

AECOM

# Comprehensive Pedestrian Plan

April 2022

City of Eden, North Carolina



## Acknowledgements

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

## Key Partners

The City of Eden

Piedmont Triad Rural Planning Organization (PTRPO)

The North Carolina Department of Transportation (NCDOT) Division 7

NCDOT Integrated Mobility Division (IMD) (Bryan Lopez)

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Comprehensive Pedestrian Plan

City of Eden



**AECOM**

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## Executive Summary

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

### Brief History and Overview of the Community

#### *Past Planning Efforts*

The City of Eden has led multiple planning efforts that have contributed to preserving natural resources, recreational activities, and infrastructure development. The following documents were reviewed to understand land use, transportation, and the regulatory environment in the City and throughout the region:

- City of Eden Comprehensive Transportation Pedestrian Plan
- City of Eden Strategic Plan, "Positively Eden!"
- Eden Greenway Master Plan
- City of Eden Land Development Plan
- Rockingham County Comprehensive Transportation Plan (CTP)

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

#### *Purpose and Process of this Plan*

The purpose of this Plan is to evaluate the existing pedestrian conditions within Eden and recommend programmatic and infrastructure projects to improve safety, connectivity, and wellbeing. This effort was led by the NCDOT Integrated Mobility Division (IMD), AECOM as the project consultant, and a Steering Committee. The Steering Committee was formed by the City's Planning Board, representatives from the IMD, and Piedmont Triad Rural Planning Organization (PTRPO). Through the planning and development of this Plan, the Committee approved goals and objectives that guided the set of recommendations for infrastructure projects, policies, and programs. Public meetings were held for City residents and stakeholders to provide input on planning efforts, and close coordination with NCDOT Division 7 and Piedmont Triad RPO was conducted.

A vision statement was formed in collaboration with the Steering Committee for this Plan with the desired outcome of implementing pedestrian projects, policies, and programs in Eden. The importance and connection between walkability and Eden's legacy as a destination for recreation activities is underscored by the following vision statement:

## Eden Pedestrian Plan Vision Statement

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

### Key Findings and Recommendations

The planning process identified pedestrian safety and access to numerous community resources throughout the City. Existing pedestrian facilities are more concentrated in the eastern and western portions of the City and less concentrated in the mid-section and the north western portions of the City. Discussions with the steering committee and the public revealed the need and desire for pedestrian infrastructure that connects to the City's parks, including Freedom Park, and to access points along the Smith and Dan Rivers. The lack of pedestrian infrastructure throughout the community results in a challenge for the pedestrian mobility of residents and visitors alike. Infrastructure projects, policies, ordinances, and programs have been recommended to address these issues and achieve the vision of this Plan.



Photo 1. Freedom Park.

### Recommended Infrastructure Projects

The existing pedestrian conditions of Eden were analyzed and prioritized according to project corridors. Prioritization was based on stakeholder input, constraints, opportunities, safety, and connectivity. Project corridors consisting of sidewalks, crosswalks, multiuse paths, wayfinding signage, and placemaking benefits (such as blue/green infrastructure and lighting) were then recommended for each of the corridors. The corridors are listed in Table ES-1.

Table ES-1. Recommended Corridor Improvements

Project	
1	Center Church Road Corridor: Sidewalk along Center Church Rd and crosswalks at Price St, Coleman St, and S Hamilton St.
2	Lawson St Corridor: Yield roadway along Lawson St between Price St and Patterson St.
3	Washington Street Corridor: Sidewalk along Washington St intersection pedestrian improvements, including crosswalks and signals.
4	Smith River Connector Corridor: Yield roadway on River Dr at Smith River Greenway with lighting at Smith River Greenway Pavilion.
5	Stadium Drive Corridor: Sidewalk on W Stadium Dr and crosswalk over W Stadium Dr at Kennedy Ave and W Stadium Dr at Van Buren.
6	Moore St Corridor: Sidewalk connector on W Moore St and E Moore St
7	Pierce St Corridor: Sidewalk on N Pierce St and pedestrian signage and crosswalk at intersection of E Meadow Rd and N Pierce St.
8	Cox St Corridor: Cox St sidewalk around the former Eden Mall and pedestrian crossing.
9	Roosevelt Connector Corridor: Sidewalk on Summit Rd and sidewalk on Friendly Rd and Peter Hill Rd to the Ernestine Hampton Park.
10	Shopping District Connector: Sidewalk and flashing Beacon/Crosswalk on E Arbor Ln to Walmart.
11	W Arbor Ln Shopping District Corridor: Sidewalk and Crosswalk on Van Buren Rd at E Arbor/W Arbor Ln.

Project	
12	West Dan River Greenway Connector Corridor: Multiuse path on and high visibility crosswalk on west side of S Van Buren Rd.
13	E Harris Pl Corridor: Yield roadway on Hidden Valley Dr and Oleander Dr from E Harris Pl to S Van Buren Rd
14	Draper Connector Corridor: Sidewalk connector, crosswalk, and flashing beacon on Fieldcrest Rd at Edgewood Rd.
15	S Hale St Corridor: Multiuse path on S Hale St from Maryland Ave to Sharpe Ave.
16	East Dan River Greenway Connector: Sidewalk, lighting at river access point, and high visibility crosswalk over S Fieldcrest Rd.
17	Draper School Corridor: Sidewalk and pedestrian activated signal with striped crossing.
18	Mill Ave and N Rickman St Corridor: Sidewalk on the south of Mill Ave and the west side of N Rickman St between Mill Ave and Stadium Dr.
19	S Kennedy St Corridor: Sidewalk on west side of S Kennedy Ave.
20	E Harris Pl Corridor: Sidewalk on south side of E Harris Pl.
21	W Aiken Rd Corridor: Sidewalk gap closure on south side of Aiken Rd, high visibility crosswalk over Virginia St, and high visibility crosswalk over Van Buren Rd.
22	W Aiken Rd East Corridor: Sidewalk gap closure on south side of Aiken Rd.
23	S Hamilton Corridor: Sidewalk on east side of S Hamilton and high visibility crosswalk over north side of Hamilton St at Harris St.
24	N Edgewood Rd Corridor: Sidewalk on west side of N Edgewood Rd.
25	Front St Corridor: Sidewalk on Front St from Fieldcrest to Main St.
26	Hundley Dr Corridor: Sidewalk on west side of Hundley Dr.
27	Morgan Rd Corridor: Yield roadway on Victor Street and Grove St.
28	Lee St Corridor: Yield roadway on Lee St from Morgan Rd to Park Rd.
29	Boone Rd Corridor: Pedestrian signals at Boone Rd and Glovenia St.
30	New Street Corridor: Sidewalks on New Street and Georgia Ave

Nature-based and/or green infrastructure is also recommended for all large multiuse paths to address potential flooding and promote resiliency in the community. Wayfinding signage and lighting are recommended throughout Eden as a strategy for encouraging walking by making the City easier to navigate. It would also enhance the City’s brand and identity and perceptions of safety.

### *Policies and Programs*

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

A comprehensive set of recommendations for code and ordinance updates can be found in Section 4.4. This section includes a table of existing codes/ordinances and recommended amendments or updates. High-level recommendations were made to the following Articles of the City of Eden’s Unified Development Ordinance (effective 01.01.21): Article 4.- Zoning Districts; Article 6 – General Development Standards Article 7 Sign Standards; Article 8 Subdivisions & Infrastructure Standards.

This Plan also makes several programmatic recommendations to improve safety, encourage physical activity, and enhance the local aesthetics of Eden. Whereas infrastructure projects can be expensive to construct, programs are comparatively inexpensive to implement and can provide a tremendous benefit to the community. Other programmatic recommendations include safety campaigns to educate pedestrians, active transportation users and drivers, enhance safe access to schools, open street and walking events, public art, and environmental education, and enforcing existing drive laws and speed limits.

## Key Action Steps

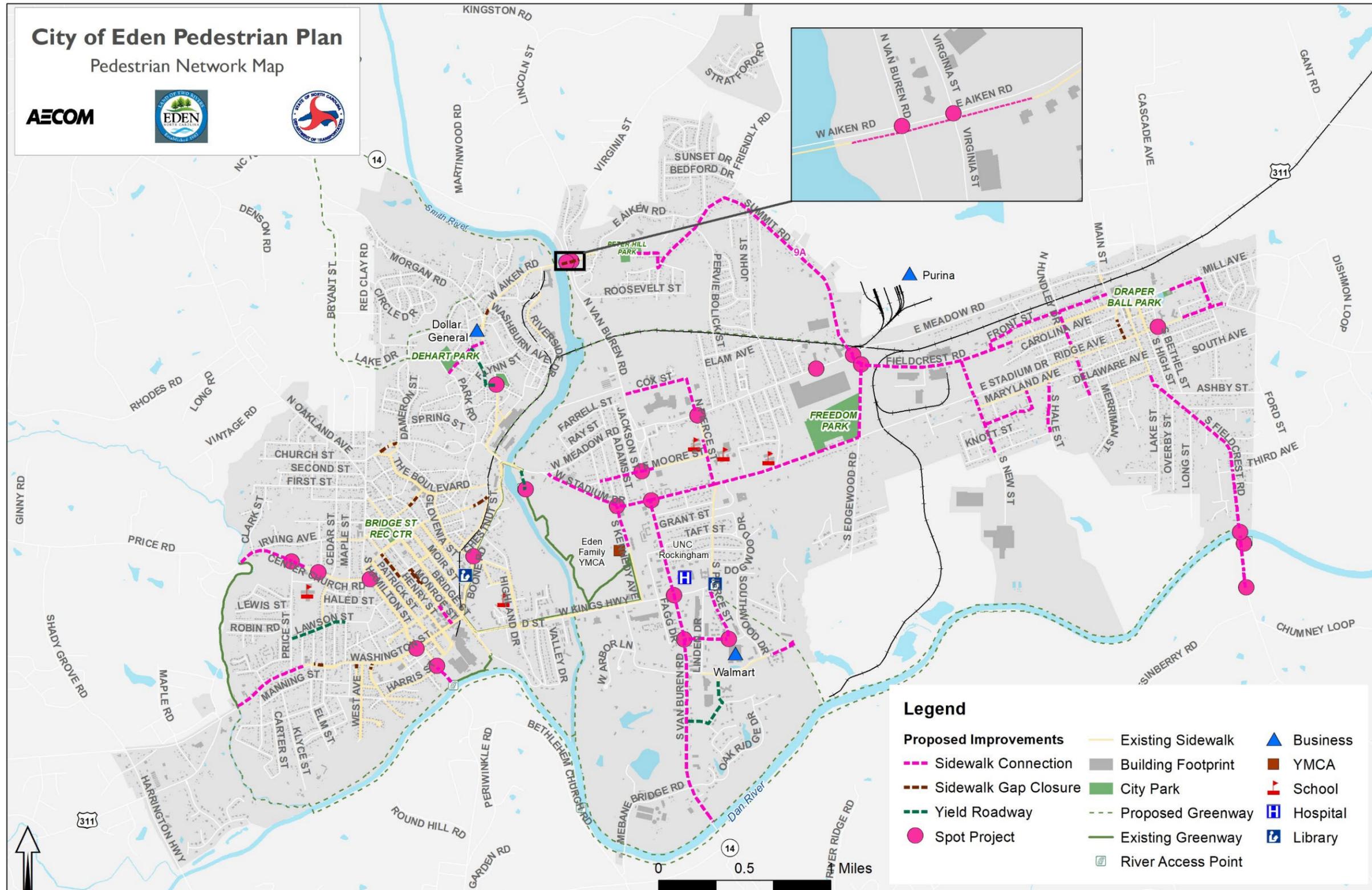
The success of this Plan depends on its implementation. The newly created Active Transportation Advisory Committee (ATAC) is entrusted with overseeing the implementation of the Plan with assistance from City Staff and participation by the stakeholders. The ATAC would be responsible for meeting regularly to receive updates and guide progress on the action steps. It would also author the annual progress update on multimodal conditions in Eden. The key action steps for accomplishing the goals and objectives of this Plan are summarized on the following page.

Table ES-2. Key Steps to Implementation

Action	Description	Stakeholder	Timeline
Adopt the Eden Comprehensive Pedestrian Plan	Present the Plan to the City Council for adoption.	City Council and City Staff	Spring 2021
Adopt an active transportation overlay district	Adopt a sidewalk overlay district to require sidewalk infrastructure be built throughout the City.	City Council and City Staff	Spring 2021
Amend Rockingham County CTP	Amend Rockingham County CTP to incorporate recommended projects from this Plan into the CTP.	City Council, City Staff, Rockingham County	Spring 2021
Create an Active Transportation Advisory Committee (ATAC)	Create an ATAC: a formal advisory committee that will be responsible for overseeing the implementation of the Plan.	City Council and City Staff	Summer 2022
Strengthen partnerships with Piedmont Triad RPO and NCDOT Division 7	Hold an initial meeting with the stakeholders to provide an overview of the Plan's recommendations and identify opportunities for collaboration.	Piedmont Triad RPO, NCDOT Division 7, and City Staff	Summer 2022/ ongoing
Apply for Watch for Me NC	Apply to participate in NCDOT's Watch for Me NC campaign to raise awareness and provide educational resources to promote bicycle and pedestrian safety to residents, drivers, and law enforcement.	ATAC and City Staff	Summer/Fall 2022/ Ongoing
Identify potential funding sources during City budget planning	Identify potential funding sources for pedestrian programs, projects, and maintenance in the City's budget such as Powell Bill funds. Begin to accumulate funds that can be used for the local match required for most projects.	ATAC, City Council, and City Staff	Summer/Fall 2022
Apply for alternative funding sources for the Plan's projects and programs	Refer to the funding sources identified in this Plan in Appendix E; apply for funds in addition to the STIP process to implement programs and projects. Establish a fund to use for local match requirements.	ATAC and City Staff	Ongoing
Include requirements for pedestrian facilities in City ordinances and policies	Draft amendments to City ordinances and policies following the recommendations of this Plan and NCDOT's Complete Street Policy for pedestrian infrastructure in existing and new development.	City Council, and City Staff	Fall/Winter 2022/2023

Action	Description	Stakeholder	Timeline
Coordinate with Active Routes to School Coordinator	Begin meeting with the Active Routes to School Coordinator to establish and develop policy for implementation and/or training or programs for local schools.	ATAC, City Staff, NCDOT, NC Division of Public Health	Winter/Spring 2023
Partner with local artists and businesses	Partner with local artists and businesses to work on placemaking projects.	Local artists, art organizations, and City Staff	Summer 2023
Prepare the Eden Comprehensive Pedestrian Plan Annual Report/Memo	Prepare the first Eden Pedestrian Plan Annual Report or memo assessing progress made over the past year using the performance and evaluation measures included in this Plan.	ATAC and City Staff	Fall 2023

Figure ES-1. Proposed Pedestrian Network



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## 1.0 Introduction and Project Overview

### 1.1 Background

The City of Eden is dedicated to improving its pedestrian infrastructure through a comprehensive planning effort. With a dedicated Planning Board, City leadership and staff, and Piedmont Triad Rural Transportation Planning Organization (RPO) support, the area is primed for multimodal improvements. The focus of the Comprehensive Pedestrian Plan (the Plan) is to define the vision and goals, outline recommendations, and identify programs and policies for implementing pedestrian infrastructure and amenities that increase multimodal connectivity, safety, and quality of life. The Plan has been funded through a matching grant from the NCDOT Integration Mobility Division (IMD) with the City of Eden providing the matching funds. The grant provides funding for local governments to develop comprehensive active transportation plans focused on active transportation infrastructure.

The City of Eden is in North Carolina's Piedmont region in Rockingham County, near the border of Virginia. The Dan River and the Smith River run on the south and west sides, respectively, of the City. With a population of 15,527 (2010 U.S. Census), Eden is the largest city in Rockingham County. The City formed in 1967 when the communities of Draper, Leaksville, unincorporated Meadows Greens Sanitary District, and Spray consolidated. Eden was known for its abundance of textile mills and manufacturing plants. The land from the City was originally part of an estate owned by a planter named William Byrd II. He called his estate "The Land of Eden". Eden celebrates its rich history, art, and river heritage on the third weekend of September with an annual River Fest. This event attracts pedestrians to the "old" Leaksville shopping district on the oldest downtown street, Washington Street.

### 1.2 Community Vision

During the first Steering Committee meeting, the members helped craft a vision statement which would apply to this Plan and the desired outcome for its implementation of pedestrian projects, policies, and programs in the City of Eden.

#### Eden Pedestrian Plan Vision Statement

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

### 1.3 Goals and Objectives

A series of goals were developed by the Plan's Steering Committee throughout the planning process. These goals form the foundation of objectives and strategies that guide the creation and implementation of the Plan while also forming a strategic framework for developing and improving pedestrian mobility in the City of Eden. In alignment with the North Carolina Statewide Bicycle and

Pedestrian Plan, *WalkBikeNC*, these goals, objectives, and strategies were developed to further encourage consistency with key state and local active transportation initiatives and programs.

Table 1-1. Plan Goals and Objectives

Eden Pedestrian Plan Goals and Objectives
<b>Improve Mobility through Pedestrian Networks</b> - Improve mobility by creating and providing safe pedestrian networks, removing barriers, and enhancing connections between residential neighborhoods and destinations such as schools, stores, houses of worship, and other institutions. Provide active transportation (bicycle and pedestrian) options to the residents of Eden.
<b>Provide Pedestrian Education</b> - Educate the community as to the benefits of pedestrian activity, applicable rules, and regulations.
<b>Promote Environmental, Public Health, and Safety Benefits of Walking</b> - Promote a safe and attractive environment through programs, policies, and partnerships: Recognize the environmental and public health benefits of walking by providing active living environments with safe, connected, accessible facilities along with programs that encourage walking.
<b>Encourage Consistent Policies and Zoning Guidelines</b> - Adopt clear policies and development guidelines in zoning and subdivision regulations consistent with the Pedestrian Master Plan.
<b>Establish a Hierarchy for Projects and Support Services</b> - Provide a hierarchy of recommended infrastructure projects and programmatic support services.
<b>Connect Community Destinations and Natural Resources</b> - Develop facilities and programs that enhance the connection between local and regional cultural sites and natural resources through pedestrian facilities such as greenways or trails. Create a network of multiuse pathways for off-road transportation and opportunities for active and passive recreation that will enhance connections between community origins and destinations such as schools, stores, and churches.

## 1.4 Purpose and Scope of the Plan

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

The scope of the Plan included the following tasks:

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

## 1.5 Benefits of a Walkable Community

Health, and the *North Carolina Pedestrian Crash Facts Summary Report* by the NCDOT IMD. There are many benefits of pedestrian planning and the resulting programs and infrastructure projects. By working to develop walkable communities, municipalities are investing in an increased sense of community through the promotion of improved health, economic resources and activity, sustainable transportation systems, and environmental consciousness. Planning and developing pedestrian facilities also create a valuable resource for future generations to use and expand upon. *WalkBikeNC*, the statewide bicycle and pedestrian plan, established a vision for North Carolina centered around five key benefits: safety, health, economic, mobility, and stewardship. The statistics and benefits discussed in this section were compiled from several sources: the *WalkBikeNC* plan, the Pedestrian and Bicycle Information Center based at the University of North Carolina Highway Safety Research Center, the National Survey of Children's

### Health



Active transportation infrastructure such as sidewalks, multiuse paths, and trails promote active living and improve health by providing residents with opportunities to exercise and integrate physical activity into their daily lives. Programs such as Active Routes to School provide education and encouragement for more physical activity. Improving health is of critical importance in North Carolina where 35.9 percent of adults are overweight, and 29.7 percent of adults are obese <sup>1</sup>. The National Survey of Children's Health found that the percentage of children classified as obese in North Carolina continually declined between 2003 and 2016. However, in 2016, 30.9 percent of the population under the age of 18 were classified as overweight and 12.6 percent were classified as obese. This indicates that the need to decrease these numbers and promote active and healthy lifestyles remains imperative in North Carolina (U.S. Census Bureau, 2016).

### Economic Competitiveness



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

### Safety



The need to improve safety for pedestrians is urgent. Between 2010 and 2019, at least 29,975 crashes between pedestrians and motor vehicles were reported by North Carolina

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<sup>1</sup> Centers for Disease Control and Prevention (2016), North Carolina State Nutrition, Physical Activity, and Obesity Profile: <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/profiles/pdfs/north-carolina-state-profile.pdf>

public safety agencies. The highest total number of crashes for the entire ten-year period occurred in 2018 with 3,390 (NCDOT IMD, 2015-2019).<sup>2</sup>



### Mobility

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



### Sustainability

Nationally, transportation is responsible for nearly 80 percent of carbon monoxide and 55 percent of nitrogen oxide emissions (U.S. Pedestrian and Bicycle Information Center, 2015). Active transportation infrastructure encourages stewardship of our natural resources by providing residents with a fossil fuel-free mode of transportation. Impacts of facilitating and encouraging bicycling and walking as a standard mode of transportation include the following: fostering an appreciation for nature and protecting natural resources, reducing fossil fuel consumption and vehicle emissions, and encouraging overall energy conservation and land use planning that promotes diverse modes of transport and mix of land uses.

While reducing vehicle miles traveled in general yields environmental benefits, shorter trips are more polluting than long trips on a per-mile basis. This is due to the high levels of emissions caused by “cold starts” and the first few minutes of travel before pollution control devices work effectively. Therefore, consolidating the number of vehicle trips is an important environmental goal (U.S. Pedestrian and Bicycle Information Center, 2015).



### Quality of Life

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

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<sup>2</sup> North Carolina Pedestrian Crash Facts, 2015-2019, NCDOT IMD: [https://www.pedbikeinfo.org/pbcat\\_nc/pdf/summary\\_ped\\_facts15-19.pdf](https://www.pedbikeinfo.org/pbcat_nc/pdf/summary_ped_facts15-19.pdf)

## 2.0 Existing Conditions

### 2.1 Demographics

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

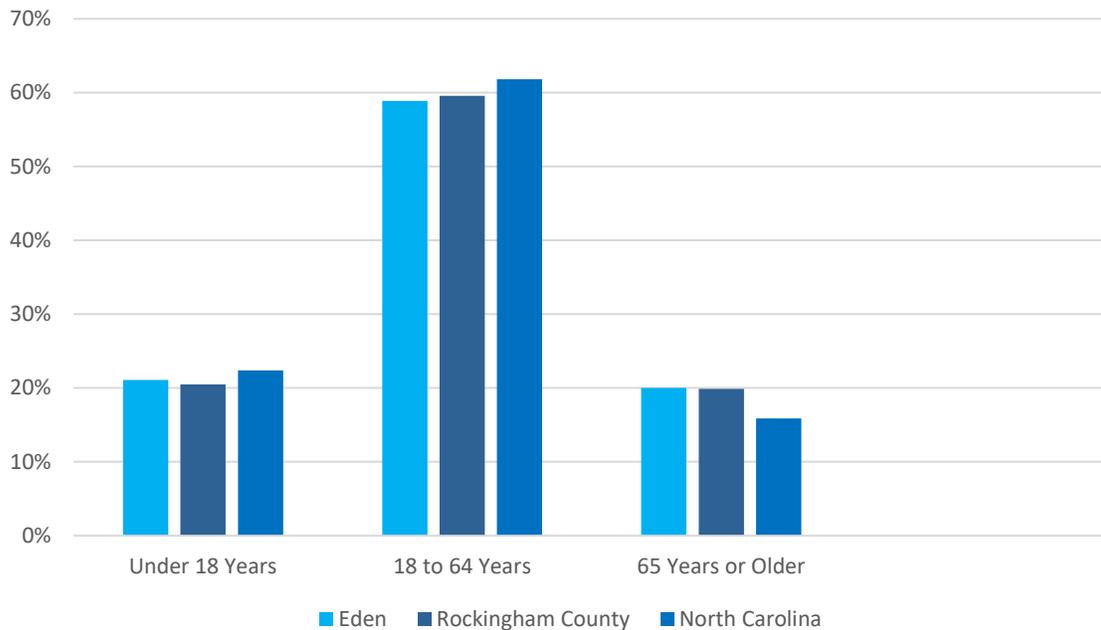
Datasets studied include the following: population, age, race characteristics, Hispanic/Latino and minority populations, poverty rates, limited English proficiency (LEP) populations, and zero car households. The demographic analysis was based on 2010 and 2020 U.S. Decennial Census data and 2015-2019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

#### Population and Age

The population of the City was 15,527 people in 2010 and 15,421 people in 2020, a slight 0.7 percent decrease. Rockingham County's population was 93,643 in 2010 and 91,096 people in 2020, a 2.7 percent decrease. The decreases seen in both the City and County are inconsistent with statewide population growth and may suggest a need for continued dedication to quality-of-life benefits, such as active transportation infrastructure, to attract both people and business to the area.

Based on 2015-2019 ACS data, the median age is 43.1 in Eden, while Rockingham County is comparable with a median age of 44.7. The state's median age is lower at 38.7 (see Figure 2-1). Improved multimodal infrastructure can help to retain or attract a more diverse population while also serving the current population in Eden who may be interested in different modes of transportation. Those populations living in the community currently can gain health benefits from pedestrian facilities, while also benefitting from a greater quality of life.

Figure 2-1. Age Group Percentages



### Race and Ethnicity

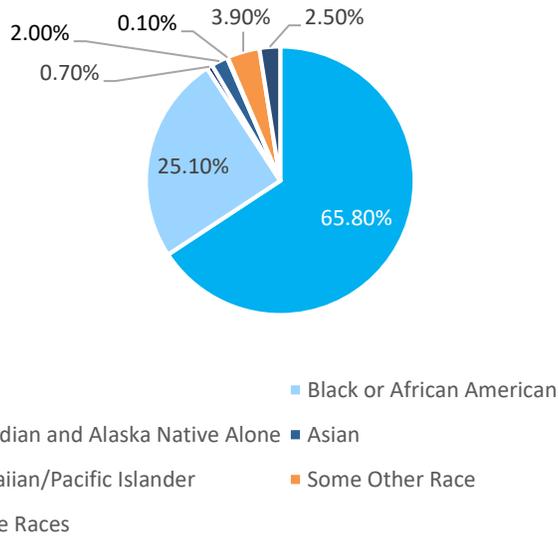
The minority population <sup>3</sup> in Eden is approximately 38.2 percent of the total population (15,055 people). The minority population for Rockingham County is slightly lower at 27.6 percent (91,077 people).

The City is predominantly white (65.8 percent), with a small percentage of Black/African American (25.1 percent), American Indian and Alaska Native Alone (0.7 percent), Asian (2.0 percent), Native Hawaiian/Pacific Islander (0.1%), some other race (3.9 percent), and two or more races (2.5 percent) (see Figure 2-2). The demographic composition for Rockingham County is predominantly white (75.4 percent) with a lower Black/African American (18.4 percent) population than the City. The remainder of its population is defined as American Indian/Alaska Native (0.5 percent), Asian (0.6 percent), Native Hawaiian/Pacific Islander (0.1 percent), some other race (2.7 percent), and two or more races (2.4 percent). In the state of North Carolina, the white (68.7 percent) and Black/African-American (21.4 percent) populations define the majority with the remainder of the population defined as American Indian (1.2 percent), Asian (2.9 percent), Hawaiian/Pacific Islander (0.1 percent), some other race (3.1 percent), or two or more races (2.7 percent).

The Hispanic/Latino population represents 9.4 percent of the population in the state of North Carolina, just above the City’s Hispanic/Latino population of 8.8 percent. Approximately six percent of Rockingham County’s population is Hispanic/Latino. Such minority and racial compositions indicate a minimally diverse composition of people living in both Eden and Rockingham County, outside of its Hispanic/Latino population which is statistically in range with the State rate.

<sup>3</sup> Calculated by subtracting White, Non-Hispanic population totals from the Total Population based on 2015-2019 ACS data.

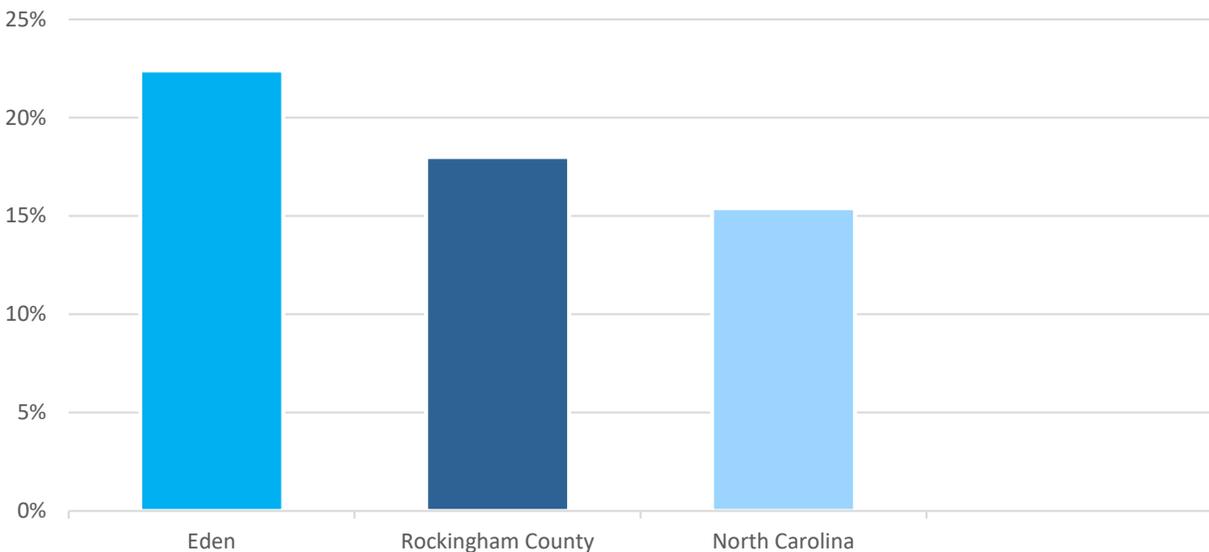
Figure 2-2. Racial Composition of Eden



### Regional Poverty Rates

Individuals living below the poverty line in Eden comprise approximately 22.6 percent of the population. This is higher than the County rate at 18.1 percent, and higher than the North Carolina poverty rate of 14.7 percent living below the poverty line (see Figure 2-3).

Figure 2-3. Poverty Rate Percentages



### Limited English Proficiency (LEP)

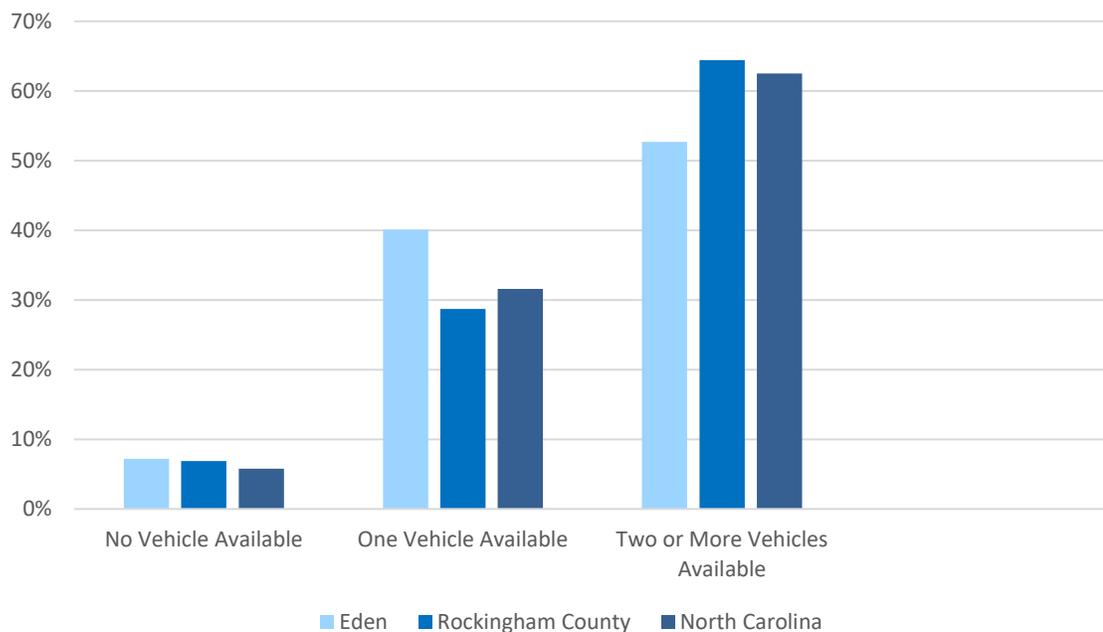
The populations in Eden that speak English “less than very well” comprise approximately 3.3 percent of adult individuals age 18 and older. Of those in this category, the predominant language spoken other than English is Spanish (3.0 percent of the adult population over 18 years of age). In Rockingham County,

LEP populations are approximately 2.2 percent. Of those that speak English “less than very well,” Spanish is also the predominant language making up 1.9 percent of the adult population over 18 years of age.

### Vehicles per Household

In the City of Eden, 7.2 percent of households have no vehicle available, 40.1 percent of households have one vehicle available, and 52.7 percent of households have two or more vehicles available. In Rockingham County, 6.9 percent of households have no vehicle available, 28.7 percent of households have one vehicle available, and 64.4 percent of households have two or more vehicles available. Statewide, 5.8 percent of households have no vehicle available, 31.6 percent of households have one vehicle available, and 62.5 percent of households have two or more vehicles available (see Figure 2-4). Active transportation infrastructure projects would particularly benefit residents that do not have access to vehicles or share vehicles within a household.

Figure 2-4. Vehicles per Household



### Means of Transportation to Work<sup>4</sup>

An overwhelming majority of Eden’s residents (89.1 percent) commute alone to work using a car. Almost 10 percent (9.5 percent) of residents’ commute by carpool, while only 0.38 percent of the population of Eden walk, bike, or use a form of public transportation to travel to work. The City’s average commute time to work is 24.6 minutes.

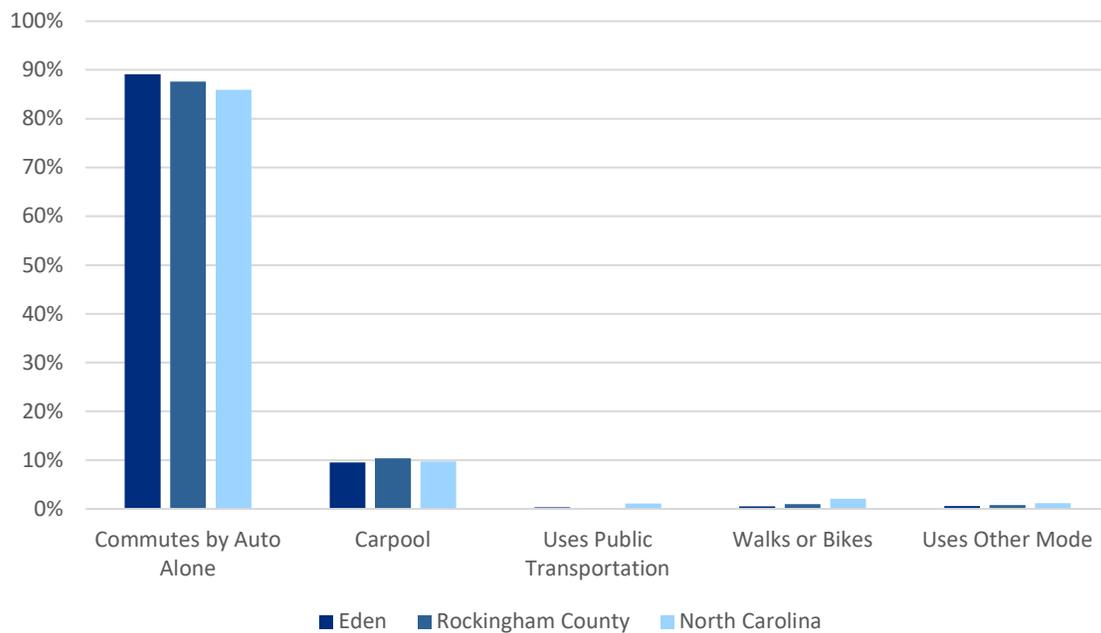
These figures are comparable to Rockingham County and the state of North Carolina, where 87.6 percent and 85.9 percent commute alone by auto, respectively. In Rockingham County, a total of 10.4 percent of workers carpool, while 9.7 percent of the state use a similar mode of transportation. In the county, 0.2 percent of the population uses public transportation, 1.0 percent commute by bike or

<sup>4</sup> NCDOT Demographic Snapshot Tool, March 2020

walking, and 0.8 percent use another mode to commute. Statewide, 1.1 percent use public transportation, 2.1 percent walk or bike to work, and 1.2 percent use another mode to commute. The County and State’s average travel time to work are 26.4 minutes and 24.8 minutes, respectively.

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

Figure 2-5. Means of Transportation to Work



## 2.2 Land Use and Development

The City of Eden is highly committed to preserving its natural resources for conservation and recreation. This is reflected through the twelve recreational facilities dispersed throughout the City’s boundaries. The City is largely zoned for residential, commercial, and industrial uses. Apartment construction in the Walmart area has recently concluded and they are currently occupied.

## 2.3 Existing Plans and Programmed Projects

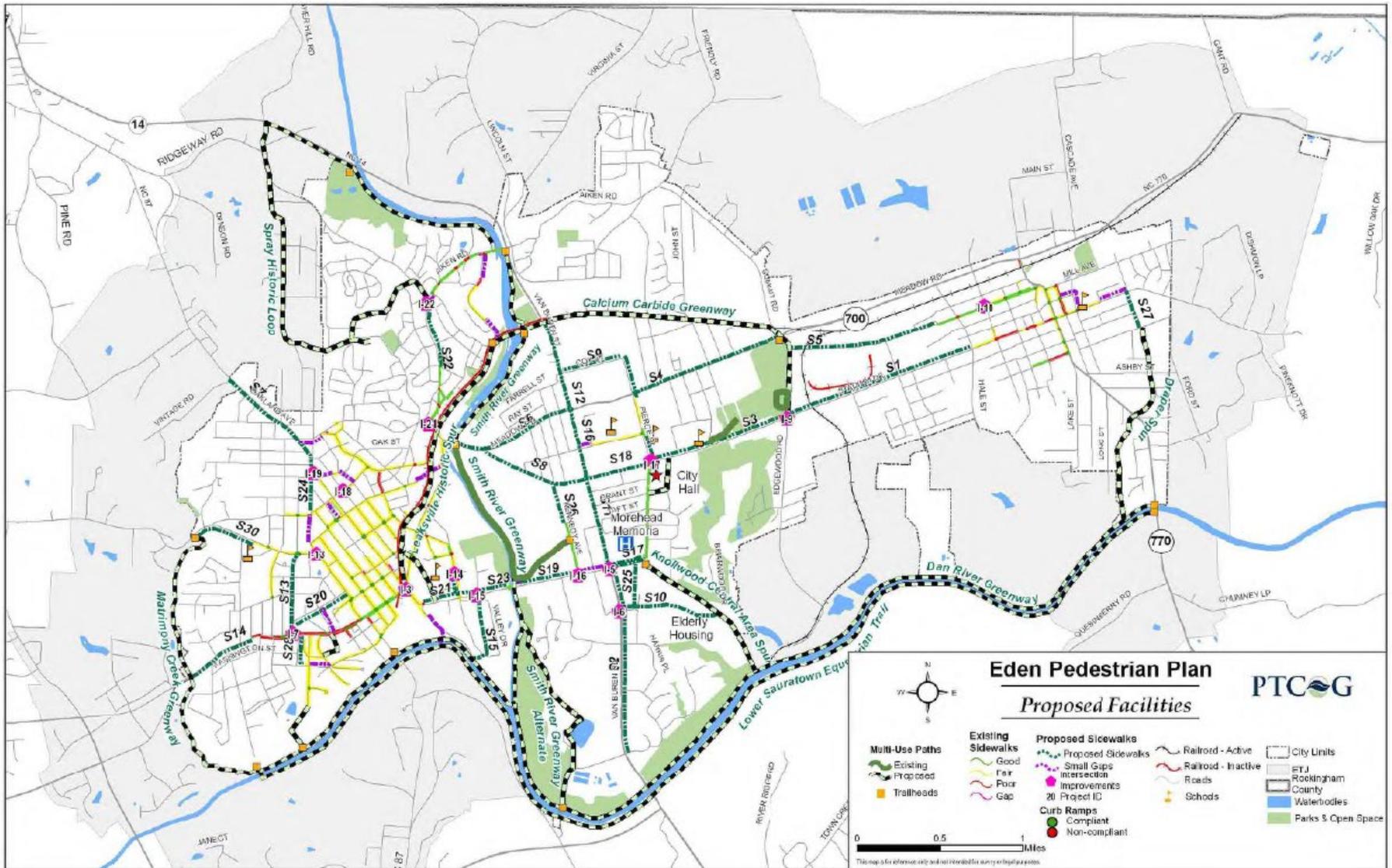
The City of Eden has multiple plans that outline the importance the City places on the development of an active transportation network. The following plans are summarized below: City of Eden Comprehensive Pedestrian Transportation Plan, Eden Strategic Plan, the Eden Greenway Master Plan, and the City of Eden Land Development Plan.

The City is currently working on the Eden 2040 Comprehensive Plan and a Unified Development Ordinance (UDO) project was adopted in October 2020 and made effective in January 2021. The Comprehensive Plan will serve as an update to the 2007 City of Eden Land Development Plan and continue progress toward strategic areas and goals identified in the Positively Eden Strategic Plan. The UDO project aims to combine existing development and land use related ordinances into a single document to codify best practices, comply with state law, and improve clarity.

## City of Eden Comprehensive Pedestrian Transportation Plan

In 2010, the City partnered with NCDOT to prepare a *Comprehensive Pedestrian Transportation Plan*. This plan built upon recent planning efforts and it established the City's initial vision for pedestrian transportation, as well as goals and strategies to improve sidewalks, multiuse paths, and roadways for the City's pedestrians. The proposed pedestrian improvements are displayed in Figure 2-6.

Figure 2-6. Proposed Pedestrian Facilities



## Eden Strategic Plan, *Positively Eden!*

*Positively Eden!* is the City's five-year strategic plan. The purpose of this plan is to provide a series of strategies that will guide investment, development, and service allocation within the community. The City collaborated with community members to devise ideas and elicit feedback on potential goals and guidelines. The City will rely on this information as a guideline to achieve its vision.

Eden values being a community that is walkable, bikeable, and accessible to all. The plan emphasizes the importance of healthy living and its ties to the built environment, as well as active transportation. To achieve this community image, the City created the following:

- Prioritize active transportation infrastructure and mixed-use development in planning and transportation projects to support walkability, bikeability, and connectivity.
- Expand and enhance trails, greenways, and parks to support active recreation opportunities.

## Eden Greenway Master Plan

Eden is home to several greenways, trails, and trail spurs that attract new businesses, residents, and eco-tourists to visit and enjoy the City's natural resources. The following uses are permitted on these three greenways: walking, jogging, bicycling, roller blading, bird watching, fishing, and hiking. According to the *Eden Greenway Master Plan (2007)*, "The destinations along the corridor and the connections that the trails provide will allow those living and visiting the City to stroll by the beautiful rivers enjoying the historic sites, shopping districts...It will truly be a walkable city that has something for everyone and, with the use of historical markers, will connect Eden's rich history with Eden's promising future." Eden's primary goal is to maintain the City's character and encourage economic growth through infrastructure revitalization projects (i.e., new greenways in downtown districts). The Plan highlights the City's desire to link the communities of Leaksville, Spray, and Draper together through active transportation networks.

## City of Eden Land Development Plan

The *Land Development Plan* was completed in 2007 and assessed impacts to land development, such as changes in communities, economic growth, and the environment. Two program recommendations that were created in this plan include the creation of an active, well-funded sidewalk improvement and expansion program and an active, well-funded multiuse path-building program. In addition, the plan notes the importance of beautifying downtown areas, such as sidewalks, developing river access sites and pedestrian-friendly commerce centers, and creating a Pedestrian Master Plan.

## Rockingham County Comprehensive Transportation Plan (CTP)

The *Rockingham County CTP* was completed in 2010 and includes a focus on existing and future pedestrian improvements for the City of Eden. Sidewalk recommendations in the CTP included sidewalks on Stadium Drive, Meadow Road, Kings Highway, Center Church Road and Washington Street.

## 2.4 Community Features

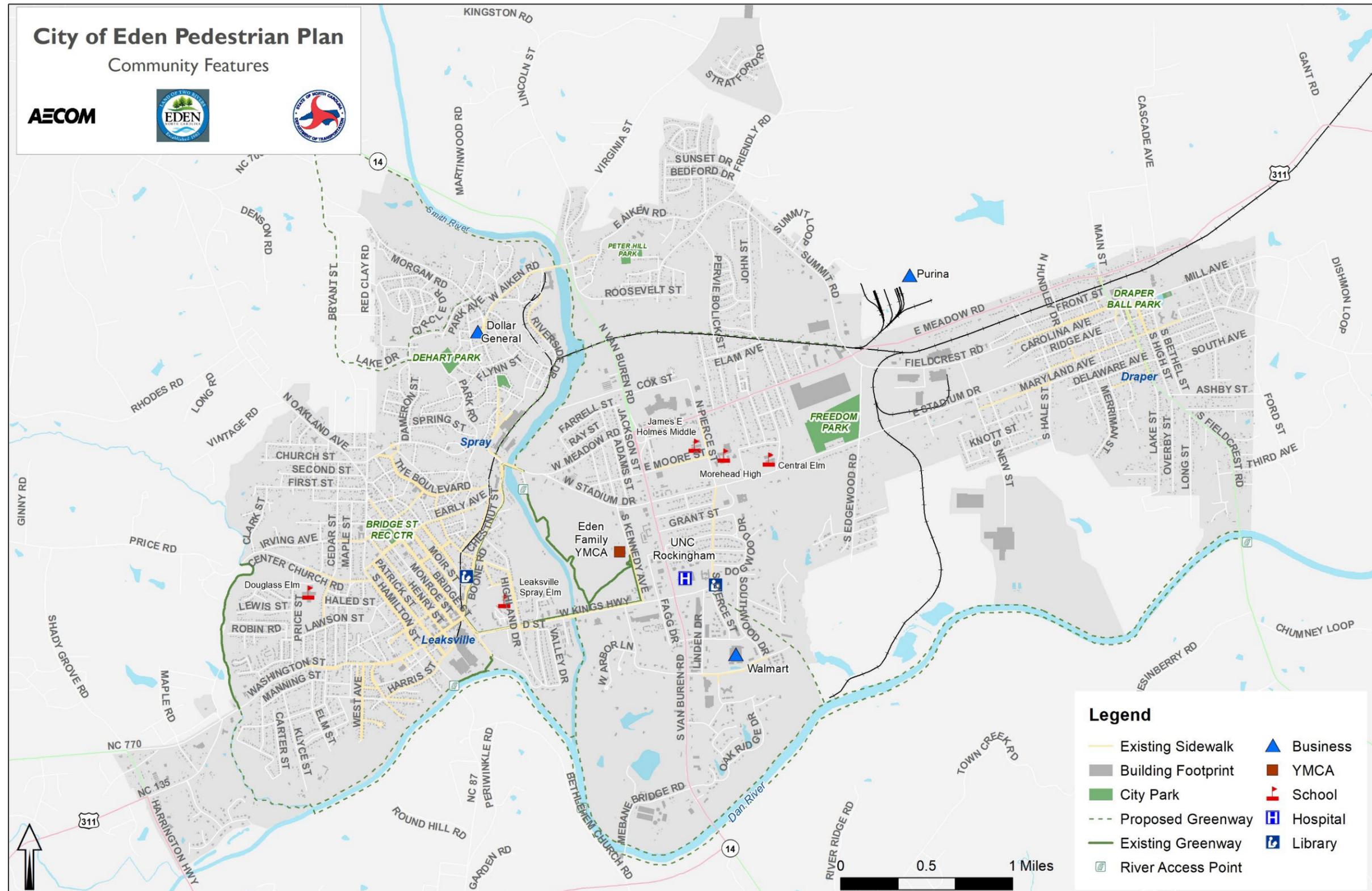
Eden has several community features that provide important services and enrich the quality of life for its residents, such as schools, libraries, and the YMCA. These features serve as potential pedestrian origins and destinations. The Steering Committee reported current pedestrian activity at the following locations: YMCA,

along Washington St, Fieldcrest Rd, and Stadium Dr, and between Douglass Elementary School, and the Matrimony Creek Greenway. By improving connectivity between these locations and Eden’s neighborhoods, residents would be more likely to walk. Important community features identified by the Steering Committee are listed in Table 2-1 and mapped on Figure 2-7. An infrastructure project’s ability to provide connectivity to these origins and destinations was one variable used to prioritize projects.

*Table 2-1. Key Community Features*

<b>Name</b>	<b>Type</b>
Downtown Eden	Geographic
Downtown Draper	Geographic
Downtown Leaksville	Geographic
Downtown Spray	Geographic
Rockingham County Public Library (two locations)	Civic
UNC Rockingham Hospital	Healthcare
James E Holmes Middle School	Education
Morehead High School	Education
Central Elementary School	Education
Leaksville Spray Elementary School	Education
Douglass Elementary School	Education
Eden Family YMCA	Recreational
Walmart	Business
Dollar General	Business
Purina	Business
Reynolds Brewery	Business

Figure 2-7. Community Features



## 2.5 Infrastructure

The City of Eden is in the piedmont region of North Carolina, at the confluence of the Smith River and the Dan River in Rockingham County. The City is located just south of the Virginia state line.

### Vulnerability to Storm Events

The state of North Carolina has recently completed its *NC Climate Science Report (2020)*, a scientific assessment of climate trends and potential future climate change across the state in accordance with the Governors Executive Order 80 (EO80). This document, along with other upcoming agency documentation, including NCDOT, outlines climate change trends and actions. According to these assessments, changes in temperature, sea level rise, storm events, and flooding are all expected to increase, causing potential significant compounding events that change the magnitude of weather and health-related risk events. Resiliency of infrastructure assets has never been more important, both for public health and safety, as well as infrastructure continuity during emergencies.

Overall, the City of Eden has been fortunate to avoid major flooding from previous storm events. However, the Lynrock Golf Club, located between the Dan River and Smith River, experienced its seventh flood since 2017. <sup>5</sup> Flooding associated with the Dan River leads to 6 to 12 inches of silt sedimentation build up on the golf course. Estimated repairs range between \$30,000 to \$50,000 to fix the course alone.

In North Carolina alone, 129,000 bridges are vulnerable to breach and/or flooding events due to being structurally deficient. <sup>6</sup> The deterioration and ultimate collapse of critical infrastructure reemphasizes the importance of designing for resilient communities. The City of Eden may benefit from considering how active transportation infrastructure can help support alternatives to mobility when large-scale infrastructure, such as bridges or dams, fail. <sup>7</sup>

### Roads

The road network in Eden is representative of the City's history of having consolidated several communities and a sewer district, each with their own distinctive road network. In the section of Eden known as Leaksville (which is located northwest of the confluence of the Smith and Dan Rivers) streets are laid out in a grid network around the downtown area, with neighborhood streets generally following straight lines. In Spray, which is north of Leaksville, streets are more curvilinear and follow ridge lines. Streets in the area that was formerly referred to as the Meadows Greens Sanitary District, which is located just to the east of the Smith River are generally more dispersed in a manner that represents a more rural pattern of development. In Draper, which is on the west side of Eden, roads follow a gridded pattern. Existing sidewalks are more prevalent in the Leaksville and Draper areas, and less prevalent in Spray and the Meadows Green Sanitary District.

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<sup>5</sup> Lynrock Golf Club Flooding Events: <https://www.wfmynews2.com/article/weather/lynrock-golf-course-flooding-dan-river/83-b88e6c76-22a1-4355-a807-f7fb349ffb44>

<sup>6</sup> Wright et al. (2012), Estimated effects of climate change on flood vulnerability of U.S. bridges: <https://link.springer.com/article/10.1007/s11027-011-9354-2>; This study found that more than 129,000 bridges were currently defined as deficient, with more than 100,000 bridges vulnerable to increased river flows.

<sup>7</sup> Association of State Dam Safety Officials, Extreme Rainfall Events: [https://damsafety.org/sites/default/files/ASDSO-LivingWithDams-ExtremeRainfallEvents-NO%202-WEBSITE\\_0.pdf](https://damsafety.org/sites/default/files/ASDSO-LivingWithDams-ExtremeRainfallEvents-NO%202-WEBSITE_0.pdf)

There are several bridges in the City, including several river crossings. The Smith River is crossed by the following three bridges in the City: W Aiken Road crosses on the William J Gordon Bridge, W Meadow Road crosses on the Island Ford Bridge and W Kings Highway crosses on an unnamed bridge. The Dan River is also crossed by the following three bridges: S Hamilton Street crosses on the Leaksville Landing Bridge; S Van Buren Road crosses on the Harry Davis Bridge, and S Fieldcrest Street crosses on an unnamed bridge. Additionally, both N Van Buren Road and E Stadium Drive are bridged over rail lines. Bridges that are due for replacement should consider pedestrian improvements in their design. There are two planned NCDOT STIP projects in Eden. Project U-5893 proposes to convert the intersection of S Van Buren Road and W Kings Highway to a divided highway. Right-of-way (ROW) acquisition is scheduled for 2024, with construction scheduled for 2026. STIP project EB-5888 will construct sidewalk along E Stadium Drive from N. Pierce Street to Edgewood Road. Construction on EB-5888 is expected to start in 2022.



*Photo 2. Freedom Park entrance sign.*

Characteristics of the road network in Eden include street name, ownership, road length, speed limit, traffic volume, right-of-way, pavement width, curb and gutter presence, existing pedestrian facilities, and constraints are summarized in Table 2-2. The City owns and maintains approximately 110 miles of roads within the Corporate Limits of the City.

Several roads lack sidewalks, as well as curb and gutter sections. The pavement widths in Table 2-2 do not include gutter pans. The speed limits vary between 35 and 45 mph in the downtown area and 25 mph on the residential streets. ROWs were estimated using aerial photography and parcel data, as well as data available in NCDOT's GIS datasets. Van Buren Road, Stadium Drive, and E Meadow Road have the widest right-of-way ranging between 60 and 150 feet which would more easily accommodate future pedestrian infrastructure. These estimates would need to be verified during the feasibility and engineering phases of future projects.

Table 2-2. Eden Pedestrian Facilities Inventory by Street

Street	Ownership	Length (miles)	Speed Limit (mph)*	Traffic (2014-2019 AADT)	Right-of-Way (feet)**	Pavement Width (without gutter pan) (feet)**	Curb/Gutter	Existing Pedestrian Facilities	Constraints
Boone Rd	NCDOT	0.95	35	5,600 (2019)	60	35	Yes	Yes	N/A
Bridge St	NCDOT	1.05	35	3,700-12,000 (2019)	60	40-50	Yes	Yes	N/A
Center Church Rd	NCDOT	0.81	35	4,800 (2017)	40	20	No	Yes	Utility poles and vegetation
Church St	NCDOT	0.97	35	1,500-4,800 (2017)	60	32	Yes	Yes	N/A
Cox St	City	0.38	35	1,400 (2016)	60	44	Yes	No	Vegetation and fencing
E Aiken Rd	NCDOT	1.07	35	3,400 (2018)	40	22	No	No	N/A
E Harris Pl	City	0.66	35	N/A	75	38	Yes	Yes	Utility poles
E Kings Hwy	NCDOT	0.22	35	7,100 (2016)	120	64	Yes	No	N/A
E Knight St	City	0.21	35	N/A	60	29	No	No	Vegetation
E Meadow Rd	NCDOT	3.44	35-45	3,900-11,000 (2019)	60-100	20-64	Yes	No	N/A
E Stadium Dr	NCDOT	4.57	35	6,000 (2019)	52	37	No	Yes	Vegetation and utility poles
Fieldcrest Rd	NCDOT	1.65	35	2,100-3,500 (2019)	55	24	Yes	Yes	Utility poles
Friendly Rd	NCDOT	0.14	35	N/A	36	22	No	No	N/A
Front St	City	0.74	35	N/A	50	25-30	Yes	No	Utility poles
Lawson St	City	0.63	25	N/A	30	20	Yes	No	Cemetery, utility poles, signage
Lee St	City	0.28	35	N/A	40	29	Yes	No	Vegetation and utility poles
Mill Ave	City	1.01	35	700 (2014)	50	20-42	No	Yes	Vegetation and utility poles
Main St	NCDOT & City	0.23	35	1,600 (2018)	60	20	Yes	Yes	N/A
Morgan Rd	NCDOT	1.73	35	3,600 (2019)	40	36	Yes	Yes	Vegetation and utility poles
N Edgewood Rd	City	0.43	35	N/A	60	20	No	No	Sloped banks, utility poles, and vegetation
N Fieldcrest Rd	NCDOT	0.22	20	2,200 (2019)	60	51	Yes	Yes	N/A
N Hundley Dr	City	0.64	35	N/A	50	25	Yes	Yes	Utility poles and signage
N Pierce St	NCDOT	0.65	25	4,500 (2019)	50	50	Yes	Yes	Signage
N Rickman St	City	0.24	35	N/A	50	34	No	No	Vegetation and utility poles
N Van Buren Rd	NCDOT	2.02	35-45	12,000 (2019)	100-150	32-60	Yes	No	N/A
Oleander Dr	City	0.35	35	N/A	60	20	No	No	Vegetation
River Dr	City	0.19	25	N/A	30	20	No	Yes	N/A
S Edgewood Rd	NCDOT	0.68	35	1,100 (2015)	60	20	No	No	N/A

S Fieldcrest Rd	NCDOT	1.35	45	3,400-4,200 (2019)	51	34	Yes	Yes	Vegetation and utility poles
S Hale St	City	0.50	25	N/A	50	21	No	Yes	Vegetation and signage
S Hamilton St	NCDOT	1.39	35	5,200 (2019)	44	37	Yes	Yes	Vegetation and utility poles
S Hundley Dr	City	0.40	35	N/A	50	26	Yes	No	Vegetation and utility poles
S Kennedy Ave	City	0.58	35	N/A	60	25	Yes	Yes	Vegetation
S New St	NCDOT	0.69	35	1,400 (2015)	50	24	No	No	N/A
S Pierce St	NCDOT	0.91	35	N/A	47	40	Yes	Yes	Vegetation and utility poles
S Van Buren Rd	NCDOT	1.94	45	18,000-26,000 (2019)	149	73	Yes	No	Utility poles
Summit Rd	NCDOT	1.23	35	3,300 (2019)	60	22	No	No	N/A
Virginia St	NCDOT	0.43	35	3,300 (2019)	60	24	No	No	N/A
W Aiken Rd	NCDOT	0.62	35	3,400 (2018)	52	36	Yes	Yes	N/A
W Arbor Ln	City	0.48	35	N/A	60	20	No	No	Ditches
W Fieldcrest Rd	NCDOT	1.65	35	2,100-3,500 (2019)	60-100	24-36	Yes	Yes	N/A
W Harris Pl	City	0.31	35	N/A	60	20	No	Yes	Vegetation
W Kings Hwy	NCDOT	1.16	45	15,500 (2019)	120	64-76	Yes	Yes	N/A
W Meadow Rd	NCDOT	0.84	35	9,100 (2019)	60-100	28-53	Yes	No	N/A
W Moore St	City	0.35	35	N/A	50	19	No	No	Mailboxes, drainage ditches, and signage
W Stadium Dr	NCDOT	0.70	35	5,800 (2016)	101	45	Yes	No	Utility poles and signage
Washington St	NCDOT	1.49	35	8,200 (2019)	53.9	44.6	Yes	Yes	Utility poles and vegetation

Note(s):

\*Unless otherwise posted, contact the City Clerk's office to find speed limits and other traffic regulations for specific streets.

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

## Railroads

Norfolk Southern has several active rail lines that traverse the City and service local industries. A rail line follows US 311/Meadow Road and provides service to the former MillerCoors plant/future Purina factory. A spur also provides services to several industries along Eden Street and Commerce Drive, as well as Duke Energy's Dan River Steam Station on Edgewood Road.

There are several at grade railroad crossings in Eden:

- N Main Street
- N Hundley Drive
- N Hale Street
- E Meadow Road
- Summit Road
- Walter Chambers Street
- Pervie Bolick Street
- Fieldcrest Road

## Public Transportation

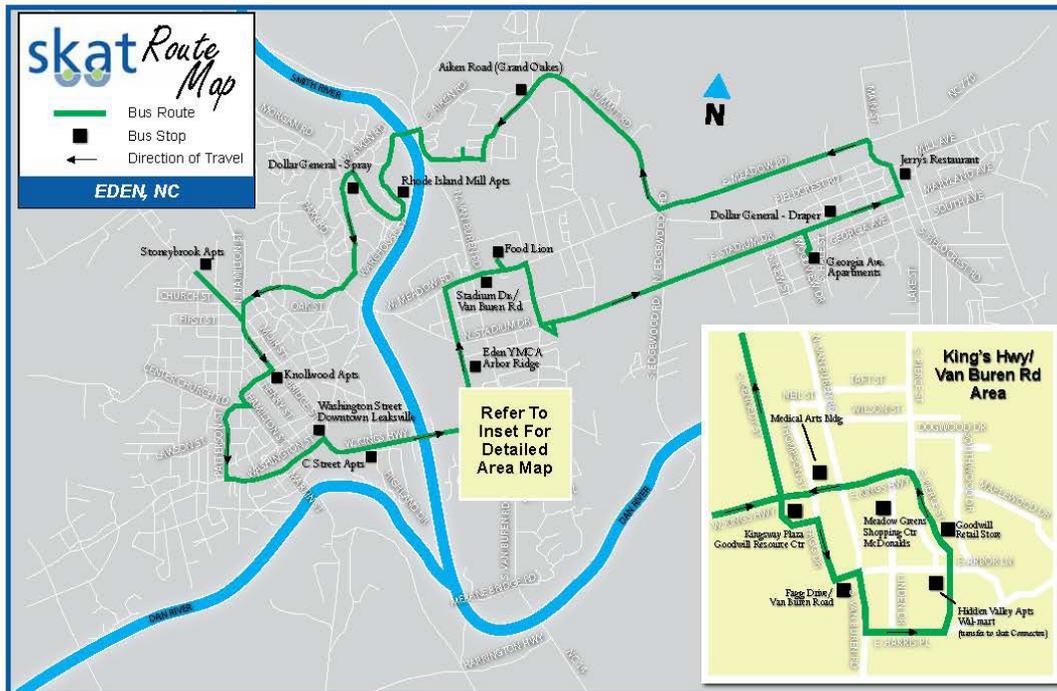
Skat is a community bus service operated by Aging, Disability and Transit Services of Rockingham County.<sup>8</sup> It serves popular destinations in Eden, Reidsville, Wentworth, and Western Rockingham (see Figure 2-8). In Eden, some of the primary stops are at the YMCA, Goodwill, Kingsway Plaza, Meadow Greens Shopping Center, and Walmart. The program was headed by NCDOT with a \$300,000 grant. Skat buses can accommodate 18 passengers and contain two wheelchair stations. The buses typically run between 7:00 AM and 8:00 PM every day except on Sunday. Fares are \$1.00 per ride with various packages available if passengers want to buy bundles of passes. Although public transportation services are limited, as they expand, they will depend on a pedestrian network for transit riders to safely access transit stops. A connected pedestrian network would support future expansion in public transportation by providing safer access to transit stops on streets and sidewalks. Good pedestrian design should take all users into account. For example, if Skat's services were to have a single stop located within the City, ADA accommodations for wheelchair users should be considered in the design of a new sidewalk.<sup>9</sup>

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<sup>8</sup> Skat Bus System: <http://www.rideskat.org/>

<sup>9</sup> FHWA, Pedestrian Safety Guide for Transit Agencies: [https://safety.fhwa.dot.gov/ped\\_bike/ped\\_transit/ped\\_transguide/ch3.cfm](https://safety.fhwa.dot.gov/ped_bike/ped_transit/ped_transguide/ch3.cfm)

Figure 2-8. Skat Route Map



## Utilities

Utilities are an important consideration for pedestrian planning. Moving or replacing existing utilities to make room for new pedestrian infrastructure can be costly and, in some cases, cost prohibitive. Table 2-3 lists where above-ground utilities become barriers to pedestrian improvements. Often, sidewalks and multiuse paths are located on the side of the road where utilities are not present. The exact location of utilities would need to be surveyed during the engineering phase of each project. Coordination would need to occur with utility providers before construction.

Table 2-3. Utilities

Utility	Provider	Location
Natural Gas	Piedmont Natural Gas	Below Ground
Electricity	Duke Energy	Above and Below ground
Telephone/TV/Internet	Spectrum (Time Warner Cable-Charter)	Below ground
Water/Sewer	City of Eden	Below ground

Utility corridor easements may provide opportunities for potential private and public off-road trails and greenways. As noted in the *Eden Greenway Master Plan*, there are utility easements owned by Duke Energy along W Stadium Drive and could become potential route connectors to the proposed Smith River Greenway. In addition, the plan notes that the City has considered transforming an abandoned rail line west of Purina into a trail.

## 2.6 Existing Pedestrian Facilities

Eden has approximately 27 miles of existing sidewalk within the City limits which are shown in Figure 2-9 and described in Appendix C. While there are sidewalks throughout the City, they are more prevalent in the areas known as Leaksville and Draper, and less prevalent in Spray and the Meadows Green Sanitary District. Sidewalk widths range from as narrow as 2-3 feet on roads such as Chestnut Street and McConnell Avenue to 7 feet wide sections along Washington Street in the Leaksville area.

The City also has several greenways and trails that are described below. The Smith River Greenway is the longest primary trail at 1.36 miles, followed by the Matrimony Creek Greenway at 1.18 miles, and the Dan River Nature Trail at 0.31 miles.

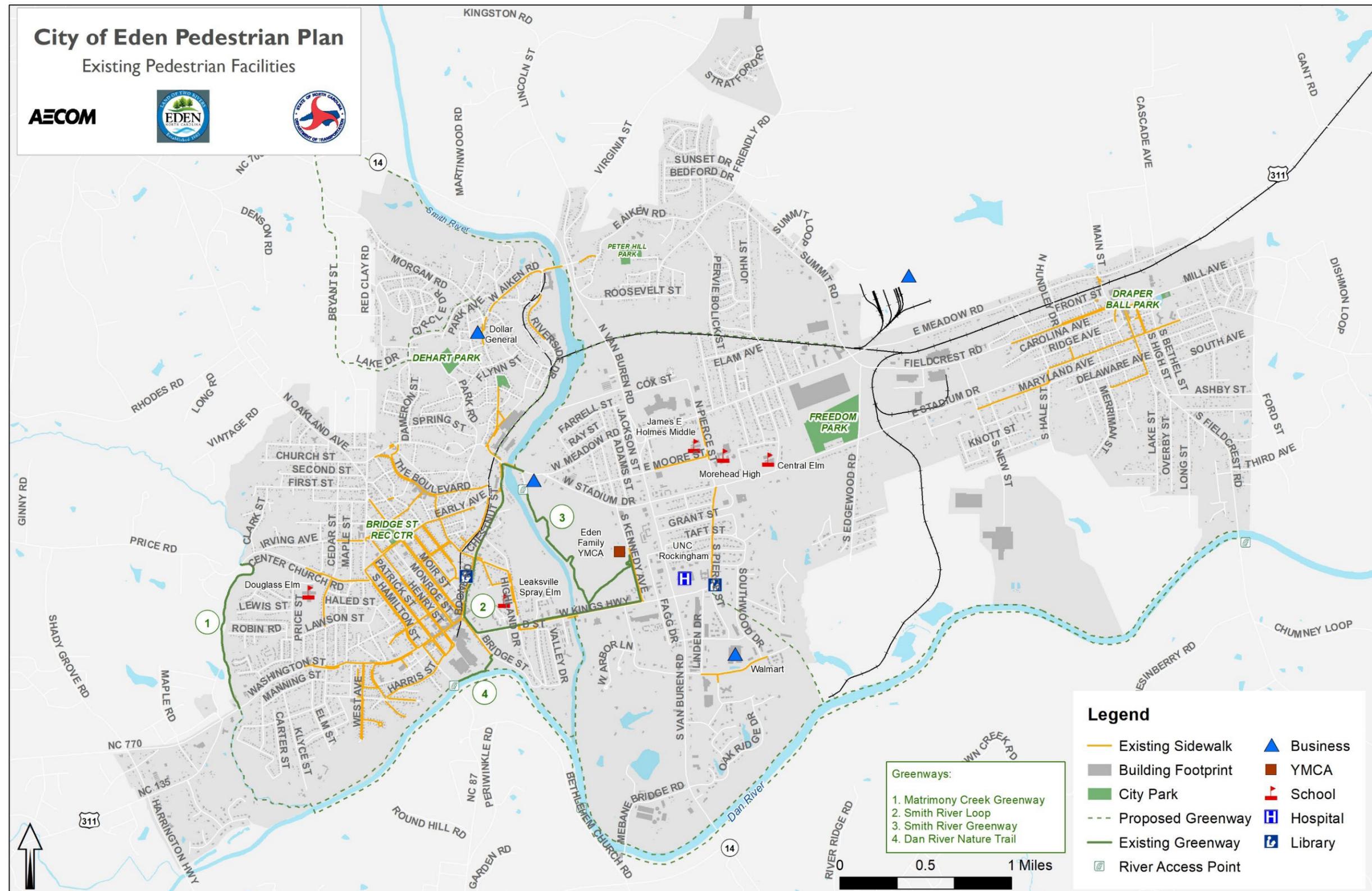
- The Smith River Greenway starts at the Eden Family YMCA on Kennedy Avenue and ends at the Island Ford Landing on River Drive.
- The Smith River Loop connects the ends of the Smith River Greenway to form a loop using surface streets W Meadow Road, Boone Road, Bridge Street, W Kings Highway, and S Kennedy Avenue.
- The Matrimony Creek Greenway follows Matrimony Creek from Washington Street to Center Church Road
- The Dan River Nature Trail starts at Leaksville Landing on S. Hamilton Street and follows the Dan River to Bridge Street.



Photo 3. Trailhead for the Dan River Nature Trail.

A community preference survey conducted during the formation of the *Greenway Master Plan* revealed that respondents had personal safety concerns, as well as concerns for trail clearing, and a need for surveillance. Lighting improvements could be one type of project recommendation to mitigate safety concerns for residents utilizing the trails. Additionally, the survey noted that senior citizens typically only walk on the paved walking track at the YMCA and around the Old Eden Mall. The expansion of the paved multiuse infrastructure within the City could help better serve an aging population.

Figure 2-9. Existing Pedestrian Facilities



## 2.7 Pedestrian and Vehicular Traffic Counts and Crash Data

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

### Pedestrian Activity

The Steering Committee noted unsafe pedestrian activity at the crosswalk on Boone Road at Glovenia Street. Vehicles speed over the hill on Boone Road, making the pedestrian crossing for adults and children very dangerous. The Steering Committee also noted that pedestrians have a difficult time reaching the downtown area from the Dan River Trail.

### NCDOT Annual Average Daily Traffic Counts

NCDOT average annual daily traffic (AADT) counts are the highest along N and S Van Buren Road, with S Van Buren having a high of 26,000 vehicles per day as of 2019 (see table 2-2 for available traffic counts). Traffic counts are also high along Kings Hwy and portions of Bridge Street and E Meadow Road. AADT for the City roads is not available; however, traffic along these roadways is largely residential.

### Crash Data

The NCDOT IMD in collaboration with local law enforcement departments developed a dataset for all reported crashes involving pedestrians and/or bicyclists within the state between the years of 2007 and 2019. According to this dataset, there have been 82 total pedestrian crashes between 2007 and 2019. Thirty-two crashes were non-roadway incidents and the remaining 50 crashes occurred on a roadway. The data suggests that pedestrian crashes commonly occur between the UNC Rockingham Hospital and Walmart, as well as on Washington Street. Crash data was one variable used to determine the location of the proposed projects in this Plan.

The Steering Committee also noted safety concerns regarding pedestrian activity near the schools and at greenway trailhead entrances throughout the City. There is also concern about visitors and residents crossing Washington Street due to a lack of crosswalks and sidewalk gaps.

## 2.8 Existing Pedestrian Programs

There are several existing events and programs within the City of Eden that promote and encourage walking. Examples include, but are not limited to outdoor events, enforcement programs, walking encouragement and promotions, traffic calming, and maintenance programs. Planning for future pedestrian infrastructure in Eden will increase the number of walking facilities within the City and improve the health of residents and visitors seeking to explore Eden.

### Small Town – Big Outdoors Promotion

The City of Eden offers several outdoor festivals and events that promote walking in Downtown Eden. Scheduled events include pottery sales, nature trails, dancing, WinterFest, and RiverFest.

RiverFest is an annual event that takes place in the Historic Leaksville area. The event encourages walking around Eden’s oldest downtown area, dating back to 1797. The purpose of the event is to celebrate Eden’s local art, history, and connection to its rivers. Below is a flyer promoting the event. Bridging the gaps in Eden’s sidewalk network will make it easier for residents and visitors to walk to outdoor events and local merchants located in Downtown Eden.



### Enforcement Programs

There are several schools within Edén that employ crossing guards to improve safety for children and parents walking to and from school. Additionally, officers help direct automobile traffic during school dismissal times.

### Encouragement and Promotions

UNC Rockingham Hospital, the YMCA, and several local churches in the City sponsor health and wellness programs within the community. The YMCA property contains a walking track, and educational awareness programs are hosted by the hospital. A pedestrian safety course sponsored by the Governor’s Traffic Safety committee is taught to K-2 students in the Rockingham County school system.

## Traffic Calming

In 2006, Eden established its first traffic calming program. The purpose of the program is to establish a reporting process on traffic issues, like speeding. Forms and petitions must be submitted to the City to be considered for traffic calming measures. If the petition results are successful, the City may initiate traffic volume studies for automobiles, pedestrians, and bicycles. Some studies may not result in physical changes, such as traffic circles or bulbouts, but all studies will conclude with educational and enforcement programs on speeding.

## Maintenance Programs

Periodically, the City completes a sidewalk maintenance review to document deficiencies such as cracks and uneven surfaces. The Street Superintendent uses information from a visual survey to determine a replacement schedule for the sidewalks. The sidewalk replacement list is updated annually and is hosted on the City's website. The sidewalk replacement list is prioritized to allocate appropriate funding.

## 2.9 Opportunities and Constraints

In partnership with the Steering Committee, opportunities for improving pedestrian mobility and safety were identified, as well as constraints to overcome in order to transform Eden into a more walkable community. The combination of Eden's relatively small size and close proximity of community features and resources create opportunities for developing pedestrian infrastructure that will greatly improve connectivity within the City. Constructing new pedestrian facilities will enable residents and tourists to explore and experience the small city charm of Eden, while also providing economic benefits to local businesses.

### Opportunities

The following existing conditions of the roadway network within Eden present many opportunities for developing a well-connected network of pedestrian infrastructure. Constraints in the network are also listed below.

1. The commercial corridor along Van Buren Road between Meadow Road and the Dan River is compact and suitable for sidewalks, enhancing the economic growth and investment in the City.
2. Many of the roadways have room for the addition of pedestrian facilities within the existing ROW.
3. The City has an existing sidewalk network where connections in gaps will strengthen the network.
4. Strategically selected pedestrian infrastructure projects could significantly enhance the connectivity and walkability of the City given that a few key roadways provide most of the connectivity for Eden and connect to smaller, lower trafficked streets that reach residential areas.
5. The proximity of local resources and shops along key roadways provides the opportunity for Eden to be a "park once" community, thereby reducing automobile dependence.
6. Future development around Walmart and north of U.S. Highway 311 will provide opportunities for new active transportation infrastructure, just as infrastructure can help induce growth.
7. Ample recreational areas, and connectivity between them, provide key destinations primed for improved active transportation assets both within the City and to regional assets.

## Constraints

1. A lack of existing active transportation infrastructure, particularly sidewalks, that do not form a connected network and result in unsafe conditions for pedestrians.
2. Unsafe intersections for accessing key destinations and recreational facilities, such as the YMCA or local greenways.
3. Existing infrastructure does not incorporate climate adaptation techniques that could mitigate impacts of potential, future flooding or weather events and should be incorporated in future policies and infrastructure designs.
4. Roadway ownership may prove complicated in obtaining funding for active transportation projects.
5. ROW challenges increase engineering and construction costs of active transportation infrastructure.

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## 3.0 Public Involvement

### 3.1 Steering Committee

The Steering Committee that guided this Plan was formed out of the existing Planning Board (Table 3-1). The committee met three times throughout the planning process to help shape the Plan by identifying goals and objectives, identifying pedestrian constraints and opportunities, and prioritizing proposed projects.

The first Steering Committee meeting took place on February 10, 2021 virtually. During this meeting, the group chose a vision statement for the Plan and discussed issues the community is facing with regards to pedestrian infrastructure. Members focused on developing a vision and set of goals for the Plan. The committee collaborated during a working session to define pedestrian origins, destinations, activity, and areas of concern. These areas of concern were used to start thinking about potential projects, policies, or programs. The committee discussed focusing on connectivity, safety, and implementable projects.

The second Steering Committee meeting was held virtually on March 30, 2021. Sample projects, policies, and programs were presented to the committee in preparation for a working session. The working session captured committee input on pedestrian infrastructure projects, as well as relevant policies or programs. Specifically, focus was placed on linear facilities and spot improvements, connections and gaps in pedestrian infrastructure, and amenities. The feedback gathered during this meeting was used to develop preliminary recommendations.

The third Steering Committee meeting took place on May 25, 2021. The meeting reviewed the status and timeline of the project and was used primarily as a working session. Draft projects, programs, and policies were presented to the committee via video conference and discussed, at-length, to capture any edits, updates, or refinements by the committee. This was an opportunity for the Steering Committee to provide their final input prior to release of the draft Plan. Input was captured as notes and used to finalize proposed recommendations.

Table 3-1. Steering Committee

Steering Committee Members	
Eddie R. Barker, Steering Committee	Frank Wyatt, Steering Committee
Gwen Taylor, Steering Committee	Carol Helms, Steering Committee
Barbara Garland, Steering Committee	Steve Morgan, Steering Committee
Fred Ramsey, Steering Committee	Matthew W. Smith, Steering Committee
Amelia Dallas, Steering Committee	Jerry W. Holland, Jr., Steering Committee

### 3.2 Public Meetings

The first public meeting was held virtually on March 30, 2021, immediately following the second Steering Committee Meeting. The consultant team was prepared to present a brief PowerPoint presentation to the public explaining the goals of the project. This was to be followed by a mapping exercise where they would place dots on the maps to indicate areas with high pedestrian activity, areas of concern, and locations for potential projects. There were no attendees at the first public meeting.

The second public meeting was held on August 19, 2021 at City Hall. The purpose of these meetings was to discuss the planning process and present project highlights from the Plan. Maps displaying the recommended projects were reviewed during this meeting. A copy of all meeting materials is provided in Appendix A.

### 3.3 Community Survey

A survey was made available to Eden residents in July 2021 to gather local information and feedback about proposed projects, policies, and programs that were developed during the planning process. The survey was made available online through Survey Monkey and on paper. The online survey was distributed by the City to partners and businesses. Information from the survey has been included in this Plan’s recommendations. The following sections summarize the key findings from the 15 survey responses submitted. See survey questions and additional materials in Appendix B.

#### Survey Findings

Survey respondents were asked to mark their top 10 projects. The results are listed below in Table 3-2. The top three projects include the Draper Connector Corridor, the Washington Street Corridor, and the Draper School Corridor. Several projects tied with six votes each.

Table 3-2. Top Projects Ranked

Number of Votes	Pedestrian Project
11	Draper Connector Corridor (14A-14C): Sidewalk connector, crosswalk, and flashing beacon.
10	Washington St Corridor (3A-3C): Sidewalk along Washington St intersection pedestrian improvements, including crosswalks and signals.
10	Draper School Corridor (17A): Sidewalk and pedestrian activated signal with striped crossing.
9	Stadium Dr Corridor (5A-5E): Sidewalk on W Stadium Dr and crosswalk over W Stadium Dr at Kennedy Ave. and W Stadium Dr at Van Buren.
7	Center Church Road Corridor (1A-1D): Sidewalk along Center Church Road and crosswalks at Price St, Coleman St, and S Hamilton St.
7	Mill Ave and N Rickman St Corridor (18A-18B): Sidewalk on the south of Mill Ave and the west side of N Rickman St between Mill Ave and Stadium Dr.
7	Boone Rd Corridor (29A): Pedestrian signals at Boone Rd and Glovenia St.
6	Smith River Connector Corridor (4A-4B): Yield roadway on River Dr at Smith River Greenway with lighting at Smith River Greenway Pavilion.
6	Shopping District Connector (10A): Sidewalk and flashing Beacon/Crosswalk on E Arbor Ln to Walmart.
6	West Dan River Greenway Connector Corridor (12A-12D): Multiuse path on and high visibility crosswalk on west side of S Van Buren Rd.
6	East Dan River Greenway Connector (16A-16E): Sidewalk, lighting at river access point, and high visibility crosswalk over S Fieldcrest Rd.
6	S Hamilton St Corridor (23A-23B): Sidewalk on east side of S Hamilton and high visibility crosswalk over north side of Hamilton St.
6	N Edgewood Rd Corridor (24A): Sidewalk on west side of N Edgewood Rd.

The second survey question asked respondents to select their top 5 policies. The top three ranked policies include the following:

- Signage that provides wayfinding for active transportation users should be required on construction of all active transportation corridors, including greenways, shared use paths, bicycle facilities, and sidewalks.
- Amend Sidewalk Standards to include “active transportation including sidewalks and multiuse facilities” and ADA compliance.

- Amend existing sidewalk subsections to require sidewalks on both sides of the street to provide increased pedestrian safety and improved connectivity.

The remaining policies are listed below in Table 3-3.

Table 3-3. Top Ranked Policies

Number of Votes	Policy
13	Signage that provides wayfinding for active transportation users should be required on construction of all active transportation corridors, including greenways, shared use paths, bicycle facilities, and sidewalks.
12	Amend Sidewalk Standards to include “active transportation including sidewalks and multiuse facilities” and ADA compliance.
10	Amend existing sidewalk subsections to require sidewalks on both sides of the street to provide increased pedestrian safety and improved connectivity.
8	Open Space Standards: Reassess requirements in UDO to require open space for all zoning districts except OS in order to enhance the present or potential value of maintaining or enhancing the conservation, natural habitat, natural or scenic values of open space; or any undeveloped or predominately undeveloped land that has value for one or more of the following purposes.
7	Create an Active Transportation Overlay Zoning District along all linear corridors.
7	Amend zoning standard to require parking lots to be located behind or adjacent to future developments to provide safer entrance for pedestrians accessing the business.
7	Amend Sidewalk Standards to include new sub section that when an existing sidewalk or multiuse path is closed for construction or maintenance reasons – on the walkway itself or on adjacent property – an adequate detour route should be established and signed, if feasible.
7	Subdivision and Infrastructure Standards: Add new objective to Section D. to require hybrid green/nature-based infrastructure and stormwater infiltration, conveyance, and storage improvements be included on all public facilities, infrastructure and utilities including roadway upgrades to help mitigate impacts from stormwater and nuisance flooding.

The third survey question asked respondents to select their top five programs. The top policies are listed below. The top three policies include the following:

- Incorporate signage policies that provide way finding for pedestrians.
- Enhance safe access to school through the Safe Routes to School or other programs.
- Start open streets events after a recommended project is constructed. An example may include access to the Dan River during the Fall RiverFest.

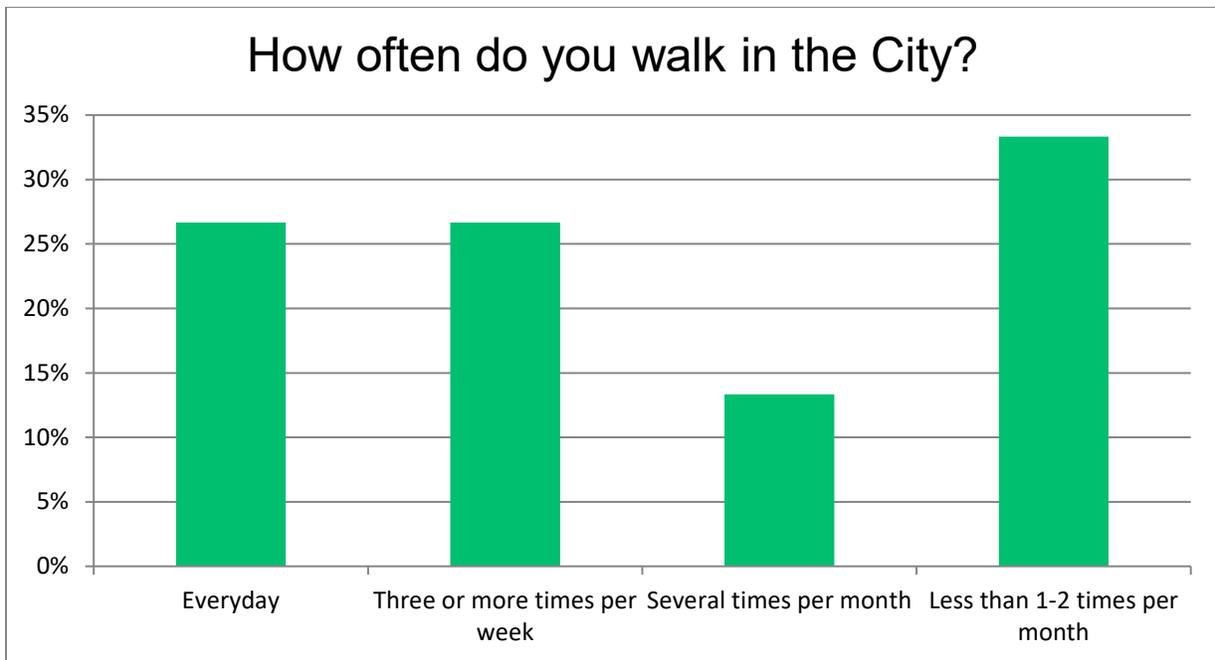
Table 3-4. Top Ranked Programs

Number of Votes	Program
12	Incorporate signage policies that provide way finding for pedestrians.
10	Enhance safe access to school through the Safe Routes to School or other programs.
9	Start open streets events after a recommended project is constructed. An example may include access to the Dan River during the Fall RiverFest.
8	Update local ordinances and/or the zoning standards and land use policies to include pedestrian specific facilities in land use, long-range, future comprehensive plans, and other policies.
8	Partner with the police on enforcement of existing driving laws/speed limits.
6	Include provision in the zoning code to require new commercial buildings to be placed close to sidewalk/pedestrian activity, with parking to the rear or side of the building.

Number of Votes	Program
5	Coordinate NCDOT Complete Streets guidelines in land use, long-range, future comprehensive plans, and other policies.
5	Develop informal walking tours to encourage pedestrian activity among visitors and highlight the attractions of Eden.
5	Demonstrate pedestrian improvements through pop-up projects.
4	Provide agency staff training of pedestrian laws for police officers, drivers education programs, or other safety related programs.

The fourth question asked how often respondents walk in the City. Most respondents walk less than 1-2 times per month (approximately 33% - see Figure 3-1). The respondents' primary reason for walking is for exercise or recreational purposes (93%). According to respondents, the lack of sidewalks and crosswalks makes it difficult to walk in the City (93%).

Figure 3-1. How often do you walk in the City?



## 4.0 Recommendations

Active transportation offers many benefits including improved health, reduced environmental impacts, and fewer financial commitments from decreased dependency on the automobile. This section describes the infrastructure improvements that are recommended to provide the City of Eden with a safe, accessible, and connected pedestrian network. Section 4 proposes infrastructure and programmatic recommendations for achieving the goals and objectives of the Plan based on the review of existing conditions and public involvement.

### 4.1 Facility Types

Different types of pedestrian facilities that are considered for improving pedestrian connectivity, access, comfort, and safety are provided below. Facility types fall into two main categories: spot improvements and linear improvements.

#### Spot Improvements

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



#### *High Visibility Crosswalk*

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



#### *Mid-Block Crossing*

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



#### *Pedestrian Rapid Flash Beacon*

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



#### *Advance Yield Here Sign and Yield Line*

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



### *Curb Ramp*

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

## *Nature Based/Green/Blue Infrastructure*



Infrastructure that supports water management through protection, restoration, or mimics the natural water cycle. This may include use or restoration of ecosystems such as existing floodplains, wetlands, or forests or manmade protections such as increased landscaping, permeable pavement, vegetated buffers berms, bioswales, rainwater collection, or retention ponds. This can also include connections with rivers, such as access to riverfronts, as well as canoe and boat ramps.



### *Wayfinding*

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



### *Lighting Improvements*

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

## **Linear Improvements**

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

### *Sidewalks*



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



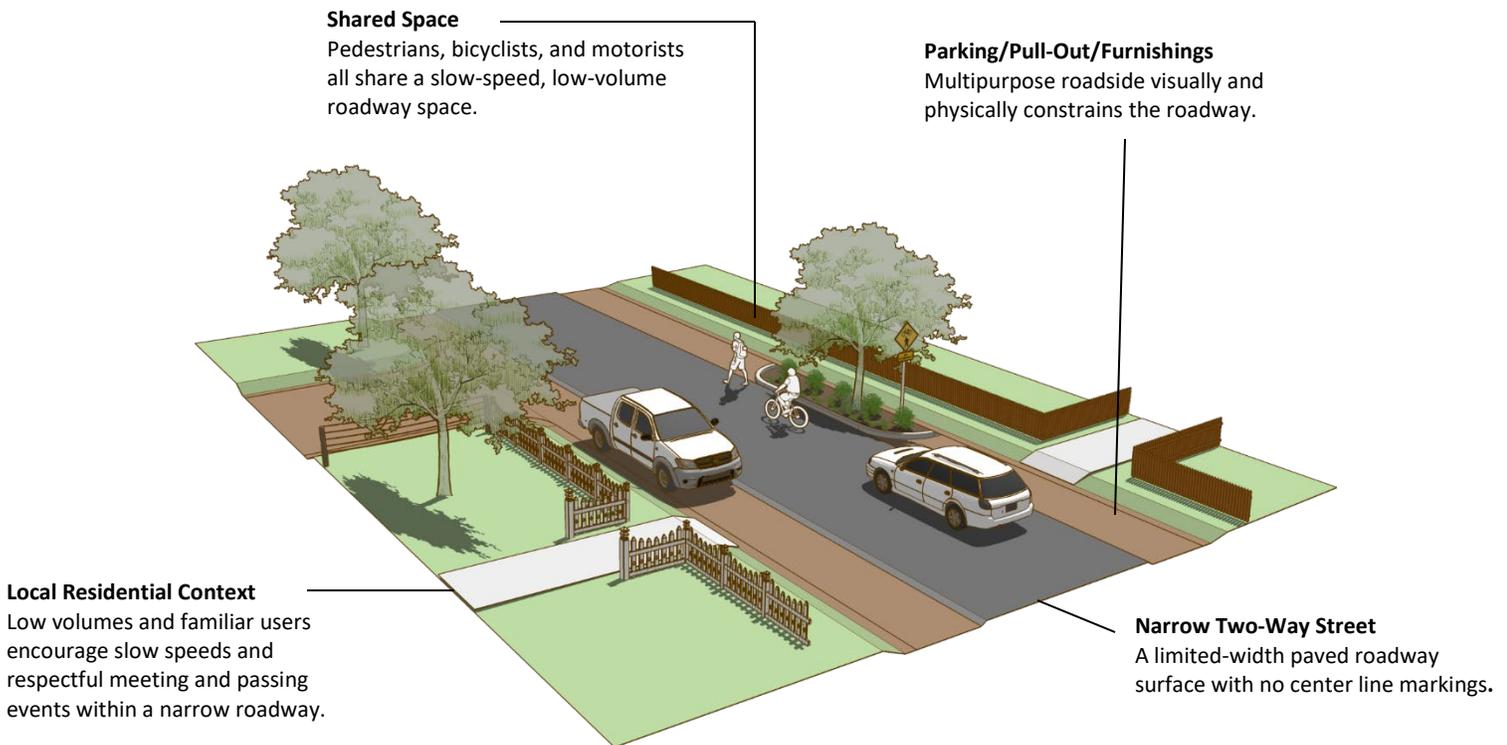
### Multiuse Path

A paved shared use path designed to meet Americans with Disabilities Act (ADA) standards for use by active transportation users. The multiuse path is separated from the roadway by an open space or a physical barrier, or within an independent ROW.



### Yield Roadway

Yield roadways are roadways that are designed to be a low-speed, shared space for all transportation modes (motorists, cyclists, pedestrians, etc.). They are characterized by facilitating bidirectional travel while having no lane markings in the travel area aside from markings for on-street parking.



Source: FHWA Small Town and Rural Multimodal Networks

## Complete Streets

NCDOT adopted a “Complete Streets” policy (CS) in 2009, that was updated in 2019. Complete streets consider and incorporate all modes of transportation when building new projects or making improvements to existing infrastructure. Complete Streets are designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists, and individuals of all ages and

capabilities. <sup>10</sup> NCDOT has developed the P6.0 Complete Streets Project Sheet, which will require project submitters to note multimodal elements that are to be evaluated as a part of the proposed transportation project. If no multimodal facilities are to be evaluated with the proposed project, the sheet requires the project submitter to document why they are not to be evaluated.

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

## Prioritization

Proposed projects were developed through steering committee and public input, as well as input from the City. Proposed improvements were grouped into corridors and were presented as corridor improvements to the City and community (via the Community Survey). The corridor improvements were also used to prioritize the projects. The prioritization results in this section are meant to serve as a general guide. There may likely be opportunities to implement these projects in an order different from the order in which they were prioritized. The prioritization in this Plan should generally be followed as it directly reflects Steering Committee input and community feedback captured during public meetings and an online survey. This should not, however, prevent the City from taking advantage of pedestrian improvements as opportunities present themselves.

The National Cooperative Highway Research Program (NCHRP) Report 803: Pedestrian and Bicycle Transportation Along Existing Roads - ActiveTrans Priority (APT) Tool Guidebook (2015) was used as a methodology for prioritizing pedestrian projects in Eden. These projects were ranked by corridor, rather than by each individual linear and spot project (see section 4.1 Facility Types) using the APT provided spreadsheet. Prioritization scores for each corridor improvement were based on a set of seven factors, as prescribed in the APT methodology. These factors were custom selected for this Plan based on input from each of the Steering Committee members to best reflect Eden's community values and priorities. Weight factors were then applied to indicate the relative importance of different factors. A set of variables for each factor was then designated. Variables are characteristics of the roadways, neighborhoods, or other features related to the proposed project(s) that can be measured qualitatively or quantitatively. The traffic speed of a roadway, bicycle or pedestrian crashes, or results from a public input survey are all examples of measurable characteristics. After data was collected, assessed, and entered into the APT spreadsheet, variables were scaled (normalized along numeric scales). The resulting output is the calculation of priority score and rank for each individual project within the proposed corridor. Table 4-1, below, summarizes the factors, weight of factors, and variables used in the prioritization of projects.

These variables are then scaled, where a numerical value is assigned to the "yes" and "low" results. This is done so the variables can be more equitably compared across projects and variables. This information is then processed through a calculation of priority scores where the weight of that factor ranks importance in the overall calculation. For example, "Stakeholder Input" for all projects has the highest weight factor of 10, resulting in this being the most important factor with the most weight, whereas the "Constraints" factor has a weight of 4.

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<sup>10</sup> NCDOT Complete Street Planning and Design Guidelines at <http://completestreetsnc.org/>

Table 4-1. Prioritization Methodology

Factors	Weight of Factors	Variables
<b>Stakeholder Input</b>	10	<ul style="list-style-type: none"> <li>• Number of requests (public outreach exercises)</li> <li>• Steering Committee and public comments</li> <li>• Public involvement ranking (public outreach exercise)</li> </ul>
<b>Constraints</b>	4	<ul style="list-style-type: none"> <li>• Available ROW</li> <li>• Utility relocation</li> <li>• Order of magnitude cost (based estimate)</li> </ul>
<b>Safety</b>	8	<ul style="list-style-type: none"> <li>• Public involvement (public outreach exercise)</li> <li>• Total bicycle/pedestrian crashes</li> </ul>
<b>Existing Conditions</b>	5	<ul style="list-style-type: none"> <li>• Posted speed limits</li> <li>• Presence of paved shoulders</li> <li>• Presence of sidewalks</li> </ul>
<b>Demand</b>	5	<ul style="list-style-type: none"> <li>• Proximity to community services</li> <li>• Public involvement (public outreach exercise)</li> </ul>
<b>Connectivity</b>	8	<ul style="list-style-type: none"> <li>• Connection to existing facility/facilities</li> <li>• Public involvement (public outreach exercise)</li> </ul>
<b>Equity</b>	5	<ul style="list-style-type: none"> <li>• Public involvement (public outreach exercise)</li> </ul>

Based on The National Cooperative Highway Research Program (NCHRP) Report 803: Pedestrian and Bicycle -Transportation Along Existing Roads - ActiveTrans Priority (APT) Tool Guidebook (2015)

## Prioritization Results

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

Table 4-2. Prioritization Results

Project	Prioritization Score	Prioritization Rank
Washington St Corridor: Sidewalk along Washington St and intersection pedestrian improvements, including crosswalks and signals.	55.0	1
Draper Connector Corridor: Sidewalk connector, crosswalk, and flashing beacon.	46.0	2
W Arbor Ln Shopping District Corridor: Sidewalk and Crosswalk on Van Buren Rd at E Arbor/W Arbor Ln.	42.5	3
W Aiken Rd Corridor: Sidewalk gap closure on south side of Aiken Rd, high visibility crosswalk over Virginia St, and high visibility crosswalk over Van Buren Rd.	41.0	4
Stadium Drive Corridor: Sidewalk on W Stadium Dr and crosswalk over W Stadium Dr at Kennedy Ave. and W Stadium Dr at Van Buren Rd.	40.8	5
Roosevelt Connector Corridor: Sidewalk on Summit Rd and sidewalk on Friendly Rd and Peter Hill Rd to the Ernestine Hampton Park.	40.0	6
Shopping District Connector: Sidewalk and flashing Beacon/Crosswalk on E Arbor Ln to Walmart	40.0	6

Smith River Connector Corridor: Yield roadway on River Dr at Smith River Greenway with lighting at Smith River Greenway Pavilion.	38.3	8
Pierce St Corridor: Sidewalk on N Pierce St and pedestrian signage and crosswalk at intersection of E Meadow Rd and N Pierce St.	37.5	9
Cox St Corridor: Cox St sidewalk around the former Eden Mall and pedestrian crossing.	37.5	9
West Dan River Greenway Connector Corridor: Multiuse path on and high visibility crosswalk on west side of S Van Buren Rd.	37.5	9
Moore St Corridor: Sidewalk connector on W Moore St and E Moore St.	36.7	12
Center Church Rd Corridor: Sidewalk along Center Church Rd and crosswalks at Price St, Coleman St, and S Hamilton St.	35.0	13
Lawson St Corridor: Yield roadway along Lawson St between Price St and Patterson St.	35.0	13
W Aiken Rd East Corridor: Sidewalk gap closure on south side of Aiken Rd.	30.0	15
Harris Pl Corridor: Yield roadway on Hidden Valley Dr and Oleander Dr from E Harris Pl to S Van Buren Rd	20.0	16
S Hale St Corridor: Multiuse path on S Hale St from Maryland Ave to Sharpe Ave.	20.0	16
East Dan River Greenway Connector: Sidewalk, lighting at river access point, and high visibility crosswalk over S Fieldcrest Rd.	20.0	16
Draper School Corridor: Sidewalk and pedestrian activated signal with striped crossing.	20.0	16
Mill Ave and N Rickman St Corridor: Sidewalk on the south of Mill Ave and the west side of N Rickman St between Mill Ave and Stadium Dr.	20.0	16
S Kennedy Ave Corridor: Sidewalk on west side of S Kennedy Ave.	20.0	16
E Harris Pl Corridor: Sidewalk on south side of E Harris Pl.	20.0	16
S Hamilton St Corridor: Sidewalk on east side of S Hamilton St and high visibility crosswalk over Harris St.	20.0	16
N Edgewood Rd Corridor: Sidewalk on west side of N Edgewood Rd.	20.0	16
Front St Corridor: Sidewalk on Front St from Fieldcrest to Main St.	20.0	16
Hundley Dr Corridor: Sidewalk on west side of Hundley Dr.	20.0	16
Morgan Rd Corridor: Yield roadway on Victor St and Grove St.	20.0	16
Lee St Corridor: Yield roadway on Lee St from Morgan Rd to Park Rd.	20.0	16
Boone Rd Corridor: Pedestrian signals at Boone Rd and Glovenia St.	20.0	16
New St Sidewalks	20.0	16

## Cost Estimates

Costs for recommended pedestrian infrastructure projects were primarily estimated using NCDOT's Bicycle and Pedestrian Cost Estimation (BPCE) Tool. The Pedestrian and Bicycle Information Center (PBIC)'s report titled *Costs for Pedestrian and Bicyclist Infrastructure Improvements* and the capital costs from similar projects were used to estimate costs for project types not included in the NCDOT cost estimator tool. <sup>11</sup>

## Data Sources

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

## Methodology

The BPCE tool was used to estimate costs for signage, crosswalks, lighting, signals, sidewalks, and multiuse paths. The PBIC report was used to estimate costs for crosswalks, signage associated with yield roadways, and midblock signals. The costs reported in this Plan include design, permitting, utility relocation, and construction. The projects are anticipated to be implemented within existing ROW. The costs associated with any additional ROW needed for these projects are not included in these estimates.

Estimated costs were adjusted to 2020 dollars by using an annual inflation factor of 3.5 percent. BPCE tool costs were provided in 2019 dollars and PBIC estimates provided in 2013 dollars. The costs are approximate and subject to change based on the current price of materials and labor. They are dependent on the actual conditions which will be determined during the planning and engineering phases. The estimates provided are intended to serve as a relative guide for a rough order of cost magnitude.

Results for the cost estimates can be found in Section 4.4, after each proposed project. A master table of projects costs can be found in Appendix D. Infrastructure projects are recommended for the City Eden to improve pedestrian safety, connectivity, and mobility. These projects contain various land uses, community assets, and roadway characteristics, taken together, the projects proposed within these planning corridors will tie together to encourage pedestrian connectivity throughout the City. Project recommendations include improvements such as the installation of lighting, wayfinding, and pedestrian signage, as well as pavement markings, multiuse paths, and green infrastructure to treat and absorb stormwater. Curb ramps compliant with ADA are recommended at intersections and crossings, but due to scale, are not shown on the figures.

### *Assumptions and Disclaimers*

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

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<sup>11</sup> PBIC receives funding from FHWA and is part of the University of North Carolina Highway Safety Research Center.

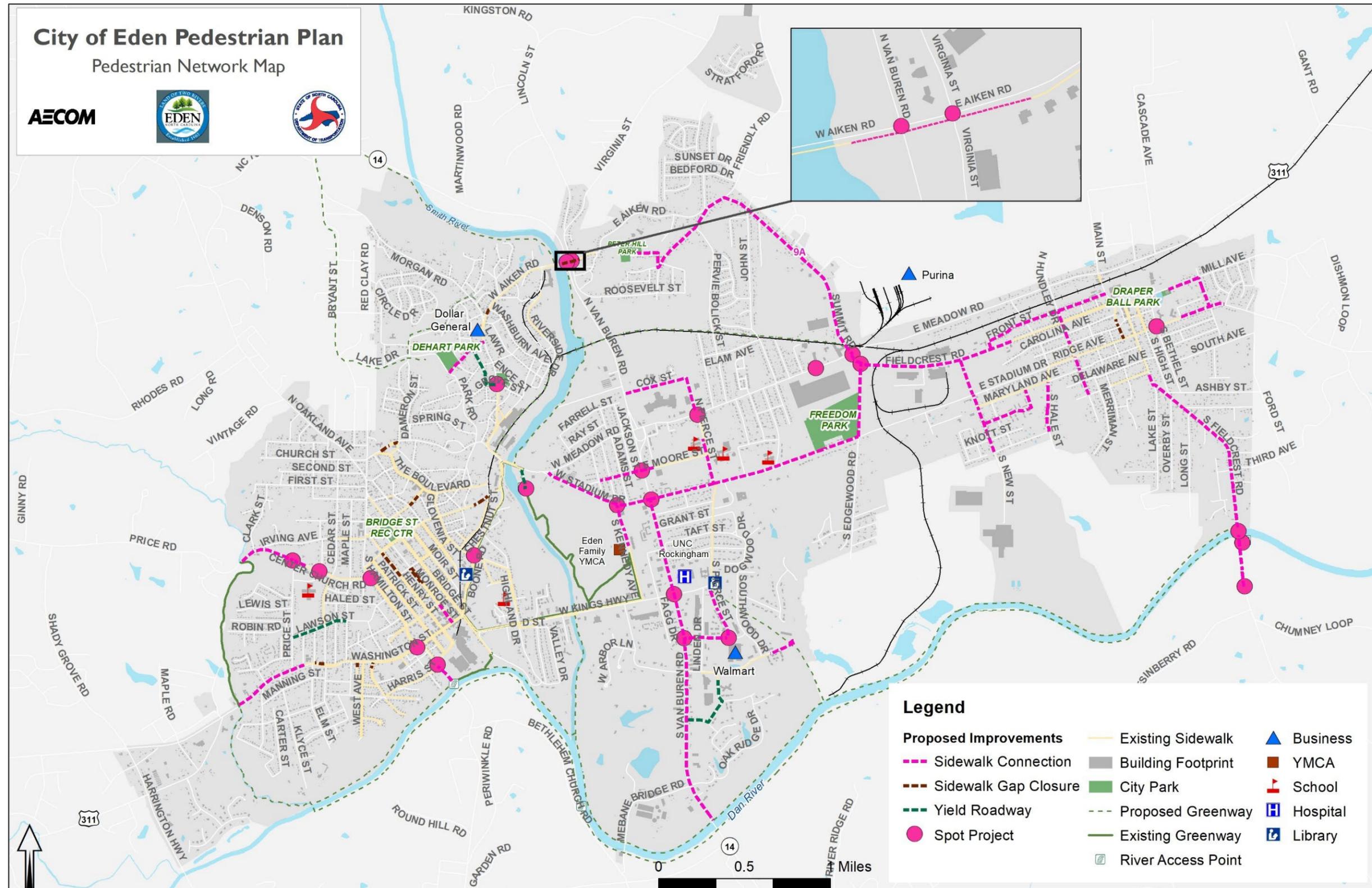
conceptual nature of project descriptors, the accuracy of cost estimates will be limited. More accurate cost estimates would result from a feasibility or engineering study. Estimated cost outputs are designed to assume federal transportation funding is used in compliance with all federal transportation regulations and FHWA-approved NCDOT Local Programs Management Office oversight requirements in place as of the date of this tool's publication.

## 4.2 Recommended Infrastructure Improvements

Figure 4-1 includes all the recommended facilities and improvements for the pedestrian network in Eden. Recommended facilities include yield roadways, new sidewalks, sidewalk gap closure projects, and spot projects such as intersection improvements. These projects were identified through consultation with the Steering Committee, public meetings, surveys, and through GIS analysis of existing sidewalk coverage and pedestrian crash data.

All proposed projects are intended to provide safe connections between origins and destinations within the City while promoting exercise and mobility. The projects were developed through collaboration with the Steering Committee, field analysis, and public input. All pedestrian facility recommendations along NCDOT maintained roadways will require coordination with NCDOT Highway Division 7 as part of implementation.

Figure 4-1. Recommended Pedestrian Infrastructure Projects in Eden

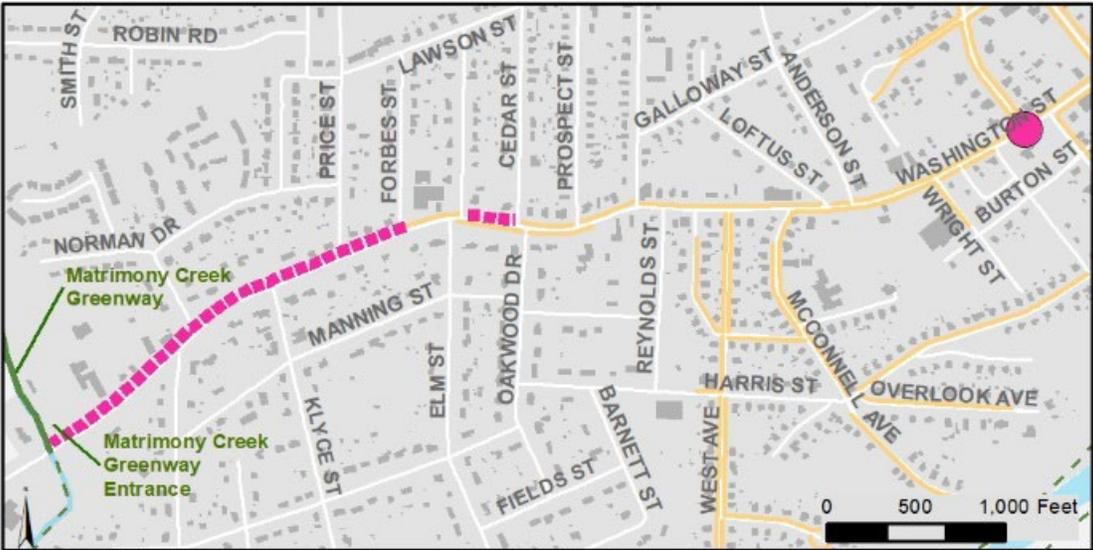


## Prioritized Projects

On the following pages, five priority corridors are outlined in plan view concepts and photosimulations, depicting recommended pedestrian improvements for improving mobility, access and safety for pedestrians in Eden. The projects are shown at the corridor level. These priority projects were identified through public input from the online survey and public involvement event, in consultation with the Steering Committee and City Staff, and to meet on-going pedestrian facility and greenway development goals.

Washington Street Corridor Improvements

Figure 4-2. Washington Street Sidewalk



Washington Street enters Eden on the west side of the City, crossing Matrimony Creek, and travels through the Leaksville section of Eden to Bridge Street. Washington Street is a three-lane facility with sidewalks on the north side from Forbes Street to Elm Street and Cedar Street to Bridge Street, with a noticeable gap between Elm and Cedar Street. There are also intermittent sidewalks on the south side of Washington Street.

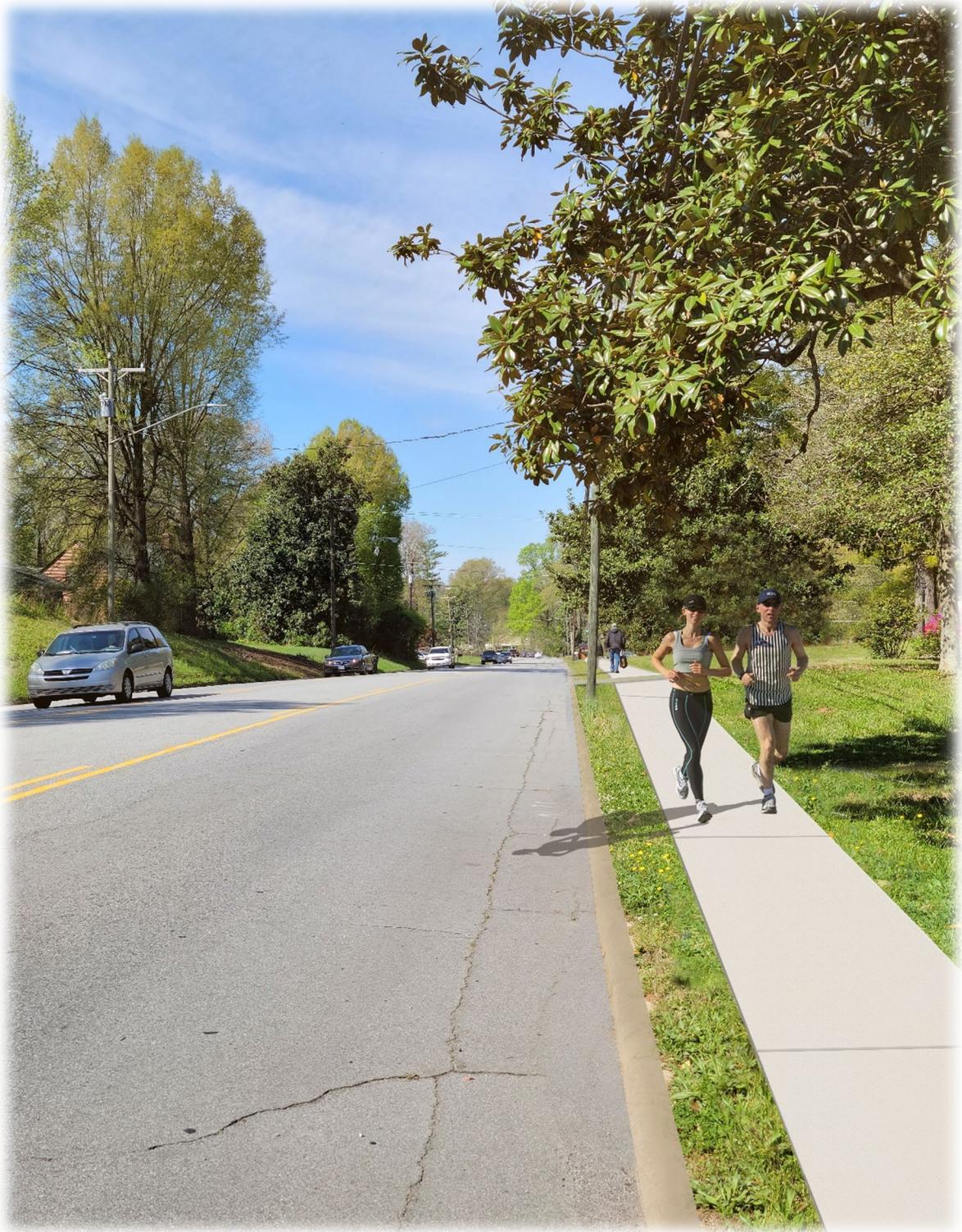
Recommended improvements include constructing sidewalk on the north side of the street from the Matrimony Creek Greenway entrance to Forbes Street and a sidewalk gap closure project between Elm and Cedar Streets. Pedestrian intersection improvements are also recommended at Hamilton Street. Together, these three projects would provide seamless pedestrian connectivity along the entirety of Washington Street and allow residents in neighborhoods to the north to access the Matrimony Creek Greenway.

- Total length: 2,750 feet
- Total cost: \$702,900

- Spot Project
- Proposed Linear Improvement
- Existing Sidewalk
- Existing Greenway
- - Proposed Greenway
- Building Footprint
- City Limits

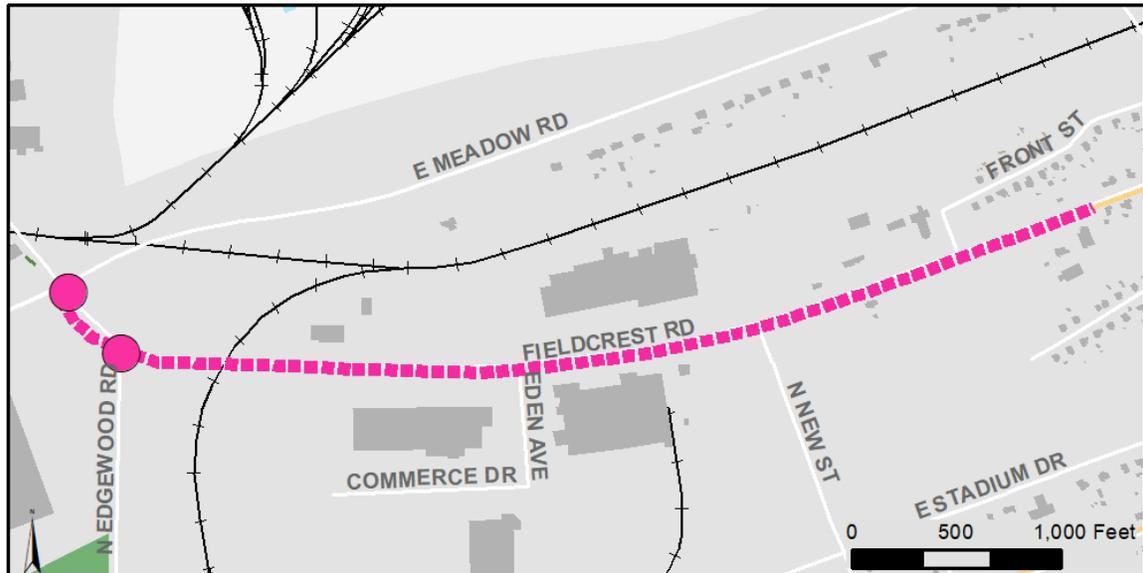


Sidewalk gap on Washington Street at Cedar Street.



Proposed sidewalks along the north side of Washington Street.

Figure 4-3. Draper Connector along Fieldcrest Road



Fieldcrest Road provides east-west connectivity from E Meadow Road to the Draper section of Eden. There are several large manufacturing facilities on the western end of Fieldcrest Road including Gildan Activewear and Armor Express (among others). However, the eastern end of Fieldcrest Street is much more residential in nature. There are currently sidewalks along both sides of the road from intersection of Main Street west to N Hundley Drive, and sidewalks continue on the south side of the road to the Draper Christian Church where they end.

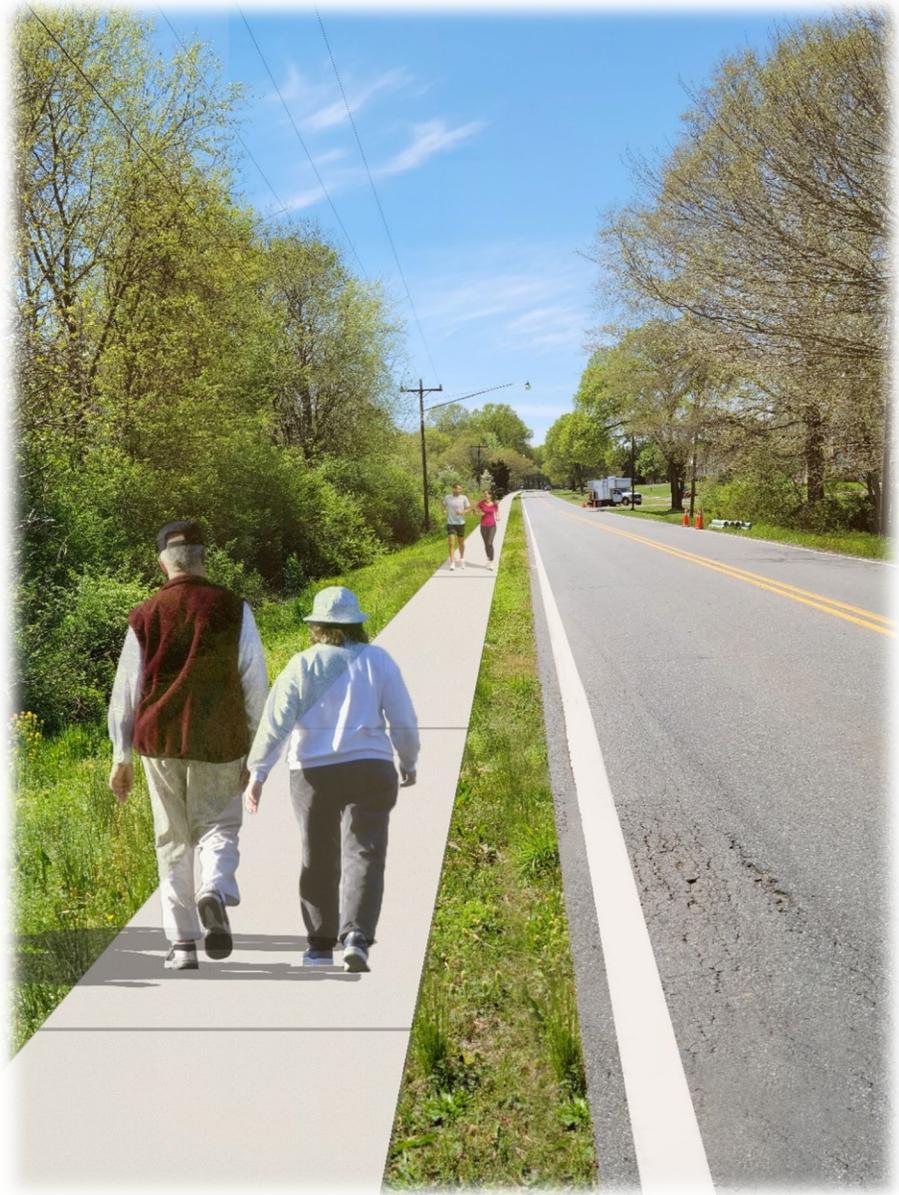
Recommended improvements include constructing sidewalk on the south side of the street from where it currently ends at Draper Christian Church on Fieldcrest Road to E Meadow Road. Pedestrian crossing accommodations (i.e., crosswalks) at N Edgewood Road would provide seamless pedestrian connectivity from Draper to Freedom Park. Pedestrian signals and crosswalks at E Meadow Road would provide connections to recommended sidewalks along Summit Road.

- Total length: 5,184 feet
- Total cost: \$1,430,000

- Spot Project
- Proposed Linear Improvement
- Existing Sidewalk
- Building Footprint
- - Proposed Greenway
- Existing Greenway
- City Limits



South side of Fieldcrest Road from Draper Christian Church.



Proposed sidewalks along the south side of Fieldcrest Road.

Figure 4-4. Arbor Lane Sidewalks



E Arbor Lane is a four-lane roadway that provides access to retail uses, including a Walmart, from S Van Buren Road. In addition to the retail land uses, there are also several hotels just off the road on Linden Drive, and an apartment complex and a large church, the First Presbyterian Church. The combination of land uses along the road would indicate that pedestrian activity would be high, and in fact pedestrians were observed during site visits, and the road was noted by steering committee members as needing pedestrian facilities.

Recommended improvements include constructing sidewalk on both sides of the street (north and south side) from S Van Buren Road to S Pierce Street/the entrance to Walmart. Additionally, a pedestrian flashing beacon is recommended across E Arbor Lane at either S Pierce Street or the back entrance to Walmart to provide pedestrian access to Walmart. Finally, pedestrian crossing improvements at Arbor Lane and S Van Buren Road, including crosswalks and pedestrian signals at all four legs of the intersection would allow pedestrian connectivity from other commercial businesses along S Van Buren Road

- Total length: 2,566 feet
- Total cost: \$790,000 (includes the costs associated with the crossing improvements at S Van Buren Road, which is part of Corridor 10)

- Spot Project
- Proposed Linear Improvement
- Existing Sidewalk
- Building Footprint
- - Proposed Greenway
- Existing Greenway
- City Limits

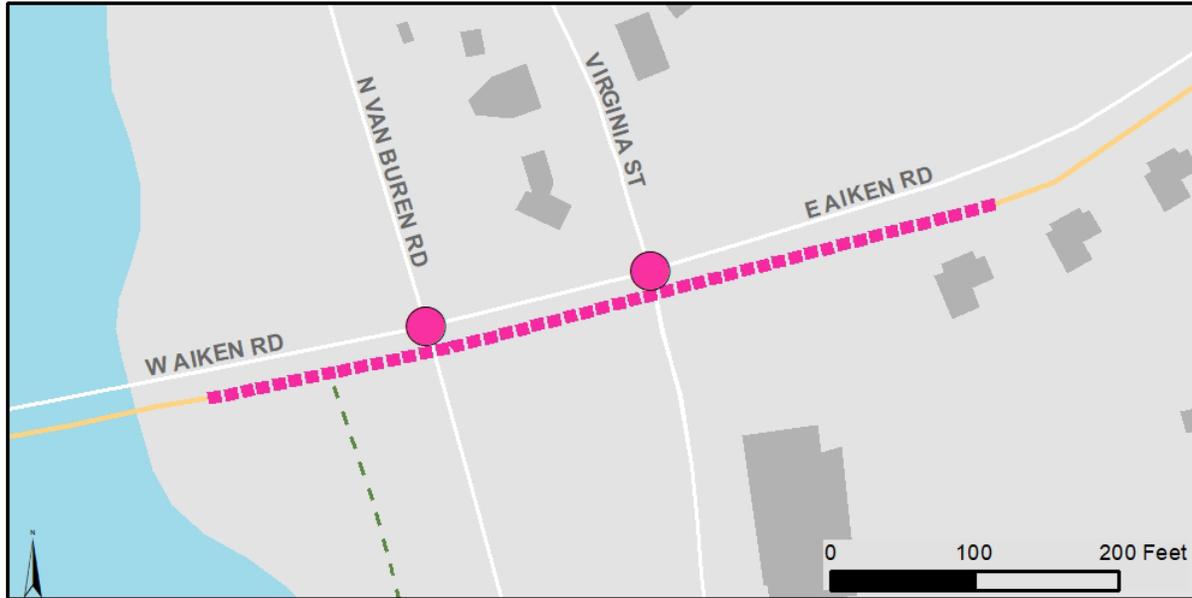


E Arbor Lane, looking west from S Pierce Street



E Arbor Lane with sidewalks and crosswalks at the back side of the Walmart entrance

Figure 4-5. Aiken Road Corridor Improvements

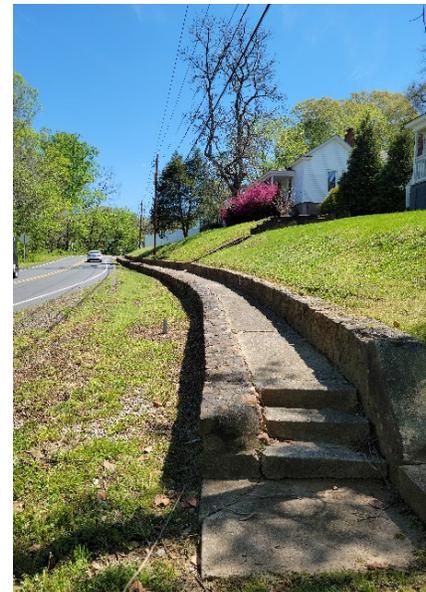


The Aiken Road corridor on Eden’s north side provides a connection from neighborhoods on the east side of the Smith River to the Spray area of Eden on the west side of the river (Aiken Road transitions from W Aiken Road to E Aiken Road at N Van Buren Road). There are sidewalks along the south side of W Aiken Road for its entire length, including on the William J Gordon Bridge over the Smith River. However, the sidewalks stop at N Van Buren Road, and there is a gap of approximately 550 feet before sidewalks start again on E Aiken Road. There are also no pedestrian crossing accommodations at N Van Buren Road and Virginia Street. Land uses in the vicinity of these two intersections include a gas station, an outdoor equipment store, and an auto repair shop that is currently vacant.

Constructing sidewalks from where they currently end at the William J Gordon bridge over the Smith River west are recommended. Crossing improvements at N Van Buren Road and Virginia Street in the form of crosswalks and pedestrian signals are also recommended. These improvements would close a gap in the sidewalk network, as well as provide access to the future Smith River Greenway.

- Total length: 564 feet
- Total cost: \$330,000

- Spot Project
- Proposed Linear Improvement
- Existing Sidewalk
- Building Footprint
- - Proposed Greenway
- Existing Greenway
- City Limits



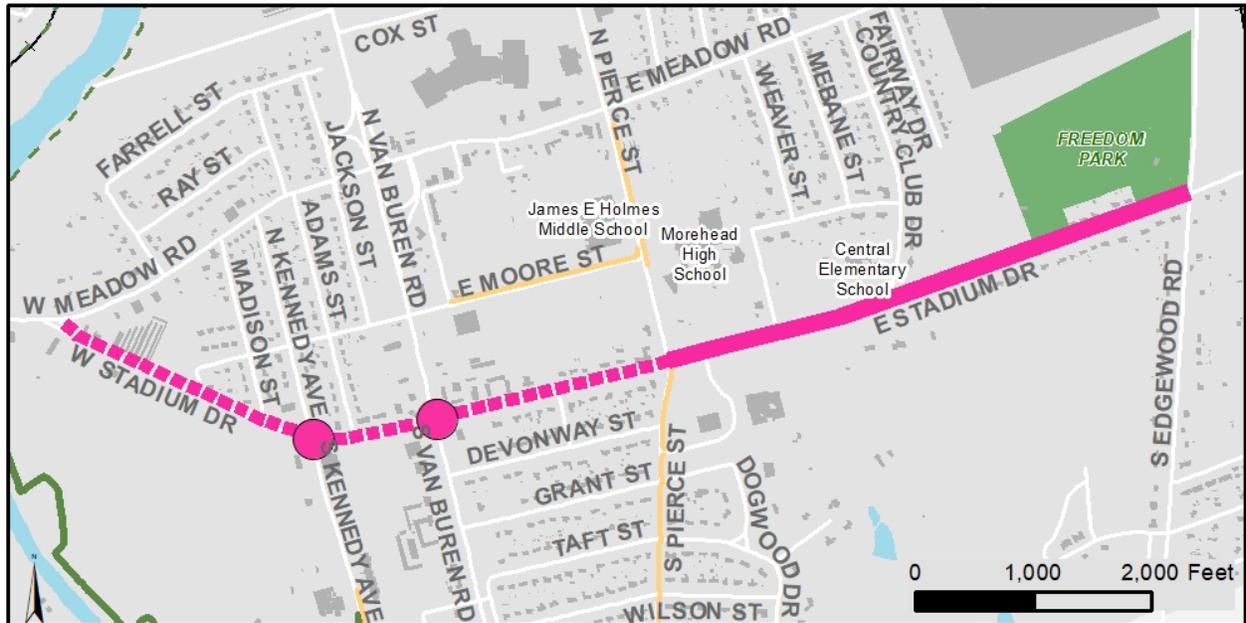


Aiken Road intersection with N Van Buren Road.



Aiken Road intersection with N Van Buren Road with crossing improvements and extended sidewalks.

Figure 4-6. Stadium Drive Corridor Improvements



Stadium Drive travels from W Meadow Road east to Edgewood Road, and continues east to Draper. Land uses along the corridor include commercial and residential uses west of Van Buren St Road. To the east of Van Buren Road, residential land uses are the predominate land use, although there are two schools that face the road, Morehead High School and Central Elementary School. Freedom Park is located at the corner of E Stadium Drive and Edgewood Road.

Sidewalks on the north side of Stadium Drive are recommended along the entire corridor. NCDOT STIP project EB-5888 will construct sidewalks from N Pierce Street to Edgewood Road with construction expected to start in 2022. However, the extension of sidewalk is recommended west to W Meadow Road, with pedestrian accommodations across signalized intersections at Van Buren Road and Kennedy Avenue. These crossing improvements should be in the form of crosswalks and pedestrian signals. Completion of these recommended improvements would provide access to and from Freedom Park for neighborhoods along the corridor.

- Total length: 5,410 feet (not including EB-5888)
- Total cost: \$1,515,000 (not including EB-5888)

- Spot Project
- NCDOT STIP EB-5888
- Proposed Linear Improvement
- Existing Sidewalk
- Building Footprint
- - Proposed Greenway
- Existing Greenway
- City Limits



E Stadium Drive looking west from N Pierce Street.



E Stadium Drive with recommended sidewalks.

## Sidewalks

Recommended sidewalk improvements are provided on the following pages in this Plan. Recommended sidewalks would improve pedestrian connectivity in the City, providing pedestrian access from neighborhoods to and from community features including schools, the Eden YMCA, businesses, and areas where businesses are clustered. These recommendations were selected to expand the existing sidewalk network, address safety concerns, and to better connect destinations and neighborhoods.

Yield roadway recommendations are also included along with the sidewalk recommendations. Yield roadways can provide a lower cost and more easily implementable alternative to installing sidewalk along a street by allowing pedestrians, bicyclists, and motor vehicle traffic in the same low-speed travel area.

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

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

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

Recommended sidewalks and yield roadway improvements are shown in Figure 4-7, and described in Table 4-3 and Table 4-4.

Figure 4-7. Recommended Sidewalk and Yield Roadway Improvements

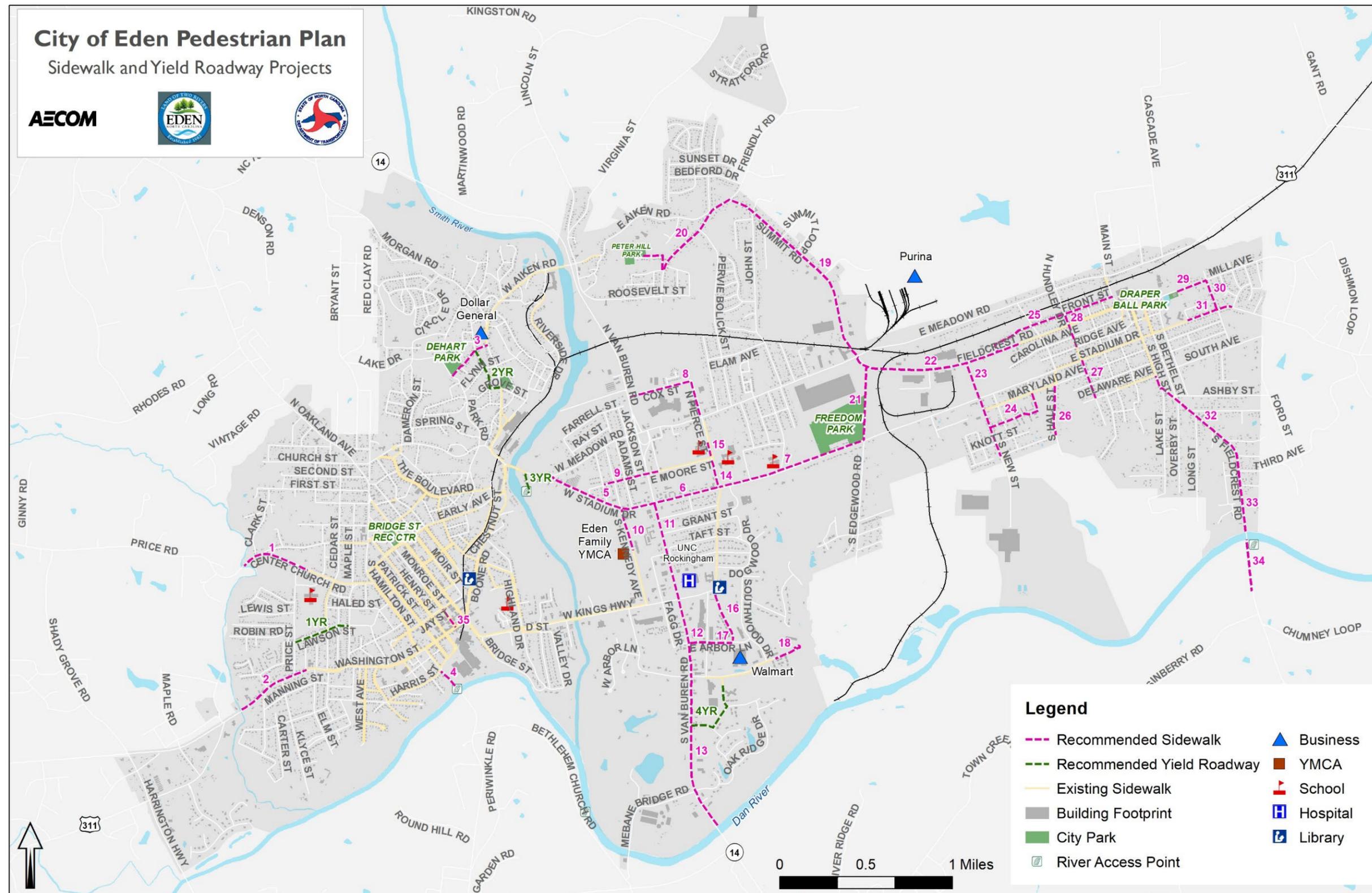


Table 4-3. Recommended Sidewalk Improvements

Map Label	Project	Street Name	To	From	Length (ft)	Cost
1	Center Church Rd sidewalk connector; south side	Center Church Rd	Matrimony Creek Greenway	Douglas Elementary	2,120	\$545,000
2	Sidewalk connector on Washington St *	Washington St	Matrimony Creek Greenway	Forbes St	2,360	\$575,000
3	Lee St, Victor St and Grove St sidewalk	Lee St	Morgan Rd (at Grove St)	Morgan Rd (at Lee St)	1,480	\$400,000
4	Sidewalk on both sides of S Hamilton	S Hamilton	Harris St	Leaksville Landing	630	\$380,000
5	W Stadium Dr sidewalk *	W Stadium Dr	W Meadow Rd	Van Buren Rd	3,370	\$905,000
6	E Stadium Dr sidewalk *	E Stadium Dr	Van Buren Rd	Pierce St	2,040	\$610,000
7	E Stadium Dr sidewalk (EB-5888) *	E Stadium Dr	Pierce St	Edgewood Rd	4,650	\$1,160,000
8	Cox St sidewalk around Eden Mall	Cox St and N Pierce St	N Van Buren Rd	W Meadow Rd	3,020	\$715,000
9	Sidewalk connector on Moore St	Moore St	Harrison St	Madison St	1,700	\$435,000
10	YMCA sidewalk connector on S Kennedy Ave	S Kennedy Ave	W Stadium Dr	Eden Family YMCA	2,120	\$315,000
11	S Van Buren Rd sidewalk	S Van Buren Rd	Stadium Dr	Kings Hwy	2,990	\$710,000
12	S Van Buren Rd sidewalk	S Van Buren Rd	Kings Hwy	Harris Pl	2,410	\$645,000
13	S Van Buren Rd sidewalk	S Van Buren Rd	Harris Pl	Dan River	4,780	\$1,115,000
14	N Pierce St sidewalk connector at James E Homes M School and Morehead H School	N Pierce St	E Moore St	E Stadium Dr	880	\$255,000
15	N Pierce St sidewalk	N Pierce St	James E Holmes Middle School	E Moore St	420	\$145,000
16	Sidewalk on west side of S Pierce St	S Pierce St	Kings Hwy	Arbor Ln	1,560	\$415,000
17	W Arbor Ln sidewalk *	W Arbor Ln	Van Buren Rd	S Pierce St	1,280	\$340,000
18	Sidewalk connector on E Harris Pl	E Harris Pl	Stone Creek Senior Apartment Community	Eastern terminus	1,060	\$295,000
19	Summit Rd/E Aiken Rd sidewalk	Summit Rd/E Aiken Rd	Friendly Rd	E Meadow Rd	7,110	\$2,015,000
20	Friendly Rd, Matthews St, and Peter Hill Rd sidewalk	Peter Hill to Friendly Rd	E Aiken Rd	Peter Hill Park	3,720	\$880,000
21	Sidewalk on west side of N Edgewood Rd	N Edgewood Rd	E Stadium Dr	Fieldcrest Rd	2,230	\$520,000
22	Fieldcrest Rd sidewalk connector	Fieldcrest Rd	Church on Fieldcrest Rd	Summit Rd	5,180	\$1,375,000
23	N New St sidewalk	N New Street	E Stadium Dr	Fieldcrest Rd	1,130	\$375,000
24	S New St/Georgia Ave sidewalk	S New St	Sharpe Ave	E Stadium Dr	1,890	\$495,000

Map Label	Project	Street Name	To	From	Length (ft)	Cost
25	Front Street sidewalks	Front St/Burgess St	Main St	Fieldcrest Rd	4,130	\$950,000
26	S Hale St sidewalk	S Hale St	Sharpe Ave	Maryland Ave	1,520	\$755,000
27	S Hundley Drive sidewalks	S Hundley Dr	South Ave	E Stadium Dr	1,230	\$335,000
28	N Hundley Drive sidewalks	N Hundley Dr	Ridge Ave	Front St	1,070	\$305,000
29	Mill Ave sidewalk	Mill Ave	N Rickman St	City of Eden Pool	990	\$280,000
30	N Rickman St sidewalk	N Rickman St	E Stadium Dr	Mill Ave	940	\$265,000
31	East Stadium Dr sidewalk	East Stadium Dr	French St	Vaughn St	1,440	\$375,000
32	S Fieldcrest Rd sidewalk	S Fieldcrest Rd	South Ave	Third Ave	4,140	\$980,000
33	S Fieldcrest Rd sidewalk	S Fieldcrest Rd	Third Ave	Dan River Bridge	1,750	\$405,000
34	S Fieldcrest Rd sidewalk	S Fieldcrest Rd	Dan River Bridge	Draper Landing Access	1,590	\$390,000
35	Repair sidewalks on Monroe St	Monroe St	Jay St	Washington St	680	\$290,000

\* - Priority Project

Table 4-4. Recommended Yield Roadway Improvements

Map Label	Priority Project	Street Name	To	From	Length (ft)	Cost
1YR	Yield roadway on Lawson St between Price St and Patterson St	Lawson St	Price St	Patterson St	1,730	\$2,520
2YR	Yield roadway on Lee St from Morgan Rd to Park Rd	Lee St	Park Rd	Morgan Rd	1,590	\$2,000
3YR	Yield roadway on River Dr at Smith River Greenway	River Dr	Smith River Greenway Pavilion	W Meadow Rd	610	\$1,000
4YR	Yield roadway on Hidden Valley Dr to Oleander Dr to Knight St, connecting to Van Buren	Hidden Valley Dr to Oleander to Knight St	Hidden Valley Dr to Oleander to Knight St	Hidden Valley Dr to Oleander to Knight St	2,140	\$2,800

### Sidewalk Gaps

In addition to new sidewalks connections in Eden, the existing sidewalk network was reviewed to identify gaps in sidewalks, such as where a sidewalk ends midblock. Figure 4-8 shows the location of these sidewalk gaps, and Table 4-5 includes details of the recommended gap closure, including extent and costs associated with these projects.

Figure 4-8. Sidewalk Gap Recommendations

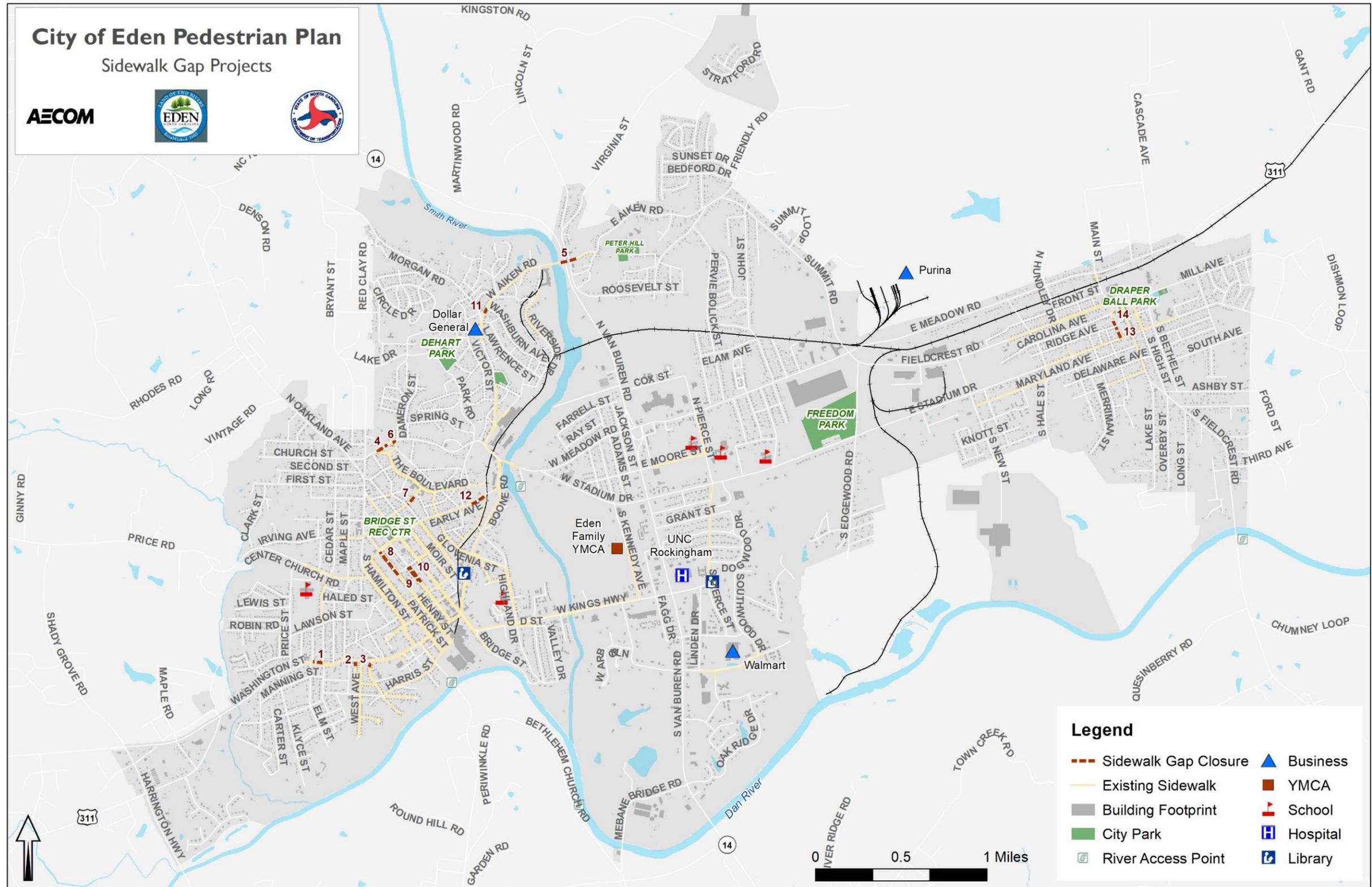


Table 4-5. Sidewalk Gap Recommendations

Map Label	Priority Project	Street Name	To	From	Length (ft)	Cost
1	Sidewalk on north side of Washington St *	Washington St	Cedar St	Elm St	340	\$125,000
2	Sidewalk gap on Westwood Dr	Westwood Dr	Washington St	West Ave	130	\$85,000
3	Sidewalk gap on McConnell Ave (west side)	McConnell Ave	Washington St	Burton St	180	\$95,000
4	Sidewalk gap on Church St	Church St	The Boulevard	First Church of Brethren Property	370	\$130,000
5	Sidewalk gap closure on south side of Aiken Rd between Virginia St and William J Gordon Bridge *	Aiken Rd	Virginia St	William J Gordon Bridge	560	\$320,000
6	Sidewalk gap on Church St	Church St	First Church of Brethren Property	S Primitive St	140	\$85,000
7	Sidewalk gap on south side of Irving Ave	Irving Ave	Cherry St	Greenwood St	390	\$135,000
8	Sidewalk gap on west side of Henry St	Henry St	Early Ave	Taylor St	910	\$255,000
9	Sidewalk gap on west side of Monroe St	Monroe St	Taylor St	Moncure St	530	\$175,000
10	Sidewalk gap on east side of Monroe St	Monroe St	Taylor St	Moncure St	600	\$185,000
11	Sidewalk gap - Washburn Ave to existing sidewalk on Aiken Rd	Aiken Rd	Washburn St	Morgan Rd	190	\$95,000
12	Sidewalk gap on south side of Early Ave	Early Ave	Howe St	Chestnut St	520	\$160,000
13	Sidewalk gap on east side of Main St	Main St	Ridge Ave	E Stadium Dr	350	\$135,000
14	Sidewalk gap on east side of Main St	Main St	Ridge Ave	Carolina Ave	240	\$100,000

\* Priority Project

## Spot Projects

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

The following spot project types are recommended in this Plan:

- Crosswalks
- Flashing beacons
- Pedestrian signals
- Lighting improvements

The proposed bridge project on S Fieldcrest Road that would add pedestrian facilities could be incorporated when the bridge (Structure Number 780134) is listed to be replaced. Please refer to Section 4.1 to learn more about spot improvements. Figure 4-9 shows the location of the spot improvements, and Table 4-6 describes the spot improvements.

All proposed spot improvements would be required to meet ADA standards, including ADA ramps, and include pedestrian amenities such as pedestrian scale lighting, which would light up the actual crossing. Any recommended midblock crossing on state roads would need to be approved by NCDOT and would require adequate sight distance to be approved. Finally, recommended crosswalks would need to have receiving sidewalks in place in order to be approved by NCDOT.

Figure 4-9. Recommended Spot Improvements

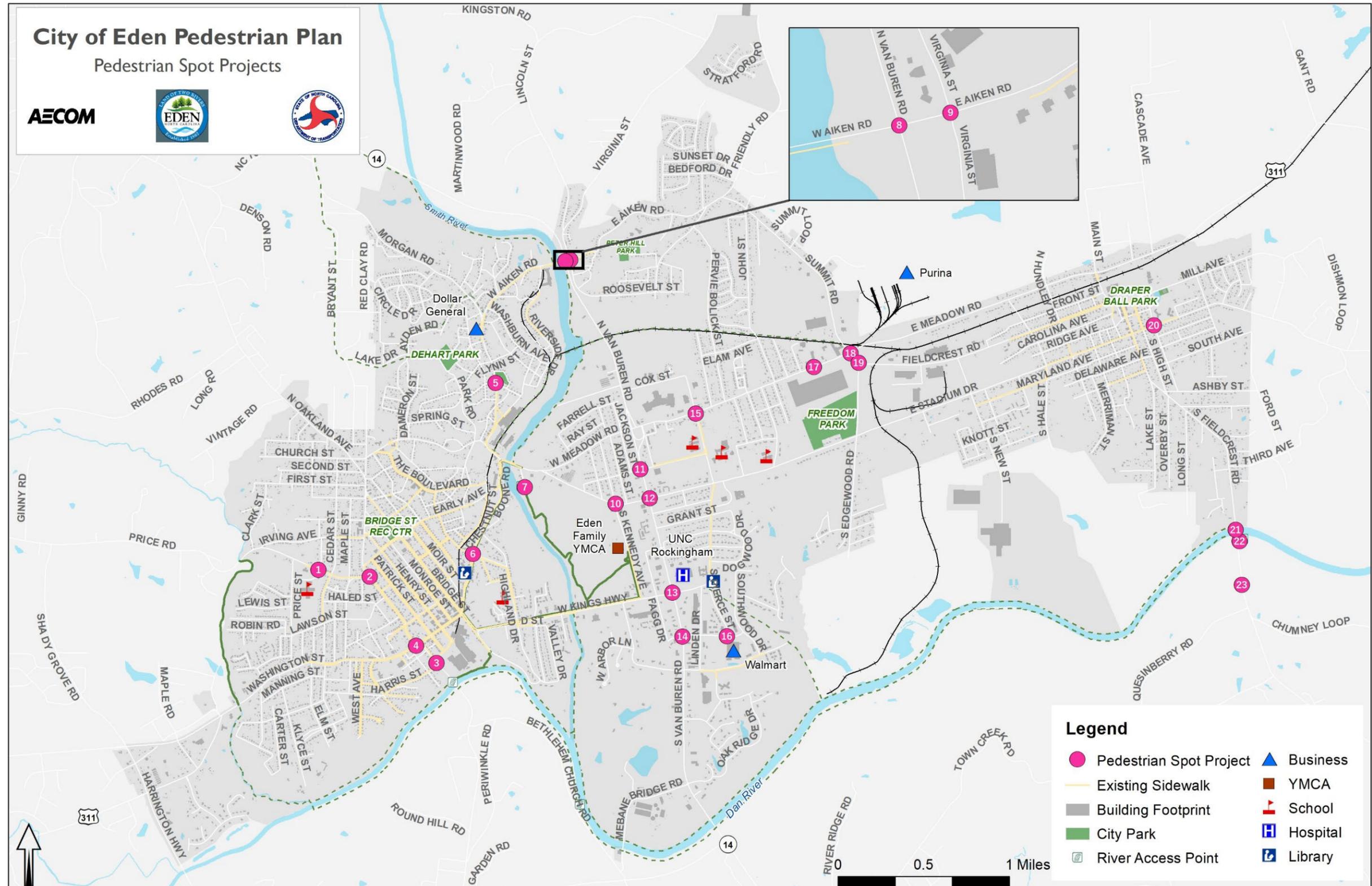


Table 4-6. Recommended Spot Improvements

Map Label	Project Type	Street	Street 2	Recommended Improvement	Cost
1	Pedestrian Intersection Improvements	Coleman St	Center Church Rd	Crosswalk over Center Church Rd at corner of Coleman St and St John United Methodist	\$865
2	Pedestrian Intersection Improvements	S Hamilton St	Center Church Rd	Crosswalks at intersection of Center Church Rd and S Hamilton St	\$3,900
3	Pedestrian Intersection Improvements	Harris St	S Hamilton St	Crosswalks at S Hamilton St and Harris St	\$3,900
4	Pedestrian Intersection Improvements *	Washington St	S Hamilton St	Washington St intersection pedestrian facilities	\$2,900
5	Pedestrian Intersection Improvements	Morgan Rd	Grove St	Flashing beacon across Morgan Rd	\$54,530
6	Pedestrian Intersection Improvements	Boone Rd	Glovenia St	Pedestrian signals at Boone Rd and Glovenia St	\$2,800
7	Lighting	Smith River Greenway Pavilion	Smith River Greenway Pavilion	Lighting at Smith River Greenway Pavilion	\$9,200
8	Pedestrian Intersection Improvements *	Van Buren Rd	Aiken Rd	Crosswalk on Aiken Rd at Van Buren Rd	\$3,900
9	Pedestrian Intersection Improvements *	Virginia St	E Aiken Rd	Crosswalk over Virginia St at E Aiken Rd	\$3,900
10	Pedestrian Intersection Improvements *	W Stadium Dr	Kennedy Ave	Crosswalk over W Stadium Dr at Kennedy Ave	\$7,800
11	Pedestrian Intersection Improvements/Crossing Study	Van Buren Rd	Moore St	Crossing study across Van Buren Rd at Moore St	
12	Pedestrian Intersection Improvements *	Van Buren Rd	W Stadium Dr	Crosswalk over W Stadium Dr at Van Buren Rd	\$7,800
13	Pedestrian Intersection Improvements	S Van Buren Rd	E Kings Hwy	Crosswalk on S Van Buren Rd at E Kings Hwy	\$4,600
14	Pedestrian Intersection Improvements *	S Van Buren	Arbor Ln	Crosswalk on S Van Buren at E Arbor/W Arbor Ln	\$3,900
15	Pedestrian Intersection Improvements	N Pierce St	E Meadow Rd	Pedestrian signage at intersection of E Meadow Rd and N Pierce St	\$9,200
16	Pedestrian Intersection Improvements *	E Arbor Ln	Walmart	Flashing Beacon/Crosswalk on E Arbor Ln to Walmart	\$54,530
17	Lighting	E Meadow Rd	Walter Chambers St	Lighting along E Meadow Rd from Summit Rd to Walter Chambers St	\$18,400
18	Pedestrian Intersection Improvements	Fieldcrest Rd	E Meadow Rd	Crosswalk at intersection of E Meadow Rd and Fieldcrest Rd	\$500
19	Mid-Block Crossing	N Edgewood Rd	Fieldcrest Rd	Flashing beacon across N Edgewood Rd	\$54,530
20	Pedestrian Intersection Improvements	N Bethel St	Draper Elm	Crosswalk to Draper Elm on N Bethel St	\$54,530
21	Pedestrian Bridge Improvements	S Fieldcrest Rd	N/A	Retrofit existing bridge to accommodate pedestrians	\$2,185,000
22	Lighting	Draper Landing entrance	Draper Landing entrance	Lighting at river access point	\$9,200
23	Pedestrian Intersection Improvements	S Fieldcrest Rd	Draper Landing entrance	Crosswalk over S Fieldcrest Rd to river access point	\$3,900

\* Priority Project

## 4.3 Other Recommendations

### Green Infrastructure and Resiliency

Developed areas with impermeable surfaces, such as pavement and building materials prevent groundwater infiltration, and instead exacerbate stormwater runoff. This direct flow of water into nearby water can carry pollutants and lead to erosion, flooding, and degradation of water quality, aquatic habitat, property, and infrastructure damage depending on the speed and flow of the runoff. Green infrastructure includes a range of approaches for managing stormwater, however, three approaches that will be applicable to the Plan are described briefly below.

#### *Permeable Pavement*

An environmentally friendly alternative to traditional asphalt or concrete is permeable pavement. It helps reduce stormwater runoff, recharges groundwater, traps suspended solids and pollutants, reduces the heat island effect, and reduces the need for grey infrastructure including retention basins and water collection areas.<sup>12</sup>

#### *Bioswales and Bioretention cells*

Low maintenance, linear landscaped depressions or channels designed to capture and treat stormwater. Bioswales are a low impact development method that typically contain mulch, native plants, and may contain drought tolerant plants.<sup>13</sup> These bioretention systems contain gently sloped sides that direct water, allowing for the slow absorption of water and pollutants, and are engineered and constructed to ensure adequate percolation and filtration of captured runoff.

#### *Native Landscaping*

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



<sup>12</sup> Green Building Alliance: Permeable Pavement at <https://www.go-gba.org/resources/green-building-methods/permeable-pavements/>

<sup>13</sup> EPA: Enhancing Sustainable Communities with Green Infrastructure at <https://www.epa.gov/sites/production/files/2016-08/documents/green-infrastructure.pdf>

## Riparian Buffers

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

## Wayfinding and Lighting Improvements

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

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



Photo 4. Existing wayfinding signage.

Eden currently has wayfinding that lists nearby destinations with navigational arrows. This could be complemented with walking distances included on the signs as space allows to further orient the pedestrian.

Pedestrian lighting was identified as a need at the Smith River Pavilion Greenway and the Draper Landing along the Dan River. Lighting should also be considered along other roadways with high pedestrian activity and should include lighting to promote activity during dawn and dusk hours. Lighting should consider the lamp temperature and be mindful of long-term maintenance and operation costs. Dark sky lighting options may also be an important consideration to protect against light trespass for habitat-sensitive species and for star gazing in recreation areas.

## 4.4 Recommended Pedestrian Policies and Programs

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

### Recommended Policies

The City of Eden's Unified Development Ordinance (UDO) which was adopted in October 2020 was reviewed to understand how it influences the planning of pedestrian enhancements. One of the most cost-effective strategies for implementing this Plan would be to establish land development regulations and street design policies and standards that promote walkable new development and capital projects.

The consultant team reviewed regulatory and policy language from other communities in North Carolina and used best practices that provide successful land use and active transportation integration, alignment with sustainable nature-based planning in response to flooding and to encourage resiliency, and Complete Streets. The goal is to encourage safe, alternative options to vehicular use through policy-level planning efforts. These should work in tandem with the infrastructure projects recommended throughout Section 4.3. Including safe alternative options to vehicular use can help encourage residents

to walk for both transportation and leisure purposes. Redevelopment and new development permitted in the City of Eden should provide for active transportation facilities. The City Council can encourage pedestrian activity by adopting the policy updates as listed in Table 4-7. Recommended Policy Updates below.

Table 4-7. Recommended Policy Updates

Unified Development Ordinance, Existing Condition	Current Standard or Condition	Recommended Changes and Comments
Ordinance, Existing Condition Article 4.02 B. Overlay Districts (UDO)	Provides for purposes of managing certain environmentally sensitive or visually important geographic areas, certain overlay districts have been established to impose design, use, or other standards in addition to the requirements of the underlying base district	<p>Create an Active Transportation Overlay Zoning District along all linear corridors defined and mapped in the City of Eden’s Bicycle and Pedestrian Plan (2021). See “Recommended Infrastructure Improvements”, Section 4.3</p> <p>This regulation is intended to require complete streets including sidewalks/multiuse infrastructure requirements for any new or proposed infrastructure, construction, or reconstruction projects adjacent to these corridors throughout the City.</p>
Article 6 6.04 Parking and Loading F. Space Design Standards 2. Parking Area General Design Standards (UDO)	<p>Zoning districts (including RMX, NMX and BC and BG Parking Design Standards</p> <p>New Section</p>	<p>Amend zoning standard to require parking lots to be located behind or adjacent to future developments to provide safer entrance for pedestrians accessing the business.</p> <p>More information regarding smart growth codes can be found at <a href="https://www.epa.gov/smartgrowth/codes-support-smart-growth-development">https://www.epa.gov/smartgrowth/codes-support-smart-growth-development</a> and <a href="https://formbasedcodes.org/">https://formbasedcodes.org/</a>.</p>
Article 6 General Development Standards 6.06 Open Space Standards Amendments	Amend Table C. Required Open Space Table	<p>Reassess requirements in UDO to require open space for all zoning districts except OS in order to enhance the present or potential value of maintaining or enhancing the conservation, natural habitat, natural or scenic values of open space; or any undeveloped or predominately undeveloped land that has value for one or more of the following purposes:</p> <ol style="list-style-type: none"> <li>(1) Park and recreational uses,</li> <li>(2) Conservation of land and other natural resources; or</li> <li>(3) Recreational or scenic purposes.</li> <li>(4) Greenways, blueways, shared use paths, bicycle and pedestrian facilities.</li> </ol> <p>Chapter 4 of NCDOT’s <i>Complete Streets Planning and Design Guidelines</i> provides specific design guidance and recommendations for greenways, shared use paths, bicycle facilities, and sidewalks.</p>

Unified Development Ordinance, Existing Condition	Current Standard or Condition	Recommended Changes and Comments
Article 7 Sign Standards	Add New Section	Signage that provides wayfinding for active transportation users should be required on construction of all active transportation corridors, including greenways, shared use paths, bicycle facilities, and sidewalks.
Article 8.04 Applicable Design Standards S. Sidewalks subsections 4 f. and g.  Proposed Amendments (UDO)	8.04 S.4. f. In all commercial, office, and mixed-use districts, including but not limited to: BC, BG, BH, NMX, RMX, and CZ with any residential or commercial component. g. Within ½ mile of any pedestrian destination, including but not limited to schools, libraries, public facilities, shopping centers or commercial areas, parks, greenways, and recreational fields	Amend these two subsections to require sidewalks on both sides of the street to provide increased pedestrian safety and improved connectivity
Article 8.04 S Sidewalks (UDO)	New Subsection	Amend to include “active transportation including sidewalks and multiuse facilities.”  Amend to include all facilities require compliance with ADA. This should include curb ramps on sidewalks at all crossings and a restriction of cross slopes of more than two (2) percent. National and statewide plans are used by NCDOT to guide the planning, design, and construction of bicycle and pedestrian infrastructure.  Amend to include wider sidewalks, between 10’-15’, in the BC and BG zoning district to allow for outdoor dining .
	New Subsection	Amend to include new sub section that when an existing sidewalk or multiuse path is closed for construction or maintenance reasons – on the walkway itself or on adjacent property – an adequate detour route should be established and signed, if feasible.

Unified Development Ordinance, Existing Condition	Current Standard or Condition	Recommended Changes and Comments
Article 8 Subdivisions & Infrastructure Standards (UDO)	Section 8.03 Improvements required D,1, Street Improvements Add New Subsection	<p>Add new objective to Section D. to require hybrid green/nature-based infrastructure and stormwater infiltration, conveyance, and storage improvements be included on all public facilities, infrastructure and utilities including roadway upgrades to help mitigate impacts from stormwater and nuisance flooding.</p> <p>This may include hybrid green and grey infrastructure such as vegetative buffers, storm sewers, and culverts in flood prone areas.</p> <p>This should follow FHWA's <i>Nature-based Resilience for Coastal Highways</i> guidance.</p>

- City of Eden UDO: <https://www.edennc.us/home/showpublisheddocument/3813/637636019605570000>
- NCDOT Complete Streets Planning and Design Guidelines: [http://www.pedbikeinfo.org/pdf/PlanDesign\\_SamplePlans\\_CS\\_NCDOT2012.pdf](http://www.pedbikeinfo.org/pdf/PlanDesign_SamplePlans_CS_NCDOT2012.pdf)
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities: [http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07\(263\)\\_FR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(263)_FR.pdf)
- WalkBikeNC North Carolina Statewide Pedestrian and Bicycle Plan: <https://altaplanning.com/wp-content/uploads/WalkBikeNCPlanChapterslowres.pdf>
- FHWA Nature-based Resiliency for Coastal Highways: [https://www.fhwa.dot.gov/environment/sustainability/resilience/ongoing\\_and\\_current\\_research/green\\_infrastructure/implementation\\_guide/fhwahep19042.pdf](https://www.fhwa.dot.gov/environment/sustainability/resilience/ongoing_and_current_research/green_infrastructure/implementation_guide/fhwahep19042.pdf)

## Recommended Programs

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

- Safety campaigns to educate pedestrians and drivers
- Enhance safe access to schools
- Provide open street and walking events
- Improve local aesthetics with public art
- Enforce existing driving laws and speed limits

### *Active Transportation Advisory Committee*

The City should consider forming the Eden ATAC to encompass all multimodal activities and for alignment with NCDOT's Integrated Mobility Division nomenclature and multimodal directives. This group will be important to organize and maintain the proposed programs and identify and seek out funding sources that will help the City achieve its goal of becoming a more walkable community.

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

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

Watch for Me NC is a comprehensive campaign aimed at reducing the number of active transportation users, including pedestrians, hit, and injured in crashes with vehicles. The campaign consists of educational messages on traffic laws and safety, and an enforcement effort by area police. With more than 3,000 pedestrians and 850 bicyclists hit by vehicles each year in North Carolina, NCDOT in collaboration with municipalities and universities has launched the Watch for Me NC campaign to reduce crashes through education and enforcement. Education materials in the form of a website, public service announcements, pamphlets, bus wraps, billboards, and bumper stickers have been developed and distributed to increase awareness of pedestrians and bicyclists and applicable laws. Many of the materials can be distributed at local festivals and other events, at local businesses. The campaign also provides increased training to law enforcement. Many of these resources are downloadable from Watch for Me NC at: <http://www.watchformenc.org/>.



### *Enhance Safe Access to Schools*

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



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

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



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

### *Open Street & Walking Events*

The City of Eden has unique characteristics that can be showcased through outdoor events that could be supported by pedestrian facilities. The City already hosts an outdoor festival in Uptown Eden called RiverFest and Winterfest that promote connectivity to nature and encourage walking throughout the City. Improving sidewalk connectivity in the downtown area with the Plan's proposed pedestrian projects could result in walkable and inviting streets that would encourage festival attendees to explore the rest of Eden.

More information can be found at: [www.openstreetsproject.org](http://www.openstreetsproject.org)

### *Public Art & Environmental Education*

Creating a welcoming and enjoyable walking environment is an important component of developing a walkable community. Discussion with the Steering Committee indicated that the City has interest in using its most defining element to improve the aesthetics of the City. Local art showcasing the City's two rivers can be located along paths and sidewalks throughout the City to not only beautify the community, but also showcase the environmental features that are so prevalent in Eden.

Local art could also be incorporated with sidewalk projects and alongside signage for local businesses and seen as an advertising opportunity to promote economic vitality for local businesses, as well as environmental awareness and a sense of stewardship for local species. By including a small plaque with environmental features and associated educational text, the artist along with their business name and location, the City could encourage local artists to donate their art or even pay a small fee to cover installation and maintenance fees in exchange for the advertising that would result from the public display of their art.

### *Educating Citizens on Existing Driving Laws & Speed Limits*

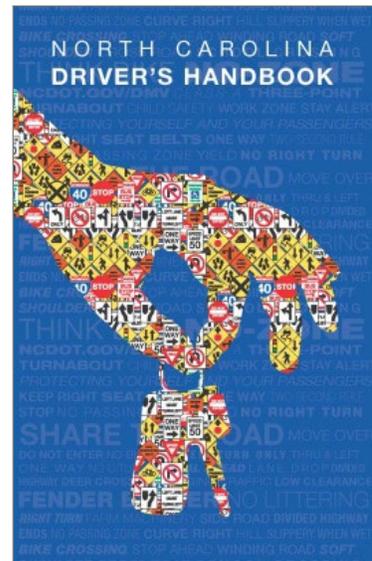
Education is essential for teaching and reminding drivers of all ages the applicable laws and responsibilities of motorists as they pertain to safely sharing the road with bicyclists and pedestrians. This also includes educating police officers on pedestrian and active transportation user laws.

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

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

More information can be found at: [www.ncdot.gov/dmv](http://www.ncdot.gov/dmv).

The NC Bicycle and Pedestrian laws can be found at: [www.ncdot.gov/divisions/bike-ped/Pages/bike-ped-laws.aspx](http://www.ncdot.gov/divisions/bike-ped/Pages/bike-ped-laws.aspx).



## 5.0 Implementation

Achieving the vision, goals, and objectives of this Plan will require the commitment of City officials and staff, ATAC, Piedmont Triad RPO, NCDOT, and the support and leadership from the community and other partner organizations. Guided by the goals, objectives, and strategies, Eden will continue working to improve pedestrian safety and connectivity.

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

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

Adopting this Plan is a necessary first step for improving pedestrian safety and mobility in Eden. Coordination with NCDOT Division 7 and the Piedmont Triad RPO will be critical to implementing the infrastructure projects proposed in this Plan.

### 5.1 Key Action Steps

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

In addition, all infrastructure recommendations along NCDOT-maintained roadways would require review and approval by NCDOT Division 7 prior to implementation. All roadway projects along NCDOT owned roads should be compliant with the NCDOT Complete Streets policy and consider pedestrian recommendations in this Plan. The key actions are listed in Table 5-1. The timeline for the action steps is meant as a general guide and can be modified as necessary.

*Table 5-1. Key Steps to Implementation*

Action	Description	Stakeholder	Timeline
Adopt the Eden Comprehensive Pedestrian Plan	Present the Plan to the City Council for adoption.	City Council and City Staff	Spring 2021
Adopt an active transportation overlay district	Adopt a sidewalk overlay district to require sidewalk infrastructure be built throughout the City.	City Council and City Staff	Spring 2021
Amend Rockingham County CTP	Amend Rockingham County CTP to incorporate recommended projects from this Plan into the CTP.	City Council, City Staff, Rockingham County	Spring 2021
Create an Active Transportation Advisory Committee (ATAC)	Create an ATAC: a formal advisory committee that will be responsible for overseeing the implementation of the Plan.	City Council and City Staff	Summer 2022
Strengthen partnerships with Piedmont Triad RPO and NCDOT Division 7	Hold an initial meeting with the stakeholders to provide an overview of the Plan's recommendations and identify opportunities for collaboration.	Piedmont Triad RPO, NCDOT Division 7, and City Staff	Summer 2022/ ongoing

Action	Description	Stakeholder	Timeline
Apply for Watch for Me NC	Apply to participate in NCDOT’s Watch for Me NC campaign to raise awareness and provide educational resources to promote bicycle and pedestrian safety to residents, drivers, and law enforcement.	ATAC and City Staff	Summer/Fall 2022/ Ongoing
Identify potential funding sources during City budget planning	Identify potential funding sources for pedestrian programs, projects, and maintenance in the City’s budget such as Powell Bill funds. Begin to accumulate funds that can be used for the local match required for most projects.	ATAC, City Council, and City Staff	Summer/Fall 2022
Apply for alternative funding sources for the Plan’s projects and programs	Refer to the funding sources identified in this Plan in Appendix E; apply for funds in addition to the STIP process to implement programs and projects. Establish a fund to use for local match requirements.	ATAC and City Staff	Ongoing
Include requirements for pedestrian facilities in City ordinances and policies	Draft amendments to City ordinances and policies following the recommendations of this Plan and NCDOT’s Complete Street Policy for pedestrian infrastructure in existing and new development.	City Council, and City Staff	Fall/Winter 2022/2023
Coordinate with Active Routes to School Coordinator	Begin meeting with the Active Routes to School Coordinator to establish and develop policy for implementation and/or training or programs for local schools.	ATAC, City Staff, NCDOT, NC Division of Public Health	Winter/Spring 2023
Partner with local artists and businesses	Partner with local artists and businesses to work on placemaking projects.	Local artists, art organizations, and City Staff	Summer 2023
Prepare the Eden Comprehensive Pedestrian Plan Annual Report/Memo	Prepare the first Eden Pedestrian Plan Annual Report or memo assessing progress made over the past year using the performance and evaluation measures included in this Plan.	ATAC and City Staff	Fall 2023

## 5.2 Project Development Strategy

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

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

The project development process will vary depending on whether the project is on-road or off-road on a new location. Roadway re-striping and traffic calming measures, such as speed tables, are on-road

improvements typically constructed within the road ROW. However, adding sidewalks may involve obtaining additional ROW and/or easements from adjacent property owners.

### Identification of Funding Sources

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

- Coordinate with the Piedmont Triad RPO to include infrastructure projects in the regional planning process
- Align City budget planning
- Apply for alternative funding sources for the Plan's projects and programs
- Partner with North Carolina Department of Commerce for grants and technical assistance
- Form public-private partnerships

### Scoping Report/Feasibility Study

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

Some of the pedestrian projects proposed in this Plan would be on-road facilities within NCDOT ROW that require coordination with NCDOT. On NCDOT roads in the City, roadway re-striping to reallocate road space has the potential to be accomplished cost-effectively through the division's resurfacing projects. As identified in the key action steps table, coordination with NCDOT Division 7 should be initiated following the adoption of this Plan. There may be opportunities to include pedestrian facilities proposed by this Plan in roadway repaving and widening projects. An important role for the ATAC would be to monitor the NCDOT Division 7 resurfacing schedule. This could be accomplished through arranging quarterly check-ins with the Division Operations and Maintenance personnel to determine upcoming resurfacing plans or coordinating with the Piedmont Triad RPO. Although NCDOT communicates with local municipalities concerning upcoming resurfacing plans and the 2019 Complete Streets Policy ensures pedestrian plans be considered in resurfacing projects, coordination with NCDOT is recommended to ensure projects in this Plan can be implemented through resurfacing.

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

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

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

- Adopt the City of Eden Comprehensive Pedestrian Plan
- Strengthen partnerships with Rockingham County and the Piedmont Triad RPO
- Coordinate with NCDOT Division 7
- Coordinate with the Piedmont Triad RPO to include infrastructure projects in the regional planning process and in the CTP
- Include in City budget planning
- Develop partnerships with local and regional businesses to help fund wayfinding, arts, and streetscape elements

### Engineering and Design

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

- Coordinate with NCDOT Division 7
- Coordinate with the Piedmont Triad RPO to include infrastructure projects in the regional planning process
- Align efforts with City budgeting and planning

### Design-level Cost Estimates

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

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

## Public Involvement

This is a critical component for soliciting community input on the location, design, and function of the proposed facility. In addition, public involvement is critical in forming partnerships with local advocacy organizations and educating the community about the overall benefits of active transportation. Public involvement should be included in all phases of project development from planning, feasibility, design, and construction. Practical action steps include the following:

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

## 5.3 Funding Sources

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

### State Funding Process for Transportation Improvements

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

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

- Minimum project cost of \$100,000 for standalone pedestrian (or bicycle) projects (this does not apply for active transportation elements that are part of a roadway project).
- According to the 2019 Complete Streets Policy, if the pedestrian facility is included in an adopted local plan, the City will not be responsible for the cost. If the pedestrian project component is not included in a plan, the City will have to provide a local match.
- Must be included in an adopted plan (pedestrian plans, bicycle plans, greenway plans, Safe Routes to School action plans, CTPs and long-range transportation plans)

- ROW must be secured prior to receiving federal construction funding
- The formula funds projects according to the three following categories:
- Division Needs (30 percent)
- Regional Impact (30 percent)
- Statewide Mobility (40 percent)

Pedestrian (and bicycle) projects that are independent of larger roadway projects are only funded through the Division Needs category. Projects in this category compete equally against all six transportation modes within the division. Selection is based on 50 percent on the quantitative score and 50 percent on local input. Local input is split evenly between the NCDOT division and metropolitan planning organization Rural Planning Organization (or RPO). The public may comment on the local input point assignment, which the Division Engineer will review prior to final local input point assignment. Piedmont Triad RPO also provides a public comment period.

### Powell Bill Funds

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

### North Carolina Main Street and Rural Planning Center

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

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

### Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant

The RAISE Transportation Discretionary Grant program (formerly BUILD) is a federal program by the United States Department of Transportation (USDOT) to fund projects that invest in road, rail, transit and port projects that promise to achieve national objectives. The eligibility requirements of RAISE allow project sponsors at the state and local levels to obtain funding for multimodal, multi-jurisdictional projects that are more difficult to support through traditional USDOT programs. RAISE can provide capital funding directly to any public entity, including municipalities, counties, port authorities, tribal governments, MPOs, or others in contrast to traditional federal programs which provide funding to very specific groups of applicants (mostly state departments of transportation and transit agencies). Pedestrian (and bicycle) projects are eligible for funding under the RAISE program. RAISE grants are

competitive and are selected based on merit criteria, including safety, environmental sustainability, and quality of life. The application and award process occur annually. The maximum award amount is \$25 million. In urban areas, the award minimum is \$1 million while there is no minimum in rural areas. One potential use of these funds would be for Eden to coordinate with the Piedmont Triad RPO and NCDOT to modify the roadways (and bridges if applicable) most vulnerable to flooding in the City and, in the process, install pedestrian facilities.

### National Endowment for the Arts

The National Endowment for the Arts' Our Town program is a creative placemaking initiative that would likely be appropriate for Eden given the City's focus on placemaking. The grant requires "a partnership between a local government entity and nonprofit organization, one of which must be a cultural organization; and should engage in partnership with other sectors (such as agriculture and food, economic development, education and youth, environment and energy, health, housing, public safety, transportation, and workforce development)" (NEA, 2020). Additional information regarding specific grant requirements and the application can be found on the National Endowment for the Arts' website: <https://www.arts.gov/grants/apply-grant/grants-organizations>.

### Other Funding Sources

Eden may consider alternate funding sources to augment state funds for pedestrian projects, which are limited and competitive. The programs listed below may be used to fund entire projects or be directed towards covering the cost of spot improvements like crosswalks or amenities such as benches and signage. Note that many of the federal funding sources are distributed by NCDOT through the prioritization process and are not directly attributed to municipalities or RPOs. Additional and more detailed information concerning what these funds can be used for, the required local match, and other characteristics is included in Appendix E.

#### *Federal Funding Sources*

- Congestion Mitigation and Air Quality Improvement
- Highway Safety Improvement Program
- National Priority Safety Program (Section 405)
- State and Community Highway Safety Grant Program (Section 402)
- Surface Transportation Block Grant Program
- Transportation Alternatives

#### *State Funding Sources*

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

### *Local Funding Sources*

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

### *Nonprofit Funding Sources*

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

### Community Crowdfunding

In the last several years the internet has revolutionized fundraising. This new form of fundraising, called crowdfunding enables people all over the world to start a fundraising effort and provides an easy mechanism for others to make donations. Platforms such as Kickstarter and Indiegogo are online communities that act as funding platforms for a diverse range of projects. Individuals or organizations post projects for a nominal fee and individuals make contributions via credit card. This type of fundraising is likely to be a minor source, but might be useful for funding spot improvements, such as crosswalk markings or benches.

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

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

## 5.4 Performance and Evaluation Measures

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

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

Table 5-2. Implementation Evaluation Criteria

Goals	Performance Evaluation	Examples of Progress Achieved
Identify and develop pedestrian programs and infrastructure projects to improve safety and enhance connectivity within the City of Eden that complement the City’s focus on the natural environment and public space.	Miles of pedestrian facilities constructed and number of spot improvements	Miles of bicycle and pedestrian facilities constructed in a specific period of time (e.g., 1 mile within 5 years)
	Number of programs implemented to encourage walking and safety	Participation in the Watch for Me NC program annually or bi-annually
	Number of ATAC meetings held	ATAC meets quarterly
Prioritize pedestrian infrastructure projects for priority projects identified in Section 4.3 to improve walkability, increase safety, and encourage economic development.	Compliance of pedestrian facilities with ADA standards	Number of curb cuts updated to meet ADA standards
	Reduction in speeding vehicles along the roadway	Reduced number of speeding cars recorded
	Number of local stores along Old State Hwy 770 that can be accessed from pedestrian facilities	Increase number of stores that are accessible from multiuse paths (e.g., 5 additional local businesses adjacent)
Provide wayfinding for pedestrian navigation between community origins and destinations, including local parks and the YMCA.	Implementation of wayfinding system	City adopted wayfinding design and strategy.
	Number of wayfinding signs located within Eden	Wayfinding signs that direct tourists to city attractions
Recognize and promote the health, economic, safety, and mobility benefits of active transportation.	Consecutive miles of pedestrian facilities to encourage walking to resources as well as walking recreationally	Establishment of walkable “loops” for recreational purposes that connects the various public spaces in Eden
Educate the community as to the benefits of pedestrian activity, applicable rules, and regulations.	Number of programs, campaigns, or events annually in the community meant to encourage pedestrian activity	Number of programs or partnerships annually
Coordinate with Piedmont Triad RPO and NCDOT to implement the recommendations of the Plan.	Successful adoption of the Eden Comprehensive Pedestrian Plan	Plan is approved by NCDOT and the Piedmont Triad RPO
	Implementation of projects proposed in the Eden Comprehensive Pedestrian Plan	Number of programs and infrastructure projects implemented following the adoption of the Plan

## REFERENCES

NCDOT Complete Street Planning and Design Guidelines: <http://completestreetsnc.org/>

Green Building Alliance: Permeable Pavement: <https://www.go-gba.org/resources/green-building-methods/permeable-pavements/>

EPA: Enhancing Sustainable Communities with Green Infrastructure:  
<https://www.epa.gov/sites/production/files/2016-08/documents/green-infrastructure.pdf>

Natural Resources Conservation Service, Bioswales:  
[https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs144p2\\_029251.pdf](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_029251.pdf)

AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities:  
[http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07\(263\)\\_FR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(263)_FR.pdf)

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

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

Let's Go NC! [www.connect.ncdot.gov/projects/BikePed/Pages/LetsGoNC.aspx](http://www.connect.ncdot.gov/projects/BikePed/Pages/LetsGoNC.aspx)

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

North Carolina Bicycle and Pedestrian Laws: [www.ncdot.gov/divisions/bike-ped/Pages/bike-ped-laws.aspx](http://www.ncdot.gov/divisions/bike-ped/Pages/bike-ped-laws.aspx)

North Carolina Department of Transportation Complete Streets Planning and Design Guidelines:  
[http://www.pedbikeinfo.org/pdf/PlanDesign\\_SamplePlans\\_CS\\_NCDOT2012.pdf](http://www.pedbikeinfo.org/pdf/PlanDesign_SamplePlans_CS_NCDOT2012.pdf)

North Carolina Division of Motor Vehicles: [www.ncdot.gov/dmv](http://www.ncdot.gov/dmv)

Open Street Events: [www.openstreetsproject.org](http://www.openstreetsproject.org)

Safe Routes to School: <https://www.ncdot.gov/bikeped/safetyeducation/safeRoutesToSchools/>

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

Watch for Me NC at: <http://www.watchformenc.org/>

## PHOTO CREDITS

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

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

City of Eden  
NCDOT Pedestrian Plan  
Steering Committee Meeting #1 Summary

## Appendix A: Steering Committee and Public Involvement

### Steering Committee Meeting #1

#### *Agenda Packet*

#### Notes – Steering Committee Kick-off Meeting and Working Session

February 10, 2021 - 3:30 PM – 5:00 PM (Virtual)

#### ATTENDEES

- Kelly Stultz, Eden
- Debra Madison, Eden
- Brian Lopez, Integrated Mobility Division, NCDOT
- Sarah Bassett, AECOM, Project Consultant
- Todd McAulliffe, AECOM, Project Consultant
- Haley Lloyd, AECOM, Project Consultant
- Eddie R. Barker, Steering Committee
- Gwen Taylor, Steering Committee
- Barbara Garland, Steering Committee
- Fred Ramsey, Steering Committee
- Amelia Dallas, Steering Committee
- Jerry W. Holland, Jr., Steering Committee
- Frank Wyatt, Steering Committee
- Carol Helms, Steering Committee
- Steve Morgan, Steering Committee
- Matthew W. Smith, Steering Committee

#### SUMMARY

The Steering Committee for the City of Eden Pedestrian Plan met on Wednesday, February 10, 2021 virtually. Select committee members were present along with project consultants from AECOM and representatives from NCDOT. A copy of the presentation is included as **Attachment A**.

#### *Introductions*

The kick-off meeting began with introductions by the project consultants followed by the committee.

#### *Project Overview, Vision, and Goals*

AECOM consultant, Sarah Bassett, discussed the purpose of the meeting which included an overview on the tasks and project schedule. An overview of the project schedule was provided to the steering committee which noted future meetings and the anticipated delivery of the plan document. In addition, the committee reviewed and discussed the potential vision and goals for the plan.

#### Current vision:

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

#### Potential goals:

Improve mobility through pedestrian networks.

Provide pedestrian education.

Promote environmental, public health, and safety benefits of walking.

Encourage consistent policies and zoning guidelines.

Establish a hierarchy for projects and support services.

Connect community destinations and natural resources.

Create walking opportunities that make land use, development, and transportation infrastructure more resilient to potential future risks including storm events or other threats.

#### ***Working Session***

City of Eden  
NCDOT Pedestrian Plan  
Steering Committee Meeting #1 Summary

Ms. Lloyd operated the mapping exercise using Google Earth. The steering committee annotated the maps with key community features, obstacles, opportunities, and potential walking routes.

**Next Steps**

The project schedule is provided below. The second steering committee meeting and first public meeting will occur in March.

## Schedule

TASK	DATE
Task 1: Inventory and Evaluation of Existing Conditions	Jan. 2021
Task 2: Project Kick Off Meeting, First Steering Committee Meeting	Feb. 2021
Task 3: Second Steering Committee and First Open House Public Meeting	Mar. 2021
Task 4: Preliminary Pedestrian Plan	Feb. -May 2021
Task 5: Third Steering Committee Meeting	May 2021
Task 6: Final Plan Preparation	May -Jul 2021
Task 7: Public Meeting to Present Final Plan	Aug. 2021

## **Attachment A**

### **Agenda, presentation, and work session map**

#### **Agenda – Steering Committee Kick-off Meeting and Working Session**

February 10, 2021 - 3:30 PM – 5:00 PM (Virtual)

**3:30 PM**

#### **INTRODUCTIONS**

**A) Meeting agenda**

Introduce the project and the purpose of today's meeting.

**B) Introductions**

City Staff, Steering Committee, NCDOT, AECOM Team

**3:40PM**

#### **PROJECT OVERVIEW**

Discuss the project, including the role of the steering committee the project vision and goals, and the types of projects that may be recommended as part of the planning process.

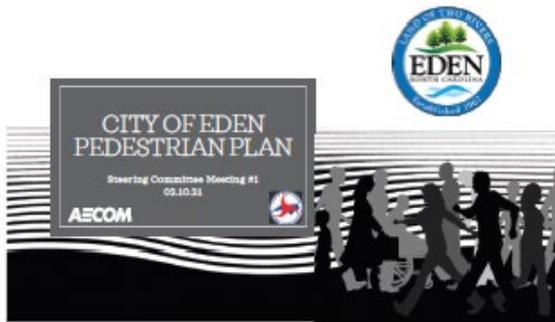
**4:00PM**

#### **WORK SESSION**

The steering committee will be asked to participate in a working session using Google Earth intended to lay the groundwork for developing projects that will be presented in the plan. The committee will be asked to identify pedestrian constraints, opportunities, and community features or destinations. They will also be asked to identify specific pedestrian routes or connections in the City.

**5:00 PM ADJOURN THE STEERING COMMITTEE MEETING**

## Presentation Slides



### Meeting Agenda

- Introductions
- Project overview
- Develop vision and goals
- Work session
- Next steps



### Introductions

<h2>01</h2> <p><b>NCDDOT</b> Bryan Lopez</p> <p><b>AECOM</b> Sarah Bassett Todd McArthur Riley Lloyd</p>	<h2>02</h2> <p><b>City of Eden</b> Kelly Stutz Debra Madison</p>	<h2>03</h2> <p><b>Steering Committee</b> Bobby A. Barker Green Taylor Melissa Chismel Paul Scully Amanda Dallas Jerry McMillan, Jr. Paula Hayes Candace Kara Morgan Madison M. Smith</p>
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### Project Overview

- This plan will help the City of Eden prioritize pedestrian projects.
- The project list can be used to apply for funding for design or construction purposes.
- The plan includes infrastructure, policy, and programmatic recommendations.

### Role of the Steering Committee

- Attend Project Kick-Off:
  - Provide input on the vision, goals, and objectives
  - Identify needs, opportunities, and constraints
- Review the preliminary plan.
- Attend two additional steering committee meetings and comment on the plan.
- Serve as champions of the final plan. We recommend developing a pedestrian advisory committee to oversee the plan implementation.



### Draft Vision

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

## Draft Goals

- Improve mobility through pedestrian networks.
- Provide pedestrian education.
- Promote environmental, public health, and safety benefits of walking.
- Encourage consistent policies and zoning guidelines.
- Establish a hierarchy for projects and support services.
- Connect community destinations and natural resources.
- Create walking opportunities that make land use, development, and transportation infrastructure more resilient to potential future risks including storm events or other threats.

## Project Types

<b>Signage</b>	Encourage walking by making it safe and more convenient. Signage makes streets more aware of pedestrian use and helps guide pedestrian flow.
<b>High-Velocity Corridors</b>	A design and zoning strategy for pedestrians. They are designed to increase visibility to increase pedestrian safety.
<b>Shared-Use Path</b>	Typically separated from vehicle traffic and may include other shared uses. They are a preferred facility.
<b>Widewalks</b>	Must be wide and clear of obstructions.
<b>Curb Ramps</b>	Must comply with ADA requirements.
<b>Street Furniture</b>	Examples include benches, tree shelters, trash receptacles, and water fountains.
<b>Lighting Improvements</b>	Provides adequate nighttime lighting to improve visibility for pedestrians. Flashing lights may be added to crosswalks.
<b>Accessibility</b>	Support low-income development in order to improve economic vitality near pedestrian infrastructure.



## Existing Pedestrian Infrastructure

- Dan River Greenway
- Smith River Greenway and Loop
- Murrainy Creek Greenway
- Nearly 27 miles of existing sidewalks
- STIP Projects: U-5888 (Kings Hwy. - convert at-grade intersection to interchange) and RB-5888 (Construct sidewalk - Country Club Dr to Freedom Park)

## Work Session



**Exercises:**  
Identify pedestrian constraints, opportunities, and community features or destinations. Identify specific pedestrian routes or connections.

## Schedule

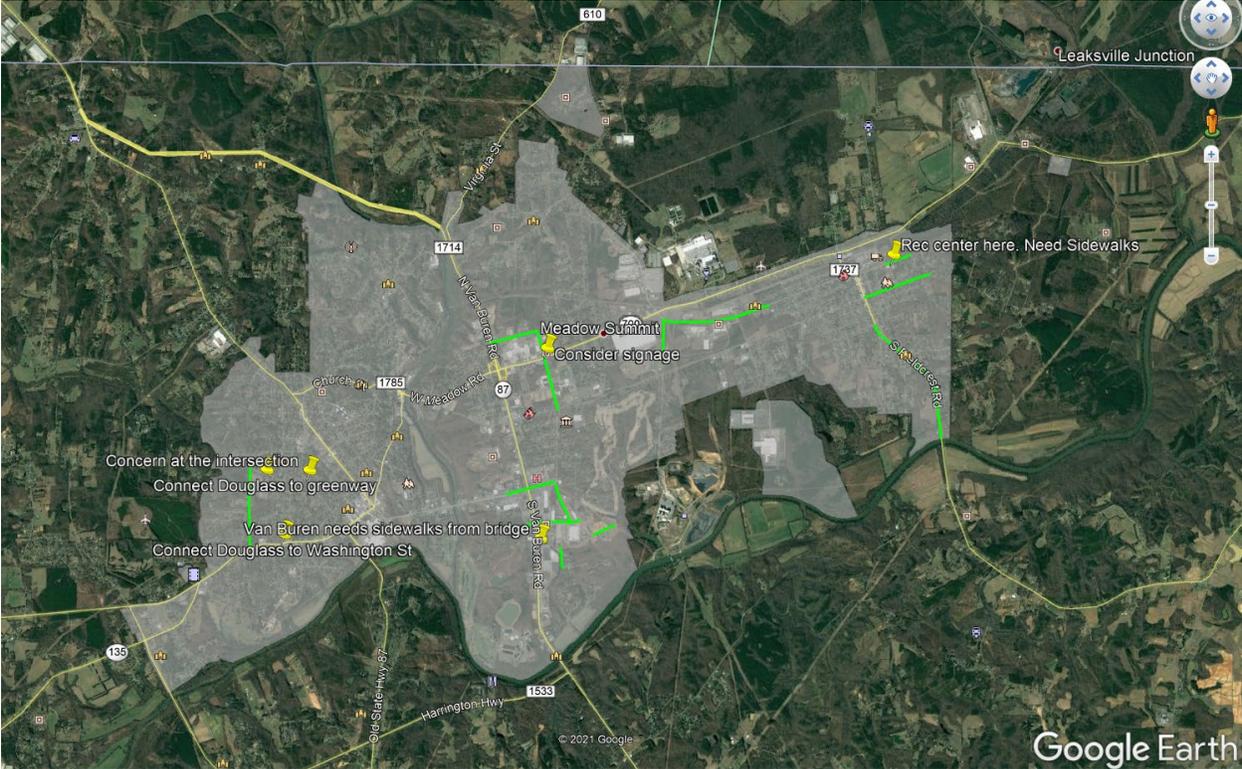
TASK	DATE
Task 1: Inventory and Evaluation of Existing Conditions	Jan. 2021
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Task 4: Preliminary Pedestrian Plan	Feb. -May 2021
Task 5: Third Steering Committee Meeting	May 2021
Task 6: Final Plan Preparation	May -Jul 2021
Task 7: Public Meeting to Present Final Plan	Aug. 2021

## Thank You

Sarah Bassett | AECOM  
[Sarah.bassett@aecom.com](mailto:Sarah.bassett@aecom.com)

Todd McAnuliffe | AECOM  
[Todd.mcAnuliffe@aecom.com](mailto:Todd.mcAnuliffe@aecom.com)

Steering Committee Map



Note: The information displayed in this map will be transferred to GIS maps and inserted into the plan.

## Steering Committee Meeting #2

### Agenda and Exercise Outputs

### Notes – Steering Committee Meeting #2 and Working Session

March 30, 2021 – 4:00 PM-5:00 PM (Virtual)

#### ATTENDEES

- Kelly Stultz, Eden
- Debra Madison, Eden
- Brian Lopez, Integrated Mobility Division, NCDOT
- Sarah Bassett, AECOM, Project Consultant
- Todd McAulliffe, AECOM, Project Consultant
- Haley Lloyd, AECOM, Project Consultant
- Eddie R. Barker, Steering Committee
- Gwen Taylor, Steering Committee
- Barbara Garland, Steering Committee
- Fred Ramsey, Steering Committee
- Amelia Dallas, Steering Committee
- Jerry W. Holland, Jr., Steering Committee
- Frank Wyatt, Steering Committee
- Carol Helms, Steering Committee
- Steve Morgan, Steering Committee
- Matthew W. Smith, Steering Committee

**SUMMARY**

The Steering Committee for the City of Eden Pedestrian Plan met on Tuesday, March 30, 2021 virtually. Select committee members were present along with project consultants from AECOM and representatives from NCDOT. A copy of the presentation is included as **Attachment A**.

**Introductions**

The kick-off meeting began with introductions by the project consultants followed by NCDOT.

**Agenda**

AECOM consultant, Sarah Bassett, discussed the agenda for the meeting which included the following:

- Welcome
- Project update
  - Progress
  - Survey results
- Question exercise
- Preliminary projects
  - Working session
  - Prioritization exercise
- Next steps

**Project Update**

Since the last meeting, the team started the draft Comprehensive Pedestrian Plan. IN addition, they took outcomes form the first Steering Committee Meeting and drafted projects. The online survey was summarized and supported the draft projects.

**Next Steps**

The project schedule is provided below. Task 4 (Preliminary Pedestrian Plan) will be presented in May 2021 to the Steering Committee (Meeting #3).

# Schedule

TASK	DATE
Task 1: Inventory and Evaluation of Existing Conditions	Jan. 2021
Task 2: Project Kick Off Meeting, First Steering Committee Meeting	Feb. 2021
Task 3: Second Steering Committee and First Open House Public Meeting	Mar. 2021
Task 4: Preliminary Pedestrian Plan	Feb. -May 2021
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Task 7: Public Meeting to Present Final Plan	Aug. 2021

## **Attachment A**

Agenda, presentation, and work session

### **Agenda – Steering Committee Meeting #2 and Working Session**

March 30, 2021 - 4:00 PM-5:00 PM (Virtual)

**4:00 PM**

#### **INTRODUCTIONS**

**A) Meeting agenda**

Introduce the project and the purpose of today's meeting.

**B) Introductions**

City Staff, Steering Committee, NCDOT, AECOM Team

**4:20 PM**

#### **PRESENTATION**

The agenda included the following items: Welcome, project updates, question exercise, preliminary projects, and next steps.

**4:30 PM**

#### **WORK SESSION**

The steering committee will be asked to participate in a working session using a PDF of the draft projects map. The draft projects are flexible, and all comments are welcome. Modifications can be made, as well as deletions, and additions. The committee will identify any missed areas that were discussed during the first meeting.

**5:00 PM**

#### **ADJOURN THE STEERING COMMITTEE MEETING**

## Presentation Slides

# THE CITY OF EDEN PEDESTRIAN PLAN

Comprehensive Pedestrian Plan  
STEERING COMMITTEE MEETING #2  
March 30, 2021



### MEETING AGENDA

- **Welcome**
- **Project Update**
  - Progress
  - Survey results
- **Question Exercise**
- **Preliminary Projects**
  - Working session
  - Prioritization exercise
- **Next steps**



### PROJECT UPDATE

- Collected additional information and started to draft the Comprehensive Pedestrian Plan
- Took outcomes from first Steering Committee meeting and started developing draft projects
- Reviewed and summarized the online survey results




### KEY TASKS AND SCHEDULE

TASK	DATE
Task 1: Inventory and Evaluation of Existing Conditions	Jan. 2021
Task 2: Project Kick Off Meeting, First Steering Committee Meeting	Feb. 2021
Task 3: Second Steering Committee and First Open House Public Meeting	Mar. 2021
Task 4: Preliminary Pedestrian Plan	Feb. - May 2021
Task 5: Third Steering Committee Meeting	May 2021
Task 6: Final Plan Preparation	May - Jul. 2021
Task 7: Public Meeting to Present Final Plan	Aug. 2021

*We are here!*



### SURVEY RESULTS

- **15 participants**
- **73 percent** of respondents stated that exercise and recreation was their primary motive for walking
- **67 percent** of respondents find that there is a lack of a complete network of sidewalks/gaps in sidewalks
- **Improve mobility through pedestrian networks** was identified as a top goal

"Major shopping areas are partially inaccessible to older children and multi-family areas."

"I am not sure if it can be in the video, but I see nothing about the disabled/handicapped. Diverse backgrounds do not cover this, and I believe it should be totally inclusive."

"Citizens have to drive to access the greenways and trails. Fees are adjacent to neighborhoods where greater use might be realized."



### PROJECT TYPES: SPOT AND LINEAR



SPOT	LINEAR
<ul style="list-style-type: none"> <li>• PEDESTRIAN CROSSING</li> <li>• PEDESTRIAN CROSSING</li> <li>• PEDESTRIAN CROSSING</li> </ul>	<ul style="list-style-type: none"> <li>• PEDESTRIAN CROSSING</li> <li>• PEDESTRIAN CROSSING</li> <li>• PEDESTRIAN CROSSING</li> </ul>

**PROJECT TYPES: WAYFINDING AND LIGHTING**

**AECOM**



**Wayfinding** promotes Eden as a destination for walking and tourism and can help encourage walking by making the city easier to navigate through signage and resource information.

**Lighting** Improves the safety and overall visibility of the community



Install street furniture to serve different users such as the differently abled, children, and the elderly.



**PLACEMAKING: GREEN INFRASTRUCTURE**

**AECOM**



Green Infrastructure includes a range of approaches for managing stormwater such as building with permeable surfaces, preventing groundwater infiltration, directing flow of water, or limiting impacts to erosion.

**PRELIMINARY PROJECTS WORKING SESSION**

**AECOM**

- **Exercise 1:**
  - Discuss proposed projects as a group



**WHAT POLICY CHANGES COULD HELP ENCOURAGE MORE ACTIVE TRANSPORTATION?**

- |                              |                                |
|------------------------------|--------------------------------|
| PEDESTRIAN FRIENDLY ZONING   | COMPLETE STREETS GUIDELINES    |
| WAYFINDING SIGNAGE           | SAFE ROUTES TO SCHOOL PROGRAMS |
| PARTNER WITH LAW ENFORCEMENT | AGENCY STAFF TRAINING          |

**WHAT MIGHT BE SOME OF THE BARRIERS TO IMPLEMENTING PROJECTS?**

FUNDING

NIMBY-ISM

POLITICAL WILL

ZONING

LACK OF RIGHT-OF-WAY

PUBLIC SUPPORT AND AWARENESS



**PRIORITIZATION**

Project prioritization ranks proposed projects, policies, and programs according to qualitative and quantitative factors.

This allows for an organization of projects according to considerations such as preference, feasibility, or context sensitivity.

**PRIORITIZATION EXERCISE**

- **Exercise 2:**
  - Complete prioritization exercise worksheet
  - One worksheet per person
  - May also use online survey to complete exercise
  - <https://www.surveymonkey.com/PedProjects1>



**City of Eden 2021 Pedestrian Plan**

Many of the pedestrian projects described were identified by the Steering Committee during our last meeting. This survey will be used to prioritize potential projects, policies, and programs. See the attached reference materials for more information on different types of projects, policies, and programs. Please use the draft project map attached to help you complete this survey.

**SPOT PROJECT RANKING**

Please mark an "X" next to the Spot projects you would like to see in the Pedestrian Plan. Spot projects are one-time and typically include, but are not limited to, crosswalks, lighting, and signage.

Please choose your top P&I projects.

MAP ID	DESCRIPTION	Mark TOP with "X"
A	Crosswalk over Pike St and to Douglas St - School	
B	Roundabout at intersection of Canal Street and W. Main St	
C	Lighting at Birch - River Gateway Park	
M	Crosswalk over W. Main St at Hancock St	
N	Crosswalk over Virginia St at W. Main St	
P	Pedestrian signal at intersection of W. Main St and Pleasant St	
M	Crosswalk on W. Main St to North St & B St	
H	Crosswalk at intersection of W. Main St and Pleasant St	
I	Feeding/beaver on W. Main St at Pleasant St	
J	Crosswalk at intersection of W. Main St and Pleasant St	
L	Lighting at Center Cemetery	
N	Crosswalk over W. Main St at Hancock St	
D	Feeding/beaver at intersection of W. Main St and Pleasant St	
P	Pedestrian signal at intersection of W. Main St and Pleasant St	
D	Crosswalk on W. Main St at Hancock St	

**City of Eden 2021 Pedestrian Plan**

**LINEAR PROJECT RANKING**

Please mark an "X" next to the Linear projects you would like to see in the Pedestrian Plan. Linear projects typically include sidewalks, trails, and multi-use paths. See reference materials at end of the beginning of this survey for more detail.

Please choose your top P&I projects.

MAP ID	DESCRIPTION	Mark TOP with "X"
1	Center Street NW sidewalk connector between Mainway Creek and Douglas St	
2	Sidewalk connector on Landon St between Pike St and Pleasant St	
3	Sidewalk connector on Pleasant St between Mainway Creek and Pike St	
4	Sidewalk connector on Pike St at Birch River Gateway	
5	W. Main St sidewalk connector at Hancock St and W. Main St	
7	W. Main St sidewalk connector at James F. Hensley School and intersection of Canal	
8	Can St sidewalk around Park	
9	Roundabout at intersection of proposed greenway and Hancock St	
10	Sidewalk connector on W. Main St	
11	Water Lo Sidewalk	
12	Access on High Street Rd between K. Hiller and Oak Gap Road	
13	Sidewalk connector on W. Main St between St. Vincent St and Douglas St	
14	Pathway for sidewalk connector between W. Edgemont Road and Douglas Street, Douglas	
15	W. Main St sidewalk connector to Oak Gap	
16	W. Main St sidewalk connector from intersection of Birch River Gateway	
17	East Main St sidewalk between Pleasant St and Douglas St	
18	Sidewalk along Mill Ave and W. Main St	
19	W. Main St sidewalk connector on Pleasant St	
20	Sidewalk connector on W. Main St	

**City of Eden 2021 Pedestrian Plan**

**PROGRAMS AND POLICIES RANKING**

Please rank an "X" next to the policies or programs you would like to see in the Pedestrian Plan.

Please choose your top five projects.

Rank	DESCRIPTION	Mark TOP (with "X")
1	Update local ordinances regarding pedestrian safety and include updates to include pedestrian safety, facilities to use, bike, long, ramps, bike, crosswalks, and other updates.	
2	Coordinate closely with other stakeholders (local, state, long, bike, crosswalks, and other updates).	
3	Incorporate signage updates that provide visibility for pedestrians.	
4	Include updates to the sidewalk to include the complete sidewalk to the street, clear to crosswalk, and other updates to the sidewalk.	
5	Provide more information on walking safety, including updates to the sidewalk.	
6	Provide more staff training of pedestrian safety for police officers, street situation programs, or other safety-related programs.	
7	Provide more updates to the sidewalk through the State Road or other programs.	
8	Provide more updates to the sidewalk through the State Road or other programs.	
9	Provide more updates to the sidewalk through the State Road or other programs.	
10	Provide more updates to the sidewalk through the State Road or other programs.	

**NEXT STEPS**

**AECOM**

# 1

- Project team will draft the plan
- Incorporate feedback from today's meeting
- Develop final project, policy, and program recommendations

# 2

- Third steering committee meeting and second public meeting to present the final plan

# 3

- Coordinate with the City, NCDOT, and the RPO to finalize the plan

**THANK YOU**  
Please contact us with any further questions.



**Sarah Bassett**  
Project Manager  
sarah.bassett@aecom.com

# Steering Committee Meeting #3 Agenda

## **Agenda – Third Steering Committee Meeting** May 25, 2021 - 4:00 -5:00 PM

- 4:00 PM           INTRODUCTIONS**
- A) Meeting agenda**  
Introduce the project and the purpose of today’s meeting.
- B) Introductions (in-person and virtual attendees)**  
City Staff, Steering Committee, NCDOT, AECOM Team
- 4:10 PM           PROJECT OVERVIEW**
- A brief presentation reviewing the plan progress, schedule, project details, and next steps.
- 4:15 PM           WORKING SESSION**
- The steering committee will participate in a desktop working session intended to review proposed projects and provide comments. This will serve to finalize the projects.
- 5:20 PM           NEXT STEPS and ADJOURN THE STEERING COMMITTEE MEETING**

Public Meeting #1  
*Agenda and Exercise Outputs*

**Agenda**  
March 30, 2021 at 5-6pm  
Virtual Meeting

**5:00 PM OVERVIEW OF THE EDEN PEDESTRIAN PLAN**

Provide an overview of the Pedestrian Plan purpose, goals and objectives, progress to-date, and project timeline.

**5:10 PM WORD CLOUD EXERCISE**

Complete the Word Cloud exercise describing Eden in one word.

**5:30 PM IDENTIFY PEDESTRIAN ACTIVITY, AREAS OF CONCERN, AND POTENTIAL PROJECTS**

Engage the community in identifying obstacles, opportunities, and destinations of where pedestrian activity takes place currently, areas of concern for pedestrians, and potential projects in Eden.

**5:50 PM NEXT STEPS**

**6:00 PM ADJOURN**

**PLEASE JOIN US!**

*City of Eden  
Comprehensive Pedestrian Plan*

# Public Meeting

**March 30, 2021  
5pm-6pm  
Virtual Meeting (Zoom)**

*Please contact the Planning & Inspections Department  
(336-623-2110) for details*

## Public Meeting #2

Meeting materials for the second public meeting were identical to the Community Survey included in Appendix B.

# Appendix B: Community Survey

## Paper Survey



Comprehensive Pedestrian Plan Community Survey | City of Eden

This survey will be used to prioritize potential projects, policies, and programs and should take approximately 15 minutes. **Please return these materials to the address on the last page of this document by July 23, 2021.** Your input is greatly appreciated!

### Project Rankings

The projects below were identified by the Steering Committee and during the first public engagement meeting. Please see the **draft project map** on the **following page** to help you complete this survey.

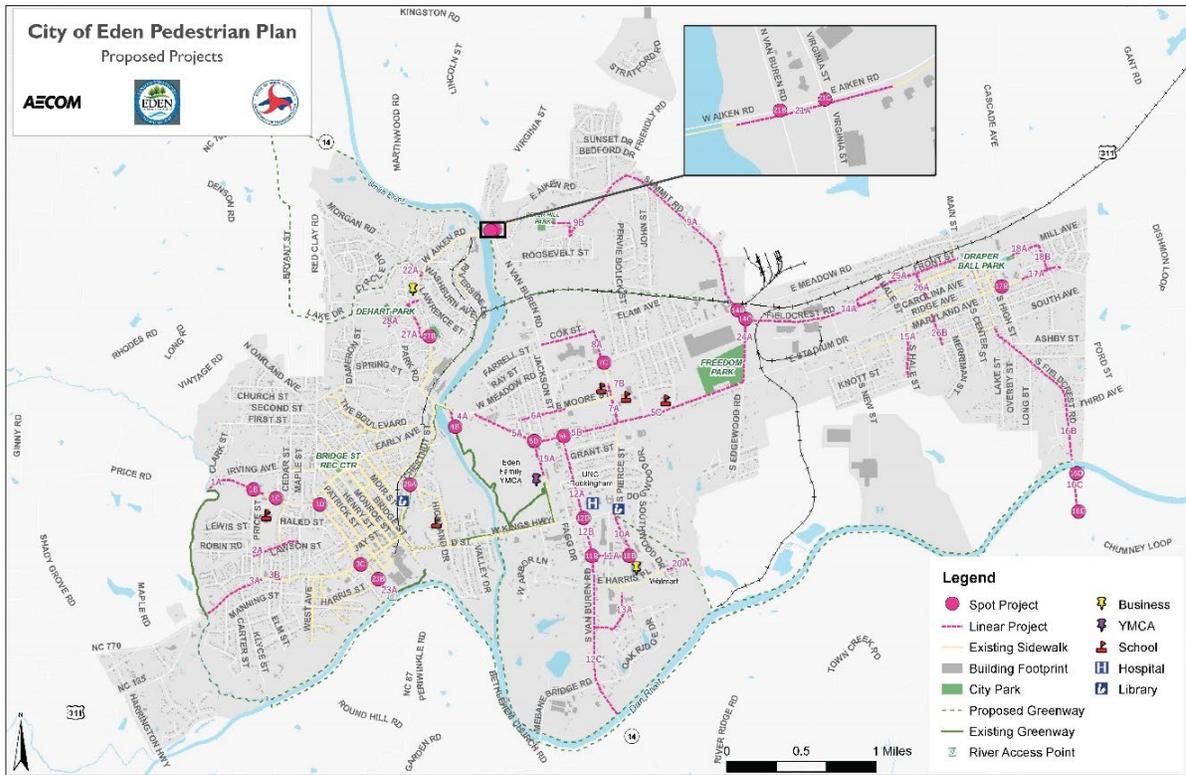
**Start here and mark your top 10 projects with an "X"**

Project	"X"
<b>Center Church Road Corridor (1A-1D):</b> Sidewalk along Center Church Road and crosswalks at Price St, Coleman St, and S Hamilton St.	
<b>Lawson St Corridor (2A):</b> Yield roadway along Lawson St between Price St and Patterson St.	
<b>Washington Street Corridor (3A-3C):</b> Sidewalk along Washington St intersection pedestrian improvements, including crosswalks and signals.	
<b>Smith River Connector Corridor (4A-4B):</b> Yield roadway on River Dr at Smith River Greenway with lighting at Smith River Greenway Pavilion.	
<b>Stadium Drive Corridor (5A-5E):</b> Sidewalk on W Stadium Dr and crosswalk over W Stadium Dr at Kennedy St. and W Stadium Dr at Van Buren.	
<b>Moore St Corridor (6A):</b> Sidewalk connector on W Moore St.	
<b>Pierce St Corridor (7A-7C):</b> Sidewalk on N Pierce St and pedestrian signage and crosswalk at intersection of E Meadow Rd and N Pierce St.	
<b>Cox St Corridor (8A-8B):</b> Cox St sidewalk around Belk and pedestrian crossing.	
<b>Roosevelt Connector Corridor (9A-9B):</b> Sidewalk on Summit Road and sidewalk on Friendly Rd and Peter Hill Rd to the Peter Hill Park.	
<b>Shopping District Connector (10A):</b> Sidewalk and flashing Beacon/Crosswalk on E Arbor Ln to Walmart.	
<b>W Arbor Ln Shopping District Corridor (11A):</b> Sidewalk and Crosswalk on Van Buren at E Arbor/W Arbor Street.	
<b>West Dan River Greenway Connector Corridor (12A-12D):</b> Multiuse path on and high visibility crosswalk on west side of S Van Buren Rd.	
<b>Harris St Corridor (13A):</b> Yield roadway on Hidden Valley Dr and Oleander Dr from E Harris Pl to S Van Buren Rd	
<b>Draper Connector Corridor (14A-14C):</b> Sidewalk connector, crosswalk, and flashing beacon.	
<b>S Hale St Corridor (15A):</b> Multiuse path on S Hale St from Maryland Ave to Sharpe Ave.	



Project	"X"
<b>East Dan River Greenway Connector (16A-16E):</b> Sidewalk, lighting at river access point, and high visibility crosswalk over S Fieldcrest Rd.	
<b>Draper School Corridor (17A):</b> Sidewalk and pedestrian activated signal with striped crossing .	
<b>Mill Ave and N Rickman St Corridor (18A-18B):</b> Sidewalk on the south of Mill Ave and the west side of N Rickman St between Mill Ave and Stadium Dr.	
<b>S Kennedy St Corridor (19A):</b> Sidewalk on west side of S Kennedy St.	
<b>E Harris Pl Corridor (20A):</b> Sidewalk on south side of E Harris Pl.	
<b>W Aiken Rd Corridor (21A-21C):</b> Sidewalk gap closure on south side of Aiken Rd, high visibility crosswalk over Virginia St, and high visibility crosswalk over Van Buren Rd.	
<b>W Aiken Rd East Corridor (22A):</b> Sidewalk gap closure on south side of Aiken Rd.	
<b>S Hamilton Corridor (23A-23B):</b> Sidewalk on east side of S Hamilton and high visibility crosswalk over north side of Hamilton St.	
<b>N Edgewood Rd Corridor (24A):</b> Sidewalk on west side of N Edgewood Rd.	
<b>Front St Corridor (25A):</b> Sidewalk on Front St from Fieldcrest to Main St.	
<b>Hundley Dr Corridor (26A-26B):</b> Sidewalk on west side of Hundley Drive.	
<b>Morgan Rd Corridor (27A):</b> Yield roadway on Victor Street and Grove St.	
<b>Lee St Corridor (28A):</b> Yield roadway on Lee St from Morgan Rd to Park Rd.	
<b>Boone Rd Corridor (29A):</b> Pedestrian signals at Boone Rd and Glovenia St.	

*For comments on projects, please see comment page following.*



AECOM | 2





## Policies

The **policies** below were identified by the Steering Committee and during the first public engagement meeting. Please select your top 5 by marking with a "X."

Policies	"X"
Create an Active Transportation Overlay Zoning District along all linear corridors.	
Amend zoning standard to require parking lots to be located behind or adjacent to future developments to provide safer entrance for pedestrians accessing the business.	
Amend existing sidewalk subsections to require sidewalks on both sides of the street to provide increased pedestrian safety and improved connectivity.	
Amend Sidewalk Standards to include "active transportation including sidewalks and multiuse facilities" and ADA compliance.	
Amend Sidewalk Standards to include new sub section that when an existing sidewalk or multiuse path is closed for construction or maintenance reasons – on the walkway itself or on adjacent property – an adequate detour route should be established and signed, if feasible.	
Subdivision and Infrastructure Standards: Add new objective to Section D. to require hybrid green/nature-based infrastructure and stormwater infiltration, conveyance, and storage improvements be included on all public facilities, infrastructure and utilities including roadway upgrades to help mitigate impacts from stormwater and nuisance flooding.	
Open Space Standards: Reassess requirements in UDO to require open space for all zoning districts except OS in order to enhance the present or potential value of maintaining or enhancing the conservation, natural habitat, natural or scenic values of open space; or any undeveloped or predominately undeveloped land that has value for one or more of the following purposes:	
Signage that provide wayfinding for active transportation users should be required on construction of all active transportation corridors, including greenways, shared use paths, bicycle facilities, and sidewalks.	

Comments:

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## Programs

The **programs** below were identified by the Steering Committee and during the first public engagement meeting. Please select your top 5 by marking with a "X."

Programs	"X"
Update local ordinances and/or the zoning standards and land use policies to include pedestrian specific facilities in land use, long-range, future comprehensive plans, and other policies.	
Coordinate NCDOT Complete Streets guidelines in land use, long-range, future comprehensive plans, and other policies.	
Incorporate signage policies that provide way finding for pedestrians.	
Include provision in the zoning code to require new commercial buildings to be placed close to sidewalk/pedestrian activity, with parking to the rear or side of the building.	
Partner with the police on enforcement of existing driving laws/speed limits.	
Provide agency staff training of pedestrian laws for police officers, drivers education programs, or other safety related programs.	
Enhance safe access to school through the Safe Routes to School or other programs.	
Start open streets events after a recommended project is constructed. An example may include access to the Dan River during the Fall Riverfest.	
Develop informal walking tours to encourage pedestrian activity among visitors and highlight the attractions of Eden.	
Demonstrate pedestrian improvements through pop-up projects.	

Comments:

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## Final Questions!

Thank you for your input so far!

Please answer a few optional questions. Your personal information will be kept anonymous.

How often do you walk in the City?

- Everyday
- Three or more times per week
- Several times per month
- Less than 1-2 times per month

What is your primary reason for walking?

- Exercise/recreation
- Commuting to work
- Walking to school
- Shopping
- Government services
- I do not typically walk

What makes it difficult to walk in the City?

- Lack of sidewalks and crosswalks
- Heavy traffic
- Speeding
- Poor lighting
- Don't know
- Other (Please describe)

Gender

- Male
- Female
- Choose not to identify

Age

- 17 or younger
- 18-24
- 25-34
- 35-44
- 45-54
- 65-74
- 75 or older

What else should we know?

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## Thank You!

Please return completed surveys by Monday **July 23, 2021** to the following locations:

**Location where you picked up your paper copy! OR**

**CITY HALL:** 308 East Stadium Drive Eden, North Carolina 27288

**For additional information, please contact:**

Kelly Stultz

Director of Planning and Inspections

City of Eden

336-623-2110, Option 2

kstultz@edennnc.us

## Appendix C: Sidewalk Inventory

Table C-1: Existing Eden Pedestrian Facilities Inventory by Street

Street Name	Side	Extent	Length (Feet)	Sidewalk Width (Minimum)
AIKEN RD	East	Washburn Ave to Riverside Dr	386	4
ARMPFIELD ST	South	Morgan Rd to Warehouse St	677	5
ASH ST	North	Chestnut St to 511 Ash St	390	4
BOONE RD	East	W Meadow Rd to Bridge St	4823	4
BOONE RD	West	Church St to Tackett Branch Creek Bridge; Glovenia St to Bridge St	507/1,457	4
BRIDGE ST	East	Early Ave to W Kings Hwy	3548	4
BRIDGE ST	West	S Hamilton St to Clearwater Park	5280	4
BURTON ST	South	West Ave to McConnell Ave	437	3
CEDAR ST	West	Center Church Rd to Lawson St	1497	3
CENTER CHURCH RD	North	Coleman St to S Hamilton St	1451	3
CENTER CHURCH RD	South	Douglas Elementary School entrance to St John UMC entrance	516	3
CENTRAL AVE	North	West Ave	839	2
CHESTNUT ST	West	Early Ave to Glovenia St	1843	3

CHURCH ST	North	Morgan Rd to Boone Rd	606	3
CHURCH ST	South	The Boulevard to Green St	109	3
COLLEGE ST	West	Glovenia St to Dumaine St	821	5
D ST	North	Highland Dr to Highland Park Dr	486	0
DUMAINE ST	North	College St to Highland Dr	522	4
E AIKEN RD	South	Chatham Ct to 220' east of Virginia St	525	4
E HARRIS PL	South	Linden Dr to Stone Creek Senior Apartment Community entrance	2134	5
EARLY AVE	North	Henry St to Bridge St	809	3
EARLY AVE	South	S Hamilton St to 380' east of Vine St	3578	3
FIELDCREST RD	North	N Hundley Dr to Main St	1495	4
FIELDCREST RD	South	Draper Christian Church to Mill Ave	3548	4
FRONT ST	South	Draper Volunteer Fire Department	90	4
GLOVENIA ST	North	Boone Rd to Fair Funeral Home entrance	220	3
GLOVENIA ST	South/west	The Boulevard to Highland Dr	3192	3
GREENWOOD ST	West	Early Ave to approximately 520' south of Taylor St	1390	3
GREENWOOD ST	East	Early Ave to Reeves St	1897	3
HAMILTON ST	East	Early Ave to Harris St	3700	2
HAMILTON ST	West	Center Church Rd to Washington St	2363	

HARRIS ST	North	McConnell Ave to Henry St	2459	3
HARRIS ST	South	Patrick St to Henry St	370	3
HENRY ST	East	Irving Ave to Harris St	4025	3
HENRY ST	West	Taylor St to Harris St	2508	3
HIDDEN VALLEY DR	East	Harris Pl to Hidden Valley Apartment entrance	227	5
HIGHLAND DR	East	250' north of Dumaine St to C St	1413	4
HIGHLAND DR	West	Glovenia St to B St	950	4
HIGHLAND PARK DR	West	D St to Kings Hwy	80	0
IRVING AVE	East	Henry St to Greenwood St and Cherry St to The Boulevard	1,381/230	3
IRVING AVE	North	Cedar St to S Hamilton St and Greenwood St to The Boulevard	748 and 652	3
JAY ST	South	S Hamilton St to Bridge St	1387	4
KENNEDY AVE	EAST	YMCA to W Kings Hwy	1682	6
KINGS HWY	North	Bridge St to S Kennedy Ave	4897	4
KINGS HWY	South	Bridge over Smith River	295	4
LINDSAY DR	North	Hamilton St to Patrick St	336	4
MAIN ST	East	Fieldcrest Rd to First United Methodist Church entrance	508	4
MAIN ST	West	E Meadow St to NS Railroad tracks	292	4
MARYLAND AVE	North	S New St to S Hale St	2277	0

MCCONNELL AVE	East	Washington St to Harris St	1119	2
MCCONNELL AVE	West	200' south of Washington St to Westwood Dr and south of Harris St	554 and 769	2
MEADOW RD (bridge)	North	Island Ford Bridge	350	4
MEADOW RD (bridge)	South	Island Ford Bridge	350	4
MILL AVE	South	N Fieldcrest Rd to N High St	295	4
MOIR ST	East	Early Ave to Taylor St	862	3
MOIR ST	West	Early Ave to Moncure St	1861	3
MONCURE ST	North	Patrick St to Henry St and Henry St to Greenwood St	348 and 1,181	3
MONROE ST	East	380' north of Moncure St to Washington St	1421	3
MONROE ST	West	Mt Sinai Baptist Church to Washington St	1493	3
MOORE ST	North	Harrison St to Pierce St	1691	5
MORGAN RD	East			0
MORGAN RD	West			0
N HUNDLEY DR	West	Ridge Ave to Stadium Dr	399	4
N HIGH ST	East	Mill Ave to E Stadium Dr	920	4
N HIGH ST	West	Mill Ave to E Stadium Dr	916	4
OAK ST	South	New Beginnings Restoration Ministries (Moir St to Greenwood St)	167	4

OVERLOOK AVE	North	Harris St to cul-de-sac	860	3
PATRICK ST	East	Early Ave to Harris St	3462	4
PATRICK ST	West	Early Ave to Harris St	3442	4
PIERCE ST	East	E Meadow Rd to Morehead High School entrance and E Stadium Dr to E Kings Hwy	1,077 and 2939 feet	5
REEVES ST	South	Moncure St to Boone Rd	442	5
RIDGE AVE	North	190' feet from Fieldcrest Rd to N High St	125	4
RIVERSIDE DR	EAST	750' south of W Aiken Rd to Rhode Island Mill Apartments entrance	1653	4
S FIELDCREST RD	East	Mill Ave to Ridge Ave	407	4
S FIELDCREST RD	West	Mill Ave to South Ave	2026	4
S HALE ST	East	Maryland Ave to entrance of Dollar General	60	0
S HALE ST	West	E Stadium Dr to Maryland Ave	383	0
S PRIMITIVE ST	West	Church St to The Boulevard	396	4
SEYMOUR CT	North	Hamilton St to 915 Seymour Ct	393	3
SEYMOUR CT	South	Hamilton St to Millner St	670	3
SOUTH AVE	North	S Byrd St to S Fieldcrest Rd	1183	3
STADIUM DR	North	N Hale St to French St	4028	4

TAYLOR ST	North	Glovenia St to Bridge St	1017	3
TAYLOR ST	South	Glovenia St to Bridge St	1032	3
THE BOULEVARD	North	Church St to Chestnut St	3502	4
THE BOULEVARD	South	Church St to Glovenia St	2239	4
W MEADOW RD	South	Island Ford Bridge to River Rd	263	5
WAREHOUSE ST	East	Morgan Rd to Armfield St	292	5
WASHINGTON ST	North	Forbes St to Elm St and Cedar St to Bridge St	317 and 4,250	0
WASHINGTON ST	South	McConnell Ave to Bridge St	2836	0
WEST AVE	East	Washington St to Westwood Dr and Harris St to end of road	663 and 1215	2
WEST AVE	West	Washington St to end of road	2195	2
WESTWOOD DR	East	150' south of Washington St to West Ave	589	2

\*Unless otherwise posted, contact the City Clerk's office to find speed limits and other traffic regulations for specific streets.

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

## Appendix D: Cost Estimates

## Appendix E: Funding Sources

Table E-1 below provides a list of funding sources, eligible projects, potential award amounts, and match requirements for active transportation infrastructure projects and programs in Eden.

*Table E-1: Funding Sources*

Source	Eligible Activities	Characteristics and Requirements
<b>Federal Funding Sources</b>		
Better Utilizing Investments to Leverage Development (BUILD) Grants	<ul style="list-style-type: none"> <li>Bicycle and pedestrian planning and construction projects are eligible</li> </ul>	<ul style="list-style-type: none"> <li>Federal program by the USDOT</li> <li>Annual, competitive grant program that is merit-based.</li> </ul>
Highway Safety Improvement Program (HSIP)	<ul style="list-style-type: none"> <li>Safety projects that are consistent with the state's Strategic Highway Safety Plan (SHSP)</li> <li>Pedestrian hybrid beacons</li> <li>Roadway improvements that provide separation between pedestrians and motor vehicles, including medians and pedestrian crossing islands.</li> <li>Road diets</li> </ul>	<ul style="list-style-type: none"> <li>Typically requires 10% match</li> <li>\$2.318 billion authorized in FY 2018</li> </ul>
National Priority Safety Program (Section 405)	<ul style="list-style-type: none"> <li>Training law enforcement on state laws applicable to pedestrian and bicycle safety</li> <li>Enforcement mobilizations and campaigns designed to enforce those state laws</li> <li>Public education and awareness programs designed to inform motorists, pedestrians and bicyclists of those state laws</li> </ul>	<ul style="list-style-type: none"> <li>Only states where the annual combined pedestrian and bicyclist fatalities exceed 15 percent of the total annual crash fatalities are eligible</li> <li>Requires 20% state match</li> <li>\$14 million authorized in FY 2017</li> </ul>
State and Community Highway Safety Grant Program (Section 402)	Education, enforcement, and research programs designed to reduce traffic crashes, deaths, injuries, and property damage	<ul style="list-style-type: none"> <li>Administered by the Governor's Representative for Highway Safety</li> <li>\$250 million authorized in FY 2017</li> </ul>
Surface Transportation Block Grant (STBG) Program	<ul style="list-style-type: none"> <li>Recreational trail projects eligible under 23 U.S.C. 206</li> <li>Pedestrian and bicycle projects in accordance with 23 U.S.C. 217</li> <li>Modifications to comply with accessibility requirements under the ADA</li> <li>Safe Routes to School Program</li> </ul>	<ul style="list-style-type: none"> <li>Project must be identified in STIP and consistent with the Long-Range Statewide Transportation Plan and the Metropolitan Transportation Plan(s)</li> <li>State may obligate up to 15 percent of the STBG amounts sub allocated for that year for use in areas with a population of 5,000 or less on roads functionally classified as minor collectors.</li> <li>\$11.7 billion authorized in FY 2018</li> </ul>
Transportation Alternatives (TA) <i>Set-aside of the STBG Program</i>	<ul style="list-style-type: none"> <li>Bicycle and pedestrian facilities</li> <li>Recreational trails</li> <li>Safe Routes to School projects</li> <li>Technical assistance</li> </ul>	<ul style="list-style-type: none"> <li>Typically requires 20% match</li> <li>Can be received directly by local governments</li> <li>Competitive funding process</li> <li>\$850 million set aside in FY 2018</li> </ul>

Source	Eligible Activities	Characteristics and Requirements
	<ul style="list-style-type: none"> <li>Programmed through the Strategic Transportation Investments – Strategic Mobility Formula process</li> </ul>	
<b>State Funding Sources</b>		
Clean Water Management Trust Fund (CWMTF)	<ul style="list-style-type: none"> <li>Projects that enhance or restore degraded waters, acquire land with ecological, cultural, and historic significance</li> <li>Greenway (shared use path) projects are eligible</li> <li>Innovative stormwater projects</li> </ul>	<ul style="list-style-type: none"> <li>Requires matching funds</li> <li>Annual grant cycle</li> </ul>
Downtown Associate Community Program	<ul style="list-style-type: none"> <li>Technical assistance for downtown revitalization projects from the NC Main Street &amp; Rural Planning Center</li> </ul>	<ul style="list-style-type: none"> <li>Competitive application process every other year</li> <li>Municipalities with populations less than 50,000 and that are not already designated as an active Main Street or Small Town Main Street community</li> </ul>
Land and Water Conservation Fund (LWCF)	<ul style="list-style-type: none"> <li>Land acquisition and/or development projects for public outdoor recreation and/or to protect outstanding natural or scenic resources</li> <li>Can include new or renovated outdoor recreational facilities and support facilities</li> </ul>	<ul style="list-style-type: none"> <li>Requires 50% match</li> <li>Projects must be on a single site</li> <li>Administered by the Division of Parks and Recreation</li> </ul>
Parks and Recreation Trust Fund (PARTF)	Acquisition and/or development of park and recreational projects	<ul style="list-style-type: none"> <li>Requires 50% match</li> <li>Administered by the Division of Parks and Recreation</li> </ul>
Powell Bill	Municipalities may use Powell Bill funds to resurface, repair, or widen streets, or for the planning, construction and maintenance of bikeways, greenways, or sidewalks.	<ul style="list-style-type: none"> <li>Annual allocation from the State to qualifying municipalities</li> </ul>
Recreational Trails Program (RTP)	<ul style="list-style-type: none"> <li>Trail construction</li> <li>Trail facilities and amenities</li> <li>Programs that promote safety and environmental protection as they relate to recreational trail projects</li> </ul>	<ul style="list-style-type: none"> <li>Maximum grant award \$200,000</li> <li>Requires 25% match</li> <li>Federal funds managed by the Division of Parks and Recreation</li> </ul>
Safe Routes to School (SRTS)	<ul style="list-style-type: none"> <li>Infrastructure projects within 2 miles of a K-8 school</li> <li>Project must be within the public ROW</li> </ul>	<ul style="list-style-type: none"> <li>No match required</li> <li>Currently funding with leftover SRTS funds, once expended TA funds will be used and programmed through the Strategic Transportation Investments – Strategic Mobility Formula process</li> </ul>

Source	Eligible Activities	Characteristics and Requirements
<b>Local Funding Sources</b>		
Capital Reserve Fund	May be used to fund pedestrian infrastructure projects	<ul style="list-style-type: none"> <li>• The City Council would establish the fund through an ordinance</li> <li>• May be financed through City budget allocations, grants, and donations</li> </ul>
Community Crowdfunding	Unrestricted source of funds, would apply to pedestrian infrastructure projects and programs	<ul style="list-style-type: none"> <li>• Residents make monetary contributions through online platforms such as Indiegogo</li> <li>• City would pay a nominal fee</li> </ul>
Fees	The fee ordinance would establish which projects are eligible	<ul style="list-style-type: none"> <li>• Would require adoption by the City Council</li> <li>• Fee types may include stormwater fees assessed per area of impervious surface or streetscape fees assessed per length of street frontage</li> </ul>
General Obligation Bonds	May be used to fund pedestrian infrastructure projects	<ul style="list-style-type: none"> <li>• Would require adoption by the City Council</li> <li>• Would require approval by City residents</li> </ul>
Special Tax District	May be levied by the municipality to raise funds to provide services or fund projects such as pedestrian infrastructure projects	Would require adoption by the City Council
Tax Increment Financing	Pedestrian infrastructure improvements, land acquisition, utilities, and other improvements	Increased property values resulting from the constructed facility are used to pay the debt borrowed to build the facility

Figure E-2: Federal Funding Matrix

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

Revised May 24, 2018

This table indicates potential eligibility for pedestrian and bicycle projects under U.S. Department of Transportation surface transportation funding programs. Additional restrictions may apply. See notes and basic program requirements below, and see program guidance for detailed requirements. Project sponsors should fully integrate nonmotorized accommodation into surface transportation projects. Section 1404 of the Fixing America's Surface Transportation (FAST) Act modified 23 U.S.C. 109 to require federally-funded projects on the National Highway System to consider access for other modes of transportation, and provides greater design flexibility to do so.

Key: \$ = Funds may be used for this activity (restrictions may apply). \$* = See program-specific notes for restrictions. ~\$ = Eligible, but not competitive unless part of a larger project.															
Activity or Project Type	Pedestrian and Bicycle Funding Opportunities U.S. Department of Transportation Transit, Highway, and Safety Funds														
	BUILD	TIFIA	FTA	ATI	CMAQ	HSIP	NHPP	STBG	TA	RTP	SRTS	PLAN	NHTSA 402	NHTSA 405	FLTP
Access enhancements to public transportation (includes benches, bus pads)	\$	\$	\$	\$	\$		\$	\$	\$						\$
ADA/504 Self Evaluation / Transition Plan								\$	\$	\$		\$			\$
Bicycle plans			\$					\$	\$		\$	\$			\$
Bicycle helmets (project or training related)								\$	\$SRTS		\$		\$*		
Bicycle helmets (safety promotion)								\$	\$SRTS		\$				
Bicycle lanes on road	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$				\$
Bicycle parking	~\$	~\$	\$	\$	\$		\$	\$	\$	\$	\$				\$
Bike racks on transit	\$	\$	\$	\$	\$			\$	\$						\$
Bicycle repair station (air pump, simple tools)	~\$	~\$	\$	\$	\$			\$	\$						\$
Bicycle share (capital and equipment; not operations)	\$	\$	\$	\$	\$		\$	\$	\$						\$
Bicycle storage or service centers (example: at transit hubs)	~\$	~\$	\$	\$	\$			\$	\$						\$
Bridges / overcrossings for pedestrians and/or bicyclists	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$
Bus shelters and benches	\$	\$	\$	\$	\$		\$	\$	\$						\$
Coordinator positions (State or local)					\$ 1 per State			\$	\$SRTS		\$				
Crosswalks (new or retrofit)	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$
Curb cuts and ramps	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$
Counting equipment			\$	\$		\$	\$	\$	\$	\$	\$	\$*			\$
Data collection and monitoring for pedestrians and/or bicyclists			\$	\$		\$	\$	\$	\$	\$	\$	\$*			\$
Historic preservation (pedestrian and bicycle and transit facilities)	\$	\$	\$	\$				\$	\$						\$
Landscaping, streetscaping (pedestrian and/or bicycle route; transit access); related amenities (benches, water fountains); generally as part of a larger project	~\$	~\$	\$	\$			\$	\$	\$						\$
Lighting (pedestrian and bicyclist scale associated with pedestrian/bicyclist project)	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$				\$
Maps (for pedestrians and/or bicyclists)			\$	\$	\$			\$	\$		\$	\$*			
Paved shoulders for pedestrian and/or bicyclist use	\$	\$			\$*	\$	\$	\$	\$		\$				\$

Key: \$ = Funds may be used for this activity (restrictions may apply). \$\* = See program-specific notes for restrictions. ~\$ = Eligible, but not competitive unless part of a larger project.

Activity or Project Type	Pedestrian and Bicycle Funding Opportunities U.S. Department of Transportation Transit, Highway, and Safety Funds														
	BUILD	TIFIA	FTA	ATI	CMAQ	HSP	NHPP	STBG	TA	RTP	SRTS	PLAN	NHTSA 402	NHTSA 405	FLTP
Pedestrian plans			\$					\$	\$		\$	\$			\$
Recreational trails	~\$	~\$						\$	\$	\$					
Road Diets (pedestrian and bicycle portions)	\$	\$					\$	\$	\$	\$					\$
Road Safety Assessment for pedestrians and bicyclists							\$	\$	\$			\$			\$
Safety education and awareness activities and programs to inform pedestrians, bicyclists, and motorists on ped/bike safety								\$SRTS	\$SRTS		\$	\$*	\$*	\$*	
Safety education positions								\$SRTS	\$SRTS		\$		\$*		
Safety enforcement (including police patrols)								\$SRTS	\$SRTS		\$		\$*	\$*	
Safety program technical assessment (for peds/bicyclists)								\$SRTS	\$SRTS		\$	\$*	\$		
Separated bicycle lanes	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$				\$
Shared use paths / transportation trails	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$	\$			\$
Sidewalks (new or retrofit)	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$				\$
Signs / signals / signal improvements	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$				\$
Signed pedestrian or bicycle routes	\$	\$	\$	\$	\$		\$	\$	\$		\$				\$
Spot improvement programs	\$	\$	\$			\$	\$	\$	\$	\$	\$				\$
Stormwater impacts related to pedestrian and bicycle projects	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$				\$
Traffic calming	\$	\$	\$			\$	\$	\$	\$		\$				\$
Trail bridges	\$	\$			\$*	\$	\$	\$	\$	\$	\$				\$
Trail construction and maintenance equipment								\$RTP	\$RTP	\$					
Trail/highway intersections	\$	\$			\$*	\$	\$	\$	\$	\$	\$				\$
Trailside and trailhead facilities (includes restrooms and water, but not general park amenities; see program guidance)	~\$*	~\$*						\$*	\$*	\$*					\$
Training					\$	\$		\$	\$	\$	\$	\$*	\$*		
Training for law enforcement on ped/bicyclist safety laws								\$SRTS	\$SRTS		\$			\$*	
Tunnels / undercrossings for pedestrians and/or bicyclists	\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$

**Abbreviations**

ADA/504: Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973  
**BUILD:** Better Utilizing Investments to Leverage Development Transportation Discretionary Grants  
**TIFIA:** Transportation Infrastructure Finance and Innovation Act (loans)  
**FTA:** Federal Transit Administration Capital Funds  
**ATI:** Associated Transit Improvement (1% set-aside of FTA)  
**CMAQ:** Congestion Mitigation and Air Quality Improvement Program  
**HSP:** Highway Safety Improvement Program  
**NHPP:** National Highway Performance Program  
**STBG:** Surface Transportation Block Grant Program

**TA:** Transportation Alternatives Set-Aside (formerly Transportation Alternatives Program)  
**RTP:** Recreational Trails Program  
**SRTS:** Safe Routes to School Program / Activities  
**PLAN:** Statewide Planning and Research (SPR) or Metropolitan Planning funds  
**NHTSA 402:** State and Community Highway Safety Grant Program  
**NHTSA 405:** National Priority Safety Programs (Nonmotorized safety)  
**FLTP:** Federal Lands and Tribal Transportation Programs (Federal Lands Access Program, Federal Lands Transportation Program, Tribal Transportation Program, Nationally Significant Federal Lands and Tribal Projects)

**Program-specific notes**

Federal-aid funding programs have specific requirements that projects must meet, and eligibility must be determined on a case-by-case basis. For example:

- BUILD: Subject to annual appropriations. See <https://www.transportation.gov/BUILDgrants> for details.

- TIFIA: Program offers assistance only in the form of secured loans, loan guarantees, or standby lines of credit, but can be combined with other grant sources, subject to total Federal assistance limitations.
- FTA/ATI: Project funded with FTA transit funds must provide access to transit. See [Bicycles and Transit](#) and the FTA Final Policy Statement on the [Eligibility of Pedestrian and Bicycle Improvements under Federal Transit Law](#).
  - Bicycle infrastructure plans and projects funded with FTA funds must be within a 3 mile radius of a transit stop or station, or if further than 3 miles, must be within the distance that people could be expected to safely and conveniently bike to use the particular stop or station.
  - Pedestrian infrastructure plans and projects funded with FTA funds must be within a ½ mile radius of a transit stop or station, or if further than ½ mile, must be within the distance that people could be expected to safely and conveniently walk to use the particular stop or station.
  - FTA funds cannot be used to purchase bicycles for bike share systems.
  - FTA encourages grantees to use FHWA funds as a primary source for public right-of-way projects.
- CMAQ projects must demonstrate emissions reduction and benefit air quality. See the CMAQ guidance at [www.fhwa.dot.gov/environment/air\\_quality/cmaq/](http://www.fhwa.dot.gov/environment/air_quality/cmaq/) for a list of projects that may be eligible for CMAQ funds. Several activities may be eligible for CMAQ funds as part of a bicycle and pedestrian-related project, but not as a highway project. CMAQ funds may be used for shared use paths, but may not be used for trails that are primarily for recreational use.
- HSIP projects must be consistent with a State's [Strategic Highway Safety Plan](#) and either (1) correct or improve a hazardous road location or feature, or (2) address a highway safety problem.
- NHPP projects must benefit National Highway System (NHS) corridors.
- STBG and TA Set-Aside: Activities marked "\$SRTS" means eligible only as an SRTS project benefiting schools for kindergarten through 8<sup>th</sup> grade. Bicycle transportation nonconstruction projects related to safe bicycle use are eligible under STBG, but not under TA (23 U.S.C. 217(a)).
- RTP must benefit recreational trails, but for any recreational trail use. RTP projects are eligible under TA and STBG, but States may require a transportation purpose.
- SRTS: FY 2012 was the last year for SRTS funds, but SRTS funds are available until expended.
- Planning funds must be used for planning purposes, for example:
  - Maps: System maps and GIS;
  - Safety education and awareness: for transportation safety planning;
  - Safety program technical assessment: for transportation safety planning;
  - Training: bicycle and pedestrian system planning training.
- Federal Lands and Tribal Transportation Programs (FLTTP) projects must provide access to or within Federal or tribal lands:
  - Federal Lands Access Program (FLAP): Open to State and local entities for projects that provide access to or within Federal or tribal lands.
  - Federal Lands Transportation Program: For Federal agencies for projects that provide access within Federal lands.
  - Tribal Transportation Program: available for federally-recognized tribal governments for projects within tribal boundaries and public roads that access tribal lands.
- NHTSA 402 project activity must be included in the State's Highway Safety Plan. Contact the State Highway Safety Office for details: <http://www.ghsa.org/html/about/shsos.html>
- NHTSA 405 funds are subject to State eligibility, application, and award. Project activity must be included in the State's Highway Safety Plan. Contact the State Highway Safety Office for details: <http://www.ghsa.org/html/about/shsos.html>

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

- FHWA Bicycle and Pedestrian Guidance: [http://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/](http://www.fhwa.dot.gov/environment/bicycle_pedestrian/)
- **Applicability of 23 U.S.C. 217(i) for Bicycle Projects:** 23 U.S.C. 217(i) requires that bicycle facilities "be principally for transportation, rather than recreation, purposes". However, sections 133(b)(6) and 133(h) list "recreational trails projects" as eligible activities under STBG. Therefore, the requirement in 23 U.S.C. 217(i) does not apply to recreational trails projects (including for bicycle use) using STBG funds. Section 217(i) continues to apply to bicycle facilities other than trail-related projects, and section 217(i) continues to apply to bicycle facilities using other Federal-aid Highway Program funds (NHPP, HSIP, CMAQ). The transportation requirement under section 217(i) is applicable only to bicycle projects; it does not apply to any other trail use or transportation mode.
- There may be occasional DOT or agency incentive grants for specific research or technical assistance purposes.
- Aspects of many DOT initiatives may be eligible as individual projects. For example, activities above may benefit Ladders of Opportunity; safe, comfortable, interconnected networks; environmental justice; equity; etc.

Source: FHWA Pedestrian and Bicycle Funding Opportunities, May 24, 2018, [https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/funding/funding\\_opportunities.cfm](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm)