing student behavior.



Walking creates safer streets.

Safety is among the most important benefits derived from better walking and biking infrastructure. Investments in infrastructure can significantly improve safety for all users, pedestrians, bicyclists, and drivers alike. First, because the risk of getting into a crash increases with the amount of time spent in a car, walking reduces risk exposure for drivers and pedestrians. Studies have also shown that **sidewalk installation can result in a 65%--89% reduction in pedestrian crashes**. Beyond pedestrians, however, walking infrastructure can also benefit drivers through reduction in the frequency and severity of crashes. Many improvements for walking double as traffic calming countermeasures, which reduce the likelihood of vehicle speeds and crashes. Finally, better walking infrastructure gets more people out and walking, which **increases pedestrian visibility and safety**. Studies have shown that pedestrian-motorist crash rates can decline by as much as 34% simply by doubling the number of bicyclists and pedestrians on our streets.







Walking is good for the environment.

About 30% of all air pollution in the US comes from the extraction and burning of fossil fuels in motor vehicles. Fossil fuel emissions are harmful to children, senior citizens, and individuals with heart or other respiratory illnesses as well as those susceptible to developing such conditions. These **emissions are especially harmful to low-income populations that more often reside in neighborhoods near highways**. Walking, on the other hand, produces no greenhouse gas emissions. A 5% increase in the walkability of a neighborhood is associated with a per capita 32% increase in active travel, 6.5% fewer miles driven, 5.6% fewer grams of nitrous oxides (NOx) emitted, and 5.5% fewer grams of volatile organic compounds (VOCs) emitted. Perhaps equally as important, it also reduces individuals' exposure to these harmful pollutants: pedestrians are less exposed to air pollutants, on average, than those traveling by car, bus, or bike.

Walking is good for community health.

Greater walking infrastructure also can lead to improved public health outcomes for communities. For example, **over 70% of North Carolinians would prefer to walk or bike more for their daily trips**, but feel unable to do so. Many of these trips could easily be made if sidewalks, bike lanes, paths, or other facilities were provided. Physical activity level is a key indicator of health, with lower physical activity rates associated with an increased risk for many health conditions. Nearly 40% of the Harnett County population has been identified as overweight, and nearly one-third do not regularly exercise. This can lead to higher health care costs; **each year North Carolinians spend $24 billion on health care related to lack of physical activity**, diabetes, excess weight, and poor nutrition. Walking acts as preventative measures against these conditions, potentially saving thousands of dollars on health care. Improving conditions for walking and bicycling in Dunn will increase safe, accessible physical activity opportunities and help to reduce healthcare costs.

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02

EXISTING CONDITIONS



Plans, Policies, and Ordinances

In order to understand where we are going, we must first understand where we've been.

This section of the plan is dedicated to exploring the past plans and other efforts of the City of Dunn and its partnering agencies that further the principal objectives of this plan: to better the walking environment and support the environmental, health, economic, and mobility goals of Dunn. The following plans and city ordinances were reviewed from perspectives of walking and larger community goals.

City of Dunn Land Use Plan | 2005



A plan that outlines past land use for the City of Dunn as well as land composition and topography. The main goal of the plan is to highlight **how land use can promote and encourage the growth of the City** without taking away present value. The use of land **promotes business and the local economy,** provides ample and proper housing, increases parks and greenery, and improves the overall quality of life for residents. In doing so the plan is intended to guide the City towards efficient and positive expansion. The plan includes the need for new improved infrastructure including signage, repairs, demolition, and renovation. The need for regulations regarding greenery, development, and overall landscape appearance is addressed.

Key Takeaways:

- **Outlines the City's historical land use, educational level, income, and demographics.**
- **Future needs of the city for land use and expansion.**
- **Outlines the topography of the city.**
- **Identifies locations with the potential for National Historic registration.**
- **Addresses the need for expansion to involve improved infrastructure, business, housing, and green spaces.**

City of Dunn Pedestrian Plan | 2008

This plan, the precursor to the current pedestrian plan, addresses the aspiration to **improve the walkability and safety of the City of Dunn** for every citizen. The main goal is to connect the downtown municipal area with local schools and rural neighborhoods to increase the livability and welfare of those areas. The proposed method of reaching this goal is to **connect infrastructure already in place to allow further pedestrian- friendly growth** of the City. This connection will be implemented by creating links between the Dunn-Erwin Rail Trail, the Cape Fear River Park Trail, as well as creating a connection to the proposed improvement for NC 55 which is outlined in the Harnett County Comprehensive Transportation Plan.

Implementation of this plan will lower automobile pollution; promote walkability and tourism in the City of Dunn; and increase the welfare of the citizens. The proposed connections will link different schools, thus making foot traffic safer and more convenient for students. The addition of signage along these connections will further increase the safety and accessibility of the proposed infrastructure.

Key Takeaways:

- **Highlights the benefits of connecting suburban neighborhoods, schools, and downtown Dunn.**
- **Addresses the need for Dunn to increase the access/safety of pedestrian traffic for further growth and tourism.**
- **Outlines a long-term, multi-stage plan of implementation.**
- **Provides specific recommendations for trails, signage, and sidewalks.**

Harnett County Comprehensive Transportation Plan | 2016 (amended 2017)

The 2016 update and 2017 amendment included an updated pedestrian map noting which roadways had accommodations and which did not. This amended map simply notes a need, not a specific type of improvement. Only short segments of existing sidewalk (e.g., portions of Pope Street and North Orange Avenue) are shown as "needing improvement" **There are numerous recommendations for on- and off-road pedestrian improvements** as well as extensive recommendations for off-road multi-use paths (MUPs) partially encircling the City and extending out from the City center along regional highway corridors. Compared to the 2011/2013 CTP, the 2016 update revised the alignment of the northeast section of a major MUP route around most of the City, and added routes along the US 421 and US 301 (north) corridors. Notable is the **extension of the Dunn-Erwin Rail-Trail** from its southern terminus at North McKay Avenue to Clinton Avenue, including a rail crossing. Compared to 2016, the 2017 amendment did not appear to make significant changes to the designations of proposed pedestrian improvements in Dunn apart from stylistic changes to the map.

Key Takeaways:

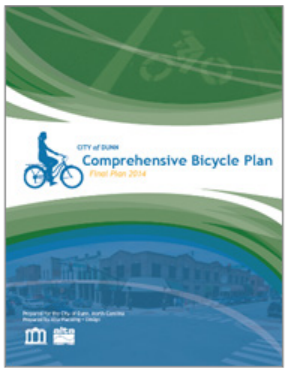
- **Proposes numerous sidewalk installations on existing streets on major streets and those extending from downtown.**
- **Proposes an extension of the Dunn-Erwin Rail-Trail, and new multi-use paths in several corridors, including US 421 to Coates.**

Key Takeaways:

- **Highlights the benefits of connecting suburban neighborhoods, schools, and downtown Dunn.**
- **Addresses the need for Dunn to increase the access/safety of pedestrian traffic for further growth and tourism.**
- **Outlines a long-term, multi-stage plan of implementation.**
- **Provides specific recommendations for trails, signage, and sidewalks.**

City of Dunn Comprehensive Bicycle Plan | 2014

A comprehensive plan with the goal of making the City of Dunn cyclist-friendly, the Comprehensive Bicycle Plan sought to make the use of bicycles a **viable, safe, and accessible means of transportation for residents**. In conjunction with the creation of numerous bike trails and greenways throughout the City, the plan proposes bicycle education and community outreach as key program elements.



By building these paths, creating an online resource for bike safety, implementing signage, and improving infrastructure the plan promotes bicycling and bicycle safety. In doing so, other important goals are achieved, including improving citizen health, creating a stronger sense of community, and reducing the environmental impacts of vehicular transportation modes.

City of Dunn Municipal Ordinance | Current

The City's ordinances, like all regulations, evolve over time and generally increase in number and complexity. With respect to pedestrian provisions, the requirements for infrastructure development are particularly important, as are provisions that seek to protect the safety of pedestrians. Interestingly, several provisions are contained in Section 22-353 Vehicular Connectivity, including eliminating free-right turns, reducing curb radii, supporting cross-property connections (for both cars and people), and the (optional) provision of traffic calming devices. Other options, like provision of pedestrian easements through a block (Sec. 20-77) are available at the discretion of staff. Conditional zoning does mention adhering to the adopted Pedestrian Plan, but it's less clear how other actions and by-right developments are required to follow this Plan.

The Dunn Planning Board recommended and City Council adopted, amending the subdivision ordinance (at Section 20-73) to require sidewalks on both sides of the street and a minimum sidewalk width of 4', in July 2021. These were needed amendments in making the community more walkable.



Neighborhood streets lacking sidewalks.

How ordinance provisions are interpreted during site / zoning reviews, as well as hardship allowances, are often as important as what the provisions actually state.

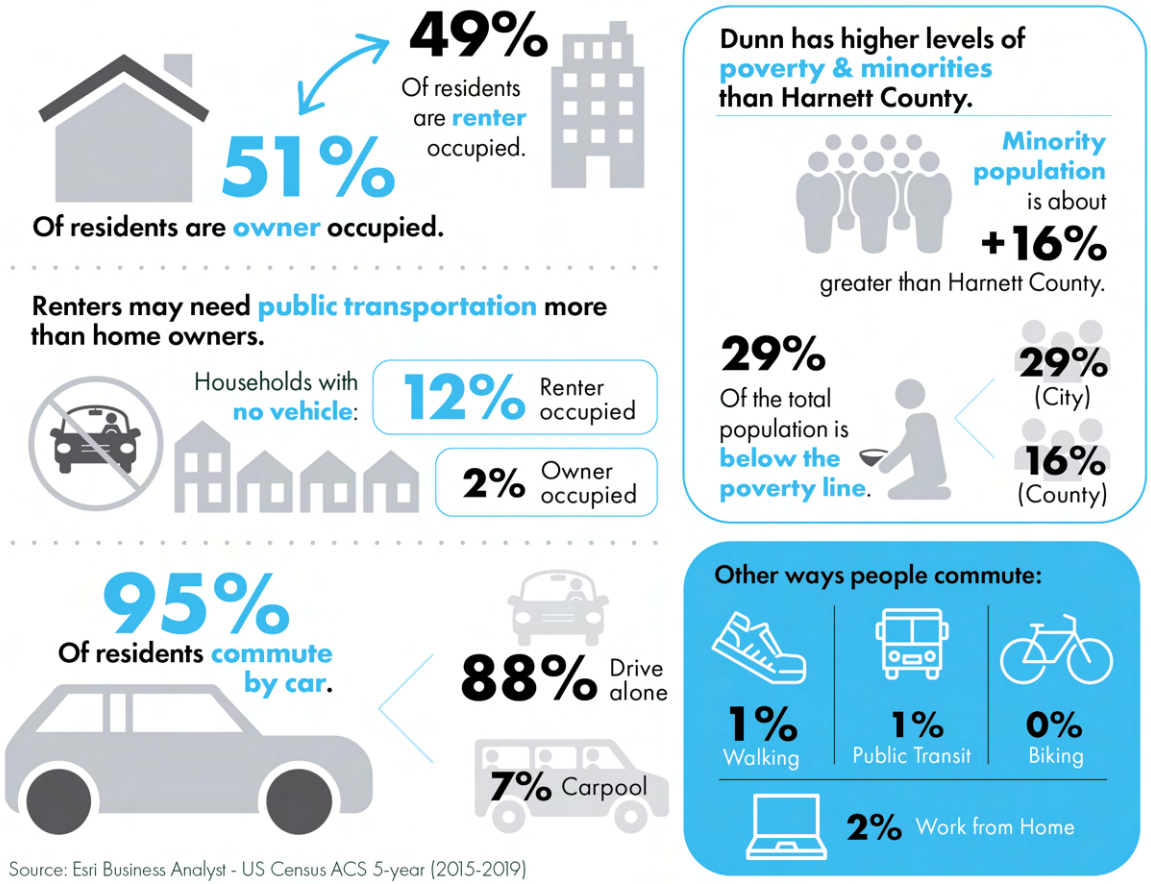
Some provisions, such as maximum cul-de-sac lengths could be improved by offering different designations in different parts of the City to respect dominant land uses.

Requiring greenway construction, pedestrian-scale lighting in high-traffic areas, and sidewalk / buffer widths will be studied to identify areas for improvement.

Demographics

Demographics can help define the population characteristics within Dunn that use, or would like to use, pedestrian facilities. Lack of car ownership, commuting patterns, and income status are indicators of community needs and can project demand for a well-connected pedestrian network.

Population has increased slightly in Dunn over the past decade (3%), from 9,263 in 2010 to an estimated 9,664 in 2019. Nearly one-third of Dunn residents live below the federal poverty level (29%), a figure higher than both state and national averages (**Fig. 2.1**). Many of these residents rent their homes (43%), and for 30% of renters, housing costs consume greater than half of their monthly income. This leaves little to spend on transportation, and around 14% of Dunn households do not have access to a vehicle.



Source: Esri Business Analyst - US Census ACS 5-year (2015-2019)

Figure 2.1: Demographic Characteristics, Dunn.

- **31%** of households have at least one person with a disability.
- Unemployment is estimated at **16%**, though it should be noted this figure fluctuates with economic conditions.
- Median age is estimated at just over **43 years**; and
- Nearly **30% of households** in Dunn have one or more **people under 18 years old.**

Mode Splits

Despite higher-than-average levels of poverty and nearly one-in-six residents without access to a vehicle, the majority of Dunn residents must commute to work by automobile due to the lack of viable alternatives. Around 95% of Dunn residents commute via motor vehicle, whether alone (88%) or shared (7%). Less than 1% of the population bikes, none of the residents use public transportation. A little over 1% walk to work.

Existing Facilities

Key Destinations & Trip Generators

Community features such as the downtown, schools, colleges, and key shopping destinations generate traffic and influence travel patterns within the community. These are called trip attractors, or trip generators, and their location in Dunn is important to the community's transportation network as a whole. Within the City, these key trip generators are displayed in **Fig. 2.2.** Notably, many of these trip generators are found in close proximity to Dunn's downtown, although key major destinations are located outside of the downtown area:

- Central Carolina Community College
- General William C. Lee Airborne Museum
- Cape Fear River Park (Erwin)
- Tyler Park
- Clarence Lee Tart Memorial Park
- C. B. Codrington Park

Existing & Proposed Facilities

From the 2008 Pedestrian Plan, there are 19 miles of planned sidewalk improvements to augment the current **18 miles of existing sidewalks** that are primarily located along the Downtown street grid network. An additional 14 miles of shared use paths are planned to complement the **existing Dunn-Erwin Rail Trail (5.3 miles in length)**. Curb ramps and marked crosswalks are key pedestrian amenities that are largely missing from the current inventory, and are a focus for near-term improvements.

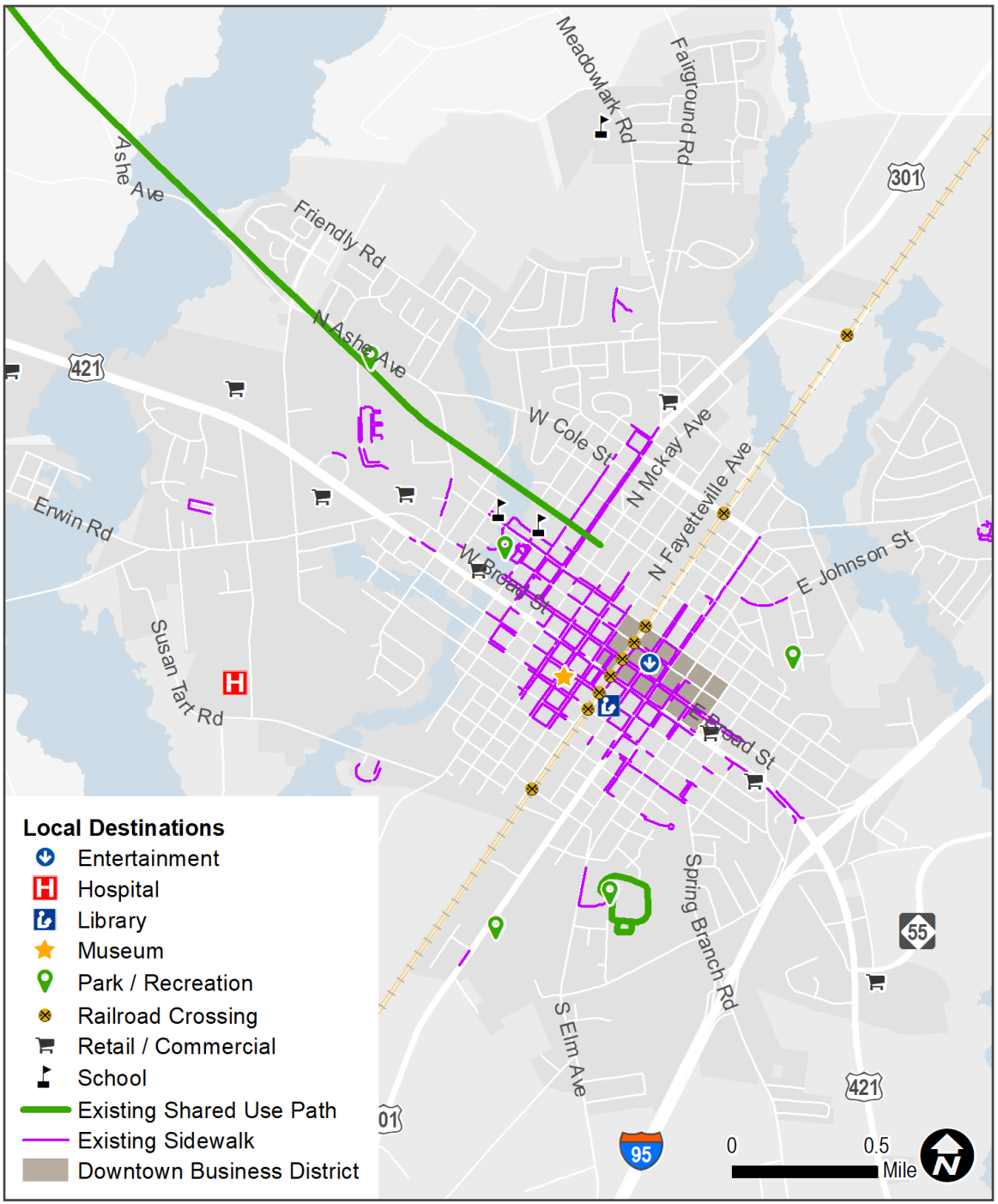


Figure 2.2: Existing Facilities and Key Destinations.

Dunn's transportation network is defined by its major thoroughfares, upon which bicyclists and pedestrians rely to travel to their destinations. These thoroughfares play an important role in shaping this Plan's recommendations and the future Dunn pedestrian network. Some of these roads are listed in **Table 2.3**; a full list of roadway facilities may be found in the Digital Appendices of this Plan.

Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Max. AADT	Min. ROW Width (ft)	Posted Speed	Curb/Gutter Presence	Sidewalk Presence
Cumberland St US 421 From Broad St to Lee Ave	1.60	22,000	60	35 / 45	Both	Partial
Broad St NS-97123 From Watauga Ave to Sampson Ave	1.35	-	70	35 / 45	Both	Partial
Harnett St NS-97097 From Ashe Ave to Clinton Ave (US 301)	0.96	-	70	35	Both	Partial
Harnett St NS-99189 From Clinton Ave (US 301) to Sampson Ave	0.47	-	70	35	Partial	No
Edgerton St NS-97110 From General Lee Ave to Clinton Ave (US 301)	0.63	-	64	35	Both	Partial
Edgerton St NS-99202 From Clinton Ave (US 301) to Sampson Ave	0.47	-	70	35	Partial	No
Divine St NS-97115 From Watauga Ave to Clinton Ave (US 301)	0.88	-	70	20 / 35 / 45	Both	Partial
Orange Ave NS-97967 From Godwin St to Barrington St	1.15	-	50	35	Partial	Partial
Ellis Ave NS-900 From Pearsall St to Granville St (US 301)	0.82	-	50	35	Both	Partial
Ellis Ave (US 301) US 301 From Granville St to Hobson Rd	1.60	9,000	60	35	Partial	No
Granville St US 301 From Ellis Ave (US 301) to Clinton Ave (US 301)	0.49	5,600	60	20 / 35	Both	No
Clinton Ave US 301 From Hodges Ave to Granville St (US 301)	1.15	7,100	60	35	Both	Partial

Table 2.3: Existing Characteristics for Selected Roadways within Dunn.

Crash Analysis

Pedestrian crashes within Dunn are relatively **concentrated along Cumberland Street** (US 421) at multiple intersections: Elm Avenue, Washington Avenue, Broad Street. In addition, there is a concentration of crashes at **Ellis Avenue** and Granville Street north of downtown (**Fig. 2.5**).

The NCDOT maintains a database of bicycle and pedestrian crashes since 2007, utilized for the purpose of this study. There was a noticeable decrease in pedestrian crashes between the years of 2014 and 2018, followed by an **increase in 2019** (**Fig. 2.4**).

The severity of pedestrian crashes is worth noting, because not all crashes result in an apparent injury. Among the 38 total pedestrian crashes that have occurred within the City of Dunn since 2007:

- 5 were non-injury crashes (13%),
- 21 were 'possible injury' crashes (55%),
- 11 involved an injury (29%)
- 1 fatality (3%) in 2010, when a pedestrian was crossing I-95 at 11 pm

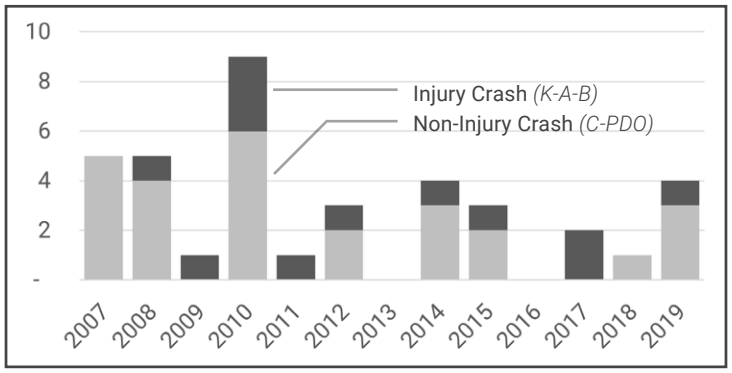


Figure 2.4: Pedestrian Crashes by Injury Type, 2007-2019. Source: NCDOT.

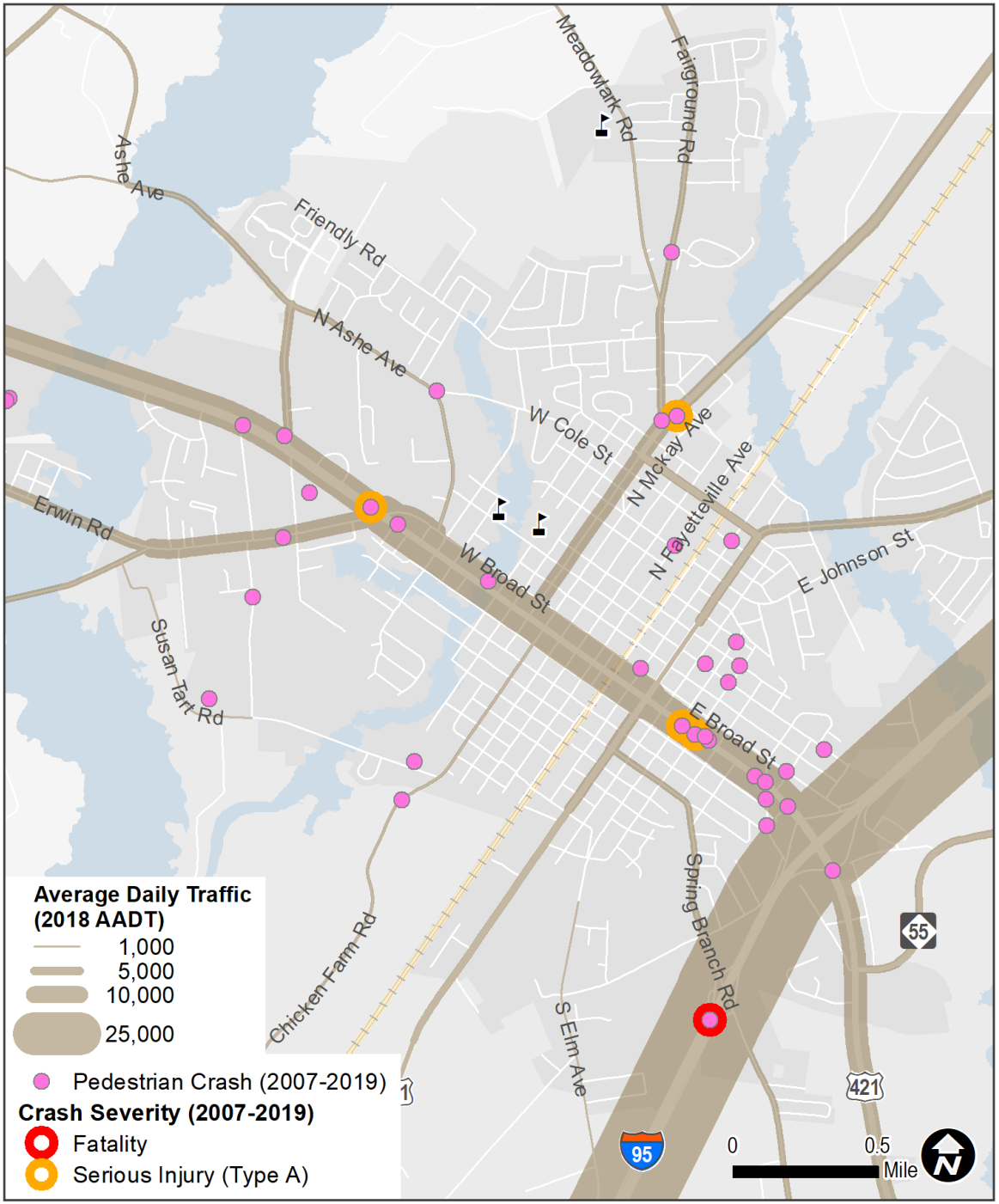
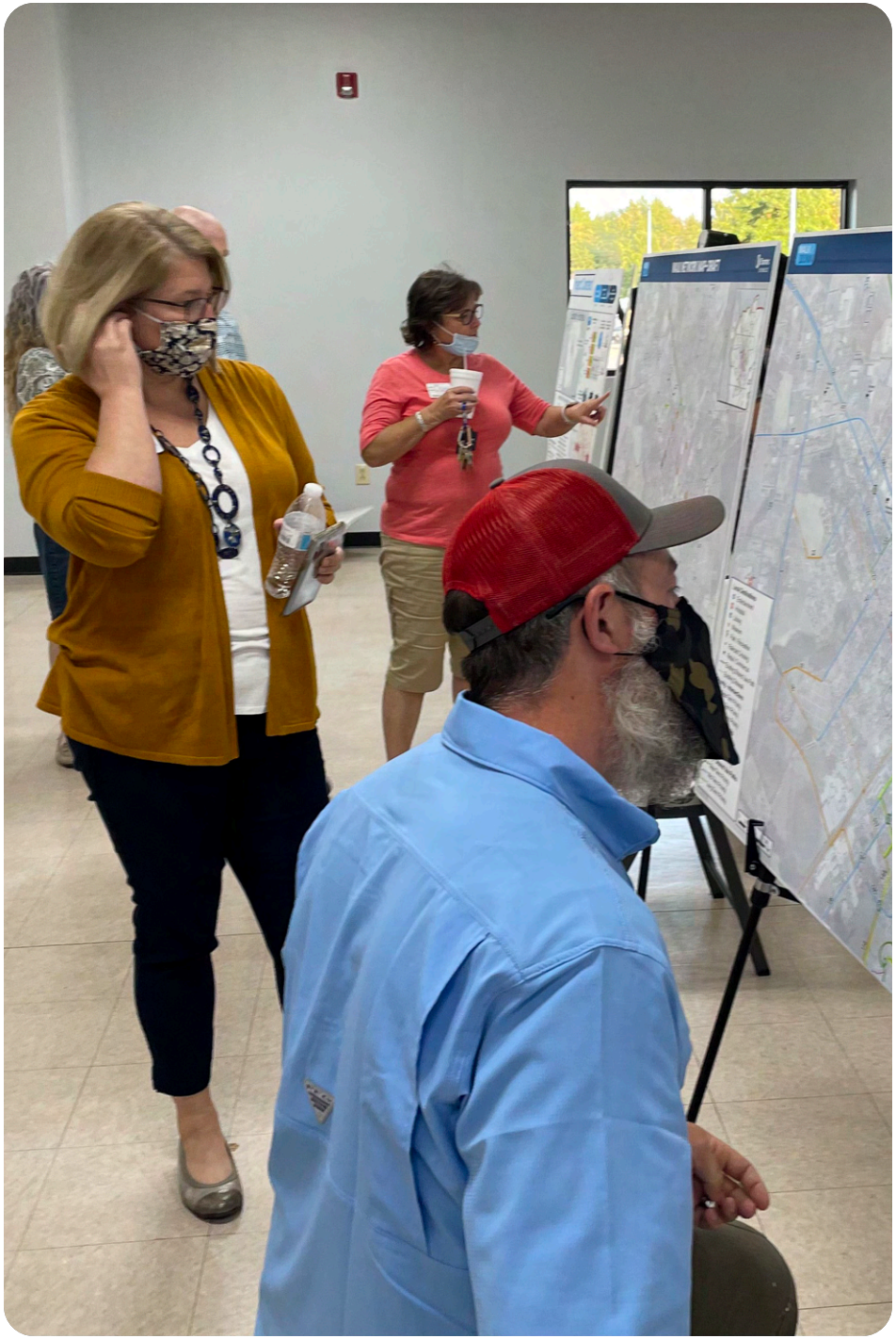


Figure 2.5: Pedestrian Crash map.

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03

PUBLIC ENGAGEMENT



Public Engagement

Public engagement plays an important role in the development of any plan that impacts the daily lives of community members and local businesses. Meaningful engagement can produce stronger results, tighter community bonds, and a greater chance of plan implementation. Public engagement provides information to planners, engineers, and designers that might not be clear from data alone; the human element and a diversity of perspectives helps to re-frame the project team's view of the issues and offer better suggestions for improvement.

This section describes the processes, strategies and activities used to engage the Dunn community. It also summarizes information received from the public, whether through online survey methods, virtual interaction, or public meetings.

WalkDunn.com (Project Website)

The website for the Pedestrian Plan's development, www.WalkDunn.com, was established early to serve as a key resource for disseminating information and receiving feedback. The website featured information on project purpose, dates and locations of upcoming meetings, and ways to get involved with the project. These included the Online Survey and Interactive Map.

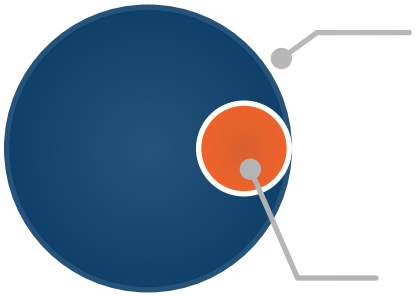


View of the Project Website (www.WalkDunn.com).

Online Survey

The Online Survey was one of two early means of online engagement. The survey, which could be accessed through the project website, allowed members of the public to provide feedback on issues central to the Pedestrian Plan's development, such as areas of concern, important destinations, and desired improvements to the bicycle network. Open from May to September of 2021, **the survey generated 109 responses.** Key takeaways are as follows:

Dunn streets are viewed as unsafe, with a few standouts.



78%
Have chosen not to walk somewhere because they felt 'Unsafe'

22%
Have not

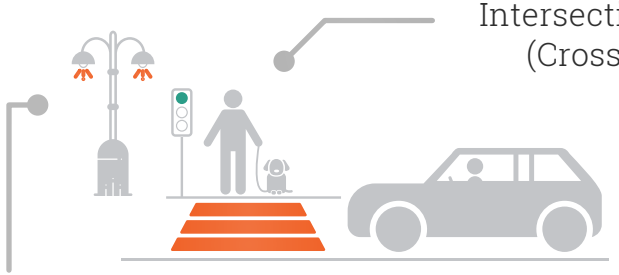
TOP 'UNSAFE' STREETS

1. **Cumberland Street**
2. Ellis Avenue
3. Broad Street

Street crossings are a significant barrier to greater levels of walking.

WHAT WOULD ENCOURAGE YOU TO WALK MORE?

24%
Intersection Improvements (Crosswalks, Signals)



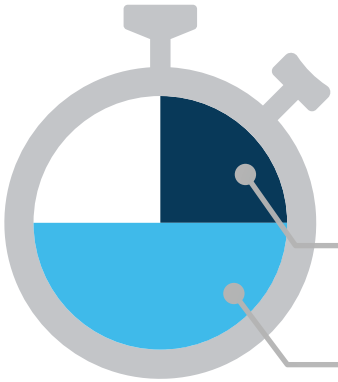
18%
Better Lighting



62%
Feel 'Unsafe' crossing streets at intersections

Dunn residents like to walk for exercise and do it often.

HOW OFTEN DO YOU WALK FOR EXERCISE?



24%
Daily

48%
Weekly

TOP REASONS FOR WALKING

1. **Recreation or Exercise**
2. Errands and Shopping
3. To/From Parks

Interactive Map

Like the Online Survey, the Interactive Map provided another early means of online engagement. The Interactive Map allowed respondents the opportunity to leave feedback on the existing Dunn transportation network from the convenience of their home rather than at an in-person public meeting on a specific date/time. The project team asked for locations that may serve as potential barriers to walking, destinations that residents walk to currently or would like to walk to in the future, as well as any areas of acute safety concerns. **The Interactive map received 95 points/lines of interest by the end of the project** (**Fig. 3.1**). The project team utilized these points of interest to update the common destinations within Dunn where people are currently walking.

95 comments total

33 *Routes I'd Like to Walk*

33 *Destinations I'd Like to Walk to*

21 *Barriers*

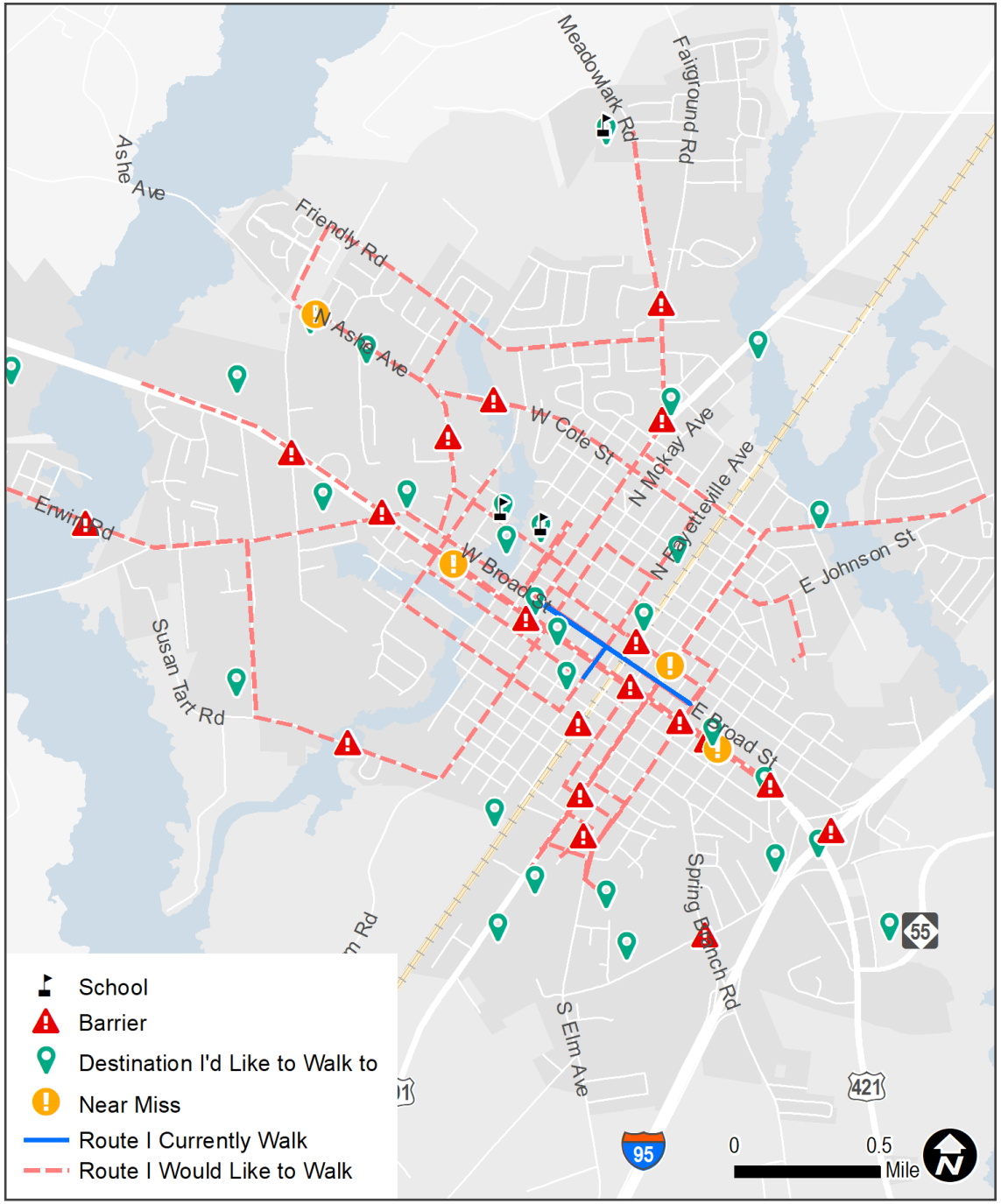


Figure 3.1: Interactive Map identifying comment location and type.

Focus Groups

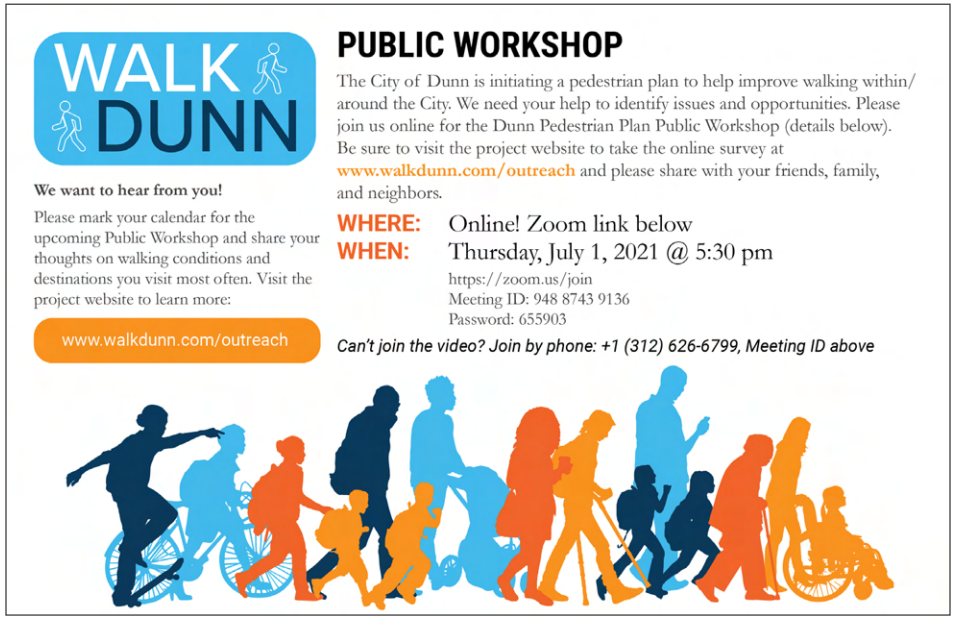
Focus group meetings, conducted towards the end of the first phase, offered an opportunity to discuss in more detail some of the issues, and potential strategies for improvements. Meetings were held as one-hour listening sessions for the project team. Focus group members were identified by members of the Advisory Committee for inclusion based on their **ability to provide different perspectives** and represent different facets of the community. These individuals included residents, agency representatives, community leaders, advocates, and elected officials. In contrast to the volumes of quantitative data produced during the initial investigation phase of the project, these 'listening sessions' with community members in a virtual format allowed the project team to verify data with group perspectives, as well as to supplement the same information with **local insight and perspectives not captured through data**. Though the topics discussed were quite varied, a number of key themes were repeated, and are included in **Fig. 3.2**.



Figure 3.2: Key themes from the focus group meetings.

Public Workshop #1

The first of two public workshops were held virtually on **Thursday, July 1, 2021,** and used the Zoom platform. This meeting was promoted via the City's website and Facebook account. Attendees were informed of the project purpose, schedule, and how they can become more involved through the website, survey, and interactive map. Polling questions were used to better engage the audience, learn more about issues they encounter while walking, and what may encourage them to walk more frequently. There was a total of 11 attendees, and the video of the meeting was posted to the project website for those who were unable to attend.



Digital flyer for the Dunn Project Workshop.

Public Workshop #2

The second public workshop was held in-person on **Thursday, September 30, 2021**, at the Dunn Community Center. Posters of draft recommendations and policy implications were presented and discussed with attendees. Participants were asked to markup or comment with post-It notes on any items that could be revised or improved. A brief overview presentation was recorded and posted to the project website to those who were unable to attend in person. Feedback was incorporated into draft recommendations, and helped to prioritize future investments for the City of Dunn.



View of Public Workshop #2 in action.

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04

RECOMMENDATIONS



Recommendations

This section presents physical and policy recommendations for the City of Dunn to incrementally pursue over the next 10 years. A mix of facilities and implementation strategies (detailed in Chapter 5) are recommended to create this network that include sidewalks, shared-use paths, and intersection improvements including crosswalks, improved ADA ramps and lighting. Several priority projects are included with additional visualizations and pedestrian facility design guidance.

Forming the Pedestrian Network

The City of Dunn will strive to construct an **interconnected and seamless network of pedestrian facilities** that is constructed incrementally over time. The network will be thoughtfully planned to connect users to desired destinations, both civic and recreational, and consider the comfort level of pedestrians of all ages and abilities. Gaps in the pedestrian network, whether roadway segments or dangerous intersections, serve as potential barriers to most pedestrians. Continual outreach to users is necessary to identify, document, and prioritize potential projects to limit or correct network gaps.

All roadway improvement projects, whether City or NCDOT funded, must include considerations for a pedestrian facility treatment moving forward, particularly at intersection crossings. Critical network links are those crossing the railroad, or those without an alternative (parallel) facility.

Selecting the best pedestrian facility types for a given roadway can be challenging since the selection must balance traffic conditions, land use context, and implementation cost. For general guidance, the graphic below highlights the importance of **building towards an equitable pedestrian network**, beginning with the basics (**Fig. 4.1**), before focusing on enhanced features, such as convenient, comfortable, and enjoyable walk corridors.

Principles of the Network

More pedestrians are willing to walk along a connected pedestrian network, provided that these routes are efficient, seamless, and easy to use. There are six key principles for pedestrian network design, and among these, the first three are particularly important in guiding pedestrian route selection:

- **Safety**: Reduce the frequency and severity of crashes and minimize potential conflict points between vehicles and pedestrians.
- **Comfort**: Minimize stress, anxiety, and safety concerns for the design user.
- **Connectivity**: Direct and convenient trips that provide access to desired community destinations served by the roadway network. Transition from sidewalk to greenways/sidepaths will be seamless and clear.

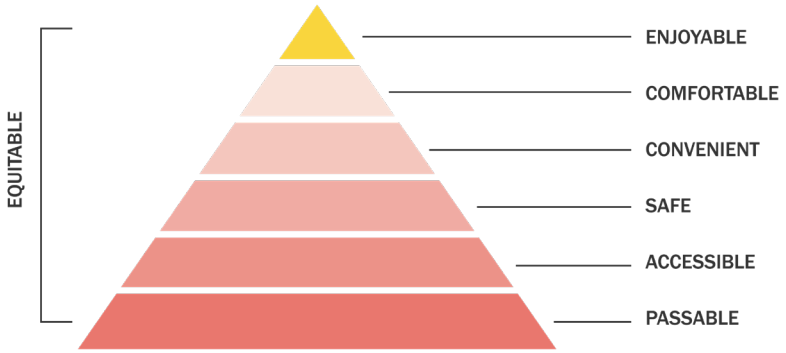


Figure 4.1: Walkability Graphic. Source: Pedestrians First. Tools for a Walkable City. ITDP.

The Six Principles of Pedestrian Network Design:

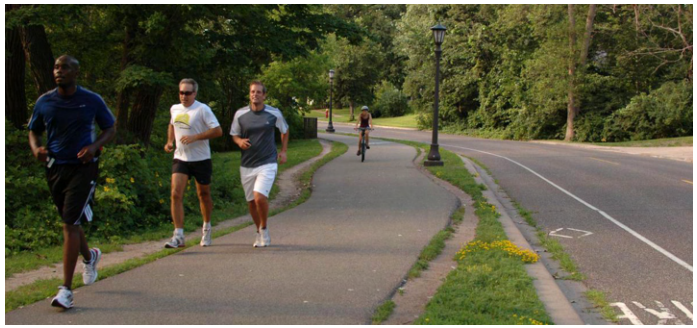
- Safety
- Comfort
- Connectivity
- Directness
- Cohesion
- Attractiveness

TYPES OF PEDESTRIAN FACILITIES



Sidewalks

Sidewalks are the primary routes that connect residential areas, commercial centers, and park areas. Sidewalks offer an area to walk where one feels comfortable and safe from motor vehicles. When right-of-way is available a sidepath separation is recommended between the road the sidewalk. These separations provide more distance between a walker and vehicle offering a safer and more relaxed walking experience. Tree canopies along roadways provide shade from the sun to a pedestrian as well as an additional barrier from passing vehicles. Lighting is an additional amenity that provide a more pleasant and safe atmosphere for walkers. The idea that a pedestrian feels more comfortable whether from a safety aspect or overall well-being can increase pedestrian activity in areas.



Sidepaths

Sidepaths are physically separated from adjacent travel lanes using vertical elements, above the curb. They may be located on one side of a street or both sides. Sidepaths are also known as “Shared Use Paths” or “Multi Use Paths”, because they support and encourage pedestrian use as well as bicyclists. A typical sidepath is a minimum of 10’ wide.



Greenways

Greenways are similar to sidepaths; however, they may be independently aligned along a stream corridor. Many cities or State DOTs use the terms “Shared Use Paths” or “Multi Use Paths” interchangeably with Greenway. For this plan, we are choosing to use Greenway to define their environmental features or functions in addition to their transportation function related to recreation, exercise, or environmental conservation.

Recommendations

The proposed pedestrian network was developed with the goal of creating a network of well-connected, low-stress facilities (**Fig. 4.2**). Walking needs to be a safe, convenient, and pleasant form of transportation for the broadest array of people. Aligning with the vision of this plan of creating safe and comfortable walkways, this low-stress network will be appropriate for people of all ages and abilities. The walkways described on the next page are designed to appeal to many types of users.

Pedestrian Facility Network

This comprehensive network will be built incrementally over time. As Dunn continues to evolve, new development and roadway construction projects must incorporate these facilities as part of the new development. As progress is made on priority projects, the City will re-evaluate and update the list of projects to reflect current needs.

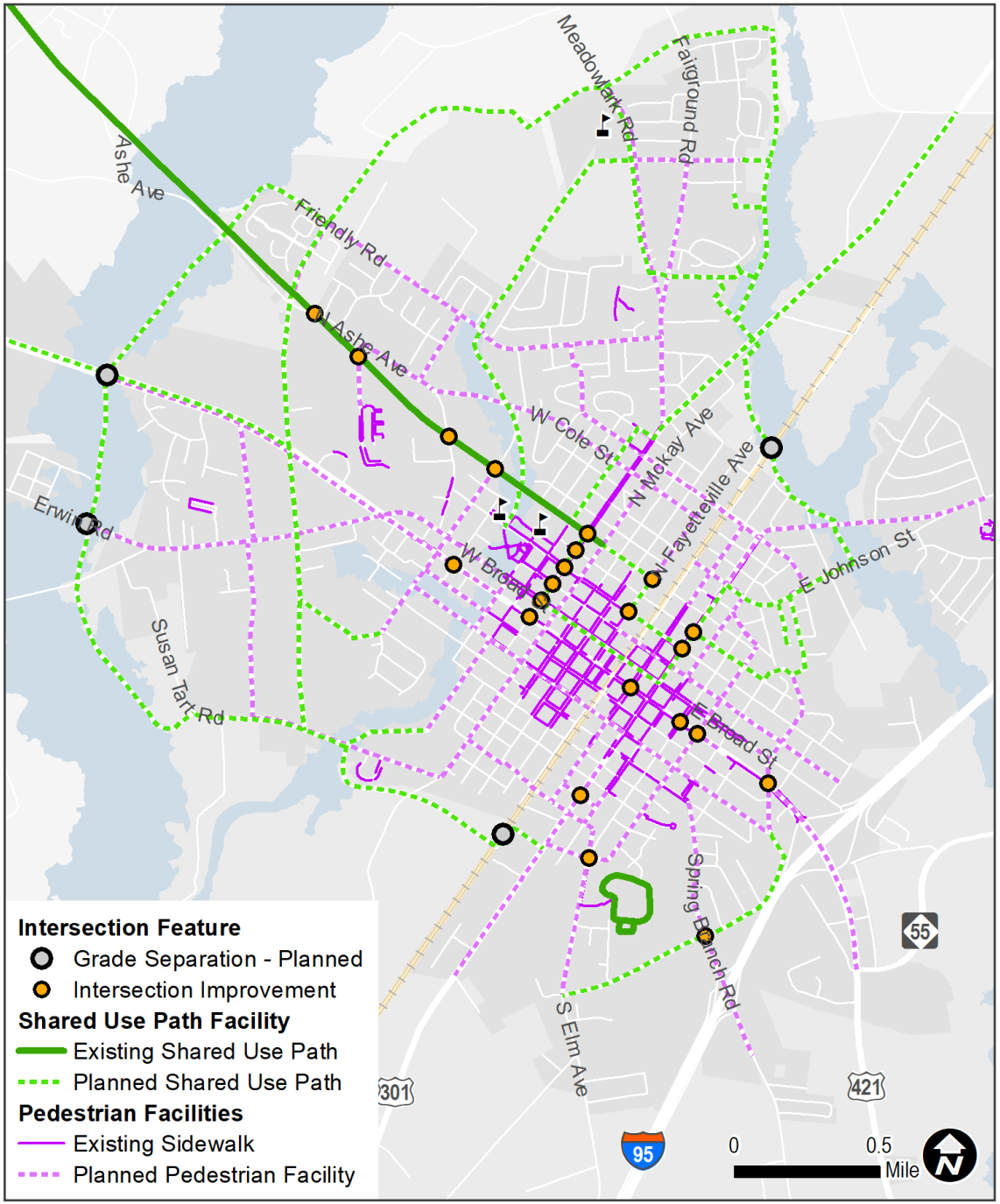


Figure 4.2: Pedestrian Network map.

Pedestrian Facility Network

Not all corridors are equally valuable for the network. While most roads and trails are part of the network of pedestrian facilities, there are key corridors that provide critical connections between destinations. These Primary Corridors act as the pedestrian 'main lines' within their system. The Secondary Corridors provide the 'last mile' of connectivity, providing access to less trafficked areas and typically shoot off from a primary line of connection to form a loop, or serve residential neighborhoods (**Fig. 4.3**).

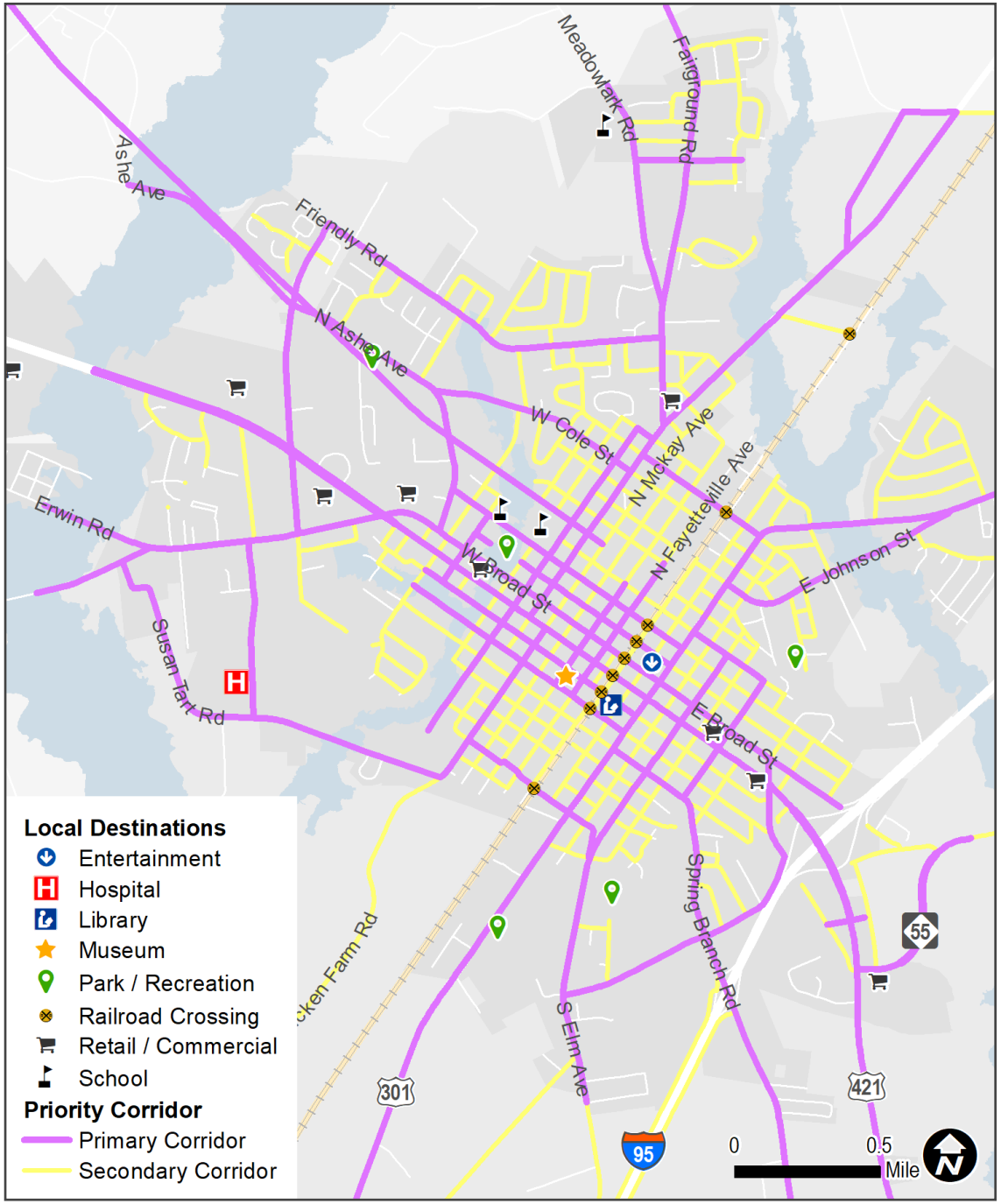


Figure 4.3: Primary and Secondary Pedestrian Network.

Prioritization

With more project needs than there are funds available, prioritization of projects enables cities to identify those projects that most contribute to accomplishing community-defined goals and objectives for its bicycle and pedestrian network. The project team identified five key evaluation criteria for ranking projects during Advisory Committee #3 in September. The criteria and weighting were discussed and refined with attendees, and remain relatively consistent with the 2008 Pedestrian Plan.

- Public Feedback (points of interest)
- Accessibility to key Destination (parks, schools, retail)
- Safety Issue (crashes + traffic volume)
- Connectivity (linkages with existing sidewalks)
- Constructibility (property constraints, such as right-of-way)

Projects located in close proximity to identified areas or meeting these criteria received higher scores (Fig. 4.4). Taking these scores into consideration, project costs were also assigned a cost category as follows:

- Low: $0 to $250,000
- Medium: $250,001 to $499,999
- High: $500,000 and greater

Projects receiving both a high score and a low cost category were sorted into Near-Term recommendations. These projects represent the highest rate of return on their implementation. Other projects were sorted into Mid- or Long-Term recommendations accordingly based upon score and cost category.

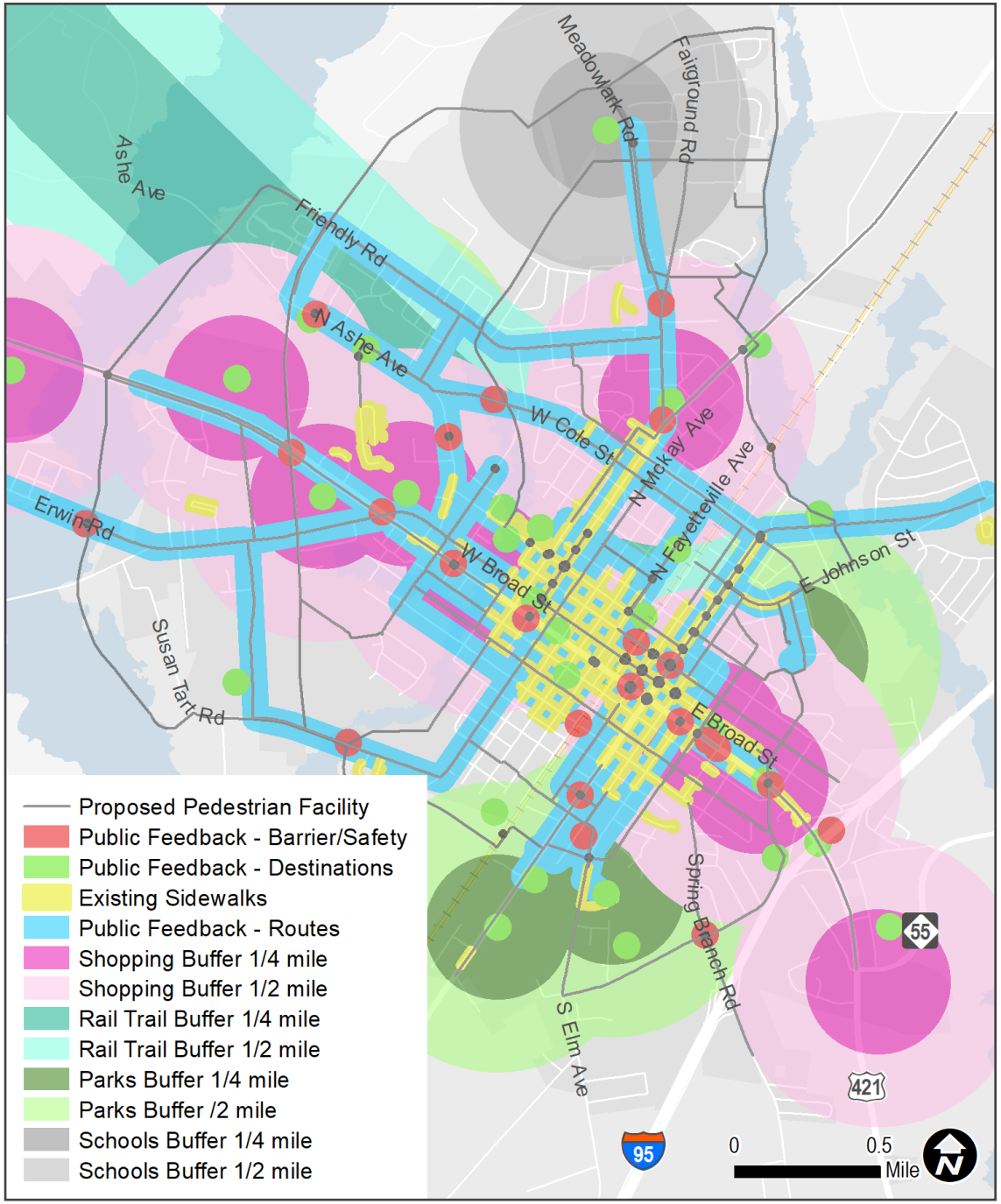


Figure 4.4: GIS application of evaluation criteria to prioritize projects.

Prioritized Recommendations

The following map (**Fig. 4.5**) identifies a timeline for all projects recommended through this Plan. **Tables 4.6 through 4.8** on the following pages correspond to the projects identified here.

This plan is a **living document, and must be re-evaluated** as needs change. The prioritization timeline is a *suggestion* for the City of Dunn based on a data-driven process, and does not represent a rigid sequence for construction. The City will continuously review and consider the most-appropriate bicycle improvement projects, and revise accordingly.

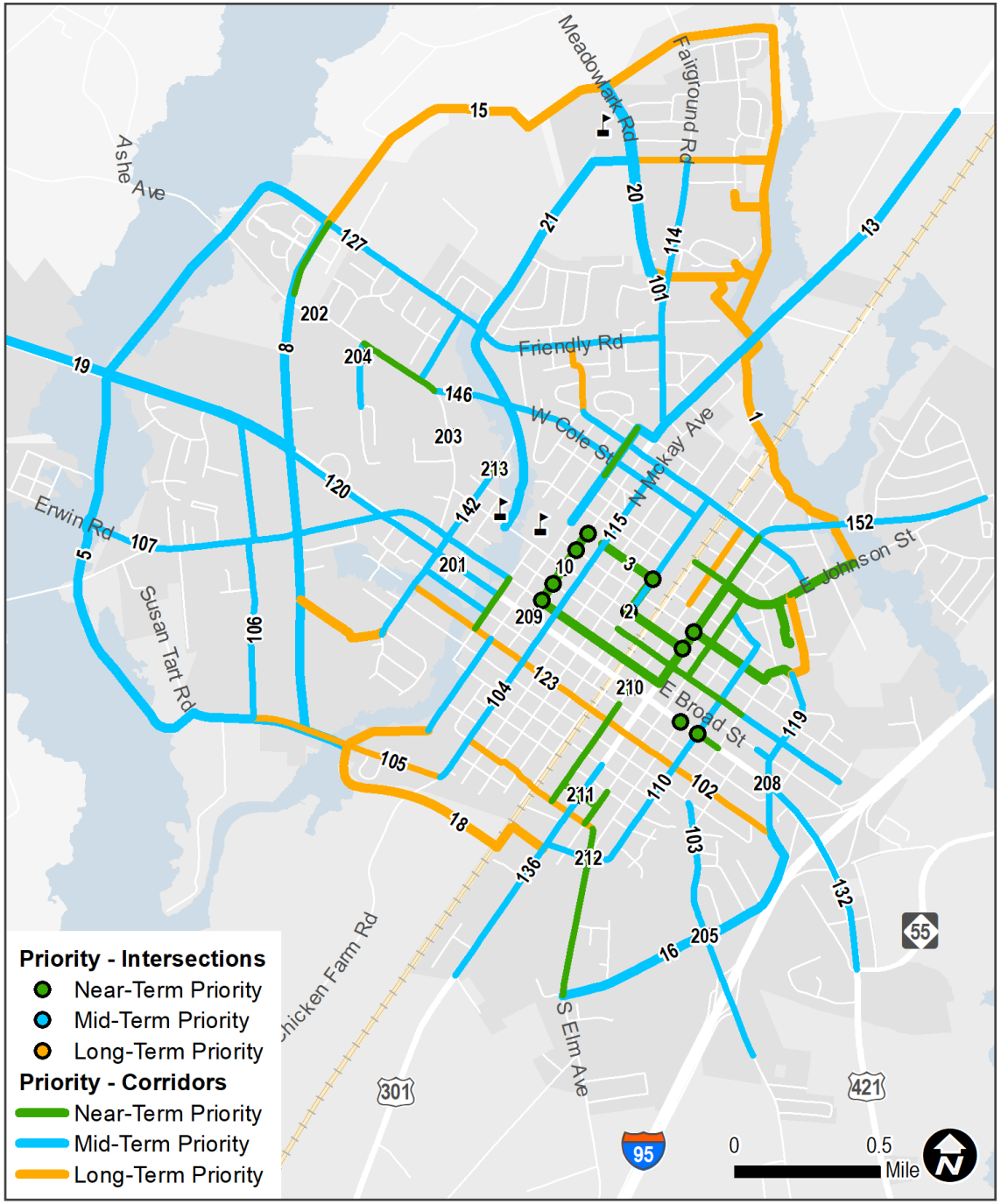


Figure 4.5: Project Prioritization map.

Map #	Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Facility Type	Cost Category	Priority
1	**Stony Run Greenway** From Vann Ln to Johnson St	2.20	Shared Use Path	High Cost	Near-Term
2	**Vance Street Sidepath** From US 301 to Rest Haven Memorial Park	0.41	Shared Use Path	Moderate Cost	Near-Term
3	**Dunn-Erwin Rail Trail Extension** From McKay Ave to Clinton Ave	0.57	Shared Use Path	High Cost	Near-Term
4	**Broad Street Connector** From Ellis Ave to Clinton Ave	0.50	Shared Use Path	Moderate Cost	Near-Term
10	**Ellis Ave Sidepath** From Dunn-Erwin Rail Trail to Broad St	0.28	Shared Use Path	Moderate Cost	Near-Term
11	**Clinton Ave Sidepath** From Johnson St to Broad St	0.41	Shared Use Path	Moderate Cost	Near-Term
12	**Johnson Street Connector** From US 301 to Stony Run Greenway	0.66	Shared Use Path	High Cost	Near-Term
111	**Clinton Ave Sidewalk** From Granville St to Cleveland St	0.32	Sidewalk	Moderate Cost	Near-Term
112	**Magnolia Ave Sidewalk** From Johnson St to Edgerton St	0.34	Sidewalk	Moderate Cost	Near-Term
113	**Orange Ave Sidewalk** From Barrington St to Cole St	0.20	Sidewalk	Low Cost	Near-Term
118	**Elm Avenue Sidewalk** From Jackson Rd to Tart Park Entrance	0.48	Sidewalk	High Cost	Near-Term
124	**Edgerton St Sidewalk** From Fayetteville Ave to Wilmington Ave	0.52	Sidewalk	High Cost	Near-Term
125	**Johnson St Sidewalk** From Railroad Ave to Magnolia Ave	0.20	Sidewalk	Low Cost	Near-Term
128	**Johnson St Sidewalk** From Granville St to Burke St	0.06	Sidewalk	Low Cost	Near-Term
131	**Powell Ave Sidewalk** From Friendly Rd to Dunn-Erwin Rail Trail	0.27	Sidewalk	Low Cost	Near-Term
133	**General Lee Ave Sidewalk** From Broad St to Pearsall St	0.21	Sidewalk	Moderate Cost	Near-Term
134	**Cumberland St Sidewalk** From Washington Ave to Wilmington Ave	0.09	Sidewalk	Low Cost	Near-Term

Table 4.6: Near-Term priority projects list.

Map #	Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Facility Type	Cost Category	Priority
139	**Ashe Ave Sidewalk** From Ponderosa Ave to Cole St	0.29	Sidewalk	Moderate Cost	Near-Term
144	**Hodges Avenue Sidewalk** From Best St to Magnolia Ave	0.10	Sidewalk	Low Cost	Near-Term
149	**Wilson Ave Sidewalk** From Duke Street to Divine St	0.41	Sidewalk	High Cost	Near-Term
150	**Godwin St Sidewalk** From Wilson St to Magnolia Ave	0.14	Sidewalk	Low Cost	Near-Term
151	**Magnolia Ave Sidewalk** From Duke St to Canary St	0.13	Sidewalk	Low Cost	Near-Term
201	**Cumberland St / Wayne Avenue**	--	Intersection	Low Cost	Near-Term
202	**Ashe Ave / Dunn-Erwin Rail Trail (west)**	--	Intersection	Low Cost	Near-Term
203	**Ashe Ave / Dunn-Erwin Rail Trail (east)**	--	Intersection	Low Cost	Near-Term
204	**Ponderosa Ave / Dunn-Erwin Rail Trail**	--	Intersection	Low Cost	Near-Term
206	**Cumberland Street / IGA Grocery**	--	Intersection	Low Cost	Near-Term
207	**Cumberland Street / Elm Ave**	--	Intersection	Low Cost	Near-Term
208	**Cumberland Street / Simpson Ave**	--	Intersection	Low Cost	Near-Term
209	**Cumberland Street / Ellis Ave**	--	Intersection	Low Cost	Near-Term
210	**Cumberland Street / Wilson Ave**	--	Intersection	Low Cost	Near-Term
211	**Clinton Avenue / Godwin St**	--	Intersection	Low Cost	Near-Term
212	**Elm Avenue / Best St**	--	Intersection	Low Cost	Near-Term
213	**Watauga Ave / Rail Trail**	--	Intersection	Low Cost	Near-Term

Table 4.6: Near-Term priority projects list (continued).

Map #	Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Facility Type	Cost Category	Priority
5	**Little Black River SUP** From Friendly Rd to Susan Tart Rd	2.56	Shared Use Path	High Cost	Mid-Term
8	**Powell Ave Sidepath** From Friendly Rd to Susan Tart Rd	1.78	Shared Use Path	High Cost	Mid-Term
13	**US 301 Sidepath** From Dunn-Erwin Rail Trail to Dunn ETJ / Hobson Rd	2.00	Shared Use Path	High Cost	Mid-Term
16	**Jackson Rd Sidepath** From Elm Ave to Pearsall St	1.04	Shared Use Path	High Cost	Mid-Term
17	**Susan Tart Rd Sidepath** From S Dunn Connector Greenway to Little Black River Greenway	0.55	Shared Use Path	High Cost	Mid-Term
19	**Jackson Blvd Sidepath** From St. Matthews Rd to Powell Ave	1.23	Shared Use Path	High Cost	Mid-Term
20	**Meadowlark Rd Sidepath** From Vann Ln to Meadowlark Rd	0.68	Shared Use Path	High Cost	Mid-Term
21	**Westside Greenway Connector** From Meadowlark Rd to Harnett St	1.57	Shared Use Path	High Cost	Mid-Term
101	**Meadowlark Rd Sidewalk** From Old Fairground Rd to Vann Rd	0.79	Sidewalk	High Cost	Mid-Term
103	**Spring Branch Rd Sidewalk** From Pope Street to Over I-95	0.91	Sidewalk	High Cost	Mid-Term
104	**McKay Ave Sidewalk** From Broad St to Susan Tart Rd	0.69	Sidewalk	High Cost	Mid-Term
106	**Tilghman Dr Sidewalk** From Erwin Rd to Susan Tart Rd	0.61	Sidewalk	High Cost	Mid-Term
107	**Erwin Rd Sidewalk** From Dunn ETJ / Black River to Cumberland St	1.04	Sidewalk	High Cost	Mid-Term
108	**Broad St Sidewalk** From US 421 to General Lee Ave	0.50	Sidewalk	High Cost	Mid-Term
109	**Granville St Sidewalk** From King Ave to Johnson St	0.52	Sidewalk	High Cost	Mid-Term
110	**Washington Ave Sidewalk** From Duke Street to Carr St	0.97	Sidewalk	High Cost	Mid-Term
114	**Fairground Rd Sidewalk** From Currituck Ave to US 301	0.92	Sidewalk	High Cost	Mid-Term

Table 4.7: Mid-Term priority projects list.

Map #	Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Facility Type	Cost Category	Priority
115	**McKay Ave Sidewalk** From US 301 to Broad St	0.61	Sidewalk	High Cost	Mid-Term
116	**Granville St Sidewalk** From Morris Circle to King Ave	0.46	Sidewalk	High Cost	Mid-Term
119	**Simpson-Sampson Ave Sidewalk** From Codrington Park to Pearsall St	0.58	Sidewalk	High Cost	Mid-Term
120	**Cumberland St Sidewalk** From Double Bridges to General Lee Ave	1.56	Sidewalk	High Cost	Mid-Term
122	**Divine St Sidewalk** From Watauga Ave to General Lee Ave	0.26	Sidewalk	Moderate Cost	Mid-Term
127	**Friendly Road Sidewalk** From NW Dunn Greenway to Fairground Rd	1.29	Sidewalk	High Cost	Mid-Term
130	**Carr St Sidewalk** From Magnolia Ave to Washington Ave	0.14	Sidewalk	Low Cost	Mid-Term
132	**Cumberland St Sidewalk** From Sampson Ave to Hwy 55	0.73	Sidewalk	High Cost	Mid-Term
136	**Clinton Ave Sidewalk** From Bay St to Dinan Rd	0.88	Sidewalk	High Cost	Mid-Term
137	**Maple Ave Sidewalk** From Friendly Rd to Ashe Ave	0.27	Sidewalk	Moderate Cost	Mid-Term
138	**Ponderosa Dr Sidewalk** From Ashe Ave to Pinewood Apartments	0.22	Sidewalk	Moderate Cost	Mid-Term
140	**Godwin Ln Sidewalk** From US 421 to Erwin Rd	0.40	Sidewalk	High Cost	Mid-Term
141	**Orange Ave Sidewalk** From Pope Street to Greenwood Cemetery	0.38	Sidewalk	Moderate Cost	Mid-Term
142	**Watauga Ave Sidewalk** From Rail Trail to Pecan Ln	0.69	Sidewalk	High Cost	Mid-Term
143	**Elm Avenue Sidewalk** From Washington Ave to Tart Park Entrance	0.04	Sidewalk	Low Cost	Mid-Term
145	**Best St Sidewalk** From Clinton Ave to Elm Ave	0.16	Sidewalk	Low Cost	Mid-Term
146	**Cole St Sidewalk** From Ashe Ave to Fayetteville Ave	1.02	Sidewalk	High Cost	Mid-Term
147	**Fayetteville St Sidewalk** From Harnette St to Granville St	0.47	Sidewalk	High Cost	Mid-Term

Table 4.7: Mid-Term priority projects list (continued).

Map #	Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Facility Type	Cost Category	Priority
148	**Broad St Sidewalk** From Wilmington Ave to Sampson Ave	0.06	Sidewalk	Low Cost	Mid-Term
152	**Carolina Dr Sidewalk** From Granville St to Cooper St	0.79	Sidewalk	High Cost	Mid-Term
205	**Spring Branch Road / Jackson Rd**	--	Intersection	Low Cost	Mid-Term

Table 4.7: Mid-Term priority projects list (continued).

Map #	Corridor Name (Route Number) From (south/west) to To (north/east)	Length (mi)	Facility Type	Cost Category	Priority
14	**Stony Run Access** From Meadowlark Rd to Stony Run Greenway	0.60	Shared Use Path	High Cost	Long-Term
15	**NW Dunn Greenway** From Friendly Rd to Stony Run Greenway	1.92	Shared Use Path	High Cost	Long-Term
18	**S Dunn Connector Greenway** From US 301 to Orange Ave	1.21	Shared Use Path	High Cost	Long-Term
22	**Pecan Ln Sidepath** From Powell Ave to Canterbury Rd	0.33	Shared Use Path	Moderate Cost	Long-Term
23	**Burke St Sidepath Connector** From Johnson St to CB Codrington Park	0.30	Shared Use Path	Moderate Cost	Long-Term
102	**Pearsall St Sidewalk** From Railroad Ave to Sampson Ave	0.76	Sidewalk	High Cost	Long-Term
105	**Susan Tart Rd Sidewalk** From Tilghman Dr to McKay Ave	0.68	Sidewalk	High Cost	Long-Term
117	**Duke Street Sidewalk** From McKay Ave to Magnolia Ave	0.53	Sidewalk	High Cost	Long-Term
121	**Wilson Ave Sidewalk** From Cleveland St to Granville St	0.33	Sidewalk	Moderate Cost	Long-Term
123	**Pearsall St Sidewalk** From Canterbury Dr to Railroad Ave	0.74	Sidewalk	High Cost	Long-Term
126	**Edgerton St Sidewalk** From Wilmington Ave to Holland Ave	0.41	Sidewalk	High Cost	Long-Term
129	**Guy Ave Sidewalk** From Friendly Rd to Jones Dr	0.25	Sidewalk	Moderate Cost	Long-Term
135	**George St/Beale St Sidewalk** From Meadowlark Rd to Byron St	0.37	Sidewalk	Moderate Cost	Long-Term

Table 4.8: Long-Term priority projects list.

Priority Projects (Wayne Avenue Intersection)

Map #201

Public feedback identified this intersection as a safety hazard and potential barrier to walking and pedestrian connectivity. The south side of the intersection are residential neighborhoods. This intersection functions currently as a way for residents to access the commercial areas of Dunn. For the short-term, this concept design utilizes the signalized intersection at Plaza Road to safely cross, and connects with future sidewalks that extend further north/south and east/west. Tyler Park is two blocks away.

EXISTING CONDITIONS:

- Travel Lanes: 4 lanes on Cumberland Street, 2 lanes on Wayne Avenue
- AADT: 22,000 (Cumberland Street) Speed Limit: 35 mph (Cumberland Street), 20 mph (Wayne Avenue)
- Right-of-Way: 68' (Cumberland Street), 45'-54' (Wayne Avenue)

DESTINATIONS NEARBY OR PLANNED CONNECTIONS:

- Wayne Avenue Shopping Center
- Tyler Park

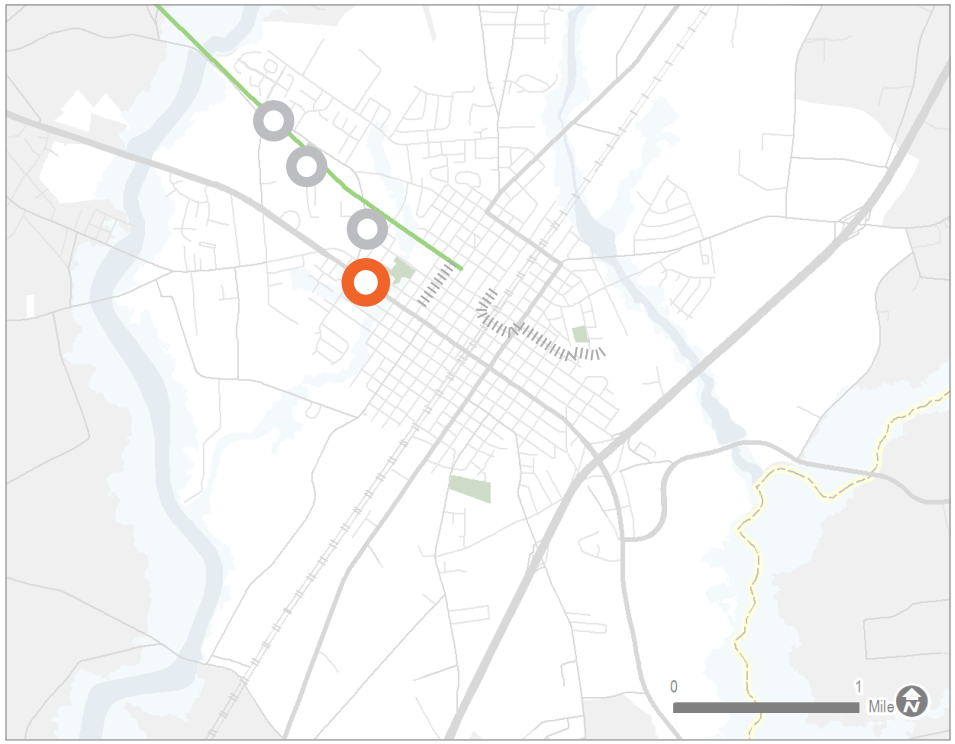
POTENTIAL FUNDING SOURCES:

HSIP, STBG, TAP, Governor's Highway Safety Program, Strategic Transportation Investments (STI), Spot Safety Program

Cost Estimate: **$160K-$190K**
(planning level)

*Assumes no ROW acquisition

Unit costs were compiled from a combination of sources, including recent construction bids, NCDOT P6.0 cost estimator tool, similar local projects, and professional judgement. Materials, labor, and inflation have contributed to volatile construction costs in recent years.



Recommendations/Key Elements

- **High visibility crosswalks, with ADA curb ramps**
- **Pedestrian signals**
- **Connection to shopping center from adjacent neighborhoods**
- **Future facilities to extend from the intersection north/south and east/west**

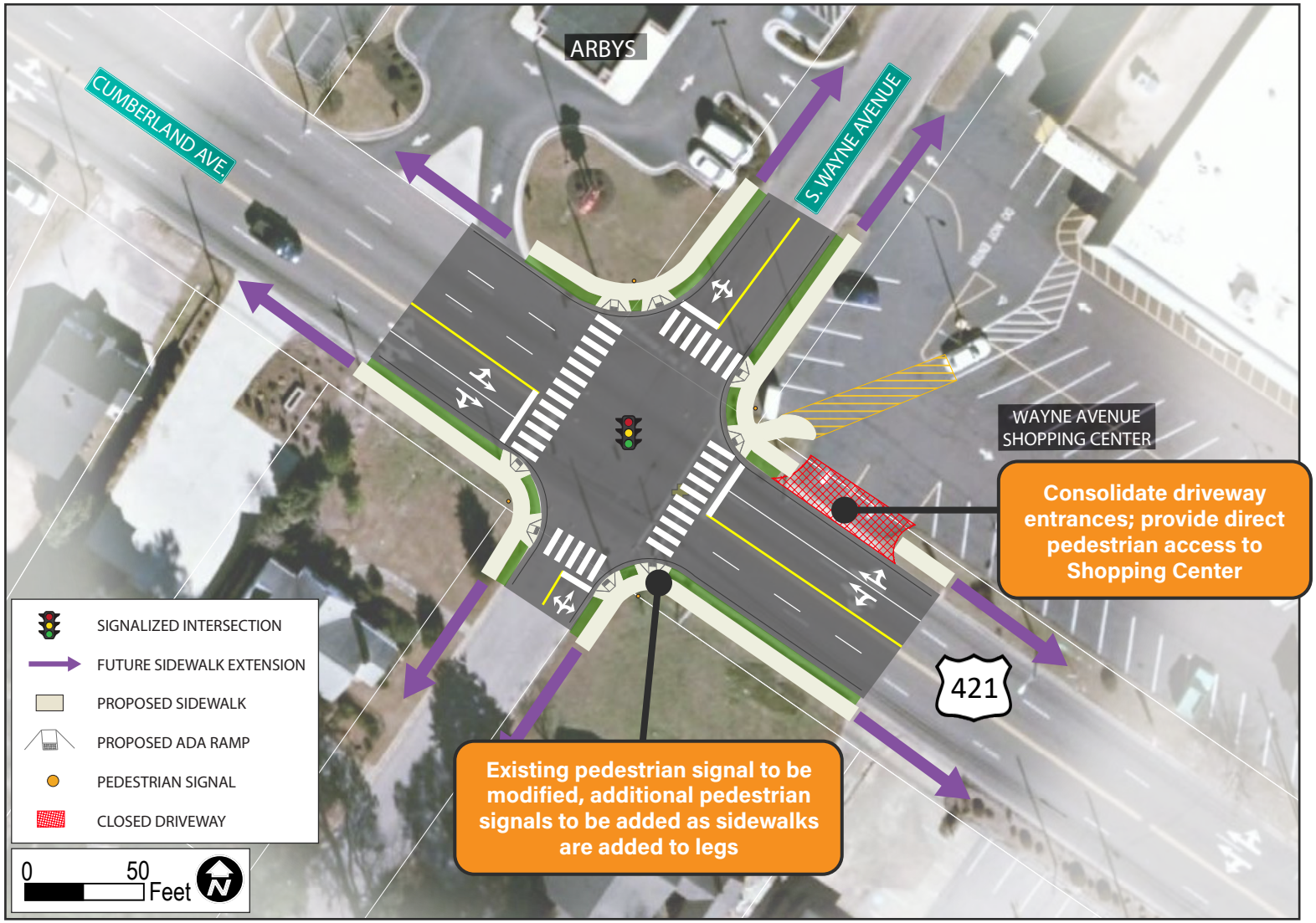
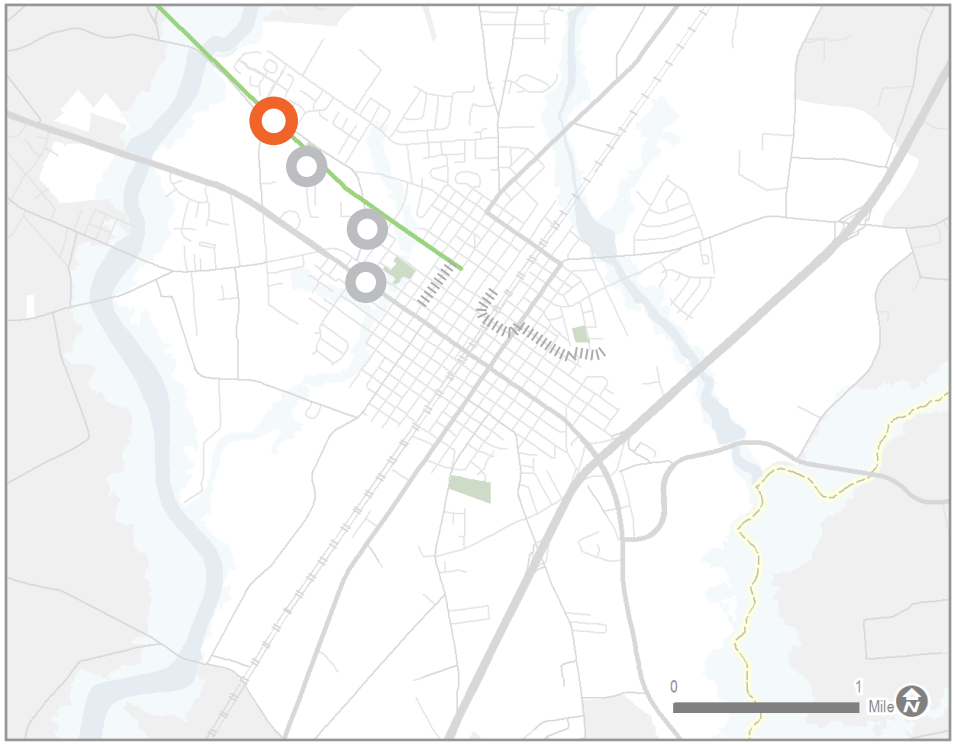


Figure 4.9: Conceptual design of the South Wayne Avenue and Cumberland Street Intersection.

Priority Projects (Ashe Ave - West)

Map #202

The Dunn-Erwin Rail Trail is popular for walking and running, and its three roadway crossings (this priority project, and the next two) were identified by trail users and City staff as unsafe during the first round of public outreach. The Dunn-Erwin Rail Trail runs through Ashe Avenue twice and crosses Ponderosa Avenue in the middle. This westernmost crossing is badly skewed, with poor visibility due to the extreme angle causing unsafe conditions for cars and pedestrians alike.



EXISTING CONDITIONS:

- Travel Lanes: 2 Lanes
- AADT: 2,200 to 4,100
- Speed Limit: 35 mph
- Right-of-Way: 60'-65'

DESTINATIONS NEARBY OR PLANNED CONNECTIONS:

- Dunn Dog Park
- Dunn-Erwin Rail Trail

POTENTIAL FUNDING SOURCES:

Recreational Trails Program (RTP), PARTF, STBG

Cost Estimate: **$125K-$140K**
(planning level)

Recommendations/Key Elements

- **Rail Trail realignment**
- **High visibility crosswalks**
- **Advanced warning signage**
- **Pedestrian level lighting**

*Assumes no ROW acquisition

Unit costs were compiled from a combination of sources, including recent construction bids, NCDOT P6.0 cost estimator tool, similar local projects, and professional judgement. Materials, labor, and inflation have contributed to volatile construction costs in recent years.

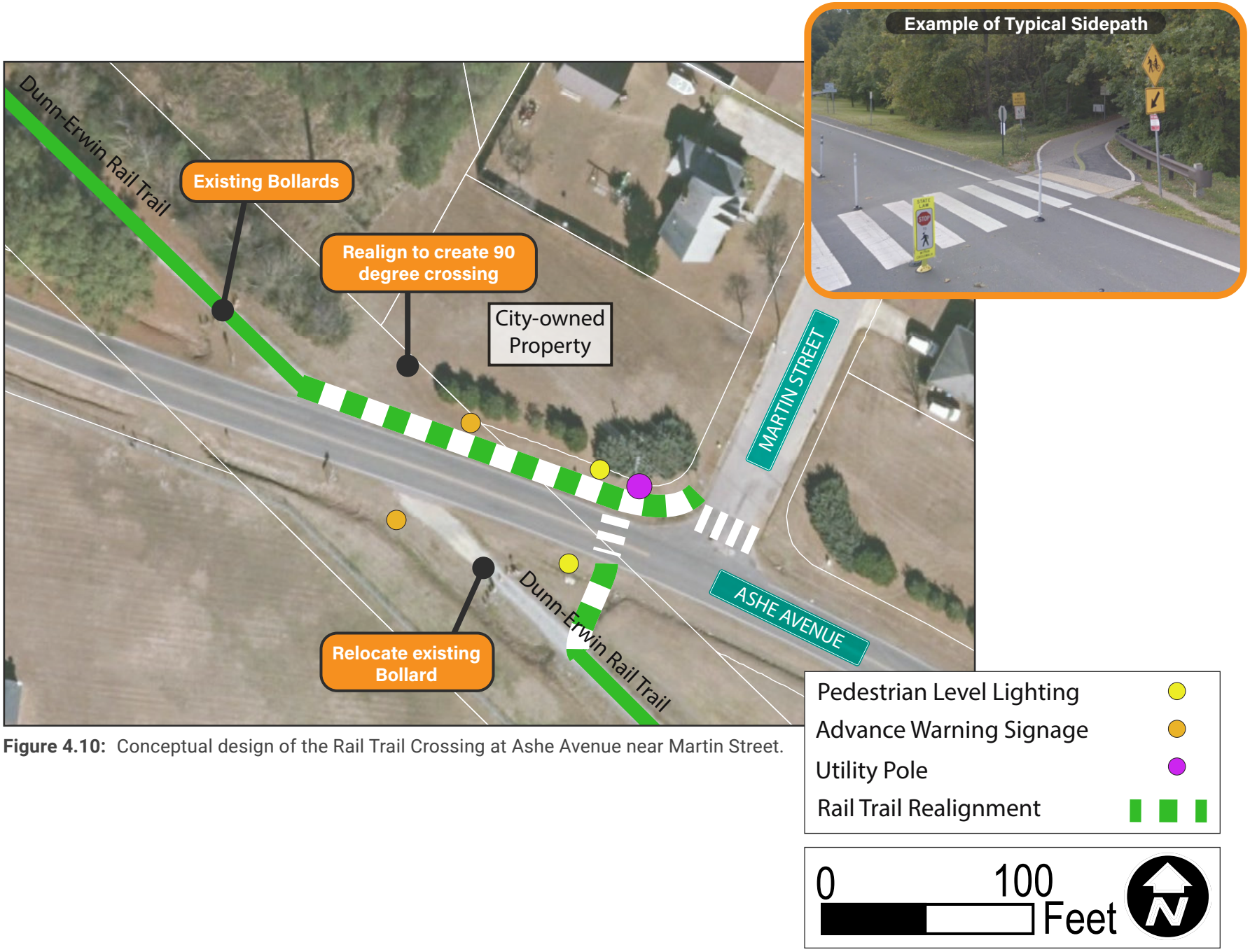
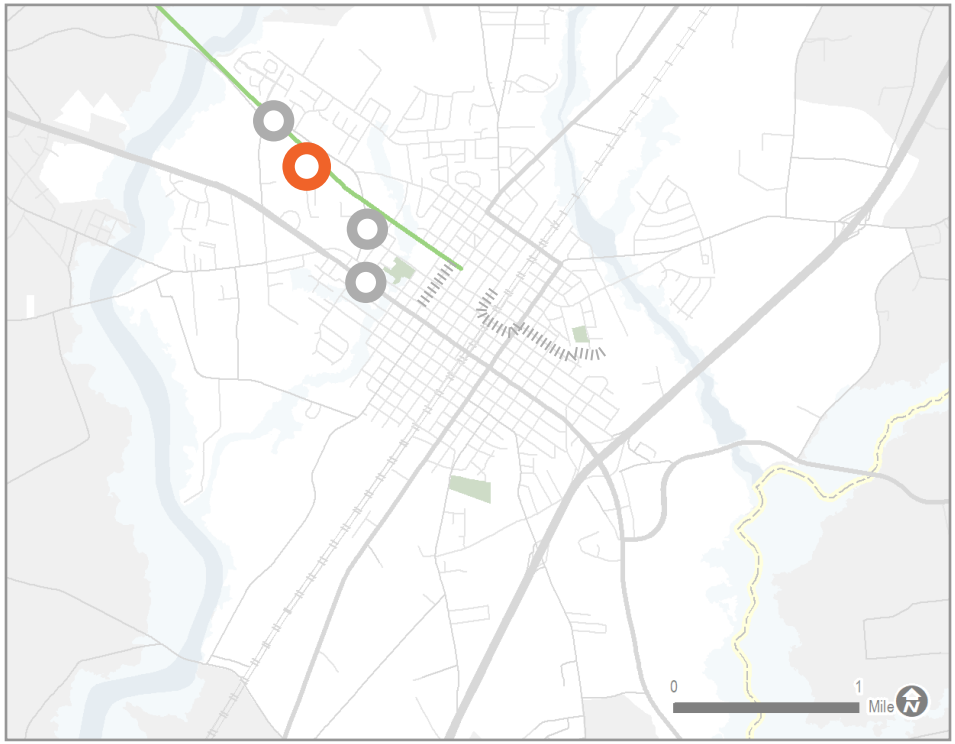


Figure 4.10: Conceptual design of the Rail Trail Crossing at Ashe Avenue near Martin Street.

Priority Projects (Ponderosa Ave - Middle)

Map #204

The Advisory Committee identified the middle crossing of the Rail Trail across Ponderosa Avenue as a desirable location for an improved pedestrian connection. This crossing is adjacent to Dunn's Dog Park, a popular new destination along the Rail Trail. Currently there is no pedestrian connection to the dog park itself apart from walking on the street to access the parking lot. The vehicle speeds and volumes along Ponderosa are lower than speeds and volumes along Ashe Avenue, but still present a safety concern for vulnerable pedestrians.



EXISTING CONDITIONS:

- Travel Lanes: 2 Lanes
- AADT: Assumed to be < 1,000
- Speed Limit: 35 mph
- Right-of-Way: 50'

DESTINATIONS NEARBY OR PLANNED CONNECTIONS:

- Dunn Dog Park
- Dunn-Erwin Rail Trail

POTENTIAL FUNDING SOURCES:

Recreational Trails Program (RTP), PARTF, STBG

Cost Estimate: **$25K-$40K**
(planning level)

*Assumes no ROW acquisition

Unit costs were compiled from a combination of sources, including recent construction bids, NCDOT P6.0 cost estimator tool, similar local projects, and professional judgement. Materials, labor, and inflation have contributed to volatile construction costs in recent years.

Recommendations/Key Elements

- **Sidewalk connection to Dunn Dog Park**
- **High visibility crosswalks**
- **Advanced warning signage**
- **Pedestrian level lighting**

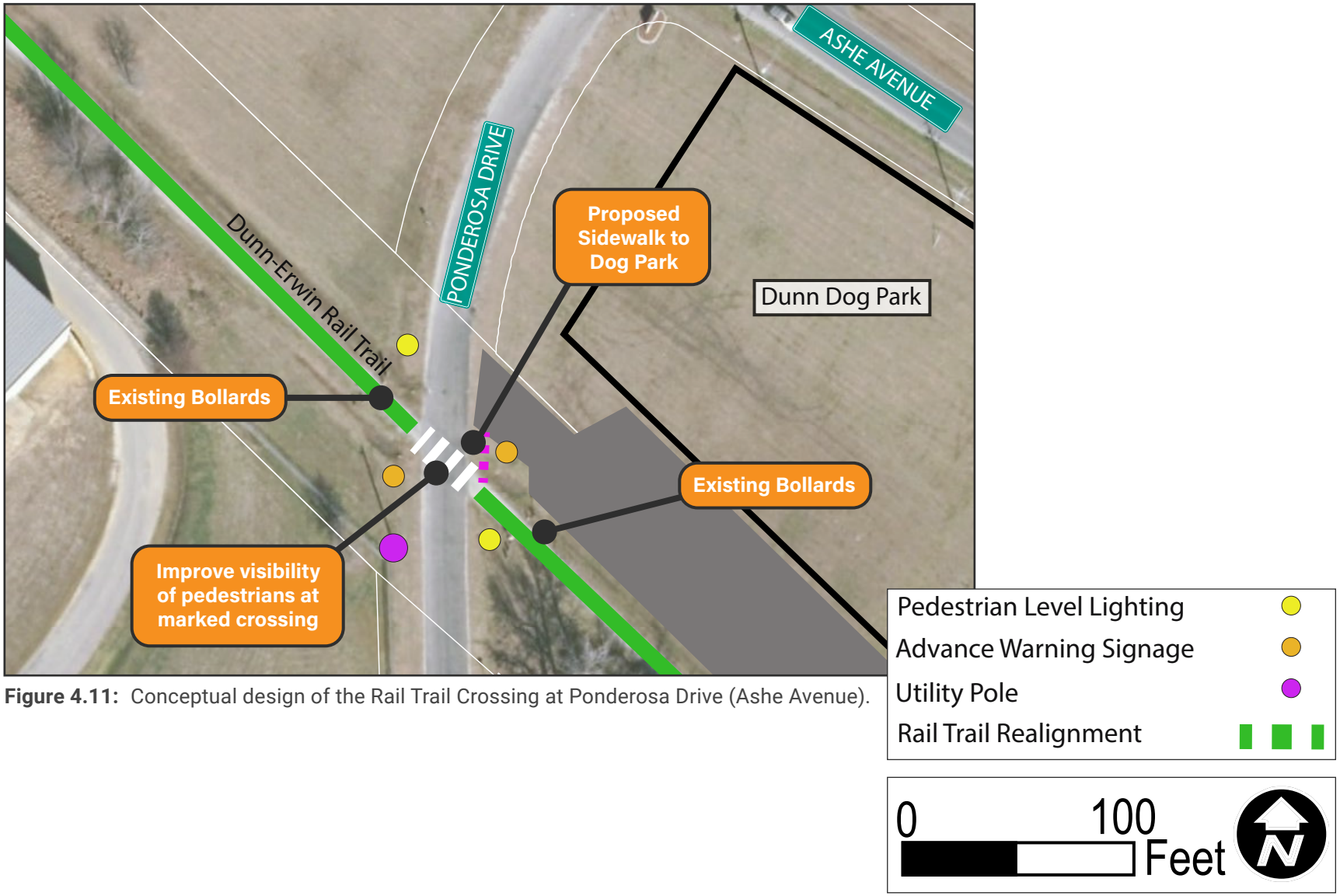
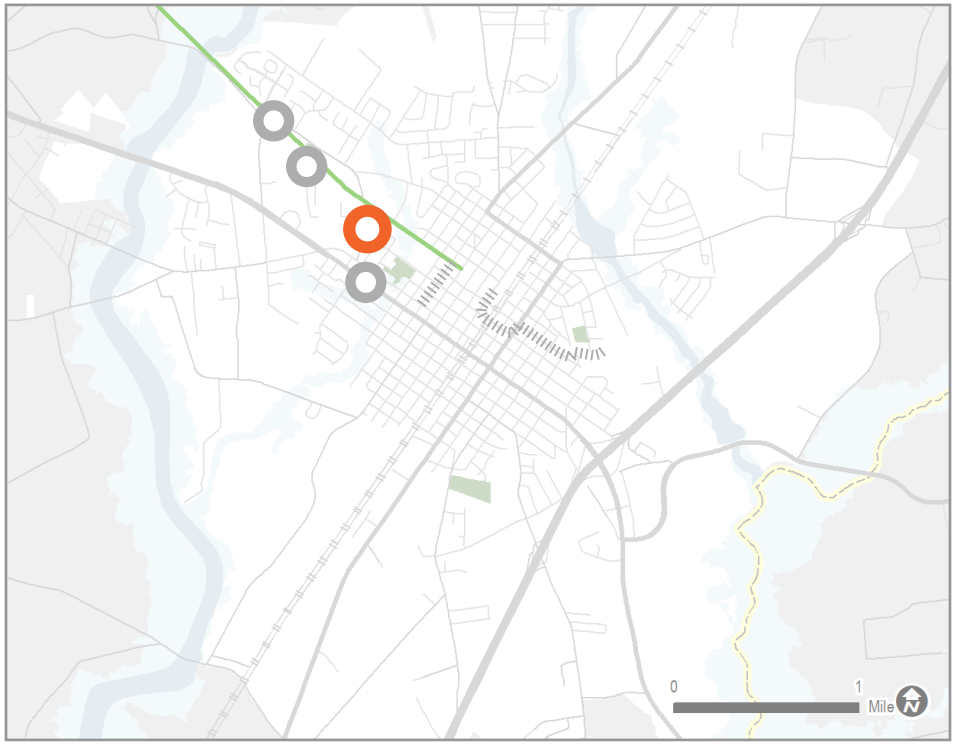


Figure 4.11: Conceptual design of the Rail Trail Crossing at Ponderosa Drive (Ashe Avenue).

Priority Projects (Ashe Ave - East)

Map #203

The easternmost location of the Dunn-Erwin Rail Trail that crosses Ashe Avenue, like its western counterpart, is also badly skewed. Advisory Committee members suggested realigning the Rail-Trail at its intersection with Ashe Avenue to provide a more perpendicular crossing, creating better sight lines for pedestrians and approaching vehicles, and improving safety for trail users heading to/from the Dog Park.



EXISTING CONDITIONS:

- Travel Lanes: 2 Lanes
- AADT: 2,200 to 4,100
- Speed Limit: 35 mph
- Right-of-Way: 60'-65'

DESTINATIONS NEARBY OR PLANNED CONNECTIONS:

- Dunn Dog Park
- Dunn-Erwin Rail Trail

POTENTIAL FUNDING SOURCES:

Recreational Trails Program (RTP), PARTF, STBG

Recommendations/Key Elements

- **Rail Trail realignment**
- **High visibility crosswalks**
- **Advanced warning signage**
- **Pedestrian level lighting**

Cost Estimate: **$125K-$140K**
(planning level)

*Assumes no ROW acquisition

Unit costs were compiled from a combination of sources, including recent construction bids, NCDOT P6.0 cost estimator tool, similar local projects, and professional judgement. Materials, labor, and inflation have contributed to volatile construction costs in recent years.

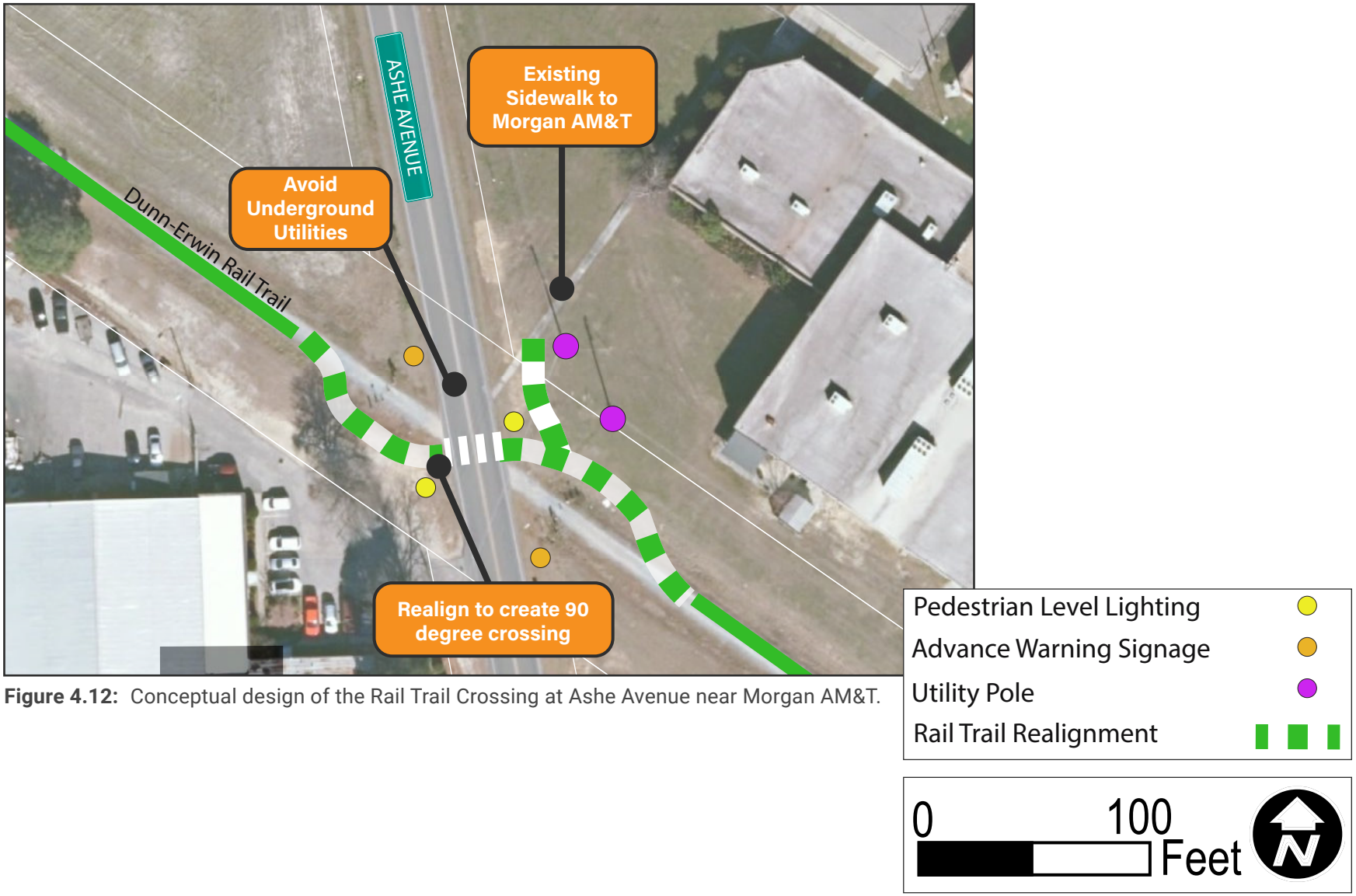
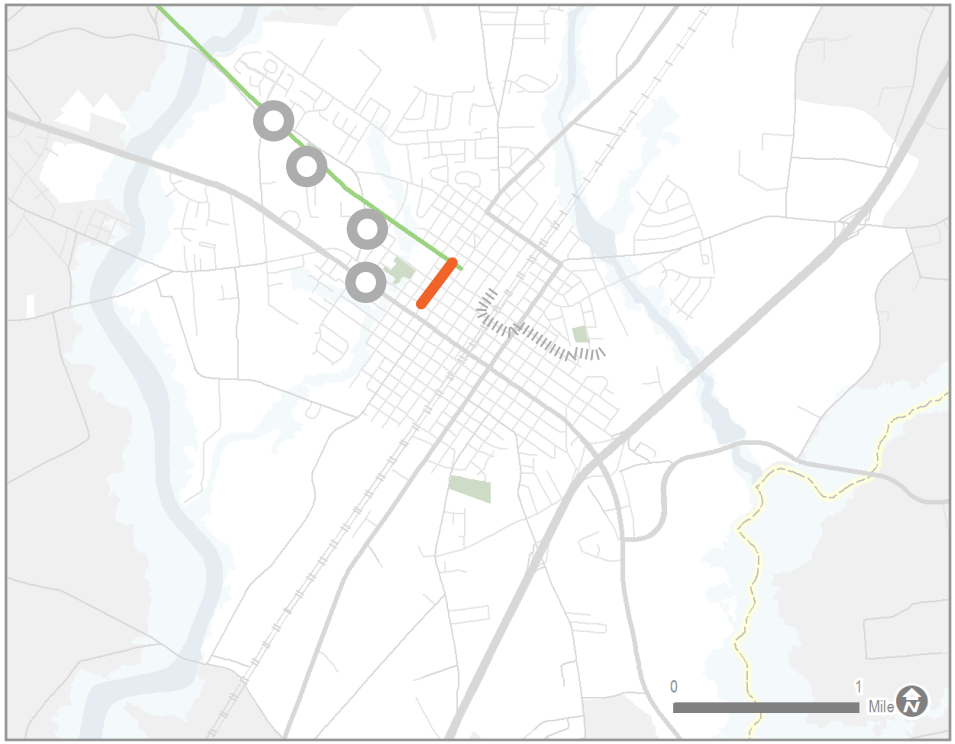


Figure 4.12: Conceptual design of the Rail Trail Crossing at Ashe Avenue near Morgan AM&T.

Priority Projects (Ellis Ave - Corridor)

Map #10

The Dunn-Erwin Rail Trail terminates between Ellis Avenue and McKay Avenue. The Ellis Avenue corridor was identified by City staff as a missing connection between this popular recreation corridor and the additional amenities within downtown (Broad Street). Enhancing intersection crossings and providing sidewalk maintenance along Ellis Avenue will improve the streetscape appearance and functionality of this pedestrian connection.



EXISTING CONDITIONS:

- Travel Lanes: 2 lanes
- AADT: 8,800
- Speed Limit: 35 mph
- Right-of-Way: 48'
- Length: 1,500 feet (0.28 miles)

DESTINATIONS NEARBY OR PLANNED CONNECTIONS:

- Tyler Park
- Downtown Dunn-Future Shared Use Path to Downtown
- Cumberland Avenue

POTENTIAL FUNDING SOURCES:

STBG, Strategic Transportation Investments (STI), Municipal Bond

Cost Estimate: **$500K-$550K**
(planning level)

*Assumes no ROW acquisition

Unit costs were compiled from a combination of sources, including recent construction bids, NCDOT P6.0 cost estimator tool, similar local projects, and professional judgement. Materials, labor, and inflation have contributed to volatile construction costs in recent years.

Recommendations/Key Elements

- **High visibility crosswalks, with ADA curb ramps**
- **Pedestrian signals**
- **Connection to broad street**
- **Curb extensions at wide intersections (Edgerton and Harnett)**

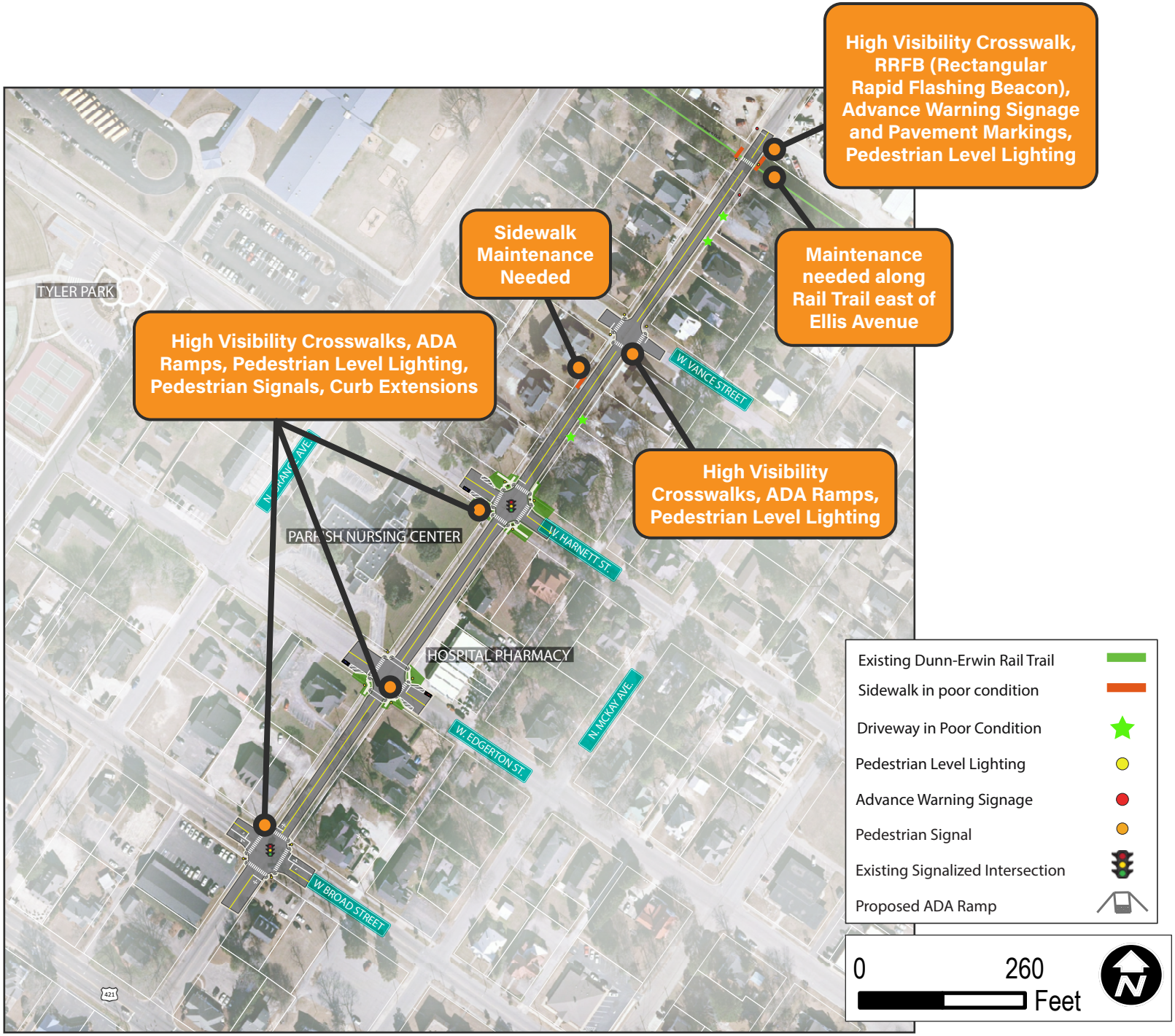
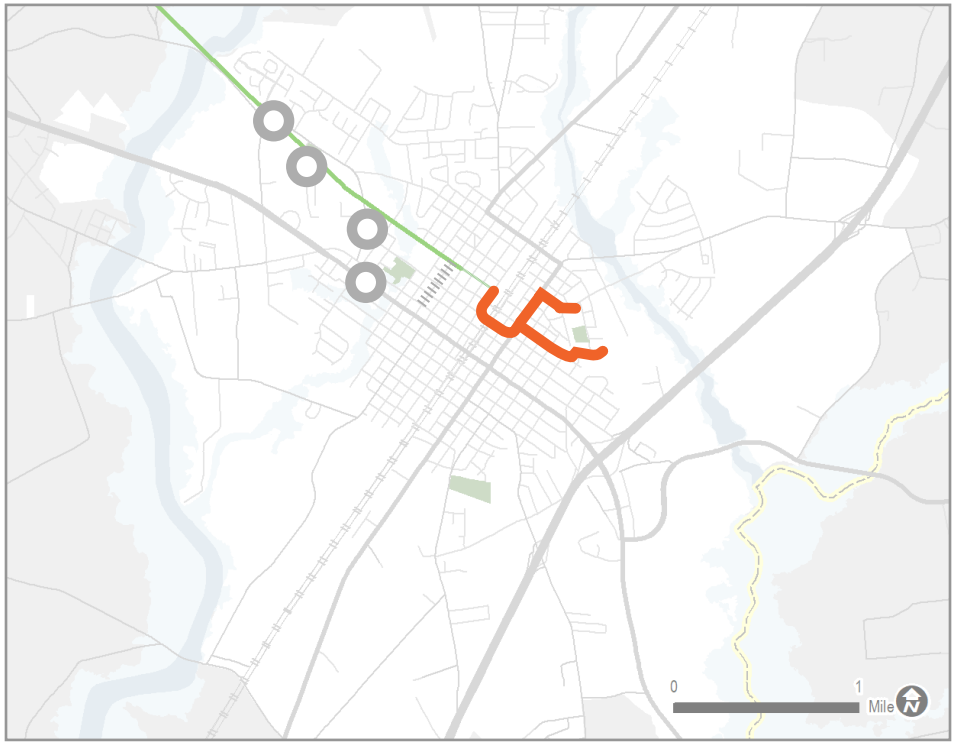


Figure 4.13: Conceptual design of Ellis Avenue from Rail Trail to Broad Street.

Priority Projects (Rail Trail to Codrington Park)

Maps #3, #11, #12

Connecting the Rail Trail to Codrington Park was identified during Advisory Committee meetings, and has become a point of emphasis for this plan. A sidepath will run from the furthest extent of the existing Rail Trail along Fayetteville Road, continue down Harnett Street utilizing the existing railroad crossing (additional safety features are warranted with a new pedestrian crossing).
The sidepath will connect to existing sidewalks along Clinton and proposed sidewalks on the south side of Vance Street, continuing on to Washington Avenue. There are two options for entering Codrington Park, from the south and north.



EXISTING CONDITIONS:

- Travel Lanes: 2 Lanes along Fayetteville, Harnett, and Clinton Ave
- AADT: Clinton Ave: 2,600
- Speed Limit: 35 mph, Clinton Ave, Fayetteville Ave;
  20 mph, Harnett St, Vance St
- Right-of-Way: Fayetteville Ave (65') Clinton (68') Harnett St (70') Vance St (68'-74')
- Length: 5,450 feet (1.03 miles)

DESTINATIONS NEARBY OR PLANNED CONNECTIONS:

- Downtown Dunn and Codrington Park

POTENTIAL FUNDING SOURCES:

Recreational Trails Program (RTP), PARTF, Strategic Transportation Investments (STI)

Cost Estimate: **$1.8M - $1.2M**
(planning level)

*Assumes no ROW acquisition

Unit costs were compiled from a combination of sources, including recent construction bids, NCDOT P6.0 cost estimator tool, similar local projects, and professional judgement. Materials, labor, and inflation have contributed to volatile construction costs in recent years.

Recommendations/Key Elements

- **High visibility crosswalks, with ADA curb ramps**
- **Pedestrian signals**
- **Marked sidepath railroad crossing with bollards, and advance warning signs**
- **Two entrnace options into Codrington Park**

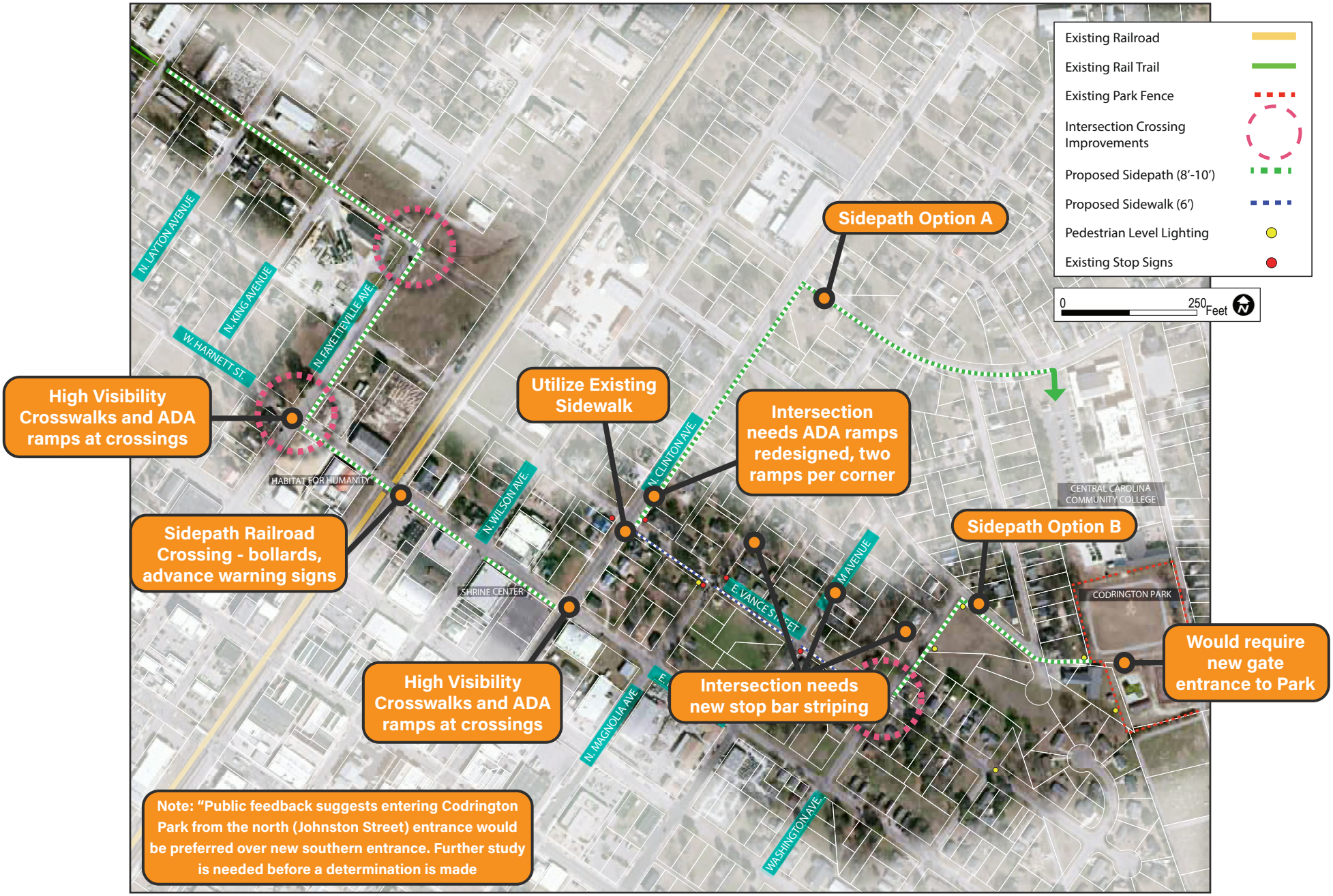


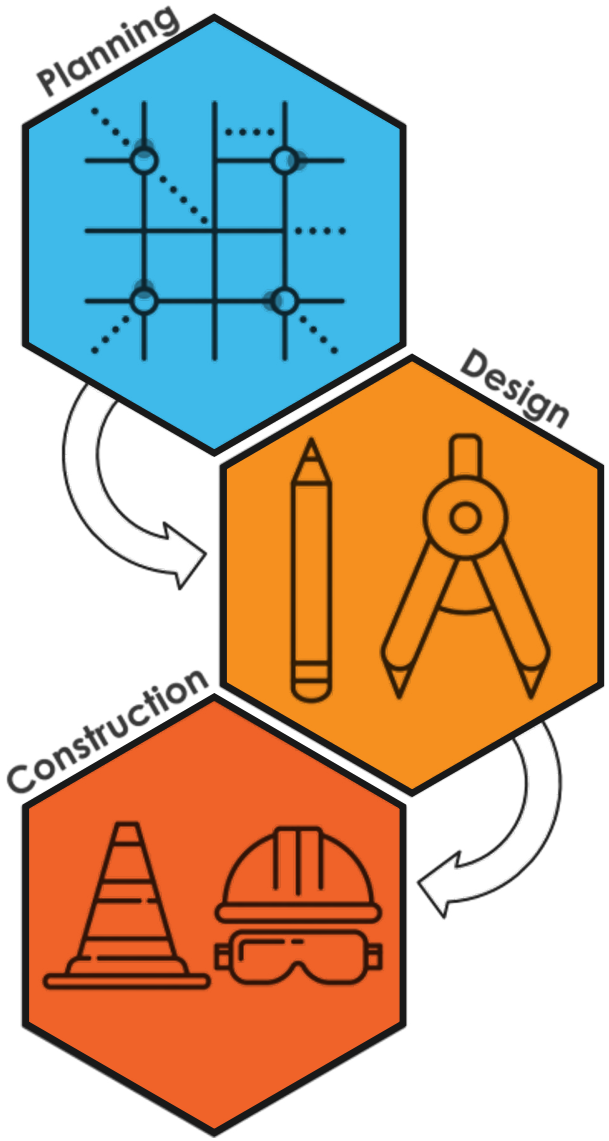
Figure 4.14: Conceptual design of the Rail Trail to Codrington Park.

Design Guidance

Creating safe passage for pedestrians has become both a challenge and a necessity for today's designer, planner, or city engineer. For many years, pedestrians have been relegated to ever-narrower spaces at the edges of busy travelways and crossing at infrequent, inconvenient, and unsafe intersections. The set of challenges facing pedestrians and pedestrian facility selection and design, are quite different than those wishing to accommodate and promote safe bicycling or driving. Further, the onset of motorized scooters as part of a broader micromobility trend has highlighted pedestrian travel again, but also created a new set of design challenges.

For many communities, the motivations associated with pedestrian travel are most closely aligned with a subset of pedestrian safety and mobility termed "traffic calming." Calming traffic is necessary only when the streets were not originally designed as complete streets that accommodate all users regardless of mobility level or mode of travel. Even Interstate highways have wide shoulders: for emergency maneuvers, but also to accommodate the occasional pedestrian separated from their car. Ramps coming onto or off of Interstate highways must also be sensitive to crossing pedestrians, either at-grade with the ramp or over / under the roadway.

Other challenges include cost and the perception that fewer users translate into a lower priority for pedestrian accommodations, a perception exacerbated when pedestrians are viewed as deterrents to fast and efficient vehicular travel. In reality, pedestrians can be injured or killed by cars; seldom the reverse. Therefore, **streets and bridges need to be ready to accommodate them safely.** An encapsulation of this safety-first mentality has been represented by Vision Zero movements that put safety ahead of speed or other factors when planning, designing, or maintaining transportation infrastructure.



Planning-Design-Construction process graphic.

Resources

Unlike the expansive list of literature that has achieved national prominence for bicycle design, there are comparatively few examples of established, nationwide practice for designing pedestrian facilities and those that are available are generally quite dated. The following is a selection of the resources used in this guide and frequently, or deemed valuable to bookmark for future reference.

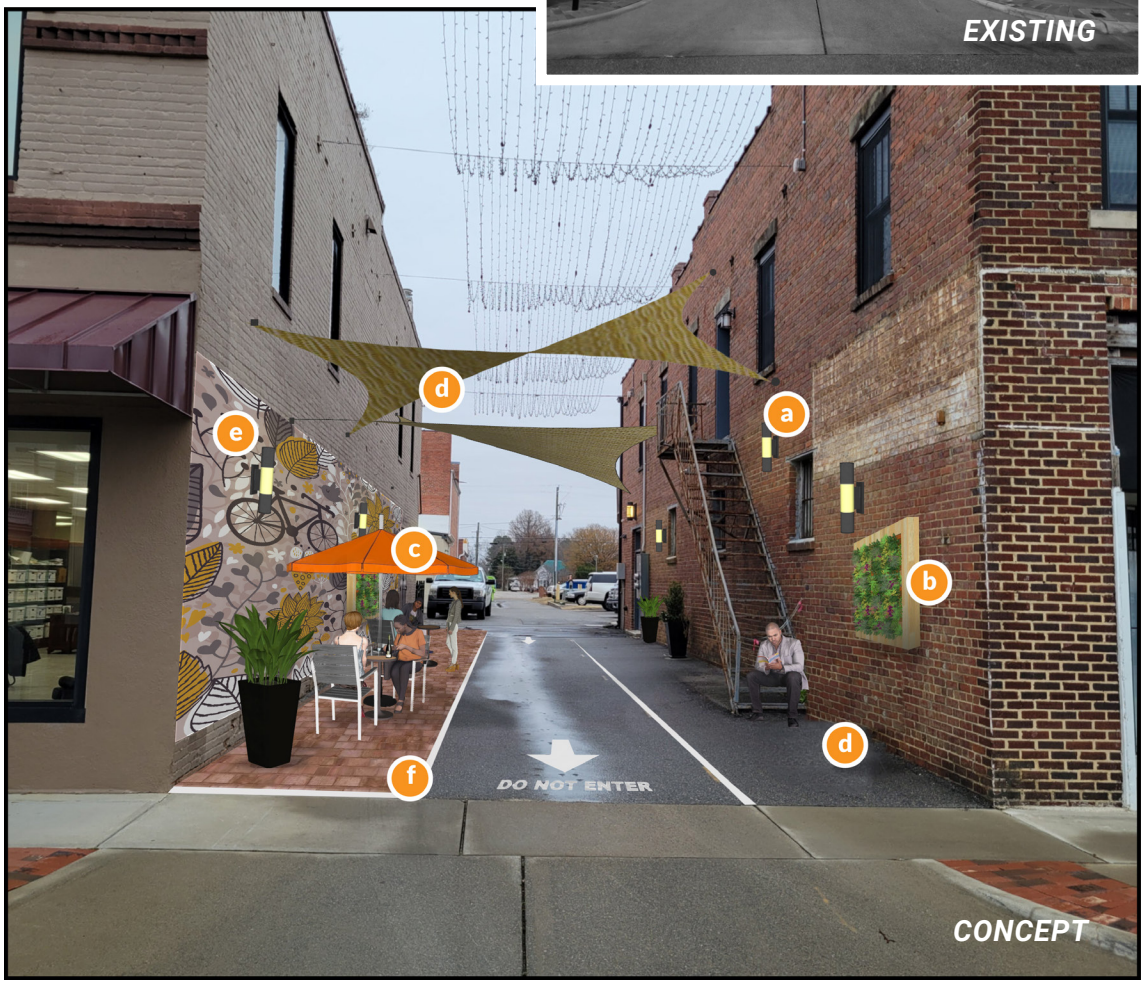
- **National Association of City Transportation Officials**. 2013. Urban Street Design Guide.
- **USDOT - FHWA**, "Designing Sidewalks and Trails for Access Part II of II: Best Practices Design Guide,"2001.
- **USDOT - FHWA**, "How to Develop a Pedestrian Safety Action Plan: Final Report." Introduction 2009.
- **USDOT - FHWA**, "Pedestrian Safety Guide and Countermeasure Selection System" (website accessed 8.19.2021: www.pedbikesafe.org/PEDSAFE/index.cfm).
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- **U.S. Access Board**, "(Proposed) Public Rights-of-Way Accessibility Guidelines" (website accessed 8.19.2021: www.access-board.gov/prowag).
- **American Association of State Highway and Transportation Officials**. 2004. AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 1st Edition (note: $85 - $115).
- **Institute of Transportation Engineers (ITE)**, "Designing Walkable Urban Thoroughfares: A Context Sensitive Approach." 2010.
- **Pedestrian and Bicycle Information Center**, PedBikeInfo.org (website accessed 8.19.2021: www.pedbikeinfo.org).
- **City of Raleigh**, Capital Area Greenway Planning and Design Guide, 2014.

Bringing life to Alleyways

The alleyway between North Clinton Avenue and North Wilson Avenue is one of many in Dunn. Alleys provide visual depth to the streetscape and can create additional retail, recreational, or event space to help open up and celebrate downtown environments. This alleyway has some good characteristics, including being wide enough to still support one-way traffic and having overhead lighting in place. Adding some details like (a)-(c) can greatly enhance the space. Bigger ideas like (d)-(f) can be done later as funding permits,:

(a) Wall lighting,
(b) Vertical gardens, and
(c) Outdoor tables and chairs
(d) Overhead canopies to provide basic shade and weather control,
(e) Mural art, and
(f) Stamped concrete or brick paving stones



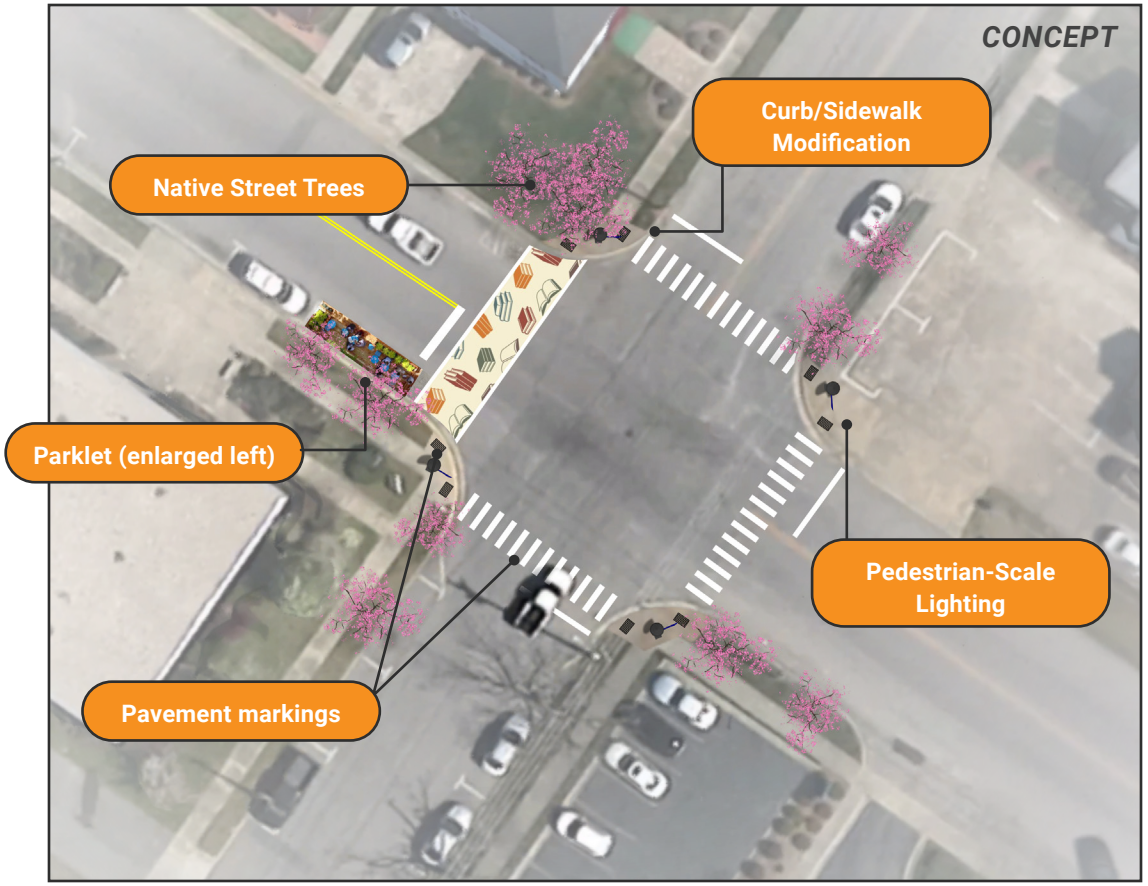


Creative Intersections

The intersection of South Wilson and East Divine Street is one block southwest of the major intersection of Cumberland and Clinton. It boasts having a library on the southwest corner with legal and financing businesses on the other three. Roads like these are often preferred over the larger highways for pedestrian travel, especially if they convey that walking is a more central function through design considerations. The proposals shown here can be implemented piecemeal, if necessary, and none require major expense.





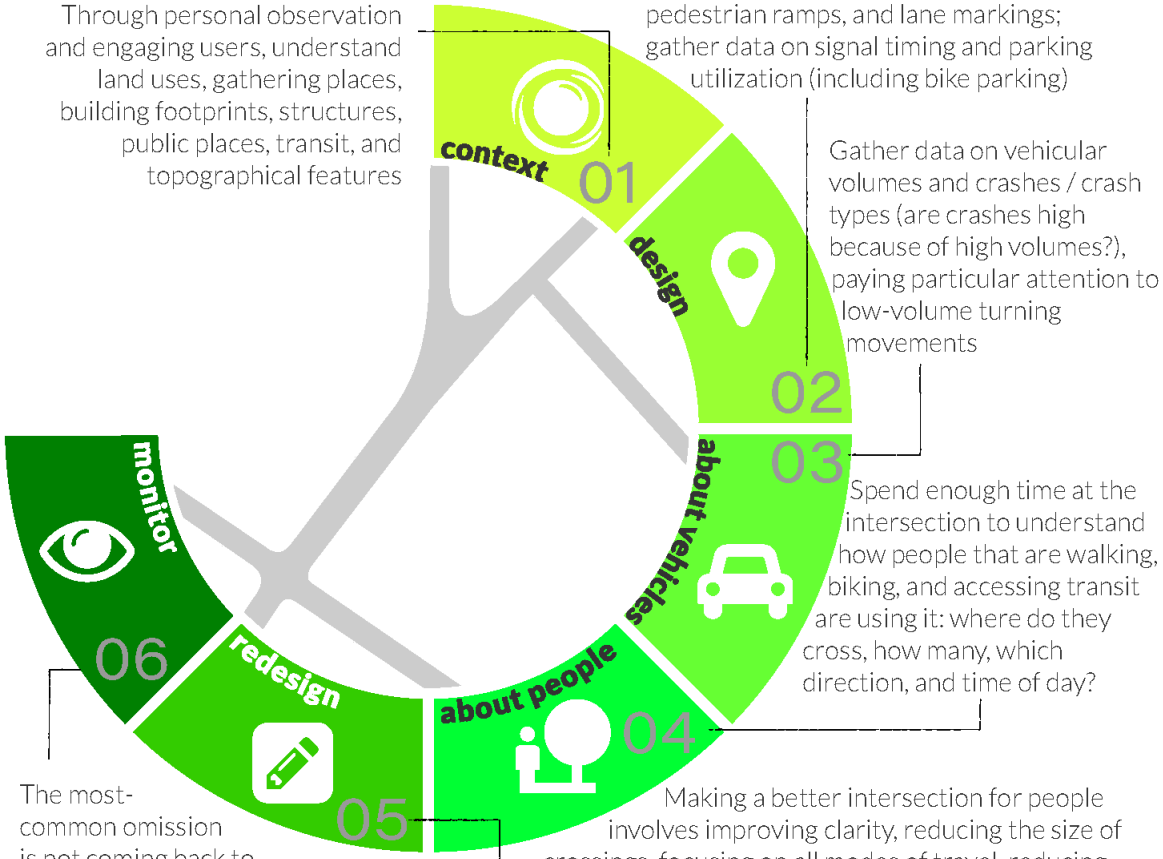


Evaluating Atypical or Complex Locations

Not every street intersection is simple to understand. The following guidance, adapted from NACTO's Urban Street Design Guide, helps in the assessment of more complex locations:



1. *Improve clarity by creating 90^{0} intersection;*
2. *Remove slip-right turn to reduce traffic speeds entering main roadway;*
3. *Assign the space to people by including a safe crossing and pedestrian refuge (may require signalization) and adding sidewalk and street trees; and*
4. *In the interim, make the existing intersection to the south better by repairing sidewalks and adding curb ramps and crossing treatments (including pedestrian signals).*



Through personal observation and engaging users, understand land uses, gathering places, building footprints, structures, public places, transit, and topographical features

Locate (map) driveways, curb cuts, pedestrian ramps, and lane markings; gather data on signal timing and parking utilization (including bike parking)

Gather data on vehicular volumes and crashes / crash types (are crashes high because of high volumes?), paying particular attention to low-volume turning movements

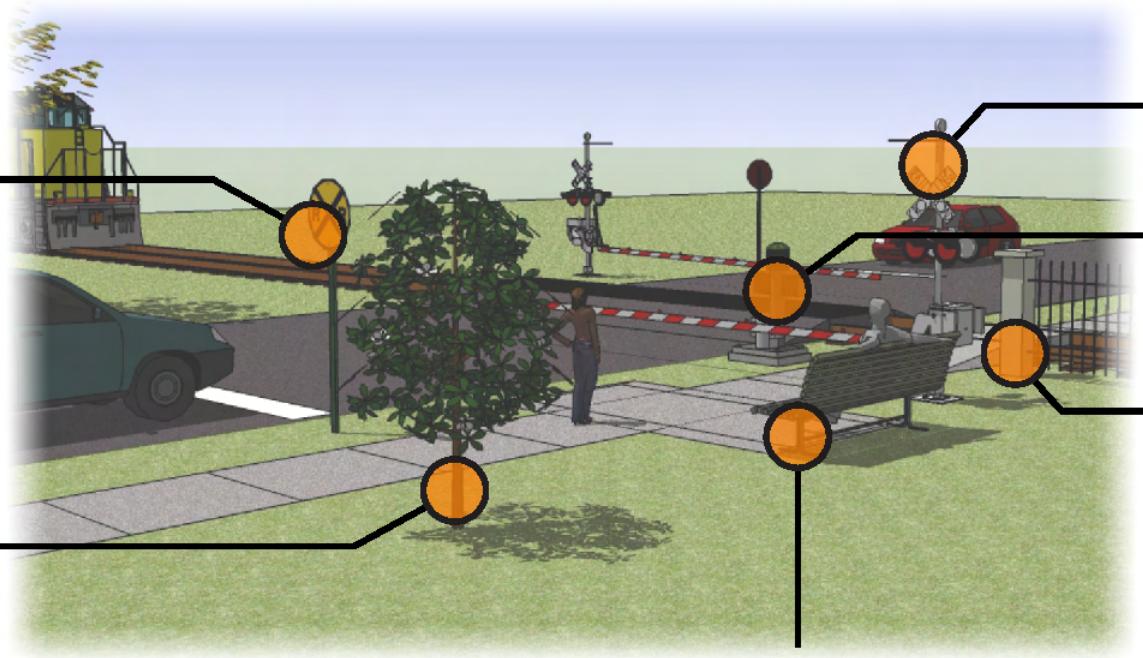
Spend enough time at the intersection to understand how people that are walking, biking, and accessing transit are using it: where do they cross, how many, which direction, and time of day?

Making a better intersection for people involves improving clarity, reducing the size of crossings, focusing on all modes of travel, reducing conflict points / severities, and making the space more public and more clearly the dominion of people on foot (and biking). See example, below.

The most-common omission is not coming back to objectively evaluate the redesign: are there more or fewer crashes, people, and use of the area?

Crossing Railroads

Navigating railroad crossings on foot or by car is a frequent occurrence in Dunn. The graphic below illustrates some of the primary and second treatments available for the major railroad crossings where they occur at-grade (at street level). **Clear signage not only at the tracks but in advance** are the most obvious - and easiest - way to acknowledge potential hazards. While landscaping and comfortable waiting areas are important to encourage pausing, obstructions within sight lines or in railroad rights-of-way are likely to be removed by the rail company. At major crossings, a **specialized pedestrian signal or crossbar** that obstructs pedestrian travelways may be installed. Finally, conduct regular inspections of fencing to ensure that it is in good repair.



Railroad Advance
(MUTCD W10-1)
Stop Here When Flashing
(MUTCD R8-10)



Landscaping
should be located out of sight lines to warning devices

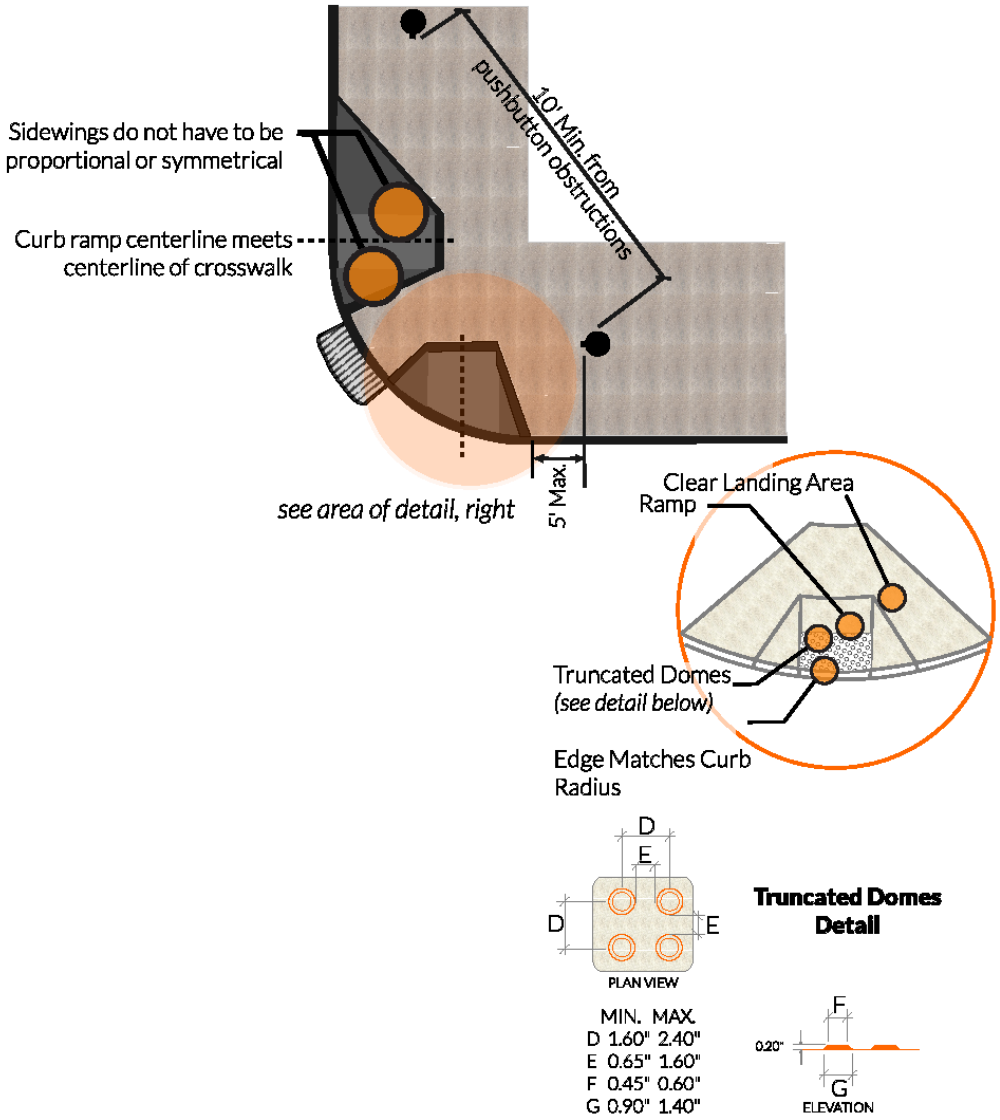
Crossbuck and Flasher w/Audible Warning
(MUTCD R15-1) May utilize YIELD or STOP signs; # Tracks sign, etc.

Low-Rise Pedestrian Signal
Audible and Visual warnings at 4' height



Fencing
Reinforces and enforces appropriate and safe crossing location; note gap design style to allow sight through the fencing

Waiting Area
Reinforces appropriate and safe place to wait for passing trains



Making Sidewalks Accessible

As the U.S. population, like that of many countries, trends older it becomes increasingly a moral - and legal - imperative to consider how those that are physically challenged to be mobile are treated in society. Sidewalks connect people from their front doors to many of the places that they wish to go within one or two miles. Below is a graphic illustrating how to **make pedestrian pathways more accessible** to those using assisted mobility devices and who are sight-challenged.



An ADA-accessible curb ramp installed in Dunn.

Greenways and Off-Road Paths

MANAGING ACCESS

Since the **preferred width of a greenway is 10' or more**, it allows for unauthorized vehicles to gain access unless bollards or other treatments are used. Apply lockdown bollards that can be removed by emergency, maintenance, or other authorized users, except in cases of pedestrian bridges where permanent bollards may be required.

TYPICAL AND ATYPICAL WIDTHS

A typical minimum width of greenways is 12', although 10' is commonplace due to cost and right-of-way constraints. In severely constrained conditions, a minimum width of 8' is permissible for short distances. Regardless, the **desired "clear zone" to either side is at least two feet**. A 4" centerline stripe (thermoplastic, non-skid, high-visibility yellow) must be incorporated at roadway approaches, bridge underpasses, and tight curves to keep people traveling in different directions "in their lane."

MANAGING SLOPES AND STREAM CROSSINGS

Avoiding cross-slopes greater than 2% on greenways is important for users of wheelchairs and low-skilled bicyclists. Other, longitudinal slope conditions must also be considered depending on the degree of slope.

GREENWAYS AT INTERSECTIONS

If a sidepath (a greenway running parallel to a street) approaches a street intersection, the desired 10' minimum separation from the back of the curb should **narrow so that crossing cyclists can see and be seen** by turning vehicles.

LIGHTING

Lighting is a complex topic with many considerations and options ranging from actuated in-pavement flashers to advance warning beacons (useful for mid-block greenway crossings) to pedestrian-scale and high-level broad-area illumination. Illumination should be **sufficient to make out details at 20',** and preferably use a LED source since it is both energy efficient and provides good color representation.

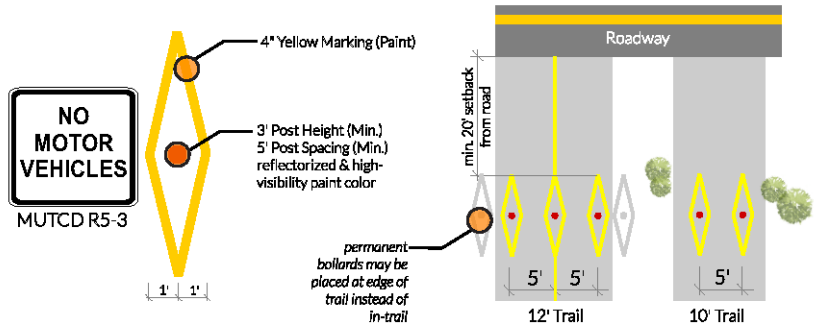
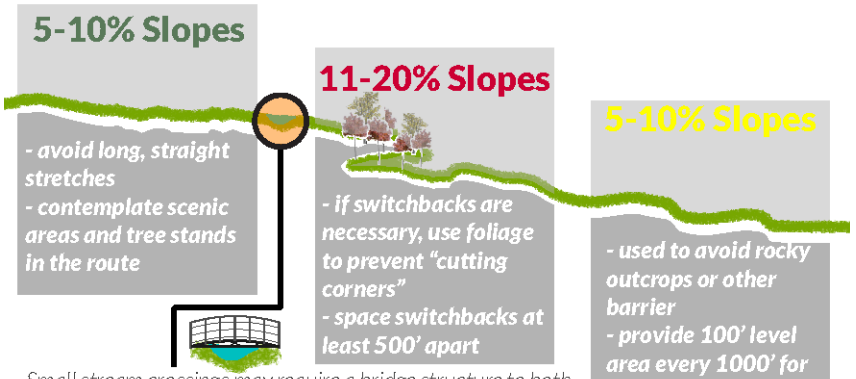


Figure 4.15: MUTCD Standards for markings, greenway access.



Small stream crossings may require a bridge structure to both safely get across as well as preserve water quality downstream

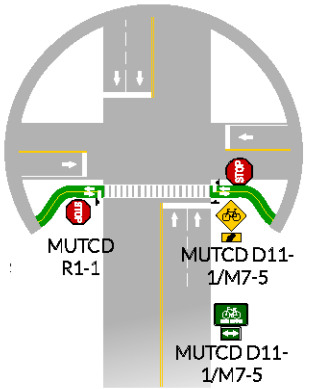


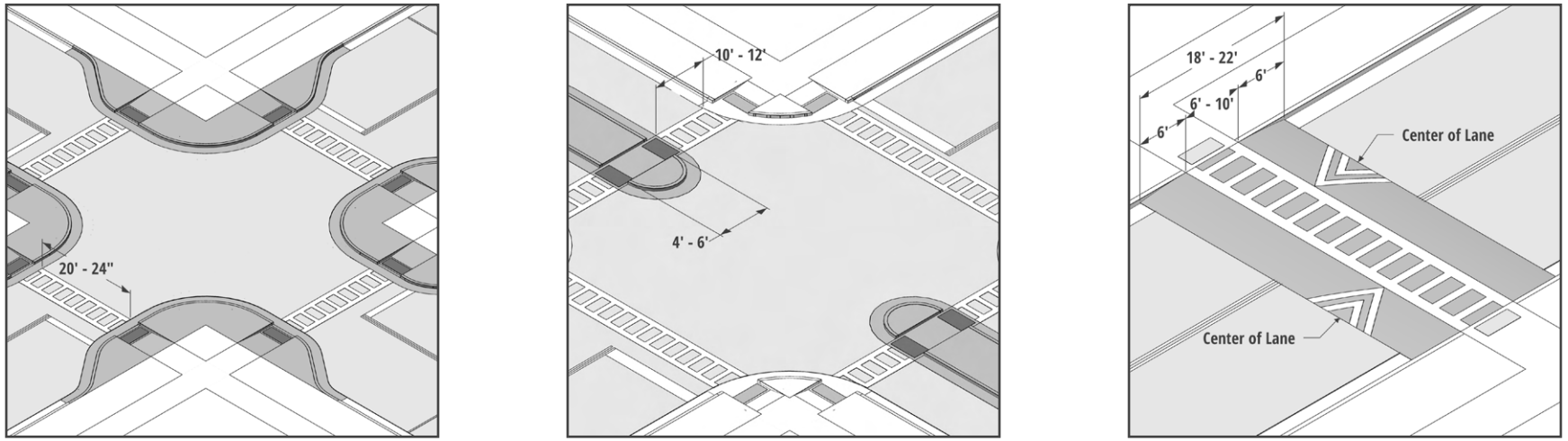
Figure 4.16: AASHTO, MUTCD Standards for greenway design on approach to intersections and signage.

Effects of Different Traffic Control Devices

While designing streets to help manage speed, volume, noise, and pedestrian / bicyclist safety the first time is preferred, much of the transportation infrastructure is inherited from a post-war period when achieving maximum vehicular volumes and convenience were the primary design factors. As communities across the country and world being to rethink interactions of land uses and transportation, economics, and human health, many are beginning to explore road diets (removing unnecessary travel lanes to better fit a more closely knit neighborhood) and modifying existing roadways and intersections to manage some of the deleterious effects of over-designed streets. The list of traffic calming measures introduces the types of such measures, as well as the effects of speed in the event of a crash.

TYPE OF DEVICE	VOLUMES	SPEEDS	COST*	NOTES
Rumble Strips		X	$	*Noisy*
Speed Hump	X	X	$$	*Noisy; can be challenging to construct correctly*
Raised Crosswalk	X	X	$$$	*Noisy; can be challenging to construct correctly*
Raised Intersection	X	X	$$$$	*Noisy; expensive, may require drainage changes*
Traffic Circle		X	$$$	*May require property taking at corners*
Curb Extension	X	X	$$$	*Protects/delineates parking area; shortens crossings*
Choker	X	X	$$	*May pose problems for wide vehicles*
Chicane	X	X	$$	*May pose problems for wide vehicles*
Impeller	X	X	$$$	*May pose problems for wide vehicles*
All-Way STOPs	X	X	$	*Tend to become less effective over time*
Diagonal Diverter	X	X	$$	*Impacts access, trip lengths, emergency response time*
Semi-Diagonal Diverters	X	X	$$	*Impacts access, trip lengths, emergency response time*
Road Closure	X	X	$$$	*Impacts access, trip lengths, emergency response time*
Median Islands		X	$$$	*May pose problems for wide vehicles*
On-Street Parking		X	$	*May pose a threat to cyclists*
Bicycle Lanes		x	$	*Tend to become less effective over time*
Streetscaping		X	$$$	*Provides aesthetic and property value benefits*
Street Events	X	X	$	*Raises awareness of street as part of the community*
Enforcement		X	$$	*Needs to be frequent to be effective, cameras not legal*
Parking Conversion		x	$$$	*Raises awareness of street as part of the community*
Unique Signage		X	$	*Raises awareness of street as part of the community*
Pacecar & Other Programs		X	$	*Effective in raising awareness of residents*

**Note: costs may vary substantially depending on location and design*



Examples of traffic calming measures. Left: Curb extensions or "bulb-outs." Center: Median Islands. Right: Raised Crosswalk.

Policy & Program Recommendations

The project recommendations understandably receive the most attention in many plans, but **pedestrians are benefited the most in the long term by having favorable public and private policies**. The recommendations in this section are based on a review of Dunn's policy and program environment including specific ordinance and plan language, as well as feedback from the Steering Committee and staff on existing actions.

It's important to understand that many of the design guidelines, policy directives, and standards were put into place long ago and well before a good understanding about how people wanted to move around their city was developed. Periodically re-examining standards and ordinances isn't an admission of wrong-doing before, but rather an acknowledgment that Dunn is adapting to a new vision that requires new guidance.

Program Recommendations

Dunn and other partners both external and internal to the City are able to leverage considerable energy for creating events and other actions that promote, educate, and improve the safety of its citizens. By having continuous engagements that **underscore walking as a viable, healthy, and fun mode of transportation** the enthusiasm of Dunn's residents will translate into a stronger culture of support for more infrastructure improvements, policies, and programs in a virtuous cycle. This section also discusses a number of strategies that Dunn can undertake now to **encourage a safer, more active, and healthier community of pedestrian advocates.** A bonus of these programs is that they reinforce a positive image of Dunn's government and staff as willing to put in the energy and time to make Dunn even better. The following represent updated and, in some cases, consolidated recommendations from the earlier Dunn Pedestrian Plan (2008) to reflect current conditions and public comment.



Work with Erwin to Develop a Joint Bicycle and Pedestrian Advisory Committee (BPAC). A number of similar organizations have been developed and provide good models for meeting agendas and procedures. A formalized, standing committee requires action on nominees by the City Council of both municipalities, but a joint committee can allow for sharing of staff resources and continue to strengthen connections exemplified by the Dunn-Erwin Rail-Trail. Quarterly meetings will help guide other recommendations from this plan and keep providing the plan with energy after its completion. The BPAC can formulate and even implement actions of its own, such as planning events and conducting signage or maintenance inventories. Keep NCDOT informed of the actions of the committee and invite NCDOT Division and central (IMD) staff to attend and present at meetings.

Address Crash Issues on Cumberland Street (US 421 / NC 55). Crashes have been increasing in Harnett County generally, with the top three annual crash rates occurring in the previous three years out of 20. Recent crash data for Dunn suggests that an overwhelming majority of the problematic intersections with respect to crashes occur on Cumberland Street. This fact is largely due to heavier volumes. The concentration of high-crash locations occurring on Cumberland Street warrants a **dedicated safety study** of this street from Broad Street to I-95, plus the intersection with Masonic / Red Hill Church roads. Specific redesign elements will be the focus of this study, to improve vehicular and pedestrian safety, including assessing the potential of converting the four-lane, undivided section to a three-lane cross-section.

Conduct a Dunn Walkout Event. Closing down a street on a Sunday for walkers, bicyclists, and people simply hanging out is a good way to associate positive sentiments for the pedestrian plan and the value of walking. **Work with local businesses to provide food and discounts for attendees**. Local craftspeople can prepare sidewalk chalk art in advance, and sell crafts at the event to make it unique to Dunn. The Dunn Christmas Parade on Broad Street can help serve as a model for the location and preparations; the Dunn Walkout can serve as a "bookend" event in the middle of the calendar year. Smaller events, like a monthly Weekend Walkabout, could be themed and highlight various places for walking in Dunn – involving the elderly in these campaigns is important, too.



Make a Formal Connection between Health and Walking. Eat Smart Move More is a good resource for connecting the dots between walking – even 20 minutes a day – and improving the health of Dunn's citizenry. **Eat Smart Move More** can help with resources, ideas, and the energy with local partners to create a tailored program or bolt on health practices to other events and causes. Other good partners to get involved at the outset are area hospitals as well as the Harnett Health Foundation, which are driven to promote healthier lifestyles for their patients. Make sure to connect this program with Safe Routes to School actions for younger Dunn residents.

Watch for Me NC. Run by NCDOT in partnership with local communities like Dunn, **Watch for Me NC** strives to reduce the number of pedestrians and bicyclists hit and injured in automobile crashes. The Watch for Me NC program contains many elements that can be tailored to Dunn's needs, and be an important part of the mission for the BPAC recommended previously. Some of the benefits include **improving relationships with schools as partners**, improving law enforcement, and providing an ongoing resource for developing walk-supportive policies.

Conduct a Walk (and Bike) to School Day. The key to these events is finding a great champion at the school, either a teacher or parent with the PTA. This champion can help coordinate logistics with the school, audit draft route maps, and generally "push" the program. Once one event is held, it's much easier to do it again, even monthly – although starting out on Walk to School Day held annually in October may create additional momentum for the first offering. Two resources are the national **Walk and Bike to School** website, and the **North Carolina-based Safe Routes to School** program, which also is a good launching point for identifying relevant laws and programs.

Work with One (and then more) Elementary School to Create a Bike and Walk Safety Curriculum. Since NCDOT has already done the heavy lifting with their **"Let's Go NC!"** program that has lesson plans and materials already prepared, this program is a relatively straightforward proposition once a willing school is found. Getting NCDOT Integrated Mobility Division (IMD) staff involved early is important to success, as is locating that first local school champion (public, private, charter – it doesn't matter) to get the first breakthrough into classrooms. A "hook" for school administrators is that this program has a core element that deals with safe walking behavior near / across streets and around school buses.

Conduct a Trail Clean-Up Day. Work with the **Dunn Police Athletic & Activities League**, which has conducted community events like graffiti clean-up days, to have a trail and / or park clean-up day. Organizers can invite groups of employers, school staff, government staff, boy scout / girl scout troops to compete for prizes to see who collects the most debris by weight. Corporate sponsors can cover some costs, and even turn the even into a fundraising event to support future events or charities.



Policy Recommendations

The way that a municipality treats private and public developments that have small individual but large collective impacts will have the greatest influence over walking and biking environments in the long term. This section includes suggestions for policy actions that were developed as a result of reviewing existing documents and plans, as well as understanding the directions that the staff and public suggested that Dunn move to make the most of capturing the energy of private development actions on the pedestrian network. Changes to ordinances and other public-facing policies will still undergo the same process and review as similar actions to ensure a smooth transition from general planning recommendations to specific changes. As with the Program recommendations, the following Policy recommendations incorporate updated and, in some cases, consolidated recommendations from the earlier Dunn Pedestrian Plan (2008).



Utilize the NCDOT Complete Streets Policy and resources. In 2019 a new statewide Complete Streets policy was passed that directs roadway improvements to consider and incorporate all modes of travel when designing new or improving existing infrastructure. The **Complete Streets Implementation Guide** is one of several useful tools that explain how (and when) NCDOT staff are incorporating all modes into the planning, programming, design, and maintenance processes.

Commit to a Program and Policy of Intersection Improvements. Installation and maintenance of curb ramps (ADA-accessible, as noted in the Design section of this Plan), **appropriate crosswalks, and signalization improvements** that include Lead Pedestrian Intervals (LPIs, advance signals given to pedestrians crossing at an intersection before vehicular traffic gets their green light to advance) and pedestrian-activated crossing signals must be the standard at every signalized intersection. Allocating additional general funds to tackle high-priority intersections such as those within a quarter-mile of schools is a proactive strategy that may require an update to Section 3.09 of the Engineering Design and Construction Standards that relies solely on MUTCD requirements.

Modify the Dunn Engineering Design and Construction Standards and Zoning Ordinance to Require Adequate Minimum Sidewalk Installations as Part of New Development and Major Redevelopment Actions. Require that sidewalks be a minimum of five feet in width and placed on both sides of all streets, regardless of commercial or residential land uses that the street serves.

Include Recognition of All Relevant Plans in the Dunn Engineering Design and Construction Standards. The current standards acknowledge the Dunn Pedestrian Plan as the guiding document for greenway connections, which is very good. This plan recommends modifying Section 3.12 to include compliance with parks / greenway plans for the City, as well as relevant plans for Harnett County where projects connect at the periphery of the municipality. The recommendation here incorporates construction-era modifications to the City standards and policies to notify and **provide equivalent alternative access for pedestrians during public or private construction** (refer to Section 6D for Temporary Traffic Control in the MUTCD for specific guidance).

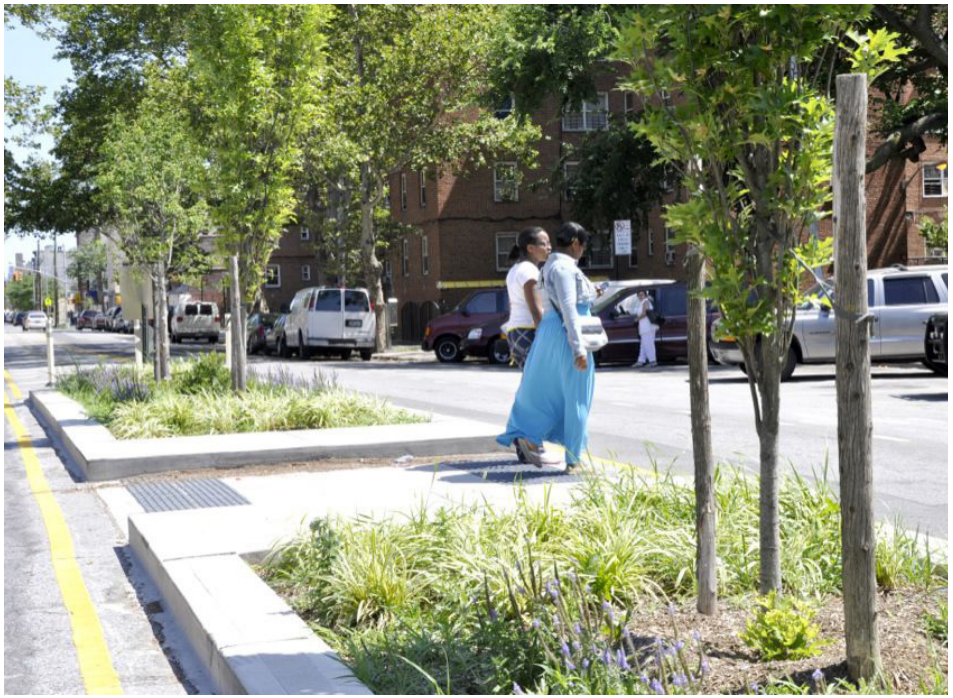
Limit Turning Speeds, Especially in Residential and Downtown Areas. Smaller curb radii facilitate shorter pedestrian crossings at intersections and help keep vehicular speeds down. The current standards suggest that a "minimum" radius of 25 to 30 feet is required. Recommend modifying this language to denote a **maximum radius of 15 feet in residential and downtown areas where speed limits are 25mph or less**, as contained in **NACTO guidelines**. Similarly, restrict the use of "slip-right" or high-speed right-turning lanes unless necessary (which is rare), and generally restrict the use of turning lanes especially in areas with high pedestrian volumes.



Private Development of Greenways and Sidewalks. Ensure that 10' (minimum) hard surface and two-foot (2') minimum clear zones are built into private site developments and plan reviews. Fee-in-lieu provisions can be established in hardship cases, but ensure that dollar amounts are sufficient to cover typically higher public sector construction costs. Second, ensure that connections between properties (cross-access) are made and that City ordinance language requiring reservation is modified to require construction (or dedication plus fee-in-lieu for construction).

Address Off-Street Parking Impacts to Pedestrian Safety and Encouragement. Parking lots should be at least 75% in the rear and sides of buildings. Cross-access and rear-access driveways are preferred to new driveway cuts on collector and arterial level streets in the front of buildings. Ensure that **at least 20% of parking can access the front / main entrance(s)** of commercial buildings either by (a) not crossing interior circulatory streets, or (b) by using high-visibility, textured, and raised pedestrian crossings leading from pedestrian "collectors" in the interior of parking lots to the front / main entranceway.

(Land) Design for Success. Review and revise City ordinances to allow for and encourage complementary uses within walking distance of each other. Ultimately, infrastructure, policies, and programs will not be successful in promoting safe pedestrian travel unless complementary land uses, including recreational uses, are within walking distance (quarter-mile to half-mile). This practice requires reviewing and modifying City zoning ordinances that exclude complementary uses within the same category, as well as careful reviews of parking requirements, pedestrian accommodations / access, and orientation and design of buildings in relationship to streets.



"Good community planning helps lay the foundation for positive growth and development."

- Dunn Area Committee of 100

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05

IMPLEMENTATION

Implementation

Following through on these recommendations will require persistence and leadership from the local community. Although local sources of funding can go a long way in achieving community aims, there are a variety of ways for the residents of Dunn to encourage walking in their community. This section outlines the organizational structure and steps necessary to successfully achieve the goals set forth by this Plan.



Broad Street sidewalk in Dunn, NC.

Implementation Plan

Completion of the Dunn Pedestrian Plan is only the first step in creating a walkable community. The implementation of the Pedestrian Plan will require a coordinated effort amongst City officials, leaders, and citizen volunteers. This section provides a series of actions steps for moving forward with the recommendations of the Plan.

1. ADOPT THIS PLAN.

Adoption of this Plan will be the first step to implementation for Dunn. Once adopted, the Plan will be forwarded to regional and state decision-makers, such as the Mid-Carolina RPO and NCDOT Division office, for inclusion in a regional planning and development processes.

2. FORM A PEDESTRIAN ADVISORY COMMITTEE.

The pedestrian planning process has engaged many citizens in visioning and goal-setting for Dunn. Building on this momentum to keep citizens engaged in a permanent committee structure will allow continued citizen involvement in the Plan's implementation. Once formed, the Committee will coordinate with the non-profits to learn more about how the organizations could support Dunn.

3. SECURE FUNDING FOR TOP-PRIORITY PROJECTS.

In order for Dunn to become a more pedestrian-friendly town, it must have the priorities and the funding available to proceed with implementation. The City will seek to secure funding for implementation of several high-priority projects and develop a long-term funding strategy. This will help reinforce the commitment to the Pedestrian Plan and reaffirm to residents that the Plan is moving forward.

4. BEGIN WORK ON TOP-PRIORITY PROJECTS.

In addition to committing local funds to high-priority projects in the Pedestrian Plan, the City will work with NCDOT on a local Safe Routes to School (SRTS) project and/or seek other state, national or private funding sources for continued, long-term success in implementing the Plan.

5. ADOPT POLICY CHANGES THAT SUPPORT THE GOALS OF THE PLAN.

Proposed ordinance changes that will be crucial to balancing the public/private burden of implementing this Plan are listed in the Policy Recommendations section of the Plan.

6. DEVELOP SUPPORTIVE EDUCATION, ENCOURAGEMENT AND ENFORCEMENT PROGRAMS.

Pedestrian facilities alone do not make a town pedestrian-friendly. A variety of programs must also be implemented to create and support a pedestrian-friendly culture. Programs and policy priorities should be implemented alongside infrastructure improvements.

7. EMBARK ON COMPLEMENTARY PLANNING EFFORTS.

The City will incorporate the recommendations of the Plan into future and existing Plans developed and updated at the local, regional and statewide level. This includes the next update of the City's Capital Improvement Plan.

Partners

Successful implementation requires the cooperation of a variety of agencies and organizations. Several of these partnerships already exist, and this Plan will build on those partnerships. Examples of these partnerships include the relationship between NCDOT, the City, and the Mid-Carolina RPO (MCRPO). Still other connections will be created by this Plan. These coalitions will likely be formed within the City of Dunn itself, as the City coordinates its efforts with local schools, athletic associations, and other community groups.

CITY OF DUNN

Dunn is responsible for implementing this Plan. Through its adoption, the City is empowered to act as a champion for pedestrian needs. The City will form a pedestrian advisory committees that serves as champions for pedestrian planning in Dunn. As champions of active transportation, committee members encourage the full implementation of this Plan. 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 is a wayfinding signage program, which has been initiated. Wayfinding signs are functional for pedestrians and enhance the sense of community and aesthetics in Dunn.

HARNETT COUNTY

Planning by the Harnett County government has a very tangible effect on the City of Dunn. The County is the primary organization governing land use planning, transportation planning, and public health initiatives within and around the city. 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.
- Prioritize pedestrian safety when updating the CTP.

NCDOT

As the administrator of the Bicycle and Pedestrian 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 will continue to provide technical assistance and consulting regarding bicycle transportation planning in Dunn. NCDOT Division 6 is responsible for construction and maintenance of bicycle and pedestrian facilities in the city. It will be the primary partner for the design and construction of recommended projects made in Chapter 4 of this Plan.

The City of Dunn must continue its coordination with IMD, regional planning partners such as the Mid-Carolina RPO, and consider additional grant opportunities (e.g., corridor feasibility studies) offered by the IMD planning program to fully realize the value of this Pedestrian 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.

MID-CAROLINA RPO

As the RPO responsible for long-range transportation planning within the region, MCRPO will integrate the multimodal transportation needs of the city into its CTP, a part of Harnett County CTP, last updated in 2017.

Opportunities to improve the bicycle environment must be capitalized on when roadways are scheduled for maintenance or construction. Many of the projects outlined in this report can be accomplished in unison with maintenance programs initiated by the RPO and funded in combination with state roadway improvement programs such as SPOT.

Integrated Mobility Division

N.C. DEPARTMENT OF TRANSPORTATION

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

Funding

When considering possible funding sources for bicycle and pedestrian projects, it is important to remember that not all construction activities or programs will be accomplished with a single funding source. It will be necessary to consider several sources of funding that together will support full project completion. Funding sources can be used for a variety of activities, including: programs, planning, design, implementation, and maintenance. This appendix outlines the most likely sources of funding from the federal, state, and local government levels as well as from the private and non-profit sectors. Note that this reflects the funding available at the time of writing. Funding amounts, cycles, and the programs themselves may change over time.

FEDERAL FUNDING SOURCES

- Surface Transportation Block Grant (STBG)
- Congestion Mitigation and Air Quality (CMAQ)
- Highway Safety Improvement Program (HSIP)
- RAISE Grants
- Recreational Trails Program (RTP)
- Safe Routes to Schools (SRTS)

STATE FUNDING SOURCES

- Strategic Transportation Investments (STI)
- Governor's Highway Safety Program (GHSP)
- Powell Bill
- Parks & Recreation Trust Fund (PARTF)
- Spot Safety Program

Surface Transportation Block Grant (STBG)

The STBG program is designed to respond to local transportation needs across all modes. Transportation Alternatives Program (TAP) funding is set aside within this program. Bike and pedestrian improvements are the most common type of project funded with TAP dollars, including sidewalks and greenways.

Within the STBG and TAP set-aside, percentages of the State's allocation are available for areas meeting certain population thresholds. Dunn will coordinate with the Mid-Carolina RPO and NCDOT to discuss opportunities to apply for STBG or TAP funding. TAP and STBG dollars are also programmed through the NC Strategic Transportation Investments (STI) formula discussed below. STBG or TAP funds can be used for all phases of a project, including design, environmental review, and construction.

Local agencies must provide a 20% local match to receive funding for a bike or pedestrian project. City staff will coordinate with NCDOT to develop cost estimates for future construction projects and options for administering federally-funded projects. Local staff will devote significant time to administering federally funded projects. NCDOT's Local Programs Management Office has more information on the steps involved with locally-administered bike and pedestrian construction projects.

https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm

Congestion Mitigation and Air Quality (CMAQ)

CMAQ funds are available to regions of the State that do not meet the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide, or particulate matter. These regions are referred to as non-attainment areas or maintenance areas (former non-attainment areas that are now in compliance). Dunn does not currently fall within a non-attainment area, and is therefore not eligible for these funds.

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) aims to reduce traffic fatalities and serious injuries on all public roads, including non-State-owned public roads. The NCDOT HSIP follows a data-driven approach to select safety projects, select design options (often referred to as "countermeasures"), and evaluate performance. NCDOT traffic engineers work with local agencies to evaluate high-crash locations as possible HSIP projects. NCDOT reviews the past 10 years of bike and pedestrian crash history at potential project sites. City staff will coordinate with NCDOT Division staff to discuss bike and pedestrian safety concerns along local or State-owned roadways. HSIP-funded bike and pedestrian improvement projects often do not require a local funding match. Common HSIP-funded project types include pedestrian hybrid beacons (PHBs), road diets, pedestrian refuge medians, and pedestrian signals at marked crosswalks.

https://safety.fhwa.dot.gov/hsip/about.cfm

RAISE Grants

The RAISE Transportation Discretionary Grants program replaced the Better Utilizing Investment to Leverage Development (BUILD) Grant, but the program remains substantially the same. Like BUILD, the RAISE program uses a competitive, merit-based selection process to award grants to state, local, and tribal agencies for projects with exceptional benefits and significant local or regional impacts. Past grant awards have included multimodal projects that enhanced pedestrian and bike networks. RAISE funds are separate from the FAST Act, and may be subject to future federal budgetary adjustments. Local agencies will monitor future announcements for RAISE grants and consult with NCDOT when considering an application.

https://www.transportation.gov/RAISEgrants

Recreational Trails Program (RTP)

The FAST Act allows a set aside to be directed toward the Recreational Trails Program (RTP). In North Carolina, the Department of Natural and Cultural Resources (DNCR) manages RTP. The NC Division of Parks and Recreation (State Trails Program) provides grant funding to local groups to acquire property or build trails. Grants are usually limited to $100,000 per community or project. RTP-funded trail projects include paved greenways and natural surface hiking trails.

https://www.ncdcr.gov/grant-audience/recreational-trails-program-rtp

Safe Routes to Schools (SRTS)

Safe Routes to School (SRTS) is an approach that promotes walking and biking to school through infrastructure improvements, enforcement, tools, safety education, and incentives to encourage walking and biking to school. SRTS initiatives improve safety and levels of physical activity for students. SRTS programs can be implemented by a department of transportation, metropolitan planning organization, local government, school district, or even a school. Infrastructure projects can only be considered Safe Routes to School projects if they are located within two miles of an elementary or middle school. Projects to improve walking and biking safety are eligible under the Transportation Alternatives Program.

https://www.transportation.gov/mission/health/Safe-Routes-to-School-Programs

Strategic Transportation Investments (STI)

STI defines the overall structure and criteria for distributing NCDOT's federal and state transportation dollars among new projects. Bicycle and Pedestrian projects are eligible within the Division Needs funding tier, meaning they compete for dollars, across all modes and with other communities in the same NCDOT Highway Division.

STI follows a data-driven scoring process for all transportation projects. Each mode has a separate scoring methodology, described by the Strategic Mobility Formula (also known as "SPOT"). The SPOT 6.0 version of the formula used to score bicycle and pedestrian projects considers the following criteria:

- Safety (15%)
- Access (10%)
- Demand (10%)
- Connectivity (10%)
- Cost Effectiveness (5%)
- Local Input (50%)

Local input is the most significant part of a project's overall score, so it is important to coordinate with the RPO and NCDOT Division 6 office. For more information about SPOT criteria, review online resources provided by NCDOT:
https://connect.ncdot.gov/projects/planning/Pages/PrioritizationResources.aspx.

Governor's Highway Safety Program

The Governor's Highway Safety Program (GHSP) offers grants for safety improvement projects for state highways in North Carolina. Projects must focus on reducing crashes, injuries, and fatalities as conditional requirements for qualifying for a potential grant. Learn more about the GHSP

https://connect.ncdot.gov/municipalities/Law-Enforcement/Pages/Law-Enforce-ment-Reporting.aspx.

Powell Bill

This program is paid to municipalities for the purposes of maintaining or constructing local streets that are the responsibility of the municipalities. Funds can be used for planning, construction, and maintenance of bikeways and sidewalks.

Parks & Recreation Trust Fund

PARTF provides grants to local governments to assist with public park and recreation projects, including trails and greenways. PARTF is administered by the NC Division of Parks who annually solicits applications from local agencies for funding. Local governments can apply to acquire land for parks and build trails or greenways for public use. A proposed project must be located on a single site. A local agency must provide a local match of at least 50% of the total cost of the project, but the appraised value of land can be donated to the local agency can be used as part of the match.

Spot Safety Program

The NCDOT Spot Safety Program constructs smaller improvement projects to address safety issues. The maximum Spot Safety funds per project is $250,000. A NCDOT committee recommends Spot Safety projects to the Board of Transportation (BOT) for approval and funding. The committee considers criteria such as the frequency and severity of crashes, levels of traffic congestion, pedestrians and school access, and local support. City staff will remain in contact with their NCDOT Division to discuss locations that may have high crash rates and other safety concerns to see if Spot Safety is a possible funding source for their bicycle and pedestrian improvement.

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