City of High Point Pedestrian Plan

Prepared by:

alta PLANNING + DESIGN

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HIGH POINT
NORTH CAROLINA'S INTERNATIONAL CITY

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Division of Bicycle & Pedestrian Transportation

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BACKGROUND

High Point, a city in the Triad region of North Carolina, is focusing on planning and implementing pedestrian facilities, which will offer transportation and recreation opportunities for residents as well as provide important connections to transit service. Pedestrian facilities such as the Bicentennial Greenway and sidewalks in the downtown core are already in place, but High Point is taking further measures to improve safety and accessibility. The High Point Pedestrian Plan serves as a guiding document and blueprint for implementation and funding of pedestrian facilities in the city. The High Point Pedestrian Plan was made possible by joint funding from the City of High Point and the North Carolina Department of Transportation (NCDOT).

PLANNING PROCESS

The planning process for the High Point Pedestrian Plan began in March 2016 and concluded in March 2017. Throughout the planning process, a steering committee consisting of local residents, nonprofit leaders, and city staff provided input and recommendations. A total of 4 steering committee meetings were held throughout the planning process.

Public outreach was a critical component of this plan. The project team conducted outreach at the High Point Farmers' Market and at the High Point Transit System center in downtown High Point. The intent of these outreach events was to gather input during the early stages of the planning process. Other ways in which the project team gathered public input included the project website, online interactive map, a lobby display in High Point City Hall, and online and hardcopy surveys.

VISION STATEMENT

"High Point is a community that invites people of all ages and abilities to walk for enjoyment, exercise, and daily transportation by providing a safe, convenient and inclusive pedestrian environment based on accessibility and connectivity."

PLAN GOALS

- Increase transportation choices
- Improve safety for all pedestrians
- Improve linkages between the pedestrian network and the transit system
- Improve the health and well-being of communities

KEY FINDINGS

Existing conditions in High Point are discussed in Chapter 2. Pedestrian conditions vary throughout the city. Sidewalks are present in most of downtown High Point but are missing in the suburban areas of the city that are further away from downtown. Findings that support the need for a pedestrian plan:

- **Pedestrian Crashes:** From 2007 to 2012, there were 260 pedestrian crashes in High Point, 9 of which were fatal. The number of pedestrian crashes in High Point is among the highest in North Carolina.
- **Connections to Transit:** The short-range transit plan that was completed in 2015 identified a number of pedestrian needs, including sidewalks along transit corridors and amenities such as bus shelters at transit stops.
- **Major Corridors Most in Need of Improvements:** Results from the public survey that was conducted for this plan showed that major corridors in High Point were most in need of pedestrian improvements. These corridors include Lexington Avenue, Main Street, and Westchester/ Eastchester Avenue.

POLICY REVIEW

As part of the planning process, the project team reviewed High Point's existing Development Ordinance and Code of Ordinances. Model regulatory and policy language from jurisdictions in North Carolina and the United States were used to strengthen these existing policies. Improving existing policies would enable the city to maximize pedestrian improvements in conjunction with new development, redevelopment, and corridor improvement projects. In addition, the project team included recommended policy language additions to enhance the draft Complete Streets policy. These recommendations are intended to strengthen the existing adopted ordinances and they carry no weight with the approval of this plan.

Key recommendations include:

- Reduce the maximum allowable speed limits in residential areas and pedestrian-oriented districts to 20 or 25 mph.
- Increase preferred minimum sidewalk width to five foot wide along local streets and six foot wide along collectors and arterials.
- Include provisions for pedestrian-scale lighting.

PROGRAM RECOMMENDATIONS

A comprehensive effort to improve pedestrian safety and promote walking should integrate programmatic components. Programs should focus on the 6 E's: education, encouragement, engineering, evaluation, enforcement, and equity.

While the city can take the lead on efforts, it should also partner with external organizations and agencies. These agencies include:

- Active Routes to School
- YMCA
- Guilford County School District
- Chamber of Commerce
- High Point Police Department
- Senior Service Agencies

High Point can also elect to implement and replicate programs that have been implemented in other parts of North Carolina. These include:

- Safe Routes to School (SRTS)
- Watch for Me, NC
- Walking school bus
- National Walk to School Day
- Open street events

Display in the lobby of High Point City Hall; display included boards with information about pedestrian crashes and types of pedestrian facilities and comment forms for members of the public to fill out

INFRASTRUCTURE RECOMMENDATIONS

Proposed pedestrian network recommendations fall under three categories:

- **New Sidewalk**
- **Micro Gap:** segments that are 500 feet or less in length and that connect two existing pieces of sidewalk
- **Enhanced Corridor:** major thoroughfares that can benefit from traffic calming and improvement of pedestrian amenities

Prioritization

The existing criteria for prioritizing pedestrian projects were updated as part of this planning process. This new prioritization process is similar to the old methodology in that it considers demand, safety, and speed limit. Equity, presence of micro gaps, and transit access are three criteria that were added to the prioritization process.

New Sidewalk Projects

The following projects scored the highest:

- Triangle Lake Road - from Kroll Lane to MLK Jr Dr
- Leonard Avenue - from Brentwood St to Meredith St
- University Parkway - from Green Dr to Kearns Ave
- South University Parkway - from East Green Dr to South Downing St

Enhanced Corridor Projects

Projects on Main Street scored the highest:

- Main Street - from Business Loop 85 to E. High Ave
- North Main Street - from Parris Ave to Old Plank Rd
- Main Street - High Point city limit to Business Loop 85
- Main Street - E High Ave to Idol St

Micro Gap Projects

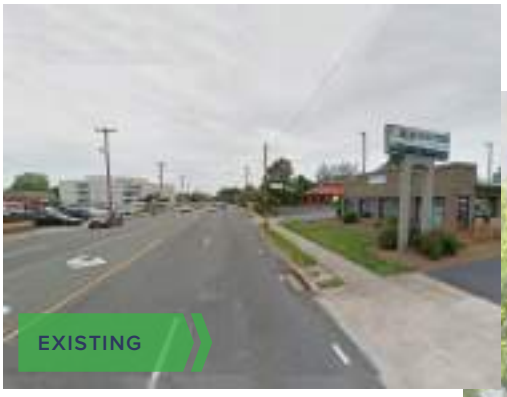
The following projects scored the highest:

- Chestnut Drive - from Carr St to existing sidewalk on Chestnut Dr
- Franklin Avenue - from 73 feet east of Hines St to 120 feet west of Caudell Place

For a complete list of proposed projects, please refer to Appendix D.

IMPLEMENTATION

Implementing the recommendations within this plan will require leadership and dedication to pedestrian facility development on the part of a variety of agencies. Equally critical, and perhaps more challenging, will be meeting the need for a recurring source of revenue. The final chapter includes an overview of priority projects and key action steps to ensure this plan is a "living document" to assist with implementation.



Top left photo: Existing conditions of Main Street near High Point Public Library

Bottom right photo: Rendering of pedestrian improvements to turn Main Street into an enhanced corridor. Improvements include wider sidewalks, buffer, transit amenities, street trees, and median.

Deep River Road mid-block pedestrian crossing.

1 Introduction

Chapter Contents:

OVERVIEW

As one of three major cities in the Triad region and one of the larger cities in North Carolina, High Point is strategically planning for growth and how it will further enhance quality of life for its residents. A focus on planning and implementing pedestrian facilities will offer transportation and recreation opportunities for residents as well as provide important connections to transit service. Pedestrian facilities such as the Bicentennial Greenway and sidewalks in the downtown core are already in place, but High Point is taking further measures to improve safety and accessibility.

The High Point Pedestrian Plan serves as a guiding document and blueprint for implementation and funding of pedestrian facilities in the city. The planning process kicked off in March 2016 and included a variety of methods to gather public input. The High Point Pedestrian Plan was made possible by joint funding from the City of High Point and the North Carolina Department of Transportation (NCDOT).

Worn path on Fairfield Road

THE VISION

The High Point Pedestrian Plan aims to identify new opportunities and ongoing initiatives that will create a pedestrian environment that connects people of all ages and abilities to where they live, work, play and learn.

The purpose of the High Point Pedestrian Plan is to improve all aspects of the pedestrian experience and increase pedestrian activity. It addresses how to make the city's streets safe for High Point's youngest and oldest pedestrians, how to improve the connections between neighborhoods, and how an improved pedestrian environment can create a healthier and more livable city. The following is the plan's vision:

"High Point is a community that invites people of all ages and abilities to walk for enjoyment, exercise, and daily transportation by providing a safe, convenient and inclusive pedestrian environment based on accessibility and connectivity."

PLAN GOALS

Increase transportation choices
Improve connectivity of the pedestrian network while increasing accessibility to key destinations

Improve safety for all pedestrians
Improve the quality and safety of the pedestrian environment through infrastructure, programs, and policies

Improve linkages between the pedestrian network and the transit system
Improve accessibility and provide direct connections between the pedestrian network and bus stops

Improve the health and well-being of communities
Create more opportunities for exercise and recreation to improve overall health

PLANNING PROCESS

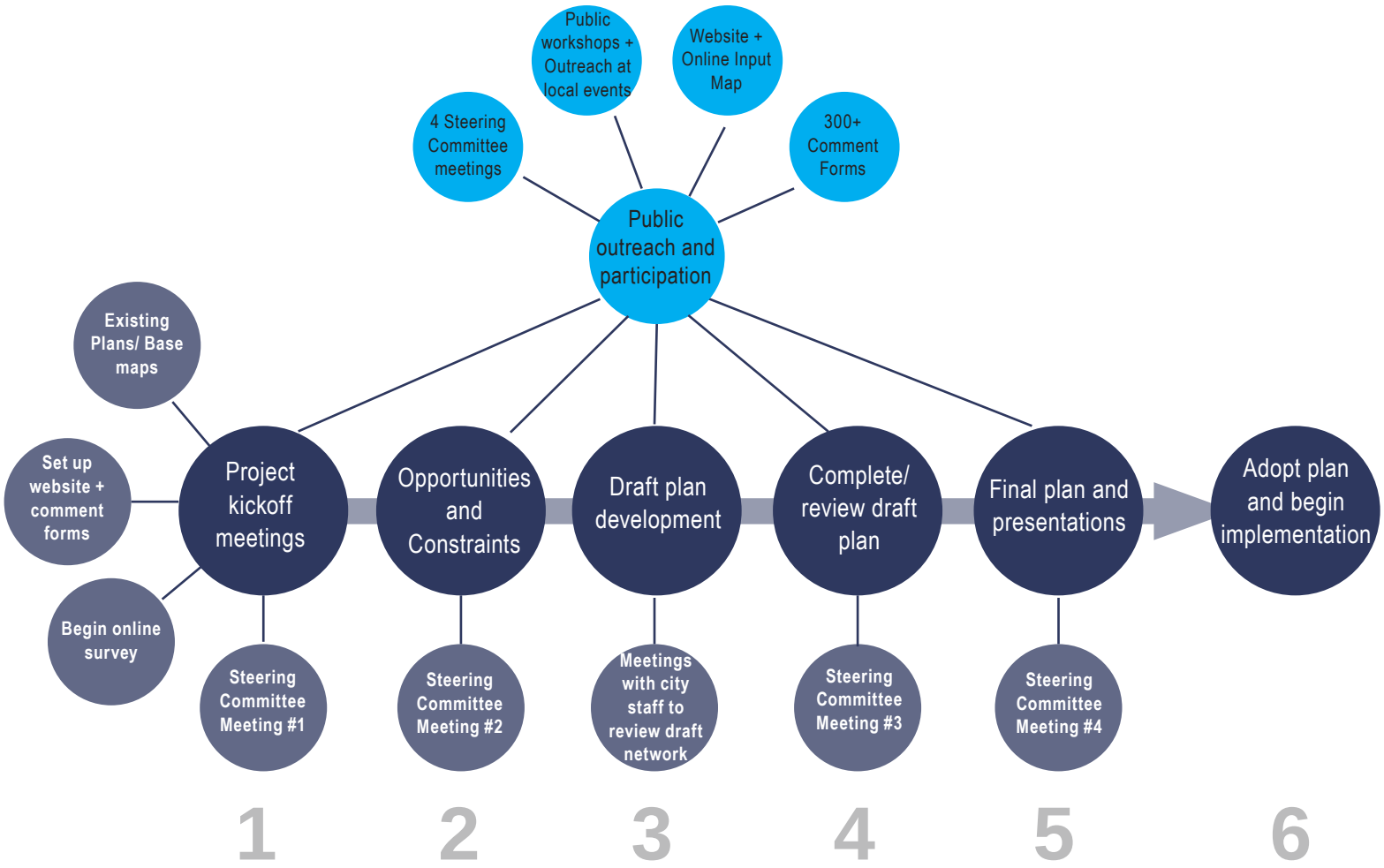
Steering Committee members gathered around a base map of High Point to discuss existing conditions during the kickoff meeting in March 2016.

The planning process for the High Point Pedestrian Plan started in March 2016 with the initial Steering Committee meeting and concluded in October 2016. Key steps in the planning process are highlighted in the diagram below.

Project Steering Committee

Key tasks of the Steering Committee included guiding the overall vision of the plan, identifying existing opportunities and constraints for walking in the city, leveraging resources for an expanded public outreach effort, and providing feedback on plan recommendations. Below is the compilation of the steering committee:

- Local residents from neighborhood associations
- City of High Point
- Southwest Renewal Foundation
- YWCA Latino Family Center
- Guilford County Department of Public Health
- Active Routes to School (NCDOT)
- Guilford County Schools
- High Point Police Department
- Culler Senior Center representatives



PUBLIC OUTREACH

In addition to Steering Committee meetings, the planning process included several other methods of public outreach and involvement.

Project Website

(www.HighPointMoves.weebly.com)
The website featured information about the plan, schedule, resources, link to the comment form, link to the on-line input map, project updates, and documents from the planning process. The project website was live during the planning process from April 2016 to March 2017.

Public Comment Form

The public comment form was offered on-line and in hard copy format. The form, which was also translated into Spanish, asked questions about walking destinations, transit access, and barriers to walking in High Point.

City Hall Lobby Display

A display was set up in the lobby of High Point City Hall that included posters about pedestrian crashes, types of pedestrian facilities, and opportunities and constraints for walking in High Point. The main table had a base map for residents to mark up as well as hard copies of the English and Spanish comment forms.

Sidewalk Interviews

The project team set up a booth at the downtown transit center and the High Point farmers market to discuss the project and promote the user survey.

Public Workshop

In September, the project team hosted a public workshop at City Hall to showcase the draft plan and answer any questions from the public.

Final Plan Presentations

The plan was finalized in March 2017. A final report was presented to the High Point City Council and the High Point Urban Area MPO (presentations were given to both the Technical Coordinating Committee and the Transportation Advisory Committee).

The draft plan was presented to City Council in September 2016 and then again in March 2017 for adoption.

An image of the on-line public input map that allowed the public to highlight existing walking routes and where improvements are needed.

Receiving input in locations where people already are, such as the transit center and the farmers market, increased project awareness.

The lobby display was left up for over a month and allowed City Hall visitors to learn about the project and complete a comment form.

Pedestrians using the mid-block crossing near High Point Public Library

WHY IS THIS PLAN IMPORTANT?

When considering the amount of dedication, time, and resources that it takes to create a pedestrian-friendly community, it is important to assess the immense value of investing in High Point's walkability.

Extensive research has highlighted the multitude of economic, health, mobility, environment, safety, and quality of life benefits of having a pedestrian-friendly community.

The following sections highlight the many benefits of planning for and creating a walkable High Point. Resources drawn upon in this discussion are listed at the end of this chapter.

Key Benefits of Pedestrian Friendly Communities

Safety

Trends and Challenges

According to a survey of 16,000 North Carolina residents for the 2011 North Carolina Bicycle and Pedestrian Safety Summit, the most commonly reported safety issue for walking and bicycling in North Carolina is inadequate infrastructure (75%).[1] A lack of pedestrian facilities, such as sidewalks, trails, and safe crossings, lead to unsafe walking conditions for pedestrians.

- Each year on average (2008-2012), 168 pedestrians and 22 bicyclists are killed in collisions with motor vehicles on North Carolina roads, with many more seriously injured.[2]
- North Carolina is ranked as one of the least safe states for walking (41st) and bicycling (44th).[3]
- 13% of all traffic fatalities in North Carolina are bicyclists and pedestrians.
- During the five-year period from 2008 to 2012, a total of 13,186 pedestrian-motor vehicle crashes and 4,889 bicycle-motor vehicle crashes were reported to North Carolina authorities.
- Research by The University of North Carolina Highway Safety Research Center found that High Point alone was the site of 216 crashes involving pedestrians from 2008 to 2012.

SAFETY

From 2007-2012, there were 260 pedestrian collisions in High Point, 9 of which were fatal

Improving Safety

Separate studies conducted by the Federal Highway Administration and the University of North Carolina Highway Safety Research Center demonstrate that installing pedestrian and bicycle facilities directly improves safety by reducing the risk and severity of pedestrian-automobile and bicycle-automobile crashes. For example, installing a sidewalk along a roadway reduces the risk of a pedestrian "walking along roadway" crash by 88 percent. Furthermore, according to the aforementioned survey, 70% of North Carolina respondents said they would walk or bicycle more if these safety issues were addressed.[1]

Pedestrian Crash Countermeasures[4]	Pedestrian Crash Reduction Factor
» Install pedestrian overpass/underpass	90%
» Install sidewalk (to avoid walking along roadway)	88%
» Provide paved shoulder (of at least 4 feet)	71%
» Install raised median at unsignalized intersection	46%
» Install pedestrian refuge island	36%
» Install pedestrian countdown signal heads	25%

The following web addresses link to more comprehensive research on active transportation and safety.

- www.ncdot.gov/bikeped/planning/walkbikenc/
- www.pedbikeinfo.org/data/factsheet_crash.cfm
- www.ncvisionzero.org (statewide adopted Vision Zero policy in 2016)

Health

Health Trends and Challenges

North Carolina's transportation system is one of the most important elements of our public environment, and it currently poses barriers to healthy living through active transportation. In 2012, NCDOT's Board of Transportation revised its mission statement to include "health and well-being" and passed a "Healthy Transportation Policy," which declares the importance of a transportation system that supports positive health outcomes. Below are some key findings and challenges related to health and transportation in North Carolina.

HEALTH

28.3% of adults in Guilford County are obese, on par with the state obesity rate at 28.6%[10]

- 65% of adults in North Carolina are either overweight or obese.[5] The state is also ranked 5th worst in the nation for childhood obesity.[6]
- Recent reports have estimated the annual direct medical cost of physical inactivity in North Carolina at $3.67 billion, plus an additional $4.71 billion in lost productivity.[7] However, every dollar invested in pedestrian and bicycle trails can result in a savings of nearly $3 in direct medical expenses.[8]
- Of North Carolinians surveyed, 60% would increase their level of physical activity if they had better access to sidewalks and trails.[5]
- A Charlotte study found that residents who stopped driving to work, and started walking to the light rail station and taking light rail to work, weighed an average of 6.5 pounds less than those who continued to drive to work.[9]

Better Health Through Active Transportation

Using active transportation to and from school, work, parks, restaurants, and other routine destinations is one of the best ways that children and adults can lead measurably healthier lives. Increasing one's level of physical activity through walking and bicycling reduces the risk and impact of cardiovascular disease, diabetes, chronic disease, and some cancers. It also helps to control weight, improves mood, and reduces the risk of premature death.[11]

Mobility

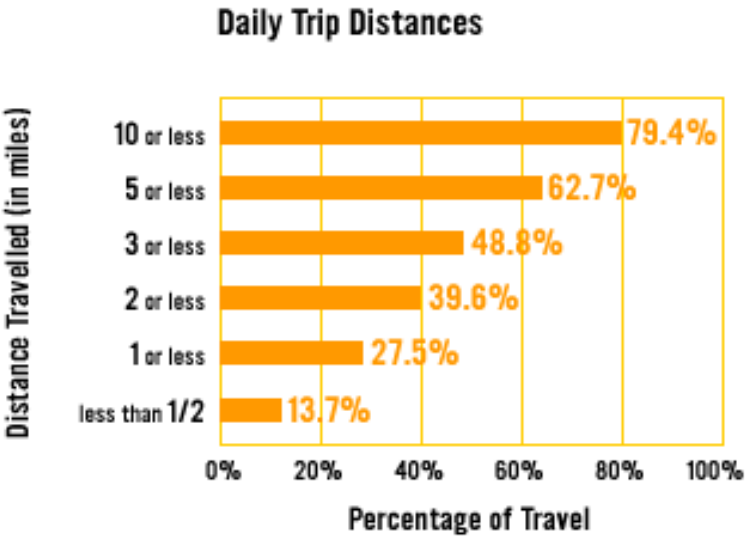
Opportunity to Increase Walking and Bicycling Rates

According to the 2011 Bicycle and Pedestrian Safety Survey, at least 70 percent of North Carolinians would walk or bike more for daily trips if walking and bicycling conditions were improved.[1] With appropriate accommodations, walking and bicycling can provide alternatives to driving for commuting to work, running errands, or making other short trips.

1.8% of High Point residents currently walk to work

Commute rates for walking and bicycling in North Carolina currently fall below the national average, with just 0.2% of North Carolina commuters bicycling to work and 1.8% walking to work, compared to 0.6% bicycling and 2.9% walking nationwide. This places North Carolina 42nd for walking commute rates and 41st for bicycling commute rates in nationwide state rankings.[3] According to recent data from the U.S. Census Bureau, 1.8% of High Point residents walk to work, which is on par with the statewide average.

In many communities, the walking commute rate is used as an indicator of overall walking. An estimated 40% of all trips (commute and non-commute) taken by Americans each and every day are less than two miles, equivalent to a walking trip of 30-40 minutes or a 10-minute bike ride (see chart below); however, just 13% of all trips are made by walking or bicycling nationwide.[3] To put these numbers into perspective, 34% of all trips are made by walking or bicycling in Denmark and Germany, and 51% of all trips in the Netherlands are by foot or by bike.[15] Germany, Denmark, and the Netherlands are wealthy countries with high rates of automobile ownership, just like the United States. Yet, an emphasis has been placed on providing quality walking and bicycling environments which has alleviated the reliance on motor vehicles for short trips.



Most driving trips are for a distance of five miles or less. Chart from the Bicycle and Pedestrian Information Center website, www.pedbikeinfo.org

Economics

ECONOMICS

Economic Trends in North Carolina

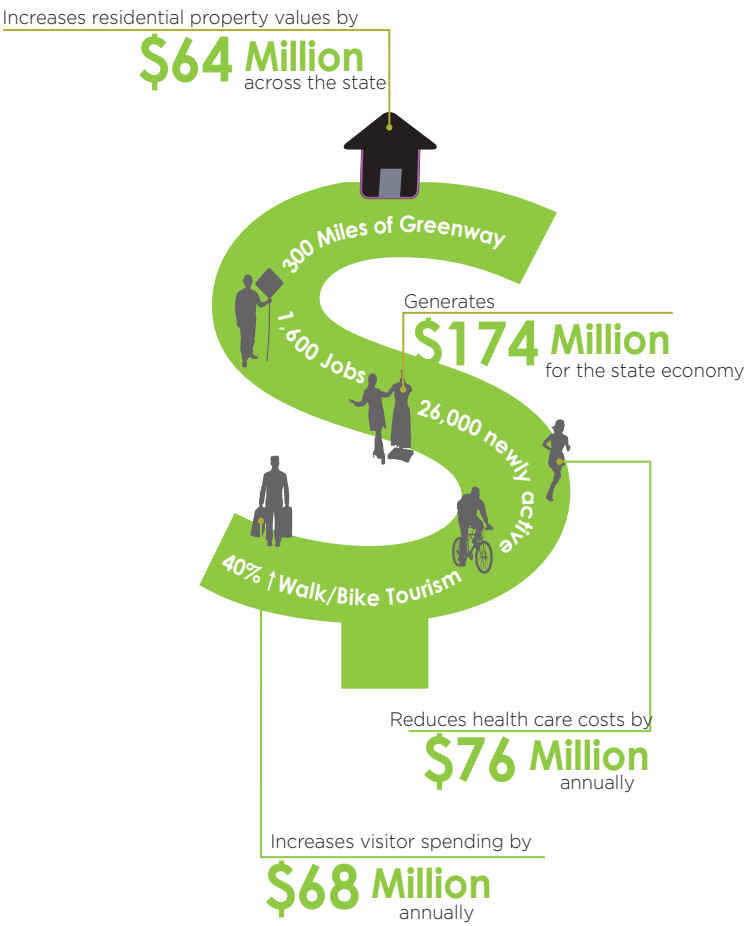
Facilities for pedestrians and bicyclists generate economic returns through improved health, safety, and environmental conditions, raise property values, and attract visitors. Below are some key economic trends related to walking and bicycling in North Carolina:

» North Carolina is the 6th most visited state in the United States; visitors spend as much as $18 billion a year, many of whom partake in activities related to walking or biking.[12]

» The annual return to local businesses and state and local governments on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investments.[13]

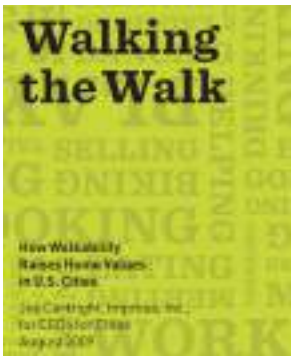
» Walking and biking are economically efficient transportation modes. Many North Carolinians cannot afford to own a vehicle and are dependent on walking and biking for transportation (2.5% of occupied housing units in North Carolina do not have a vehicle; 3.9% of households in High Point do not have a vehicle).[14] Even for households that do have access to vehicles or own a vehicle, replacing driving trips with walking trips will lead to savings on gas and car maintenance costs.

» The report, "Walking the Walk: How Walkability Raises Housing Values in U.S. Cities", analyzed data and found that in 13 of the 15 markets, higher levels of walkability, as measured by Walk Score, were directly linked to higher home values.



An economic impact study, performed as part of the WalkBikeNC Plan, showed significant positive return on investment from the addition of 300 miles of greenways.

In March 2015, the Greensboro-High Point MSA received a #1 national ranking for attracting new and expanded business



Download the full report at:
www.ceosforcities.org

Stewardship

Stewardship addresses the impact that transportation decisions (both at the government/policy level and individual level) can have on the land, water and air that High Point residents and visitors enjoy.

Providing safe accommodations for walking and bicycling can help to reduce automobile dependency, which in turn leads to a reduction in vehicle emissions – a benefit for residents and visitors and the surrounding environment. The shortest single occupancy vehicle trips, which are the ones that can be most easily replaced by walking trips, are also trips that generate the most pollutant emissions. As of 2003, 27 percent of U.S. greenhouse gas emissions are attributed to the transportation sector, and personal vehicles account for almost two-thirds (62 percent) of all transportation emissions.[17] Primary emissions that pose potential health and environmental risks are carbon dioxide, carbon monoxide, volatile organic compounds, (VOCs), nitrous oxides (NOx), and benzene. Children and senior citizens are particularly sensitive to the harmful affects of air pollution, as are individuals with heart or other respiratory illnesses. Increased health risks such as asthma and heart problems are associated with vehicle emissions.

STEWARDSHIP

"High Point has over 9 miles of greenways and more are planned with the expansion of the Bicentennial Greenway"

Below are some key trends and challenges related to stewardship and transportation in North Carolina:

- Even a modest increase in walking and bicycling trips (in place of motor vehicle trips) can have significant positive impacts. For example, replacing two miles of driving each day with walking or bicycling will, in one year, prevent 730 pounds of carbon dioxide from entering the atmosphere.[16]
- According to the National Association of Realtors and Transportation for America, 89% of Americans believe that transportation investments should support the goal of reducing energy use.[18]
- North Carolina's 2009-2013 Statewide Comprehensive Outdoor Recreation Plan (SCORP) found "walking for pleasure" to be the most common outdoor recreational activity, enjoyed by 82% of respondents.[19]
- The natural buffer zones that occur along greenways protect streams, rivers, and lakes, preventing soil erosion and filtering pollution caused by agricultural and roadway runoff.[20]

The following web addresses link to more comprehensive research on active transportation and stewardship.

- www.ncdot.gov/bikeped/planning/walkbikenc/
- www.pedbikeinfo.org/data/factsheet_environmental.cfm

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First Steering Committee Meeting

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Bus shelter on Prospect St does not have accessible sidewalks connections.

2 Existing Conditions

Chapter Contents:

OVERVIEW

Located in the Piedmont Triad region of North Carolina, High Point is home to almost 112,000 residents.[1] With convenient access to a broad network of interstates and highways, Piedmont Triad International Airport, rail services, and deep water ports, High Point serves as a transportation hub. Four of the region's interstates run through High Point, including I-40, Business-85, and I-74, and the city is conveniently located at the midpoint between the cities of Charlotte and Raleigh, Washington, D. C. and Atlanta, and New York and Miami.

Local landmark in High Point of "World's Largest Chest of Drawers"; Photo credit: Cindy Bargainier

Industries in High Point

High Point is the furniture capital of the world. The International Market Center furnishings showplace in Market Square complex encompasses a total of 13 buildings, offering 10.6 million gross square feet of show room space. High Point is also home to a diverse business community with industries ranging from manufacturing, biotech, pharmaceutical, distribution and warehousing businesses.

While historically known for its furniture industry, High Point is now a major employment center and educational destination in the Piedmont Triad region. High Point University, John Wesley University, and Guilford Technical Community College are all located within High Point. Enrollment for these institutions is 4,200, 430, and 3,000 students respectively.

1 City of High Point current population estimate

LOCAL CONTEXT

Activity Centers

High Point Market, which is the largest furnishings industry trade show in the world, is a week-long event that is held twice a year (in April and October). Events during the furniture market include visits to showrooms, seminars, and networking events. Each furniture market attracts more than 75,000 visitors from across the country and around the world[2].

The High Point Public Library is a main focal point and destination in High Point. A large majority of High Point residents, about 87,000 residents, are current library cardholders.[3] A weekly Farmers and Arts Market is held in the library plaza on Saturday mornings from May through October.

An area of continued growth and expansion is the Palladium in Northeast High Point. The Palladium is a shopping area with restaurants, grocery stores, cafes, and retail stores.

The maps to the left show each of these major activity centers. A half-mile buffer and one-mile buffer were drawn around each of these centers to demonstrate the walking potential and existing pedestrian network near these activity centers.

2 http://www.highpointmarket.org/about-market/facts
3 https://www.highpointnc.gov/DocumentCenter/Home/View/5220

"I would love to be able to walk along Penny Road/ East Fork Road to Jamestown Park, the Piedmont Environmental Center, and/or the Palladium shopping area."

~ High Point Resident

Walking Rates

The percentage of High Point residents who report that they walk to work is 1.8%, which is the same as the North Carolina average. However, when compared to peer cities of similar population size, the percentage of residents who walk to work is lower in High Point. Among the peer cities, Fayetteville has the highest percentage of residents who report that they walk to work (4.4%). Meanwhile, 2% of residents in the neighboring cities of Greensboro and Winston-Salem walk to work. For out-of-state comparison cities, walking rates may be higher due to the fact that their municipal boundaries do not include their suburbs whereas the strong annexation laws in North Carolina mean that most municipalities include their own suburbs and thus cover a greater land area.

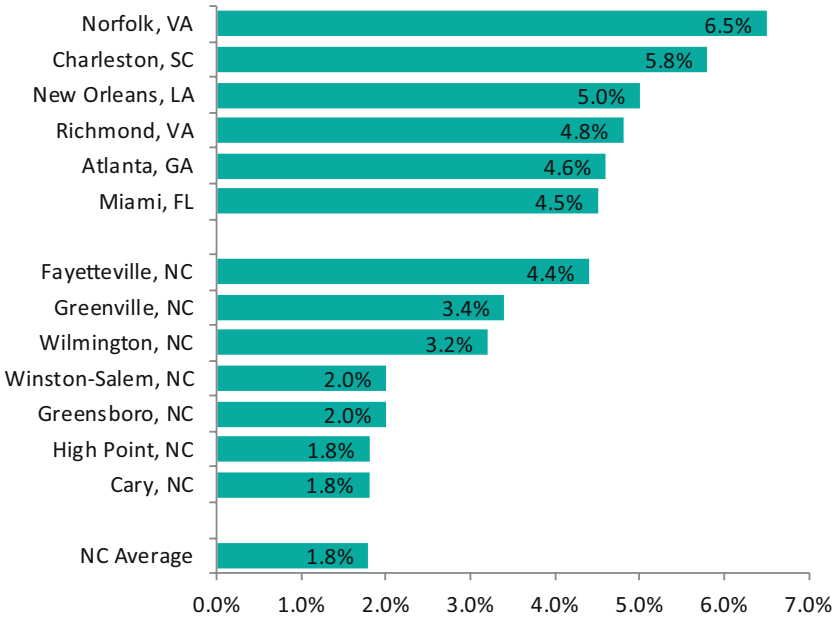


Figure 2.1: Walking Mode Share in High Point, its peer cities in North Carolina, and aspirational cities

Source: U.S. Census, Bureau, 2010-2014 American Community Survey (ACS), 5-year estimates

Demographics

The City of High Point is located within the boundaries of four counties but is primarily within Guilford County. The median age of High Point residents is 35.6 years of age, which is slightly lower than Guilford County and the state of North Carolina. However, the median household income is lower in High Point compared with Guilford County and the state. Compared with Guilford County and the entire state, High Point has a larger percentage of households (3.9%) that don't own a vehicle, which is notable because this percentage is quite high for North Carolina. Yet, the percentage of residents who walk to work is similar to that in the county and the state overall. The presence of students at several universities in High Point could have influenced the data on vehicle ownership.

	High Point	Guilford County	North Carolina
Median Age	35.6	36.8	37.8
Median Household Income	$43,015	$45,050	$46,693
% Households with no vehicles	3.9	2.9	2.5
% Walk to work	1.8	1.7	1.8

Table 2.1: Select Demographic Data for High Point, Guilford County, and North Carolina

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

EXISTING CONDITIONS MAP SERIES

The existing conditions maps on the following pages provide insight into the demographic, environmental, and existing pedestrian network of High Point. These maps display existing opportunities and constraints in the city.

Map 2.0 High Point Study Area

The study area for this plan is the limits of the High Point planning boundary, which encompasses the City of High Point, High Point ETJ, and unincorporated parts of surrounding counties. **The existing pedestrian network consists of 235 miles of sidewalks citywide**. A more extensive sidewalk network is present near downtown while sidewalks are lacking throughout the suburban areas. Presence of sidewalks along major thoroughfares is variable. Sidewalks are present throughout most of Main Street, but there is a lack of sidewalks along North Main Street. Most of Westchester Drive and Eastchester Drive lack sidewalks.

Map 2.1 Pedestrian Crashes (2007-2012)

From 2007 to 2012, there were 260 pedestrian crashes in High Point, 9 of which were fatal. The number of pedestrian crashes in High Point is among the highest in North Carolina. High crash areas are along South Main Street, Main Street near High Point Public Library, and on North Main Street near Walmart.

Roadway	Number of Crashes (2007-2012)
Main St	62
Lexington Avenue	17
Westchester Drive/ Eastchester Drive	15
Martin Luther King Jr Dr	13

Crash rate (2008-12): 4.1 pedestrian crashes per 10,000 High Point residents

Crash Source: NCDOT
Population Source: U.S. Census Bureau, 2012 5-year American Community Survey (ACS) estimates

Map 2.2 Equity Analysis Findings

When evaluating the need for pedestrian infrastructure and improvements, it is important to understand the areas of High Point where there is a greater concentration of need. A well-connected pedestrian network should be accessible to everyone, especially to populations that rely on walking or transit as modes of transportation. Inputs for the equity analysis were analyzed at the census tract level. The inputs are: households with no vehicle, households living below the poverty level, limited English proficient populations, and non-white populations. Findings from the equity analysis were used to inform the pedestrian network recommendations.

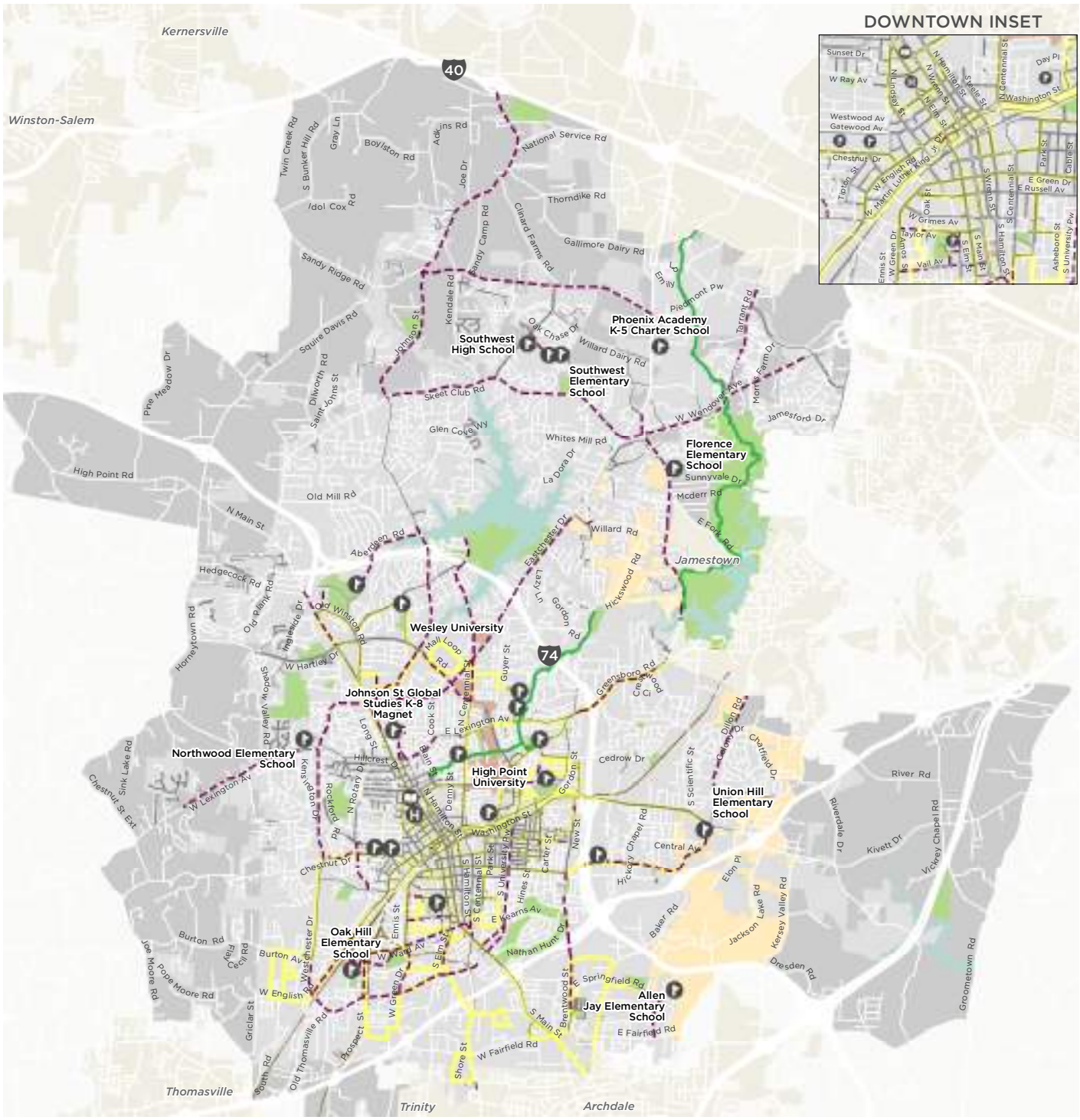
Map 2.3 Pedestrian Demand

Pedestrian demand in High Point is approximated by using attractors and generators for where people live, work, play, learn, and access transit. Data inputs include population data, employment data, and presence of parks, trails, and retail stores. The results for each category (live, work, play, etc.) were then overlaid to create a composite pedestrian demand map. This composite map was used by the project team to identify potential projects and prioritize investments.

Map 2.4 Ownership of Public Road Right-of-Ways

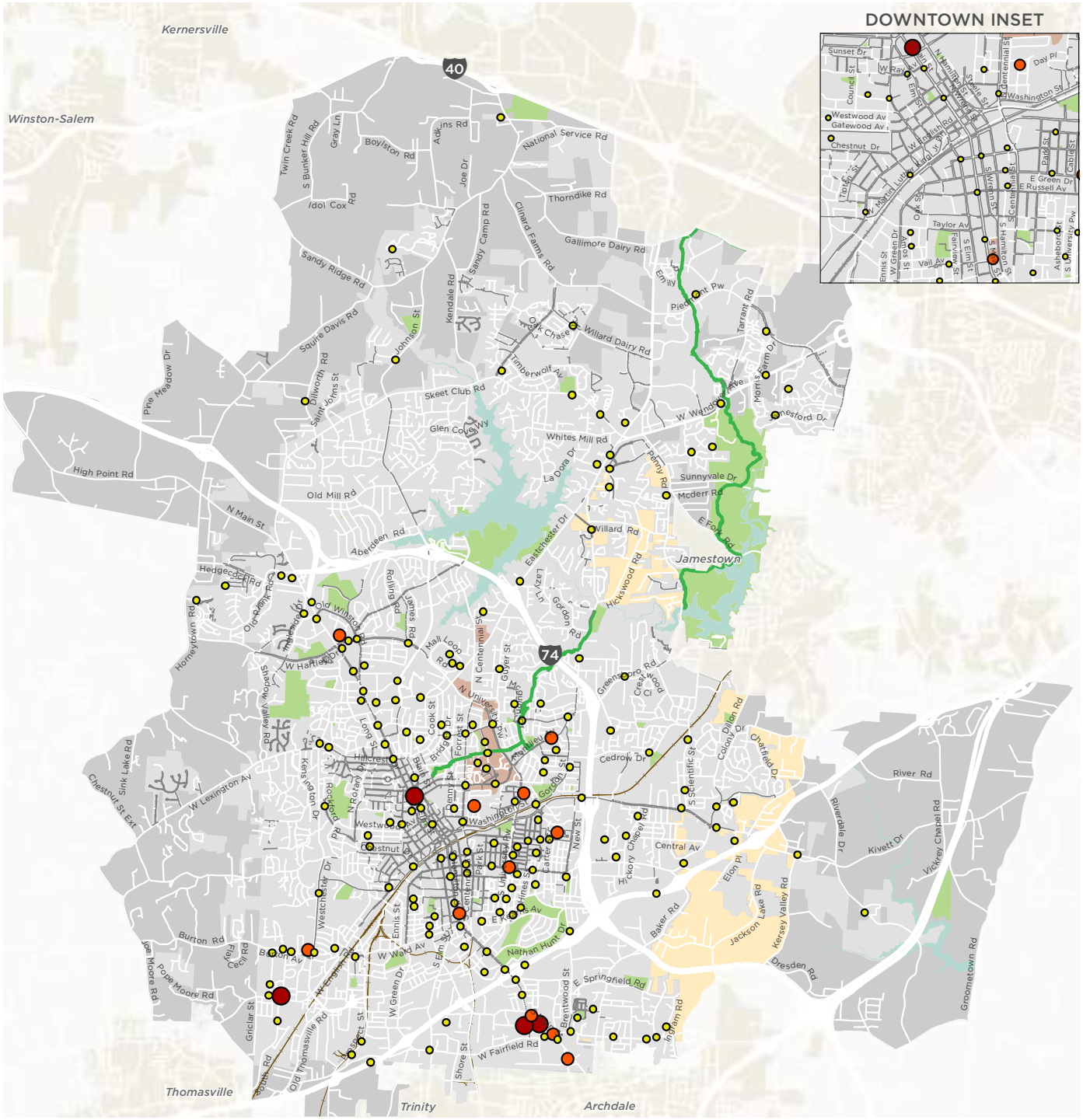
Knowledge of roadway ownership is important for determining the types of facilities that can be recommended along a roadway, the agency in charge of maintaining the roadway and implementing pedestrian facility recommendations, and how improvements are scheduled, funded, and constructed. There are a number of state-owned roads in High Point that connect to major destinations and/or have bus routes. They include Skeet Club Road, Lexington Avenue, Westchester and Eastchester Drive, West Green Drive, Main Street, and University Parkway.

MAP 2.0 HIGH POINT STUDY AREA



HIGH POINT PEDESTRIAN PLAN

MAP 2.1 PEDESTRIAN COLLISIONS (2007-2012)



HIGH POINT PEDESTRIAN PLAN

Legend

Number of Pedestrian Collisions
- 1 - 2
- 3 - 4
- 5 - 6
- Railroad

Existing Facilities
- Greenway
- Sidewalk

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

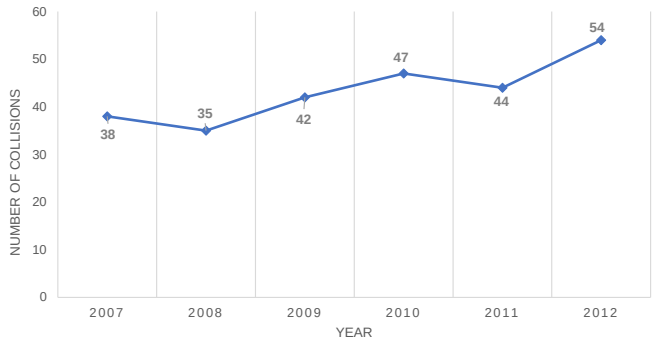
N

0 1 2 MILES

Pedestrian Crashes (2007-2012)

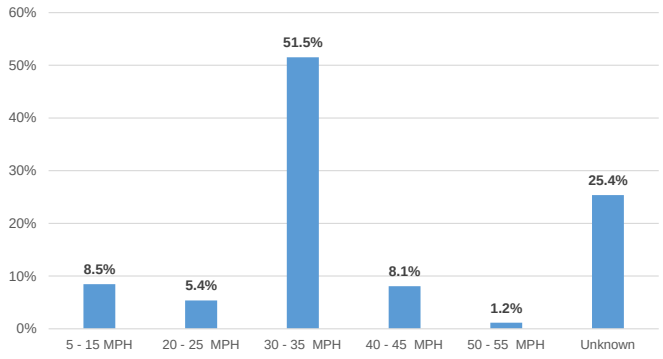
The charts below the major trends of the 260 pedestrian crashes that occurred from 2007 to 2012 in High Point.

Number of Pedestrian Crashes Per Year (2007-2012)



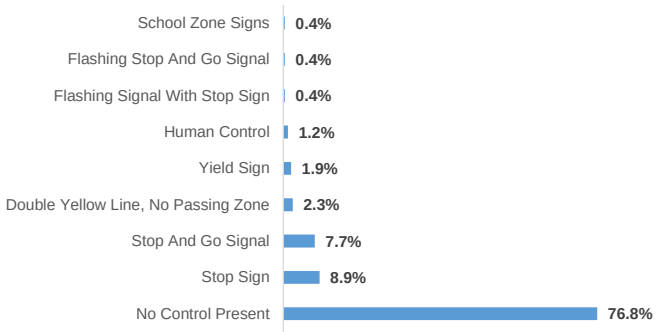
The number of pedestrian crashes in High Point steadily increased each year, with the exception of 2008.

Speed of Motor Vehicles at the Time of Crash



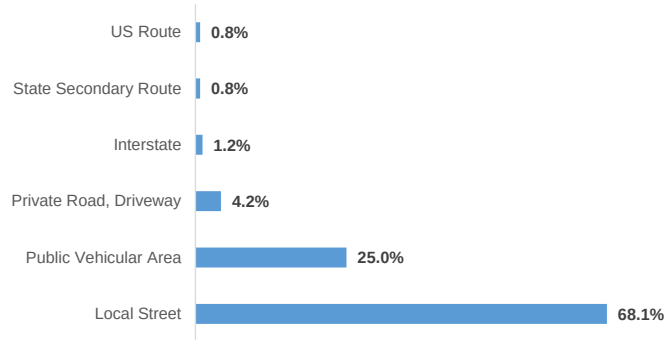
The majority of pedestrian crashes occurred when motor vehicles were traveling at 35 mph or less. More than half (51.5%) of all pedestrian crashes during this time period occurred when motor vehicles were traveling between 30-35 mph.

Presence of Traffic Controls



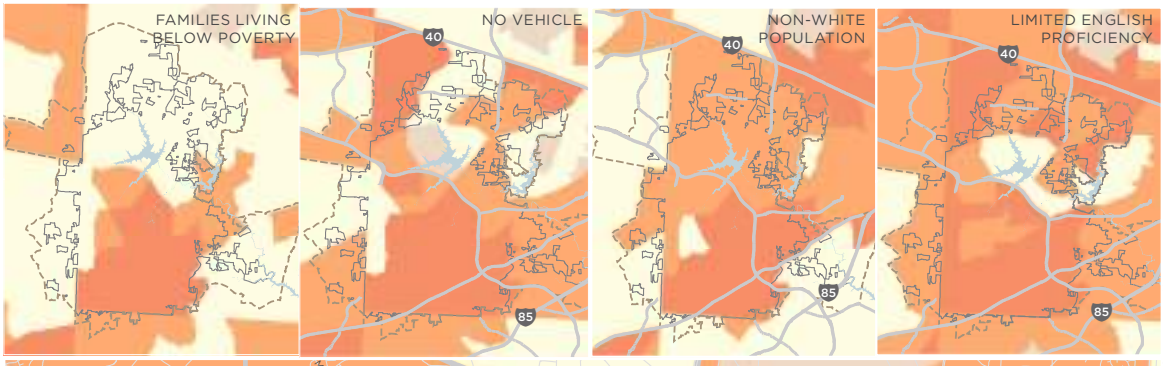
A large majority of pedestrian crashes (76.8%) occurred when there were no traffic controls present.

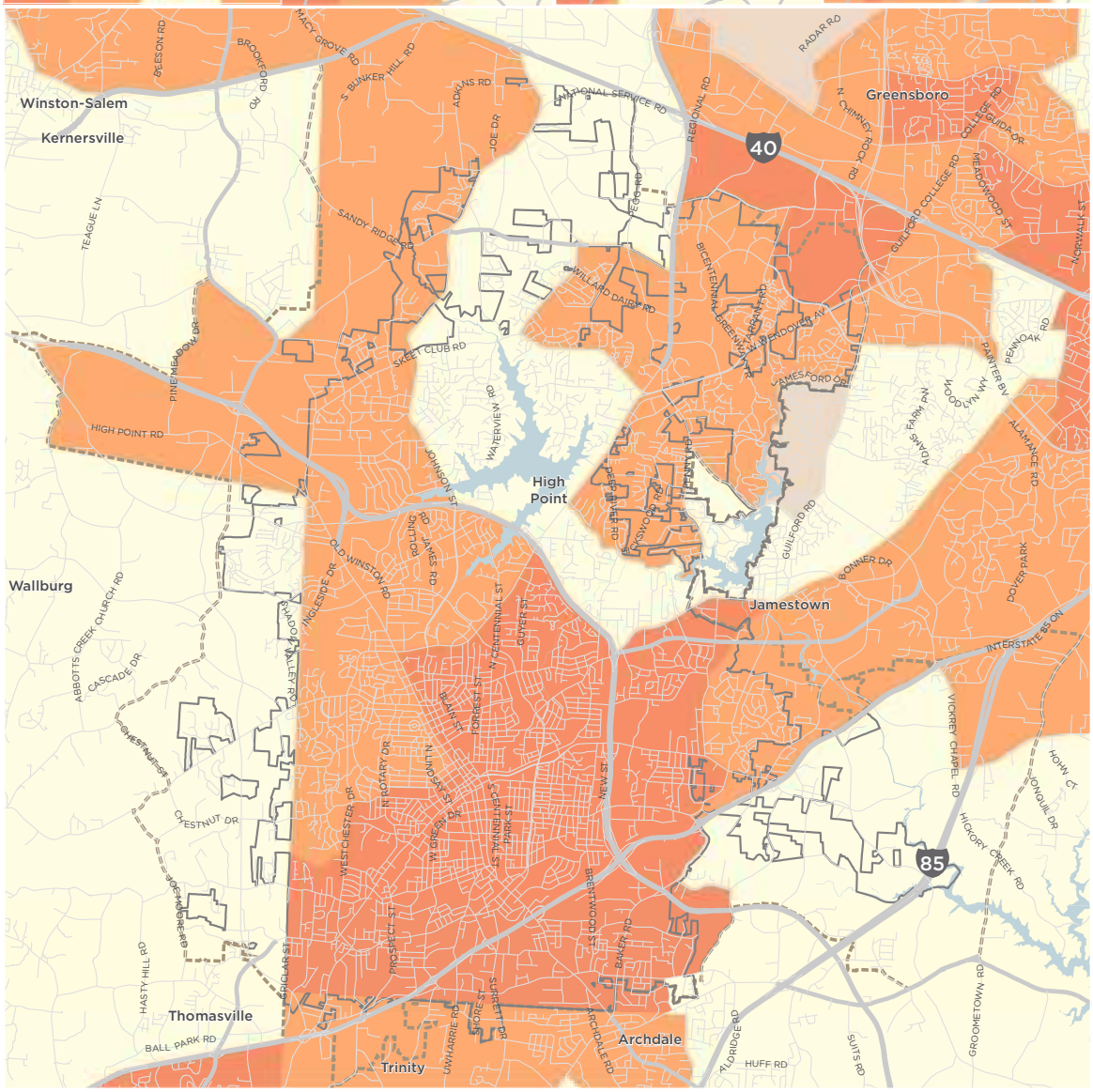
Types of Roads Where Pedestrian Collisions Occurred



Most crashes (68.1%) occurred on local streets in High Point. A quarter of all crashes occurred in public vehicular areas, such as parking lots in shopping areas.

MAP 2.2 EQUITY ANALYSIS





EQUITY ANALYSIS

HIGH POINT PEDESTRIAN PLAN

The Composite Equity Map reflects the average of four demographic categories:

1. *Families living below or near the poverty line*
2. *Households with no vehicle*
3. *Non-White populations*
4. *Households with Limited English Proficiency*

A higher tier represents a higher relative need for greater allocation of resources.

Equity Tier

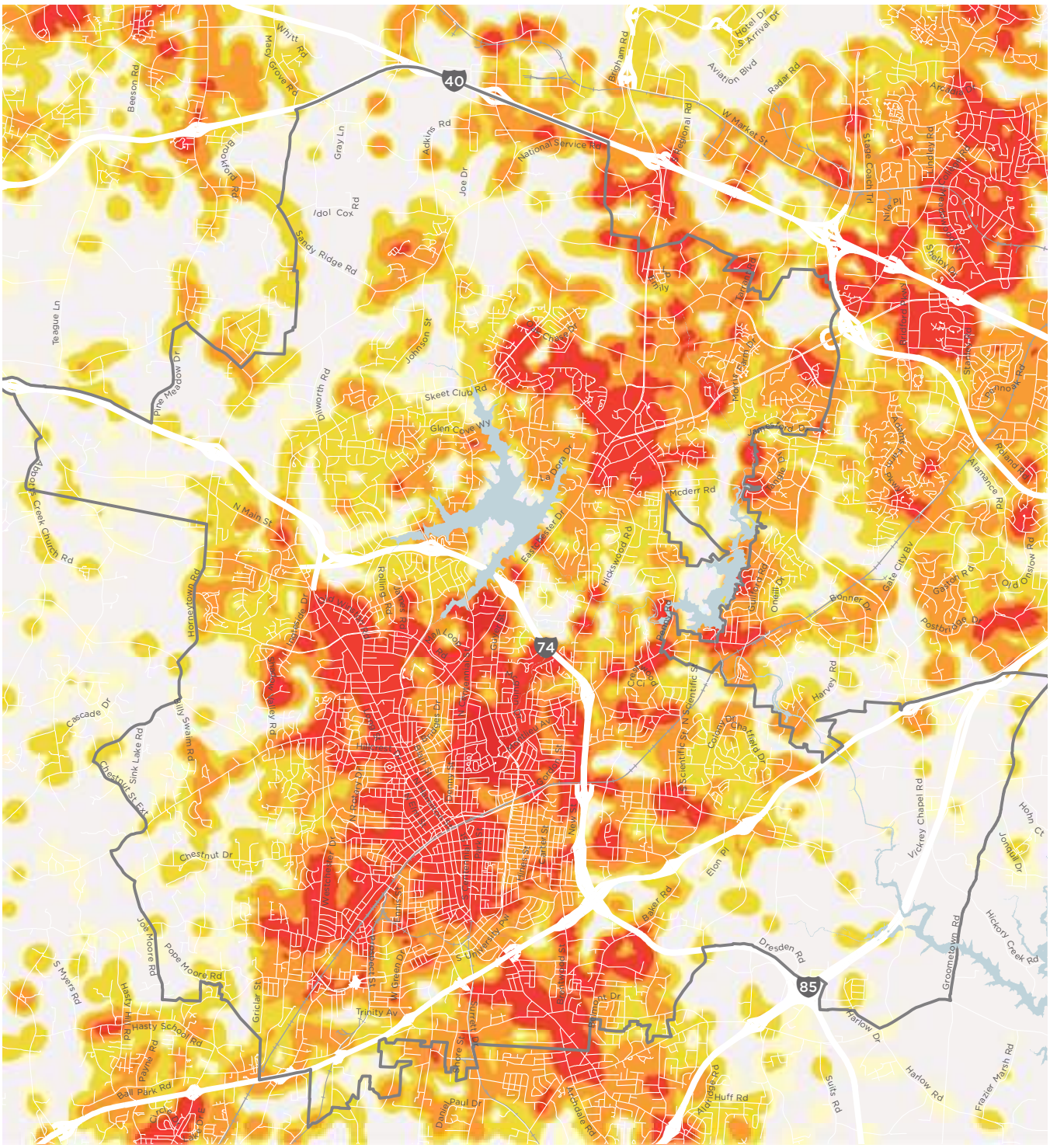
- Highest
- Lowest

N

0 5 10 MILES

Data obtained from the City of High Point and U.S. Census Bureau. Map created April 2016

MAP 2.3 PEDESTRIAN DEMAND ANALYSIS



HIGH POINT PEDESTRIAN PLAN

The Composite Demand map reflects the summation of five pedestrian demand categories:

1. *Where People Live*
2. *Where People Work*
3. *Where People Play*
4. *Where People Learn*
5. *Where People Access Transit*

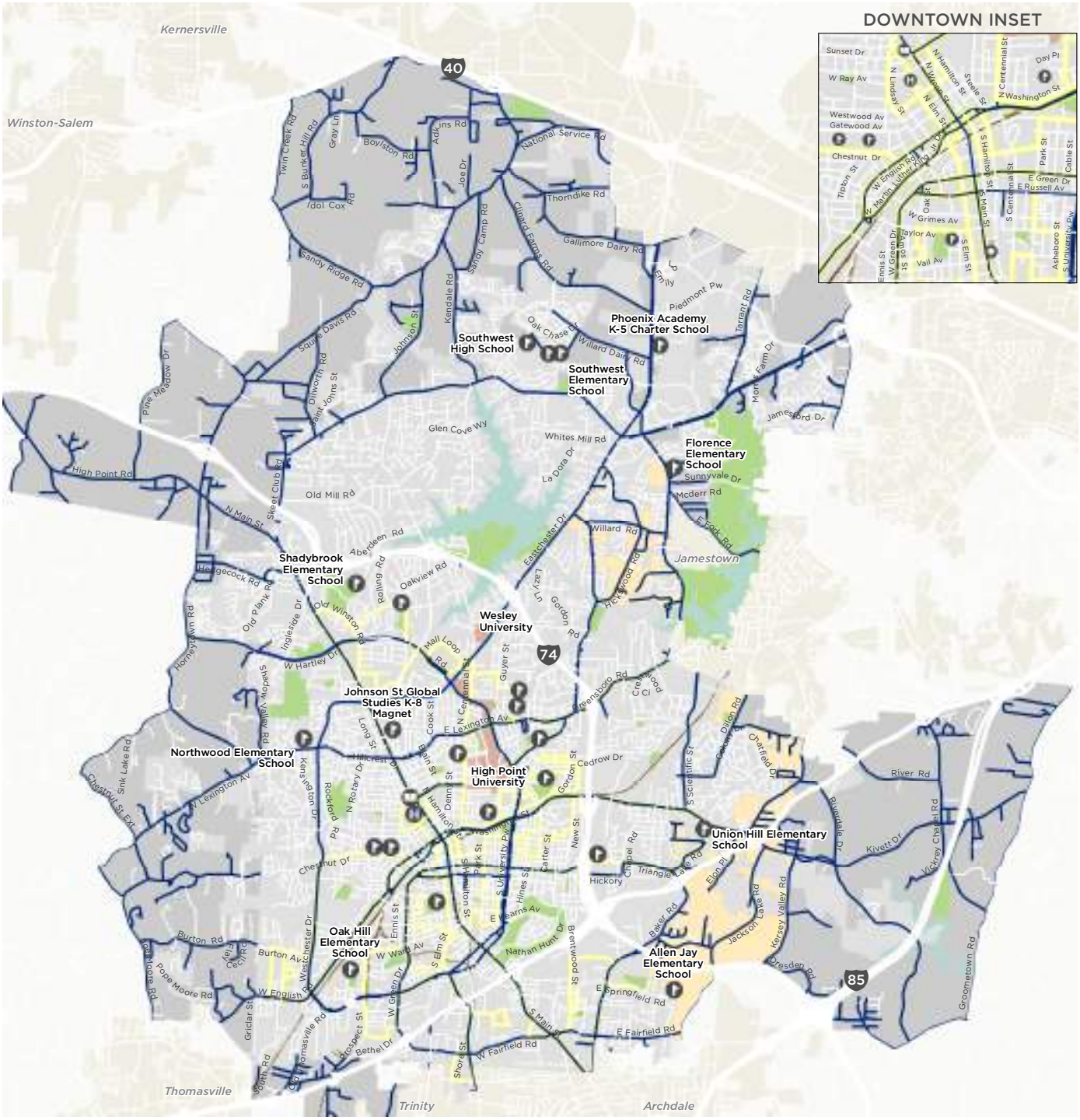
A higher tier represents a higher relative demand for walking (higher expected pedestrian activity).

Composite Demand

- High demand
- Low demand

- Lakes
- Planning Boundary
- Railroad

MAP 2.4 OWNERSHIP OF PUBLIC ROAD RIGHT-OF-WAYS



HIGH POINT PEDESTRIAN PLAN

MILES
0 1 2

Legend

- Streets
- State Owned Roads
- Railroad
- HPTS Bus Route
- Hospital
- Library
- School
- Recreation and Community Centers
- College; University
- Lakes
- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

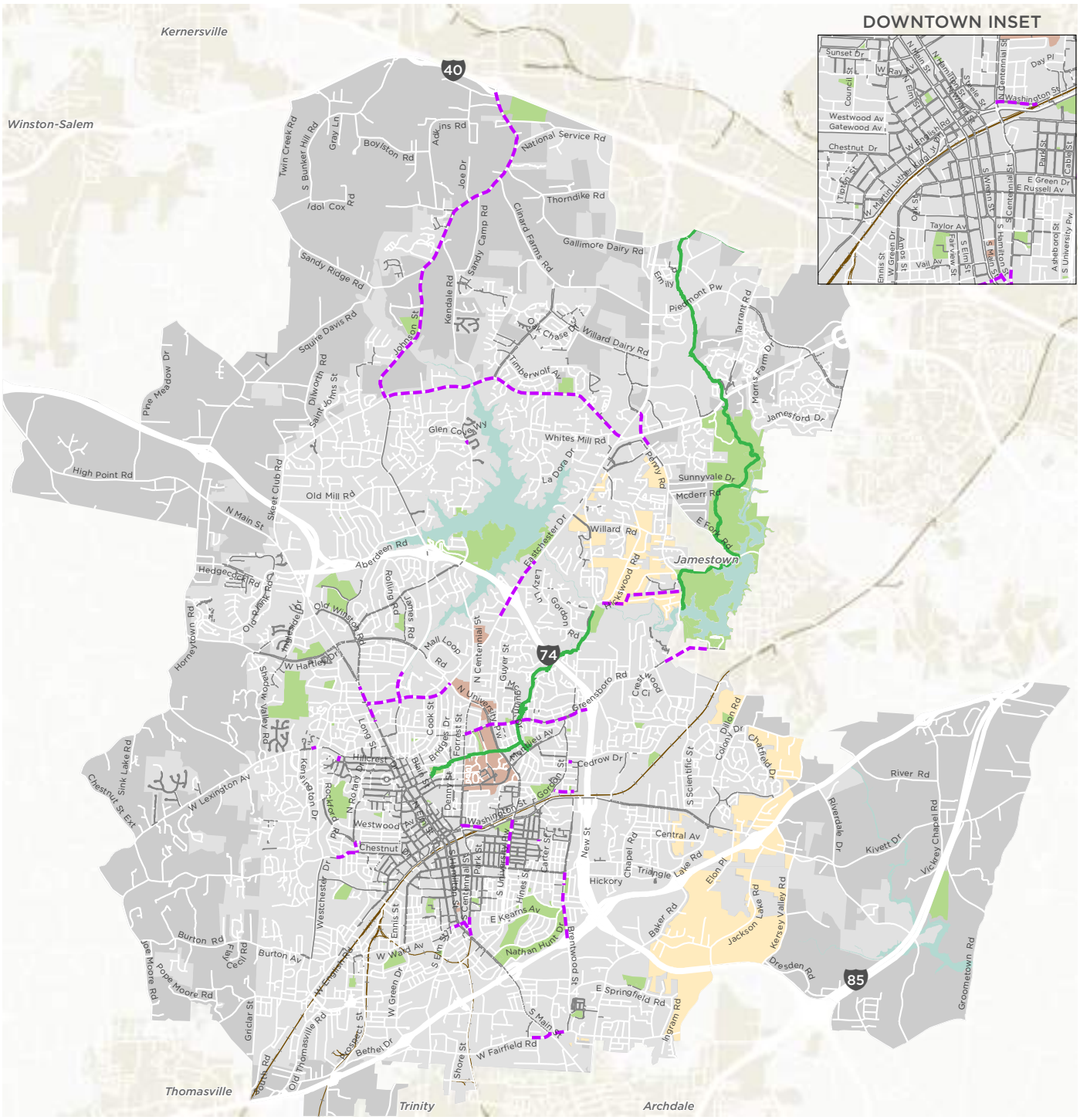
Map 2.5 Programmed Projects

A total of 32 pedestrian projects are programmed, which are projects that have a dedicated funding source (see Table 2.2). High Point City Council has approved 23 sidewalk projects that are distributed throughout all the council wards and funded by the City of High Point. Three pedestrian projects are identified in High Point's Metropolitan Transportation Improvement Program (MTIP) and are funded by NCDOT. The proposed project on Johnson Street includes a shared-use path on one side and a sidewalk on the other side. At the time of the writing of this plan, sidewalks were being constructed on Skeet Club Road. Other programmed projects include a greenway near Pennywood Drive that connects to the Piedmont Environmental Center, which is funded by the High Point MPO, and a sidewalk on Johnson Street near Eastchester Drive.

Table 2.2. Programmed Projects

Street	From	To	Feet	Funding Source
Ward Avenue 1	Hamilton St	Main St	328	Council Approved Sidewalk
Lexington Ave NS	Kentucky Existing	Westchester Dr	357	Council Approved Sidewalk
Ward Avenue	Main St	Elm St	659	Council Approved Sidewalk
Hamilton Street	Existing sidewalk	E Kearns Ave	536	Council Approved Sidewalk
Centennial Street	S Main St	Marsh Furn	1125	Council Approved Sidewalk
N Main St ES	Old Winston Rd	Eastchester Dr	1350	Council Approved Sidewalk
N Main St ES	Eastchester Dr	Idol St	970	Council Approved Sidewalk
Dartmouth Ln	Gordon St	Existing sidewalk	315	Council Approved Sidewalk
Meredith Street	RC Baldwin Ave	Leonard Ave	331	Council Approved Sidewalk
Ferndale Boulevard	Trenton St	N Rotary Dr	386	Council Approved Sidewalk
Brockett Ave	Gordon St	Existing sidewalk	1330	Council Approved Sidewalk
Country Club Drive	Hillcrest Dr	W Lexington Ave	475	Council Approved Sidewalk
Rotary Drive	Chestnut Drive	Ferndale Bv	730	Council Approved Sidewalk
Chestnut Drive	Rockford Rd	N Rotary Dr	1420	Council Approved Sidewalk
Waterview Rd	White Fence Way	Glen Cove Way	300	Council Approved Sidewalk
Brentwood St	Business I-85	North of Lowe Ave	2989	Council Approved Sidewalk
W Fairfield Road	Brentwood St	Plaza Ln	2425	Council Approved Sidewalk
Penny Rd	Samet Dr	Wendover Ave	920	Council Approved Sidewalk
Penny Rd	Wendover Ave	Eastchester Dr	1425	Council Approved Sidewalk
Eastchester Drive	Johnson St	N Main St	2164	Council Approved Sidewalk
Brentwood Street	E Green Dr	E Russell Ave	829	Council Approved Sidewalk
Washington St	Centennial St	Gaylord Ct	3120	Council Approved Sidewalk
Johnson Street	Eastchester Drive	600 ft North of Paris	1510	Council Approved Sidewalk
Johnson St	Skeet Club Rd	City limit	23436	MTIP (NCDOT funded)
Skeet Club Rd	Johnson St	Eastchester Dr	16729	MTIP (NCDOT funded)
Eastchester Dr	Ambassador Ct	Festival Park	4364	MTIP (NCDOT funded)
Proposed greenway	Hickswood Rd	Piedmont Environmental Center	531	CMAQ
Johnson St	Existing sidewalk	Eastchester Dr	5524	NCDOT Piedmont Improvement Program (PIP)
University Parkway	MLK Jr. Dr	Green Dr	3151	Draft STIP (2019)
Main Street (Jamestown)	Penny Road	City Lake Park	2967	Draft STIP (2019)
Eastchester Dr	Johnson St	Hartley Dr	3563	Draft STIP (2019)
E. Lexington Ave (part of road improvement project)	I-74	Centennial St	8203	Draft STIP (2027)

MAP 2.5 PROGRAMMED PROJECTS



HIGH POINT PEDESTRIAN PLAN

MILES
0 1 2

Legend

- Programmed Projects
- Railroad

Existing Facilities
- Greenway
- Sidewalk

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

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REVIEW OF EXISTING PLANS

At the beginning of the planning process, a review of previously adopted plans in High Point and surrounding jurisdictions was conducted. These plans were reviewed in order to understand previous pedestrian and transit recommendations. Previous recommendations from these plans were taken into consideration when developing the proposed pedestrian network in Chapter 5. Recommendations from these plans are summarized on the following pages in order of relevance to the pedestrian planning process.

Bikeway, Greenway, and Trails Master Plan (2010)

The purpose of this plan is to improve the quality and connectivity of High Point's pedestrian environment by focusing on on-road sidewalks and off-road greenways. The plan's public input survey found that most respondents frequently walk in areas where there are pedestrian amenities, such as sidewalks, or located away from vehicular traffic. Eight segments were identified in the prioritization process: 1) Deep River Road to Penny Road, 2) Montlieu Elementary to Washington Terrace Park/Penn Griffin School, 3) Regency Parkway to Interstate 40, 4) Armstrong Park West, 5) City Lake Connector Piedmont Environmental Center to City Lake Park, 6) Richland Creek, 7) Oak Hollow South to University Park, 8) West Loop Connector. The Deep River Road to Penny Road segment was identified as the number one priority for construction.

» ***Key Takeaway:*** Residents expressed that they would walk more if there were more pedestrian facilities.

Short Range Transit Plan (2015)

The number of people using public transportation in High Point to commute to work is twice the state average. **A challenge identified for the fixed route stops is the lack of sidewalks on bus route corridors.** Providing comfortable passenger waiting areas was one of the most consistently cited improvements recommended by passengers in an on-board travel survey. Lack of sidewalks is a critical challenge facing bus utilization. Longer hours of service and more frequent service were identified by passengers as major needs. The community also expressed desire to have bus service that goes to the Palladium/Deep River region. One recommendation of this plan is to implement a stop improvement program to add amenities, such as benches and shelters, in stop locations based on boarding and alighting activity.

» ***Key Takeaway:*** Connectivity between the pedestrian network and transit network needs to be improved; Transit stops need pedestrian amenities

Jamestown Deep River Trail Plan (2009)

The proposed Deep River Trail will include both land and paddle trails. The proposed route starts from neighboring Jamestown and runs south along the Deep River, which will connect five counties (Randolph, Moore, Chatham, Guilford, Lee). Coordination for this trail is led by the Piedmont Triad Regional Council of Governments.

» ***Key Takeaway:*** Once completed, the Deep River Trail will be a regional tourist destination and pedestrian access to this trail must be a considered

University Area Plan (2009)

The purpose of this plan is to provide recommendations for the growth of the area around High Point University. Growth areas were categorized into three phases and these three phases would add about 74 acres to the existing campus. City staff recommended amending the City Land Use Plan to designate all Phase 1 growth areas and the university parking lot on the south side of Montlieu Ave as Institutional and the natural area west of 5th Street as Recreation/Open Space. The university has stated a need for 20-25 additional acres within 3-6 years. Other future growth includes an increase in undergraduate enrollment, Greek housing, more parking lots, and an additional academic building.

» ***Key Takeaway:*** High Point University will continue to expand the campus boundaries.

Core City Plan (2007)

The purpose of the Core City Plan it to provide a blueprint for improving the physical, social, and economic factors of High Point's central core area. It is proposed that the Core City's existing greenway system be substantially expanded. This plan proposes seven potential new trail segments, all of which connect to major community destinations. Further study is needed to determine feasibility. Eight streets were targeted for proposed street improvements such as sidewalks, crosswalks, and street trees: 1) College Drive, 2) Centennial Street, 3) Main Street, 4) Kivett Drive, 5) West English Road, 6) Green Drive, 7) Montlieu Avenue, 8) Lexington Avenue.

» ***Key Takeaway:*** Expansion of the greenway system can spur economic growth in the central core.

A Study of High Point's Future Growth Areas (2007)

This report describes the three Future Growth Areas in detail and assesses whether all or some of the areas are ready for redesignation. In general, Future Growth Area designation is applied to properties considered to be premature for suburban or urban development. The Planning and Development Department examined a number of issues, including land uses and public utilities, and issued these recommendations: (1) Future Growth Area designation in Davidson County should be maintained, (2) Future Growth Area for Northwest High Point area should be maintained, and (3) Future Growth Area for Southeast High Point should be maintained.

» ***Key Takeaway:*** High Point is continuing to grow and expand its limits. It is important that the pedestrian network is extended into these growth areas through the use of development regulations (see Chapter 3).

Jamestown Pedestrian Plan (2010)

Although Jamestown is a different municipality, its pedestrian plan is relevant to High Point in that connectivity to and from Jamestown affect High Point's residents. As part of this plan, 15 sidewalk projects and 9 intersection improvement projects were proposed. Recommended multi-use path improvements are found on the Deep River from City Lake to Business 85, on Penny Road from the existing Bicentennial Greenway to City Lake Park, in Gibson Park to connect with neighborhoods to the northeast and along the NC Railroad from Main Street to Guilford College Road.

» ***Key Takeaway:*** Improving connectivity, accessibility, and safety are main aims of the Jamestown Pedestrian Plan.

CHALLENGES AND OPPORTUNITIES

Current walking conditions in High Point are variable. The sidewalk network is most extensive in downtown but sidewalks are lacking in other parts of the city. Since destinations such as parks, schools, and shopping, are spread throughout the city, the lack of sidewalks makes it difficult to walk to and from these destinations. According to feedback from the steering committee, there is high pedestrian activity along a few corridors that do not have sidewalks and crossing accommodations, such as Eastchester Drive. This section summarizes current opportunities and challenges.

High Point Athletic Complex and other recreation centers are destinations in High Point

Opportunities

Current opportunities for pedestrian network development include:

- ***Transit Service:*** The High Point Transit System (HPTS) is an important component of Hight Point's transportation system. The bus system serves major destinations, shopping areas, Guilford Technical Community College (GTCC), and downtown. Changes to some routes went into effect in January 2017. PART implemented a Palladium/ Deep River circulator route and HPTS continues to implement passenger improvements, such as shelters and streetscape improvements, as funding becomes available. Making connections to bus stops will be critical for the pedestrian network.

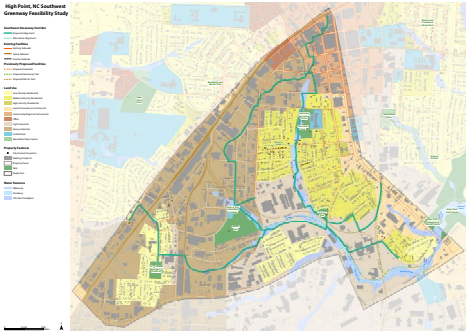
Bus shelter at a Hi-Trans stop on Prospect Street

- ***Existing Greenways:*** The High Point Greenway begins in Armstrong Park in downtown High Point and ends at University Park. This greenway provides a safe path for pedestrians and runners who use the greenway for exercise and recreation. The Bicentennial Greenway, which weaves through existing parks near the Piedmont Environmental Center and runs up to Greensboro, is approximately 6 miles long and provides a safe connection to High Point's neighboring city.

High Point Greenway

- ***Citywide Speed Limit:*** High Point has implemented a citywide speed limit of 35 mph on all of its streets. This citywide speed limit indicates that the speed of vehicles on local roads should be relatively low and that this is a starting point for the city's growing commitment to traffic calming efforts. This speed limit does not apply to state-maintained roads.

- ***Support for greenway development:*** Aside from the existing greenways, the Southwest Greenway Feasibility Study was completed in 2015. There is a large amount of community support for constructing this greenway, especially from the Southwest Renewal Foundation, which is leading the effort in revitalizing Southwest High Point and advocating for funding and construction of the proposed Southwest Greenway. The completion of this greenway would further enhance the existing pedestrian network, offering safe connections to and from Southwest High Point, an area where a large percentage of residents rely on alternative modes of transprotation.



Recommendations map from SW Feasibility Study

Challenges

Current challenges for pedestrian network development include:

» ***Highways that run through High Point:*** Major highway systems, including I-40, I-74, and Business Interstate 85 run through High Point. These interstates allow for easy motor vehicle travel to and from High Point. However, these interstates and their on and off ramps are barriers to pedestrian travel. Pedestrians wishing to cross major interstates may find that there are currently a lack of pedestrian accommodations where these interstates traverse local High Point roads.

» ***Large Land Area:*** The City of High Point is approximately 95 square miles. While there are a large number of destinations and pedestrian attractors in the city, they are also spread throughout the city. Planning a pedestrian network for this large area means that not every street in the city will have a sidewalk due to limited amounts of funding. On the other hand, it is important to make key connections between different parts of the city to ensure safe pedestrian travel.

» ***Car-focused Major Streets:*** The major streets in High Point, such as Eastchester Drive and Martin Luther King Jr. Drive, have multiple lanes of traffic with higher speed limits than local roads. The multiple lanes of vehicular traffic decrease pedestrian comfort and do not support a pedestrian friendly environment.

» ***High Number of Crashes:*** From 2007-2012, there were 260 pedestrian crashes within the High Point planning boundary limits. From 2008-2012, the per capita pedestrian crash rate was 4.1 crashes per 10,000 residents. Compared to cities in the region, this rate is higher than Winston-Salem (2.4%) but lower than Greensboro (5.6%). The high number of crashes indicates that safety is an issue for pedestrians.

» ***NCDOT Coordination***: High Point is the only city in North Carolina that extends into four counties. Because of this, it is also located in 3 different NCDOT Divisions, which are Divisions 7, 8, and 9. Coordinating with three different divisions is a significant challenge.

"We need sidewalks! Lots of kids, lots of walkers, and rude, careless drivers that drive way over the speed limit. Some will yell at you to get out of the road!"

~ High Point Resident

Lack of crosswalk at the I-85 ramp on Main Street

North Eastchester Drive features two lanes of car traffic on each side with a center turn lane

Main Street also has two lanes of car traffic on each side with a center turn lane. Main Street is one of the main thoroughfares with retail, recreation, and entertainment destinations

Worn path on Main Street

PUBLIC INPUT SUMMARY

Public outreach was an integral component of this plan and results from public input were used to inform network recommendations. As described in Chapter 1, public outreach was conducted through a variety of means, including a project website, public survey, sidewalk interviews, a display in the lobby of High Point City Hall, and a public open house.

The public survey was offered in both English and Spanish. Steering committee members were encouraged to spread the word about the survey through their organizations and personal contacts. The survey was also advertised on the City of High Point's website. Over 300 respondents filled out the public survey, which included questions about current walking conditions, where people currently walk, barriers to walking, and where pedestrian improvements are needed. The following pages summarize the results from the public survey and the word cloud below highlights major themes.

The full survey results are provided in Appendix C.

Survey Results

90% of survey respondents live in High Point. Others either work, own property, or visit High Point (for shopping, dining, or local services).

This summary section highlights key findings:

57% of respondents rated current walking conditions in High Point as poor. 40% rated the conditions as fair.

98% of respondents indicated that improving walking conditions is either very important (80%) or somewhat important (18%).

Respondents were asked to indicate the primary purpose of their walking trips and were allowed to select more than one response. The following are the top 3 trip purposes:

- Exercise (84%)
- Recreation (59%)
- To enjoy nature (57%)

Of the survey respondents who indicated that they take the bus, 71% indicated that their current bus route does not have sidewalks.

For those who do not currently take transit, 36% said that they would take the bus if there were sidewalks.

Respondents would most like to reach the following destinations by walking (with the first ones listed as higher in ranking):

- Downtown High Point
- Parks
- High Point Public Library
- Recreation centers
- Piedmont Environmental Center

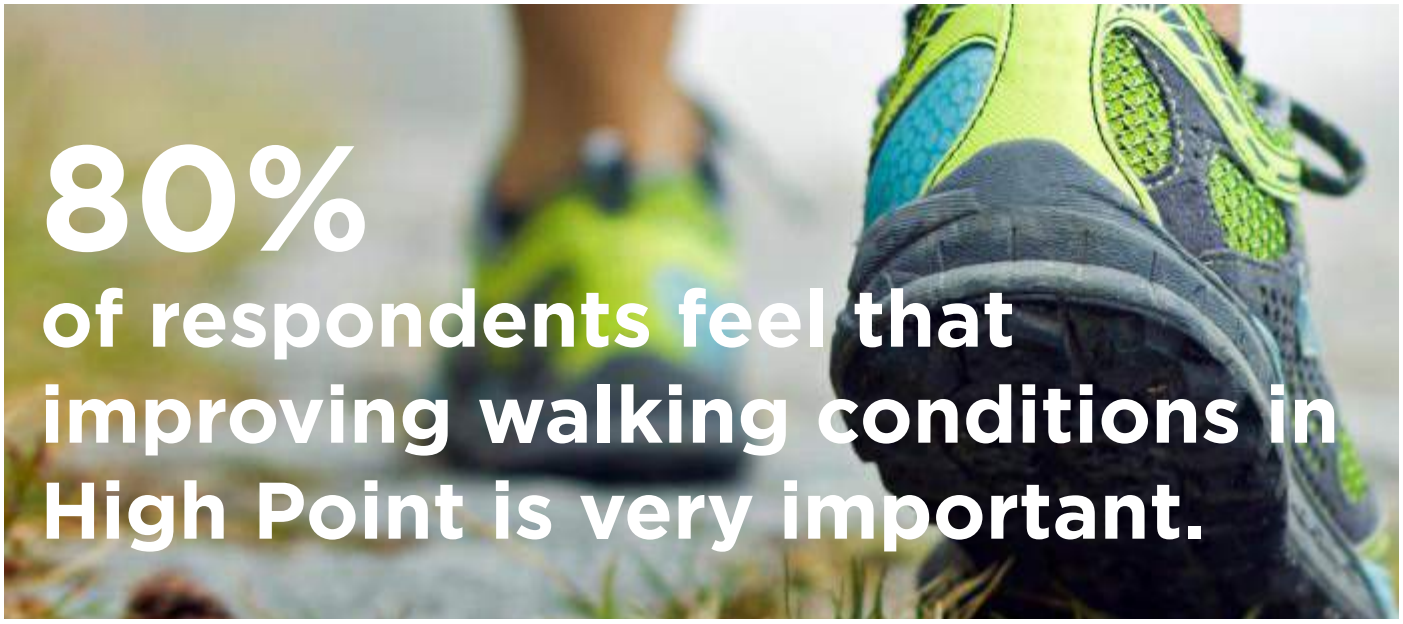
The factors that most discourage walking are:

- **Lack of sidewalks (84%)**
- **Unsafe street crossings (67%)**
- **Heavy/fast motor vehicle traffic (59%)**
- **Lack of pedestrian signals and crosswalks (49%)**
- **Motorists failing to yield to pedestrians (46%)**

It is important to note that unsafe street crossings and lack of pedestrian signals and crosswalks are strongly interrelated while heavy/fast motor vehicle traffic and motorists failing to yield to pedestrians are strongly linked to one another.

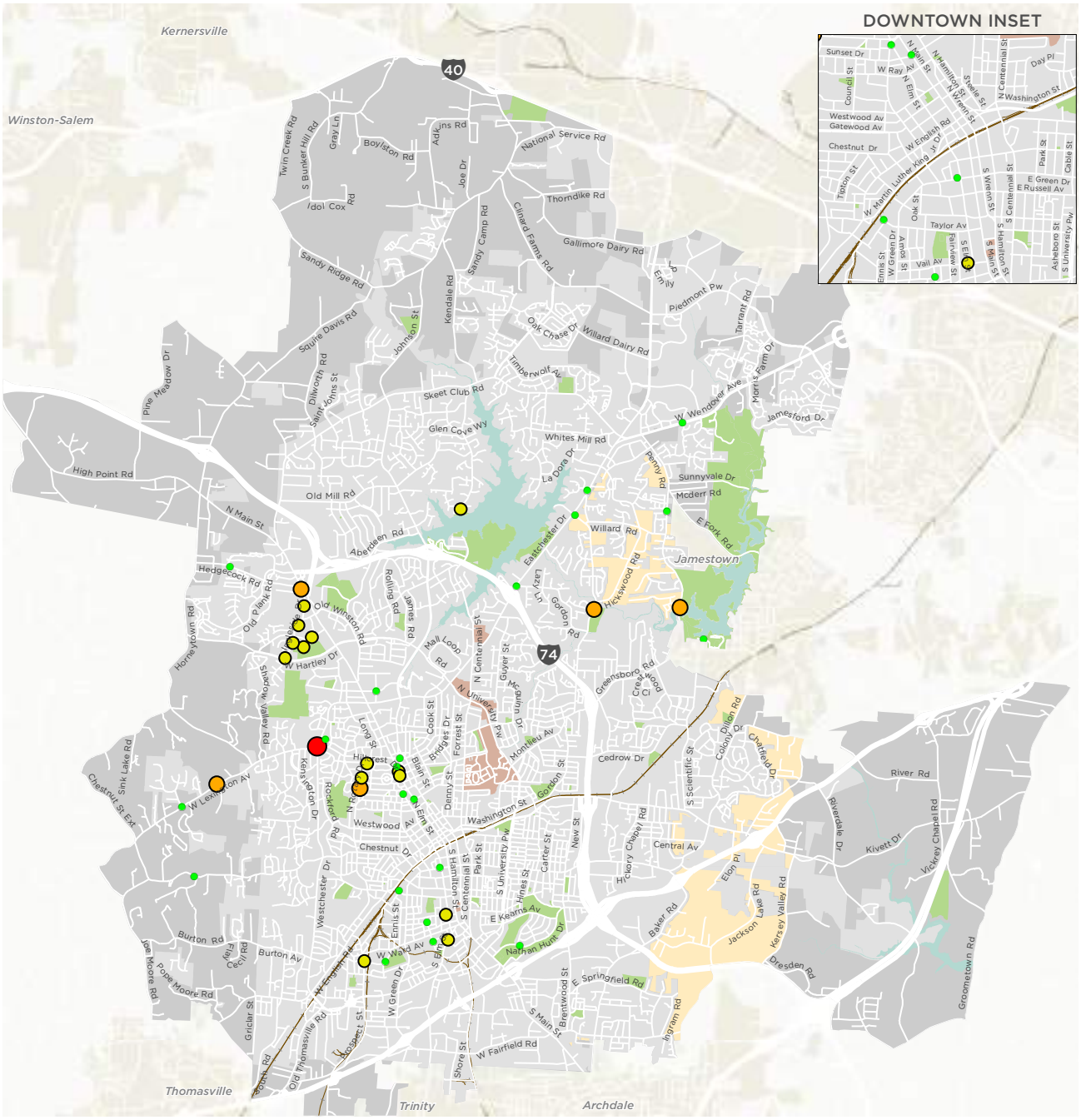
The top 3 locations for improving walking conditions are:

- **Lexington Avenue**
- **Main Street**
- **Westchester/Eastchester Avenue**



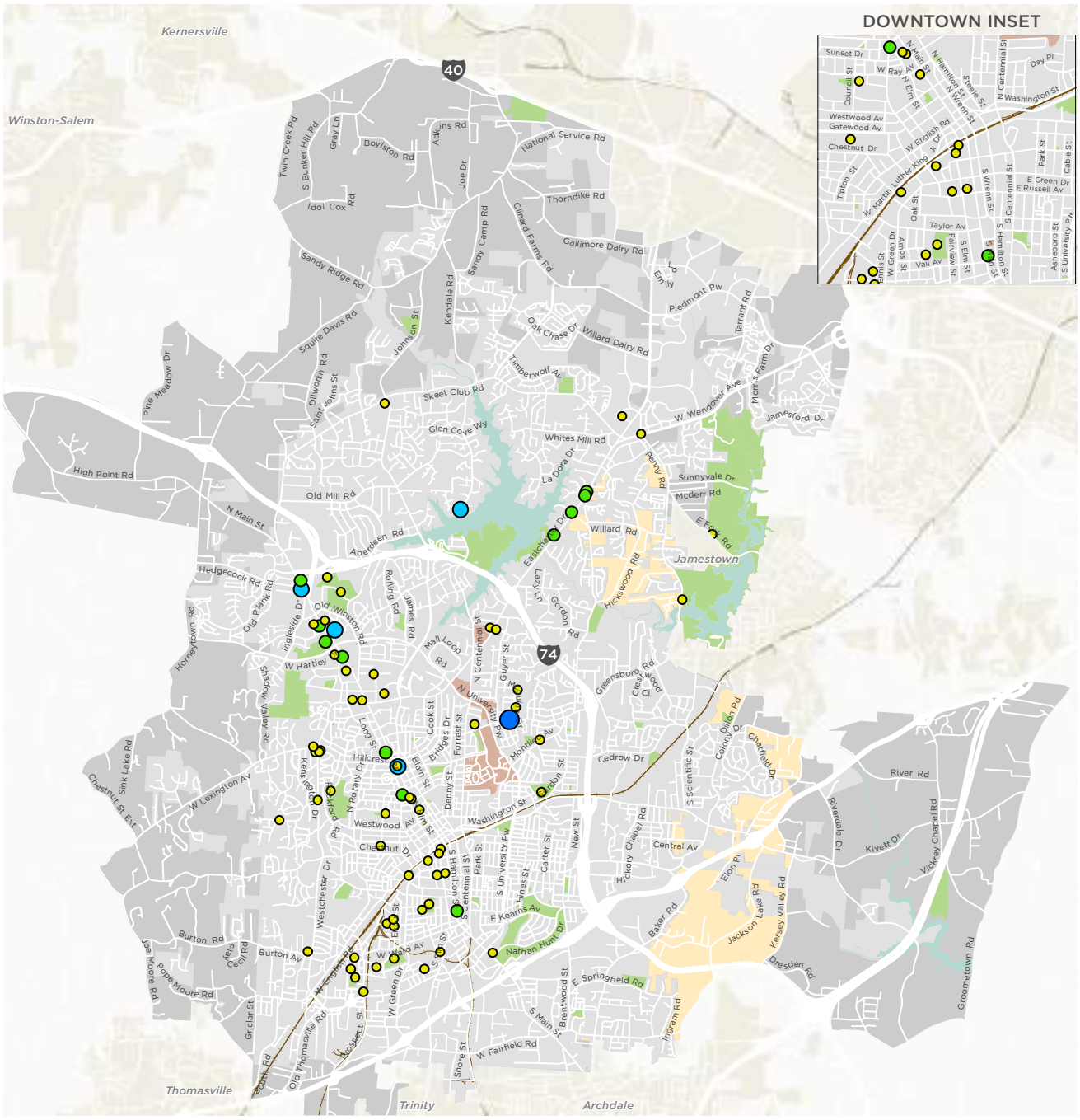
MAP 2.6 INTERACTIVE MAP PUBLIC INPUT

Public input was also collected through Wikimap, an online mapping tool where users can provide input about destinations as well as barriers to walking. The map below shows where users identified locations that need improvements. For this map and the following maps, votes of support indicate when a user agreed with another user's comment. A vote of support that equals 0 indicates that it was mentioned by a user but didn't receive further votes of support from other users.



MAP 2.7 INTERACTIVE MAP PUBLIC INPUT (CONT.)

The map below shows the locations of key destinations in High Point based on user generated data from Wikimap. Due to the lack of pedestrian facilities in some parts of High Point, it is possible that this map may underrepresent key destinations outside of downtown High Point.



HIGH POINT PEDESTRIAN PLAN
PUBLIC INPUT: KEY DESTINATIONS

Votes of Support (Likes)
- 3
- 2
- 1
- 0

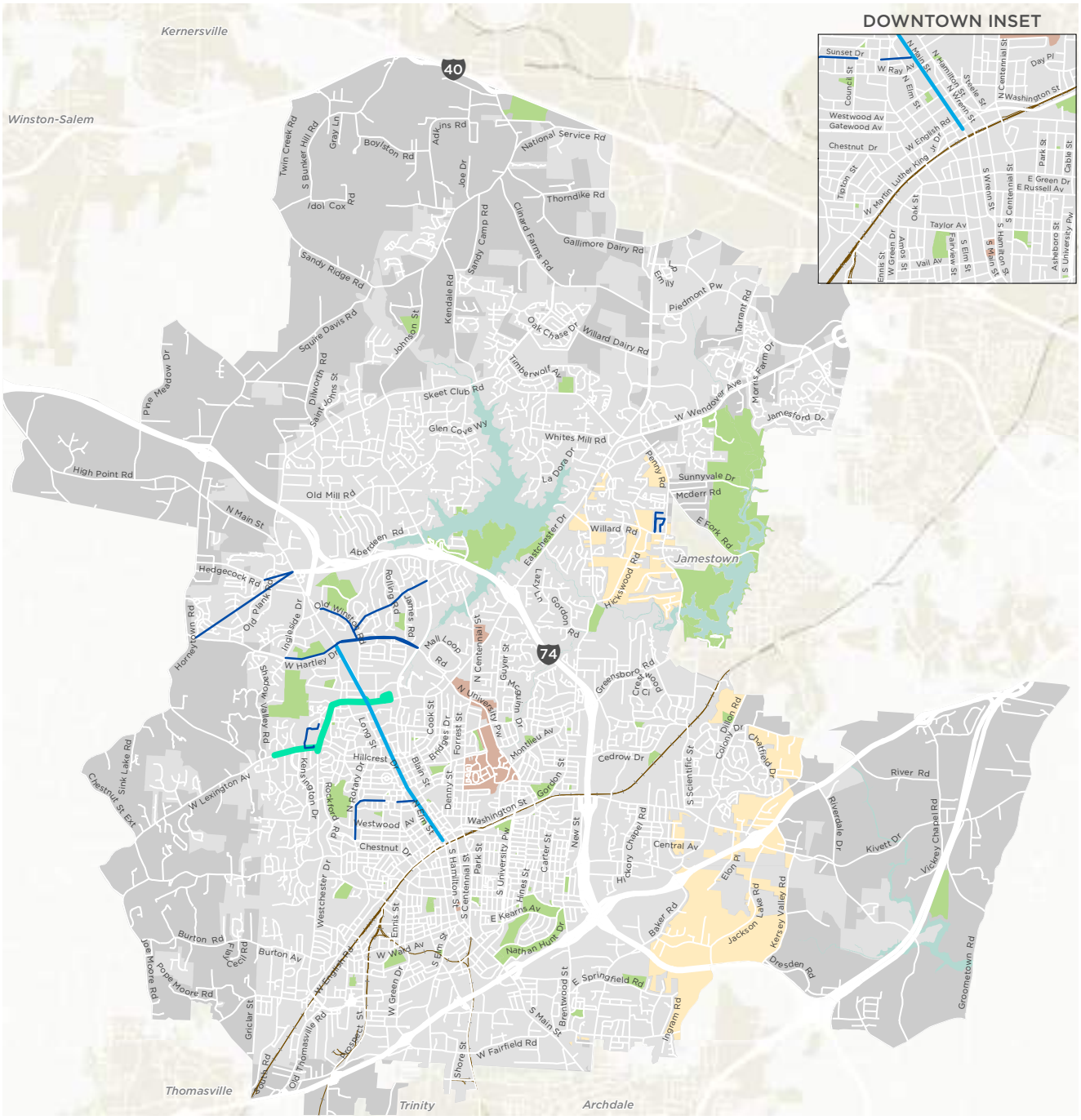
- Railroad
- Recreation and Community Centers
- College; University
- Lakes
- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

N

0 1 2 MILES

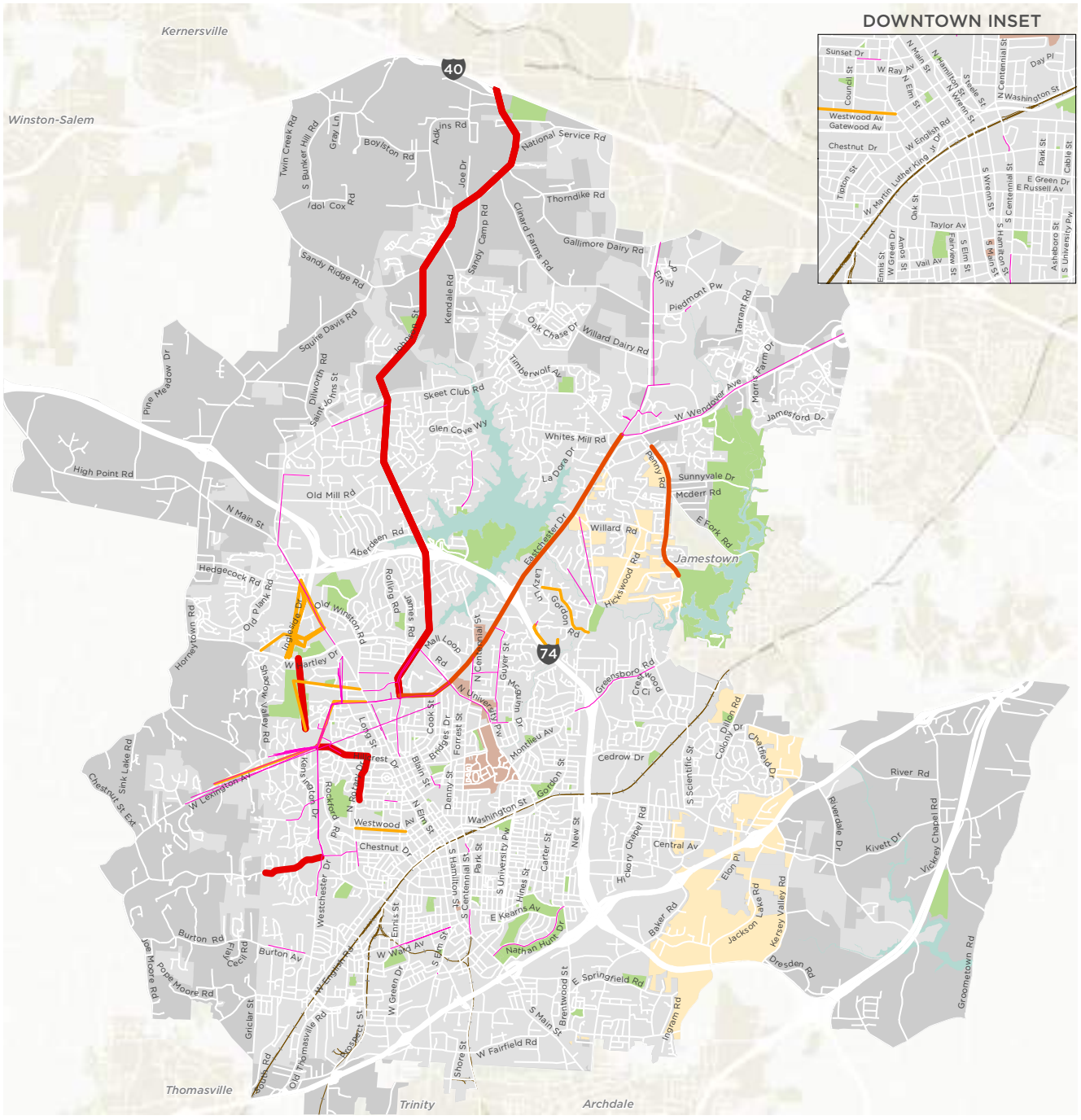
MAP 2.8 INTERACTIVE MAP PUBLIC INPUT (CONT.)

Wikimap users were asked to identify safe and comfortable routes. The map below shows the locations of where users indicated that safe and comfortable routes for walking currently exist in High Point.



MAP 2.9 INTERACTIVE MAP PUBLIC INPUT (CONT.)

Lastly, Wikimap users were asked to identify unwelcoming and unsafe routes. The map below shows the locations of unwelcoming and unsafe routes in High Point that were identified.



A pedestrian walks outside the High Point Athletic Complex

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A pedestrian crossing Main Street near the Family Dollar Store.

3 Policy

Contents

OVERVIEW

One of the most cost effective implementation strategies for High Point is to establish land development regulations and street design policies that promote walkable new development and capital projects. As part of a comprehensive and "6 E's" (education, encouragement, enforcement, engineering, evaluation, equity) approach to developing recommendations for a more walkable High Point, the consultant team reviewed City ordinances, development standards, and policies to identify general issues and opportunities impacting the pedestrian environments across the city. The 6 E's are discussed in more detail in Chapter 4. The recommendations in this section generally fall under the 6 E's category of "Evaluation and Planning." The team analyzed these regulatory standards and policies through the lens of the project vision and goals.

The consultant team has identified model regulatory and policy language from around North Carolina and the United States for elements including land use/transportation integration, connectivity, Complete Streets, and bicycle parking, enabling the City to maximize pedestrian and greenway improvements in conjunction with new development, redevelopment, and corridor improvement projects. In addition, the project team included recommended policy language additions to enhance the draft Complete Streets policy. These recommendations are intended to strengthen the existing adopted ordinances and they carry no weight with the approval of this plan. The High Point Planning Department will consider these recommendations when the Development Ordinance is revised.

Please note that all regulatory references are pulled from the High Point - Code of Ordinances (*https://www2.municode.com/library/nc/high_point/codes/code_of_ordinances*) or High Point Development Ordinance adopted 05-16-16 (*https://www.highpointnc.gov/1736/New-Development-Ordinance*), which takes effect on January 1, 2017.

DEVELOPMENT ORDINANCE REVIEW

The following tables outline existing regulatory and policy language found in the Code of Ordinances, Development Ordinance, and draft Complete Streets policy. When applicable, recommendations were made to improve and/or strengthen policies to promote walkability in High Point.

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
1. Definitions and General Ordinances		
1.1 Street	**HIGH POINT - CODE OF ORDINANCES** **Sec. 10-1-1 - Definitions of words and phrases.** • *Street or highway.* The entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular traffic.	Consider including language from High Point's draft Complete Streets statement of intent and purpose for the ordinance
1.3 General Ordinances Supporting Pedestrian Safety	**HIGH POINT - CODE OF ORDINANCES** **Sec. 6-1-53 - Where covered walkways are required.** (a) During the erection or demolition of any building exceeding one (1) story in height located a distance less than 15 feet from any street line, a roof covering for the entire length of the project shall be provided over the temporary or permanent sidewalk, from the time the construction or demolition extends above the first floor level until materials are no longer being used or handled on the front above such walk. (b) Buildings having their exteriors altered or repaired in an extensive manner involving any hazard to pedestrians or motorists, shall be provided with a covered walk as required for new structures during erection. (c) Where a covered walkway is not necessary as determined by the director of transportation, a temporary walkway shall be constructed as provided in section 6-1-56 **Sec. 6-1-57 - Walkways over excavated areas.** When the area occupied by the sidewalk or temporary walkway is to be excavated, such walkway shall be made of boards not less than two (2) inches nominal dimension designed to support a load of not less than 150 pounds per square foot, provided with suitable ramps at each end. Such walkways shall be provided with a fence and handrails on each side **Sec. 10-1-257 - Emerging from alley or driveway.** The operator of a bicycle emerging from an alley, driveway or building shall, upon approaching a sidewalk or the sidewalk area extending across any alleyway, yield the right-of-way to all pedestrians approaching on said sidewalk or sidewalk area, and upon entering the roadway, shall yield the right-of-way to all vehicles approaching on the roadway. **Sec. 10-1-260 - Riding on sidewalks.** (a) No person shall ride a bicycle upon a sidewalk within a business district. (b) When official traffic control devices are in place on any sidewalk or roadway, prohibiting the riding of bicycles thereon by any person, no person shall operate a bicycle in such restricted areas designated in article P, schedule 17(a).	These provisions are very good. Changes and additions to consider include: • Reducing the maximum allowable speed limits in residential areas and pedestrian-oriented districts to 20 or 25 mph • Provisions for "Play Streets" or "woonerfs" See the following documents for comprehensive recommendations for policy and regulatory tools to support walking and bicycling: • *Making Neighborhoods More Walkable and Bikeable*, ChangeLab Solutions: http://changelabsolutions.org/sites/default/files/MoveThisWay_FINAL-20130905.pdf • *Getting the Wheels Rolling: A Guide to Using Policy to Create Bicycle Friendly Communities*, ChangeLab Solutions, http://changelabsolutions.org/bike-policies

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
2. Pedestrian Facility Requirements		
2.1 Pedestrian accommodations required	**NEW DEVELOPMENT ORDINANCE**: 5.9. SIDEWALKS **5.9.1. PURPOSE AND INTENT** The purpose of these standards is to ensure greater pedestrian safety and ease of access for pedestrians in the City in accordance with the City's adopted policy guidance. . . . **5.9.2. APPLICABILITY** The provisions of this section apply to the following, unless exempted in accordance with Section **5.9.3. EXEMPTIONS** **A. General**: Sidewalks must be installed along streets that are within or abut a subdivision (including group development) or development subject to a site plan. **B. Expansions**: Individual or collective expansions of existing principal buildings, open uses of land, or offstreet parking that exceed 50 percent **5.9.3. EXEMPTIONS** Sidewalks shall not be required in the following instances: **A. Areas Where Sidewalks Do Not Exist**: Along local and sub-collector residential streets where the TRC finds the following conditions exist: 1. The proposed development is within an area consisting predominantly of existing single-family detached residential development, where no sidewalks are present; and 2. The character and size of the proposed development will not result in substantial additional pedestrian facility needs; and 3. There are no new pedestrian facilities planned that would provide a pedestrian connection to the proposed development. **B. Industrial Areas** As determined by the Transportation Director, sidewalks are not required along new and existing local and collector streets within industrial areas where all of the following conditions exist: 1. The proposed development is within an area consisting mostly of industrial uses where the majority of developed parcels do not have sidewalks; 2. The character, size, and density of the developments are such that pedestrian demand is expected to be limited; and 3. No transit service or greenway route exists or is planned in that location.	Excellent Purpose and Intent ***5.9.2 Add language to Applicability:*** "The street is identified as a pedestrian route or recommended sidewalk location in the City of High Point Pedestrian Plan." ***Section 5.9.3*** Exemption language is generally non-quantifiable or difficult to objectify. Standards for exemptions should be more objective. 1. Need to define what constitutes "an area"; in general, the first provision should only apply to infill lots of 1-2 homes on a street with no sidewalks or that is not proposed to have sidewalks 2. Suggest deleting the second provision; Or, define what factors determine if a development will or will not result in pedestrian needs. Types of development that would have very little pedestrian needs might include a utility substation. 3. Suggest deleting third provision or making it more definitive. Pedestrian facility needs may be determined by the proximity of destinations such as schools, parks, services, or other destinations. ***Section 5.9.3.B Industrial Areas:*** 1. Suggest modifying language to require sidewalks where either of the following apply: at least 50% of the parcels on a given street within a given industrial development have sidewalks or where the street is a collector street or higher. 2. Suggest deleting or modifying provision/ exemption #2 as this is difficult to quantify 3. Suggest modifying provision/exemption #3 to read where none of the following exists or is proposed in an existing plan or policy within ½ mile of the site: a collector or higher order street with sidewalks; transit service; or greenway access.

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
2. Pedestrian Facility Requirements (continued)		
2.1 Pedestrian accommodations required	**NEW DEVELOPMENT ORDINANCE**: 5.9. SIDEWALKS (CONT.) **C. Cul-De-Sac and Dead End Streets:** Along cul-de-sac streets and permanent dead-end streets, of 800 feet or less in length, except where they contain cluster (mail) mailbox units. **D. Controlled Access Roads**: Along streets that are designated North Carolina Department of Transportation controlled access facilities. **5.9.4. STANDARDS** **A. General** Sidewalks required by this Ordinance shall be constructed along the full length of street(s) that have frontage within or that abut the development. **B. Thoroughfare Streets:** Sidewalks shall be installed along both sides of thoroughfare streets. **C. Collector and Sub-Collector Streets:** 1. Sidewalks shall be installed on 1 side of collector and sub-collector streets. 2. The TRC may determine, during review of a development application, that a collector or sub-collector street requires sidewalks along both sides of the street if one or more of the following conditions exists: a. The current or projected average daily traffic volume is greater than ~~8,000~~ 2,000 vehicles per day. b. The posted speed limit is greater than ~~35~~ 25 miles per hour. c. The street is identified as a pedestrian route *[or recommended sidewalk location]* on an *[adopted]* City ~~sidewalk~~ plan. d. Other pedestrian safety, access, or circulation needs are identified. **D. Local Streets:** Sidewalks shall be installed along 1 side of local streets, unless other pedestrian safety, access, or circulation needs are identified, or where residential development density is 4du/acre or greater. **E. Side Determination:** Where sidewalks are required to be installed on only 1 side of a street, the TRC shall determine which side of the street is most appropriate, unless noted in an adopted plan.	***Section 5.9.3.C Cul-de-Sac and Dead End Streets:*** Delete provision (C). Cul-de-Sacs and dead ends should provide sidewalks based on the land use context and density provisions noted below. ***5.9.4 Standards*** Suggest that sidewalk provision requirements include the following: 1. Edits noted in text at left 2. Provisions for sidewalks on both sides of local and collector streets where traffic volumes are 2,000 vehicles per day or greater; or where the predominant land uses on both sides of the street are residential of 4 dua or greater and/or non-residential. 3. Five foot wide sidewalks along local streets and six foot wide sidewalks along collectors and arterials are preferred minimum widths. Five feet is the minimum width required for two adults to walk side-by-side and by PROWAG (accessible rights-of-way). In areas of higher density and mixed-use development, the minimum required width for sidewalks should be six feet or more. The land use context and density of development necessitates a greater level of requirement for sidewalk specifications. In areas such as downtown with buildings at the back of the sidewalk and ground level retail, sidewalks should be as wide as 10-18 feet wide. See the NCDOT Complete Street Planning and Design Guidelines for contextually-based streetscape and sidewalk design requirements.

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
2. Pedestrian Facility Requirements (continued)		
2.2 Fee-in-Lieu for Sidewalk Installation	**NEW DEVELOPMENT ORDINANCE**: 5.9. SIDEWALKS **5.9.7. FEE IN-LIEU OF REQUIRED SIDEWALK INSTALLATION** **A. Conflict Anticipated:** Where the installation of a sidewalk is required, and the Transportation Director determines that installation at the time of development would conflict with a city, state, or federal roadway project or other utility project, the applicant shall be required to submit a fee in lieu of sidewalks in accordance with the following: 1. Fees shall be in an amount equal to the entire estimated cost of completing the installation, based on current contract unit prices, as approved by the Engineer Services Director. 2. All fees collected by the City pursuant to this section shall be deposited in the City's sidewalk revolving fund and used only for construction of sidewalks on the site, or in the street right-of-way abutting the site, for which the fee is collected. 3. Use of submitted funds to construct sidewalks shall be coordinated with the appropriate phase of the conflicting roadway project. **B. Conflict Eliminated:** In the event that the conflict necessitating the fee in-lieu is eliminated, one of the following shall occur: 1. If the scheduled project is configured with a different alignment, the in-lieu fee shall be refunded to the applicant. 2. If the scheduled project is a widening of an existing roadway, in-lieu fees for sidewalks shall be used by the City to construct the sidewalk after the widening.	High Point's provisions are generally good, however, over time and with application, there are changes that the City may want to consider: The language below is directly from sections of the City of Asheville Fee-in-Lieu requirements that High Point may want to adopt or adapt: http://www.ashevillenc.gov/portals/0/city-documents/TransportationEngineering/Bike_and_Ped_Services/2005PedestrianPlanAppendix1SidewalkOrdinance.pdf *(e) Fee in lieu of construction. Where a new sidewalk is required to be constructed, the city engineer/designee may waive the requirement that a sidewalk be constructed provided that the applicant make a written request to the city engineer/designee for a waiver. The waiver will be granted under the conditions that the city engineer/designee determine that one of the following conditions exists and that the applicant pays a fee in lieu of constructing the sidewalk as described in the Fees and Charges Manual.* *(1) is not applicable to High Point* *(2) The sidewalk is proposed to be constructed within an existing right-of-way where sufficient right-of-way or easement width does not exist or cannot be dedicated to build the sidewalk.* *In no case shall the fee in lieu of constructing the sidewalk exceed 15 percent of the total cost of the approved project. The total cost of the project shall include all construction costs associated with the improvement as approved by the City of Asheville.* *In the event that a fee in lieu of constructing a sidewalk is approved, the developer must provide a recorded easement if necessary for the future development of the sidewalk. The developer wherever practical shall grade for the future development of a sidewalk.*

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
2. Pedestrian Facility Requirements (continued)		
2.3 Greenway Requirements	**NEW DEVELOPMENT ORDINANCE** **5.12.5. OPEN SPACE STANDARDS** Incentives for Active Recreational Features Land associated with a path, trail, greenway, or other allowable active recreational feature located within an environmentally-sensitive area may be counted towards the requirements in Table 5.10.3, Minimum Open Space Amount, above and beyond the maximum amount specified in Section 5.12.5.A, Features Counted as Open Space **Section 5.15.4** also provides incentives for dedication or construction of a greenway. **7.4.1. REQUIRED GREENWAY DEDICATION** Whenever a tract of land included within any proposed subdivision, including a group development plan, includes any part of a greenway designated on the Bikeway, Greenway, and Trails Master Plan, *[insert: or other relevant adopted plan]* the greenway shall be platted and dedicated as a greenway easement.	Good provisions and incentives. Required greenway easements could be required to be 30 feet instead of 50 feet. The incentive should be granted only for recreational features (path, trail, greenway, etc.) that are actually dedicated. Some NC cities go further in requiring construction of greenways where they are part of an adopted plan. Consider adding requirements for greenway corridor *construction* in new developments where a greenway or trail is shown on an adopted plan or where a property connects to an existing or proposed greenway. See requirements in Wake Forest, NC UDO, Section 6.8.2 Greenways: *"When required by Wake Forest Open Space & Greenways Plan or the Wake Forest Transportation Plan, greenways and multi-use paths shall be provided according to the provisions [that follow in the section cited above]."* http://www.wakeforestnc.gov/udo.aspx
2.4 Pedestrian-oriented design standards	CBD, Main Street, and MX districts have pedestrian-oriented standards CBD and a few other districts prohibits drive thrus; **NEW DEVELOPMENT ORDINANCE** **MX District Sidewalk Requirements (Section 3.5.7.C.2(h))**: *emphasis added. . .* (h) Sidewalks: . . .sidewalks shall comply with the standards in Section 5.9, Sidewalks, as well as the following: (2) Sidewalks shall be located at the back of the curb and shall maintain a minimum width of at least 8 feet. A width of 12 feet is strongly encouraged. (3) Sidewalks shall be configured into 2 zones of at least 4 feet each. The zone closest to the street is intended to *accommodate street tree plantings and street furnishings*, while the zone closest to building facades is intended for the clear unobstructed movement of pedestrians. Sidewalk dining is encouraged provided it does not encroach into the zone intended for movement of pedestrians.	Good pedestrian-oriented provisions regarding off-street parking and restrictions of drive-thrus in these districts, however, not required in other districts. ***For MX District:*** 1. Consider changing "back of curb" to a series of dimensional options that are dependent on street and land use context (or designated street corridors) that include: green zone for planting strips, street trees and streetscape amenities; a pedestrian zone; and an activity zone for sidewalk dining and sidewalk retail. See the NCDOT Complete Street Guidelines for examples. 2. Sidewalk widths should range from 6-18 feet depending on the land use context on the particular block face. A block face that is expected to have retail uses and sidewalk uses (cafés, etc) should be at least 16-18 feet from back of curb to building face. A 12-foot dimension will yield overly tight mixed use space in these conditions. 3. Unless 12 feet or more are provided, active sidewalk uses should not be permitted. 4. A pedestrian zone of at least 5 feet wide for passing distance and pedestrian movement. This is the minimum distance required by ADA and PROWAG (accessible rights-of-way). The 5' clear zone refers to the minimum clear passage zone.

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
2. Pedestrian Facility Requirements (continued)		
2.5 Pedestrian Scale Lighting	**NEW DEVELOPMENT ORDINANCE** **5.10. Exterior Lighting**	There are no requirements or provisions for pedestrian-scale or sidewalk lighting along sidewalks or at intersections. This should be included. Incorporate human-scale lighting (<15' tall) considerations for pedestrians where appropriate. See Town of Wendell UDO, Sections 11.10 and 11.11 for pedestrian-scaled lighting requirements by zoning district and for lighting requirements for greenways and walkways: http://files.wendell.gethifi.com/departments/planning/zoning/udo-unified-development-ordinance/Chapter_11_-_amended_071410.pdf
2.6 Cross-Access between adjacent land parcels	**NEW DEVELOPMENT ORDINANCE** **Chapter 5. Required of new development**	Good provisions for access. Cross-access requirements should include sidewalk/pedestrian accommodation requirements.
2.7 Block size	**NEW DEVELOPMENT ORDINANCE** **Sec. 7.1.6. D** • *Block length*. Blocks shall not exceed a perimeter length of 6,000 feet, except that a perimeter length of up to 12,000 feet may be approved in the watershed critical area. Perimeter length is the shortest perimeter measurement along the abutting street right-of-way lines. **MX District Block Design Requirements (Section 3.5.7.C.3(d)):** 5. Block Design: In cases where development in the MX district proposes a new street, the following block design standards shall apply: (a) Block Length: Block length shall be limited to 800 linear feet. The TRC may allow modifications from these block length standards if: (1) Environmental or topographic constraints exist; (2) A site has an irregular shape; or (3) A longer block will reduce the number of railroad grade or major stream crossings. (c) Mid-Block Access: If a block length exceeds 800 feet, sidewalks or multi-use paths shall be provided mid-block to connect parallel sidewalks on the long side of the block.	1. Block lengths should relate to land use densities and land use typologies. Small block size is important to intersection density and interconnectivity which serve to enhance walking, bicycling, and transit-access opportunities. Ideally, block length should not exceed 1000'-1200' feet for low density residential development. Low density refers to less than 4 dua and this applies to a single block face measurement. In higher density areas, blocks can be as long as 200-600' wide. Block length should be tied to density of development. The MX zoning district has very good model standards. These provisions should be allowed or required for other districts as well and be applied city-wide based on land use context and density. Consider allowing larger blocks – up to a maximum, such as 800 feet – where development densities are expected be lower (> 4 du/acre). See City of Charlotte Subdivision Ordinance, Section 20-23 for example of connectivity requirements and block standards based on land use context: http://ww.charmeck.org/Planning/Subdivision/SubdivisionOrdinanceCity.pdf Consider maximum intersection spacing in minimum design standards – use LEED for Neighborhood Development as a guide. 2. Blocks of 800 feet or longer should be required to have a pedestrian cut through in all areas of the city.

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
2. Pedestrian Facility Requirements (continued)		
2.8 Street Connectivity	**NEW DEVELOPMENT ORDINANCE** **Section 7.1.6.C.8.d Maximum Cul-de-sac Length** The maximum distance from an intersecting through street to the end of a cul-de-sac shall be 1,200 feet, except that a distance up to 1,600 feet may be approved in the WCA.	Street interconnectivity is critical to successful pedestrian networks. Furthermore, long dead-end streets and cul-de-sacs create challenges for pedestrians, cyclists, and effective transit and other public services. Consider replacing this section with the following: Cul-de-sacs may be permitted only where topographic conditions and/or exterior lot line configurations offer no practical alternatives for connection or through traffic. Cul-de-sacs, if permitted, shall not exceed 250 ft in length from the nearest intersection with a street providing through access (not a cul-de-sac). A "close" is preferred over a cul-de-sac. Cul-de-sacs shall have pedestrian and bicycle neighborhood access trails at the ends to connect to adjacent streets. A close is a front space for buildings interior to the block. The close is a superior alternative to the cul-de-sac, as the focus is a green rather than vehicular paving. (For similar language, see the Town of Davidson, NC, Planning Ordinance - http://www.ci.davidson.nc.us/1006/Planning-Ordinance) See City of Charlotte Subdivision Ordinance, Section 20-23 for example of context-based connectivity requirements and block standards: http://ww.charmeck.org/Planning/Subdivision/SubdivisionOrdinanceCity.pdf See City of Wilson, NC, Unified Development Ordinance Section 6.4 for excellent connectivity requirements, including bicycle and pedestrian connections: http://www.wilsonnc.org/departments/development-services/unifieddevelopmentordinance/.

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
3. Other Design Standards Related to Pedestrian-Oriented Community Design		
3.1 Street Trees & Planting Strips	Street trees or planting strips between sidewalk and curb are not currently required in the majority of the City's development standards.	In addition to their value for improving the air quality, water quality, and beauty of a community, street trees can help slow traffic and improve comfort for pedestrians. Trees add visual interest to streets and narrow the street's visual corridor, which may cause drivers to slow down. When planted in a planting strip between the sidewalk and the curb, street trees also provide a buffer between the pedestrian zone and the street. Street tree grates or planting strips should be required in all residential zones. It is recommended to have explicit , quantified requirements (rather than case-by-case exceptions). See NCDOT *Complete Streets Planning and Design Guidelines* (Chapter 4) for context-based pedestrian and "green" zone recommendations: http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-Streets-Planning-Design-Guidelines.pdf See also, Town of Wendell UDO Chapter 8, especially section 8.8, Street Trees: http://files.wendell.gethifi.com/departments/planning/zoning/udo-unified-development-ordinance/Chapter_8_-_amended_092611.pdf
3.2 Maximum parking requirements	**NEW DEVELOPMENT ORDINANCE** CBD district exempt from off-street parking requirements. All other districts follow Table 5.4.4.B Minimum Off-Street Parking Standards.	Parking requirements for walkable, mixed-use districts should be less than required for suburban, auto-oriented districts to promote and provide incentives for infill development and recognize the reduced parking needs in walkable areas. Requiring parking maximums and reducing the number of required off-street parking spaces for new development creates a more pedestrian friendly environment, prevents overbuilt and unsightly parking lots, and reduces parking construction costs. Exemptions from parking requirements should be considered downtown and mixed-use development, as well as prohibiting standalone parking as a principal use, except in lots or structures operated by the city or downtown organization.

Topic	Recommendations	
	Existing Regulatory & Policy Language	Comments
3. Other Design Standards Related to Pedestrian-Oriented Community Design		
3.3 Bicycle parking requirements	***Existing Ordinance requirements:*** **Sec. 9-4-3 - Floating districts** • Bicycle Parking: Non-residential use parking lots and garages must provide bicycle parking at a rate of one bicycle space for every 10 motor vehicle parking spaces **Sec. 9-4-5 - Special districts** • Bicycles. Bicycle Parking or racks are encouraged, and when provided, should be in close proximity to the front door. **Sec. 9-4-4 - Overlay district requirements.** • Bicycle Parking or racks are encouraged, and when provided, should be in close proximity to the front door. ***Newly adopted Development Ordinance:*** **5.4.5. BICYCLE PARKING REQUIREMENTS**: Bicycle parking, in accordance with this section, is required in the MX, MS, and RM-26 districts for residential developments with 30 or more dwelling units and nonresidential development with 10,000 or more square feet of gross floor area.	1. Bicycle parking should be increased and required for all multi-family and non-residential uses. Charlotte-Mecklenburg's (NC) Zoning Ordinance requires bicycle parking for most land uses regardless of zoning context: http://ww.charmeck.org/Planning/ZoningOrdinance/ZoningOrdCityChapter12.pdf 2. Include standards for short term and long term bicycle parking for visitors and employees/residents/students respectively. Charlotte, NC's zoning ordinance provides a relevant example: http://ww.charmeck.org/Planning/ZoningOrdinance/ZoningOrdCityChapter12.pdf. 3. Consider providing requirements or incentives for commercial uses or multi-family residential uses that provide shower and locker/changing rooms for bike commuters and/or enclosed bike storage for long-term bike parking/storage. Potential model language: *Reduction of automobile parking for bicycle parking. The administrator may reduce the required number of off-street parking spaces by one automobile space for every six, or portion thereof, indoor or fully covered and secure bicycle parking spaces provided for employees, students, residents, or long-term visitors.* 4. Bicycle parking design requirements should be made more specific and quantifiable requirements with illustrated design guidance, preferably including providing required bike parking nearby (within 50 feet of the primary entrance) or in an underground or above ground parking structure. 5. Unless bicycle parking requirements are increased, shared bike parking should not be allowed, except when provided at a district level such as in a mixed-use development or in a business district. For model ordinance provisions, see also: • Association of Bicycle and Pedestrian Professionals Bicycle Parking Guidelines: http://www.apbp.org/?page=-publications • Bicycle Parking Model Ordinance, Change Lab Solutions: http://changelabsolutions.org/publications/bike-parking • City of San Francisco Zoning Administrator Bulletin for designs, layout, etc. The bulletin is in itself a great document that includes limits on hanging racks, how to park family bikes, and various configurations: http://208.121.200.84/ftp/files/publications_reports/bicycle_parking_reqs/Leg_BicycleParking_ZABulletin-No.9.pdf

COMPLETE STREETS POLICY

At the time of this draft plan's publication, the City of High Point was in the process of developing a Complete Streets policy. Project consultants reviewed a draft of this policy and provided recommendations on how to strengthen the language.

Recommendations	
Existing Regulatory & Policy Language	**Comments**
The City has recently drafted an outstanding Complete Streets Statement of Intent, which includes the following language: *As a standard practice, Complete Streets principles will be applied to all new street construction, substantial retrofits, and reconstruction projects except in unusual or extraordinary circumstances as outlined below. . . This Statement of Intent may have limited applicability where:* • *pedestrians and bicyclists are prohibited by law;* • *transit routes do not exist and are not forecast or planned, and there is no convenient and practical means of a logical connection to transit routes or amenities;* • *the existing corridor configuration is insufficient to accommodate all users, and the cost of improvements is impractical and/or disproportionate to the need;* • *it would be contrary to public safety;* • *deemed impractical because of adverse impacts on the environment and/or neighboring land uses; and* • *an agency, public or private, is performing ordinary public works or utility capital improvement or maintenance activities (such activities shall not exclusively mandate the necessity for broader measures).* *Inasmuch as High Point's surface transportation network is intertwined with and is co-dependent of that which falls within the jurisdiction and authority of the State of North Carolina, it is appropriate for the City's policy regarding Complete Streets to meet or exceed the standards and guidelines established by the State Department of Transportation (NCDOT).*	This is an excellent and comprehensive Complete Streets Policy. The limitations of applicability provide many incompletely defined provisions that could allow the City to deviate from its policy intent. The City should consider making these provisions more objective and quantifiable and ensuring that provisions for pedestrian, bicycle, and transit access are given as much weight as motor vehicle access in determining which modes are provided for and to what extent in a given corridor. That is to say, the limitations and potential exclusions should apply to facilities for all modes, not just the non-motorized modes and transit and that priorities should be focused on moving people and goods through the city vs. moving motor vehicles. The City should also consider including language that relates to land use/context sensitivity since the development along a street is also part of a complete street. Design guidelines should also include provisions for traffic calming and design for transit services. Consider consulting the NACTO Urban Street Design Guide for transit design guidance and the bike boulevard section of the NACTO Bikeway Design Guide for traffic calming guidance. To provide for implementation, the Complete Streets Policy needs to have an associated design guide with context-based provisions for all modes of transport, including walking, biking, and transit. The design guidance should be integrated into development standards for new development and processes for corridor, as was done with the Raleigh Street Design Manual http://www.raleighnc.gov/content/extra/Books/PlanDev/StreetDesignManual/#1 and the Charlotte Urban Street Design Guidelines: http://charmeck.org/city/charlotte/transportation/plansprojects/pages/urban%20street%20design%20guidelines.aspx The NCDOT *Complete Street Planning and Design Guidelines* could also be adopted by reference as an excellent local implementation and process guide and guide for NCDOT-sponsored improvement projects. Policy language, model policies, and design guidance are available through the Complete Streets Coalition: http://www.completestreets.org

CROSSWALK POLICY

High visibility crosswalks are a type of treatment typically used to alert drivers as well as to improve the safety and visibility of pedestrians. In High Point, using stamped crosswalks is the preferred way of installing high-visibility crosswalks. The cost tends to be higher than using the traditional longitudinal stripe marking which is painted onto the street, but makes the crosswalks more prominent in a busy intersection. High Point should adopt a policy that requires intersections to have stamped crosswalks whenever it is feasible to do so. This is especially applicable in streets with a high volume of cars, such as Main Street (see pictures below that show the intersection of Main Street and Hartley Drive).

Photo to the right: Street level view of the intersection at Hartley Drive and Main Street

Photo below: Aerial view of the stamped crosswalks at Hartley Drive and Main Street

POLICY ACTION STEPS				
TASK	**LEAD**	**SUPPORT**	**DETAILS**	**PHASE**
Develop new policies & approaches for implementation.	Dept. of Transportation	City Council, Planning Commission, Planning and Development	Establish land right-of-way acquisition mechanisms, expand sidewalk fee in-lieu options, coordinate development plans, & implement driveway access management.	Short-term/ Ongoing (2017 onward)
Adopt a Complete Streets Policy.	Dept. of Transportation	City Manager, Planning and Development	Continue partnering across City departments to draft, adopt, and implement a comprehensive Complete Streets Policy with targeted performance measures and implementation steps. Specific language recommendations and guidance can be found on page 3-13.	Short-term/ Ongoing (2017 onward)
Be aware of the laws related to walking and bicycling in North Carolina, and help educate others.	High Point Police	NCDOT Bike/Ped Division, Dept. of Transportation	Police staff should be familiar with state bicycle and pedestrian policies and laws, including best practices for reporting on crashes involving people walking or bicycling: https://www.ncdot.gov/bikeped/lawspolicies/ Also, the National Highway Traffic Safety Administration has made available a 2-hour self-paced interactive video training for all law enforcement officers: http://www.nhtsa.gov/Driving+Safety/Bicycles/Enhancing+Bicycle+Safety:+Law+Enforcement's+Role	Short-term (2017)
Update zoning and development ordinances to better support a walk friendly community.	Planning and Development	City Council, Planning Commission, Dept. of Transportation	See the recommended policies for the High Point zoning ordinance and subdivision regulations on pages 3-4 to 3-12.	Mid-term (2018)
Develop illustrated design standards for pedestrian friendly development and infrastructure.	Dept. of Transportation	Planning & Development, NCDOT	Using NCDOT standard details and the pedestrian design guidelines in Appendix A as guidance, develop new and update existing design standards relating to pedestrian access and infrastructure. Examples include curb ramp standard details, crosswalk marking standards, sidewalk standards, etc.	Mid-term (2018 onward)

Baker Road currently does not have sidewalk access.

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Elm Street does not currently have sidewalks, forcing residents to walk in the street.

4 Programs

Contents

OVERVIEW

Simply adding pedestrian infrastructure alone doesn't create a pedestrian friendly community. Rather, it takes a comprehensive effort to create a culture around safe walking. A comprehensive program is often centered around what is known as the 6 E's: Engineering, Education, Encouragement, Enforcement, and Evaluation (see diagram below). Equity is added here as the non-traditional 6th E to ensure a focus on underserved communities.

Programs will help people of all ages and abilities realize the full potential of High Point's new and proposed pedestrian infrastructure. These types of programs help people learn how to use the City's roads safely, whether traveling as a pedestrian, in an automobile, or on a bicycle.

A range of strategies and actions, including broad policy and outreach efforts will help the City meet the goals and objectives of this Plan. The programmatic strategies in this chapter aim to improve safety, increase access to walking, and encourage community and economic development. The actions will increase the visibility of people who walk, communicate that all road users are expected to look out for each other no matter how they travel, create safer streets, and develop a common understanding of traffic safety.

POTENTIAL PARTNERS + STAKEHOLDERS

Existing and potential partners for the High Point Pedestrian programs described in this chapter include:

Active Routes to School

Active Routes to School is a North Carolina Safe Routes to School (SRTS) Project supported by a partnership between the N.C. Department of Transportation and the N.C. Division of Public Health. The Active Routes to School Project creates opportunities for youth to walk and bike to or at school. Active Routes to School Coordinators are available to provide technical assistance and support to schools and communities in planning Walk and Bike to School day events, building ongoing walk and bike to or at school programs, offering trainings on Safe Routes to School, building policy support for Safe Routes to School, and addressing safety features near schools. The goal of the project is to increase the number of elementary and middle school students who safely walk and bike to school.

Ten regional coordinators are based at local health departments across the state. High Point is in three of these regions, but primarily lies in Region 5, which includes Guilford County. For more information, visit www.communityclincalconnections.com/activeroutes

YMCA

The YMCA of High Point is a center of physical activity in any community, and can be a key partner in creating programs targeted at specific age groups and populations for increasing walking and other forms of physical activity. As a busy hub of community activity, it can also be a centralized location for awareness campaigns and disseminating information related to pedestrian programs and events going on in the community.

School District

The Guilford County School District is an important partner for creating safe pedestrian environments and programming for schools. Safe Routes to School programming is a vital component of successful pedestrian plans so partnering with the school district, as well as individual member schools, is important to creating programs that are appropriate and coordinated with schools' curriculums.

Parks & Recreation

Like the YMCA, the Parks & Recreation Department can be an important partner for creating educational and encouragement programs for walking in High Point.

Chamber of Commerce

The Chamber of Commerce is a longstanding institution in High Point, and is a key partner for creating relationships with local businesses and community leaders in order to have buy-in of the City's pedestrian programming.

Police Department

The High Point Police Department is a key partner for creating an enforcement campaign that encourages safe driving practices and pedestrian activity. Enforcement campaigns can reduce excessing speeding in pedestrian zones, encourage proper yielding to pedestrians in crosswalks, and generally promote a sense of respect for all travelers regardless of whether one drives, walks, or bikes in High Point.

Disabilities or Senior Service Agencies/ Organizations

Partnering with agencies and organizations that advocate for the needs of those with disabilities or senior citizens is important for ensuring that the needs of the most vulnerable walkers in the community are being represented and accommodated. Elderly residents and those with mobility issues are vulnerable to limited transportation options and access, and it is important to keep these issues at the forefront of the pedestrian planning process.

PROGRAM TOOLKIT

Watch for Me, NC

Watch for Me, NC is an awareness campaign aimed at reducing the number of bicyclists and pedestrians hit and injured in crashes with vehicles. Piloted in the Triangle area, Raleigh was one of the first cities to launch the campaign in 2013. The campaign includes education during the months of October and November, and has been followed by targeted enforcement efforts by police departments. Communities across North Carolina are encouraged to apply to implement the program on an annual basis.

For more information, visit:

http://watchformenc.org/

» ***Why Implement?*** Residents expressed concern over high speed corridors and the failure of motor vehicle drivers yielding to pedestrians in crosswalks. Enforcement efforts, when combined with education messaging, can often improve pedestrian safety awareness.

Safe Routes to School (SRTS)

Safe Routes to School Programs (SRTS) make walking and bicycling to school more accessible to children and encourage more children to walk and bicycle to school. This typically involves examining conditions around public schools and providing programs to improve bicycle/pedestrian safety, accessibility and use.

North Carolina's Safe Routes to School program is managed by the NCDOT Division of Bicycle and Pedestrian Transportation. It sponsors activities at the local level through a partnership with North Carolina Division of Public Health to support the Active Routes to School Project. Safe Routes to School infrastructure projects are eligible to compete for funding through North Carolina's Strategic Transportation Investment (STI) program and other sources of funding for bike and pedestrian projects.

For more information, visit: www.ncdot.gov/bikeped

» ***Why Implement?*** Children are one of the most vulnerable users of the pedestrian network. Improving safe and efficient access to school can have several benefits (health, environment, education, etc).

Let's Go NC!

Let's Go NC!, a Pedestrian and Bicycle Safety Skills Program for Healthy, Active Children, is an all-in-one educational package of lesson plans, materials, activities and instructional videos that encourages children in grades K-5 to learn about and practice fundamental skills that build safe habits.

This program was developed for the NCDOT's Division of Bicycle and Pedestrian Transportation and Safe Routes to School Program by NC State University's Institute for Transportation Research and Education. The curriculum aligns with NC Essential Standards and is endorsed by the NC Department of Public Instruction.

All lesson plans and materials are available for free online at www.ncdot.gov/bikeped/safetyeducation/letsgonc/.

» ***Why Implement?*** This package provides key guidance and materials to assist instructors in teaching bicycle and pedestrian safety to children at a young age.

Parts of the Let's Go NC! curriculum is offered in Spanish

Walking School Bus

Walking School Buses and Bike Trains allow students to walk or bicycle to school as a group, often with an adult volunteer. These could be daily, weekly, or monthly events. These programs encourage walking in school aged children as well as the adult chaperones. Schools in North Carolina that have walking school buses include Olive Chapel Elementary in Apex and Langston Farms Elementary in eastern North Carolina. For more information, visit www.walkingschoolbus.org

» ***Why Implement?*** This group program encourages more walking to school and community fellowship through volunteering.

Volunteers can teach children safe pedestrian practices while walking to school.

Walk at School Programs

Through this program, children are given the opportunity and are encouraged to increase how much they walk during school hours through competitions, prizes, goal setting, and other activities. This type of program is especially important for schools that do not have good walking or biking routes, or if students live too far to walk or ride bikes.

Best Practice Programs:

- **Tigers on the Prowl** is a popular walking program at Davidson Elementary School in Davidson, NC.
- The **Creative Walking** website provides resources and materials to create school walking wellness programs.
- **WalkBike to School** also provides examples and resources.

» ***Why Implement?*** Programs to encourage safe walking practices and physical activity during the school day is an equitable way to ensure all students benefit from Safe Routes to School programming.

National Walk to School Day

Students and their families are encouraged to use alternative modes to get to/from school. Individual students and classrooms receive incentive prizes. These events can occur more than once a year, ideally one in the fall and one in the spring, usually coinciding with the National Walk to School Day in October and National Bike to School Day in May.

» ***Why Implement?*** These annual events promote walking to school and create awareness around the pedestrian needs surrounding the school. Such events have a history of leading to policy and engineering changes that help make it safer and more convenient for students to walk to school on a regular basis.

Over 250 students participate in the annual Walk to School Day event at Northwoods Elementary in Cary, NC.

Wayfinding Signage

Wayfinding signage helps orient pedestrians to key destinations and provides distances as well as approximate walking times to those destinations. Investing in a permanent wayfinding signage program is an important step in creating a more welcoming and accessible pedestrian environment.

As an interim step towards that goal, creating a temporary wayfinding signage system can be a cost-effective and fast way to promote walking in the near term. Clearly marking walking routes and loops with signs that specify distances and times to key destinations helps people say "Yes!" to walking. With the help of high school art students and teachers to design the signs, this can be a great way to engage the community and build a culture around walking.

» ***Why Implement?*** Improves the visitor experience and enjoyment by providing clear, accurate and quality information.

Walk [Your City] is an organization that works with communities to implement encouragement signs to highlight key destinations.

Speed Feedback Signs

A speed feedback sign can be used to display the approaching vehicle speeds and the posted speed limits on roadways. Newer speed feedback signs record speed data which jurisdictions can use to evaluate roadway conditions. These feedback loops remind drivers to obey the speed limit and can be used in areas where traffic calming is needed to create a safe pedestrian environment.

» ***Why Implement?*** These interactive signs increase speed limit compliance and pedestrian comfort level along high volume corridors.

Speed feedback signs can be an effective and low cost tactic to reduce speed along corridors with high pedestrian activity.

Enforcement

These programs can cover a wide range of focuses including crosswalk stings, speeding, distracted driving, and distracted walking/bicycling. Increasing the presence/enforcement at back-to-school times and/or daylight savings is also advised.

Best Practice Programs:

- **Greenville, NC** participated in a distracted driving research project, neighborhood speed watch program, installed speed feedback signs, and increased law enforcement before and after school.
- Volunteers in Arizona conducted a **Neighborhood Speed Watch** routine detection event which assisted law enforcement efforts, putting serial speeders on notice and bringing down average speeds.

» ***Why Implement?*** Enforcement of all traffic laws will improve safety for all users, especially the most vulnerable user, the pedestrian.

Example of speed feedback signs installed in Greenville, NC as part of a targeted enforcement campaign.

Open Street Events

Open street events have many names: Sunday Parkways, Ciclovias, Summer Streets, and Sunday Streets. The events are periodic street "openings" (i.e., "open" to users besides just cars; usually on Sundays) that create a temporary park that is open to the public for walking, bicycling, dancing, hula hooping, roller-skating, etc. They have been very successful internationally and locally. Asheville and Carrboro have implemented successful Open Street events. Open street events promote health by creating a safe and attractive space for physical activity and social contact, and are cost-effective compared to the cost of building new parks for the same purpose. Events can be weekly events or one-time occasions, and are generally very popular and well attended.

This Plan recommends that the City of High Point and local partner groups, consider hosting open street events annually. The City may choose a two-block section of street, with the intention of growing the spatial coverage of the event over time. Care should be taken to consult business owners and residents in advance about street events that may affect customer and neighborhood access.

» ***Why Implement?*** Open street events would activate community stakeholders around an annual event to promote pedestrian safety and High Point livability.

San Francisco attracts more than 1,000 participants to their monthly Sunday Streets events.

The Atlanta Streets Alive event opens streets for people by temporarily closing them to cars to create a whole new healthy, sustainable, and vibrant City street experience.

PROGRAM ACTION STEPS				
TASK	**LEAD**	**SUPPORT**	**DETAILS**	**PHASE**
Initiate a Program task force.	Community Stakeholders, Dept. of Transportation	NCDOT Bike/Ped Division, High Point Police Department	A task force should be formed specifically of key stakeholders who have a vested interest in developing pedestrian safety programs in High Point. A suggested list of potential stakeholders can be found on page 4-4.	Short-term/ Ongoing (2017-onward)
Implement one new pedestrian safety program.	Programs Task Force	Dept. of Transportation, Communications & Public Engagement	Using the information listed in Chapter 4, one program, such as Walk to School Day or an Open Streets Event, should be implemented to serve as High Point's pilot pedestrian safety program. This event will bring key stakeholders together and help initiate the Program Task Force.	Short-term/ Ongoing (2017-onward)
Distribute pedestrian safety information.	Communications & Public Engagement, Program Task Force	NCDOT Bike/Ped Division, Police Department	NCDOT has print material with safety tips for motorists and pedestrians available for download at www.ncdot.gov/bikeped/safetyeducation/materials/. Other methods of distribution could include web sites, social media, and 'on-the-ground' in park kiosks.	Short-term (2017-onward)
Consider reducing speed limits within school zones and along corridors where new pedestrian facilities have been added.	City Council	NCDOT, Dept. of Transportation	Consider lowering the speed limits along key corridors once improvements have been made. Installing temporary speed feedback signs is another traffic calming strategy.	Short-term/ Ongoing (2017 onward)
Conduct communication & outreach campaigns related to walking.	Communication & Public Engagement, Program Task Force	Local newspapers, City website & social media managers	Establish a communication campaign to celebrate successes as progress is made. A key first task is to establish a page on the city's website dedicated to pedestrian education and project updates	Mid-term (2018-onward)
Seek designation as a Walk-Friendly Community.	Program Task Force	Dept. of Transportation, City Manager	The development and implementation of this plan is an essential first step toward becoming a designated Walk-Friendly Community. With progress on program, policy, and infrastructure recommendations, the City should be in a position to apply for and receive recognition by 2021.	Mid- to Long-term (2020-2021)

High Point City limits in the southern portion of the City.

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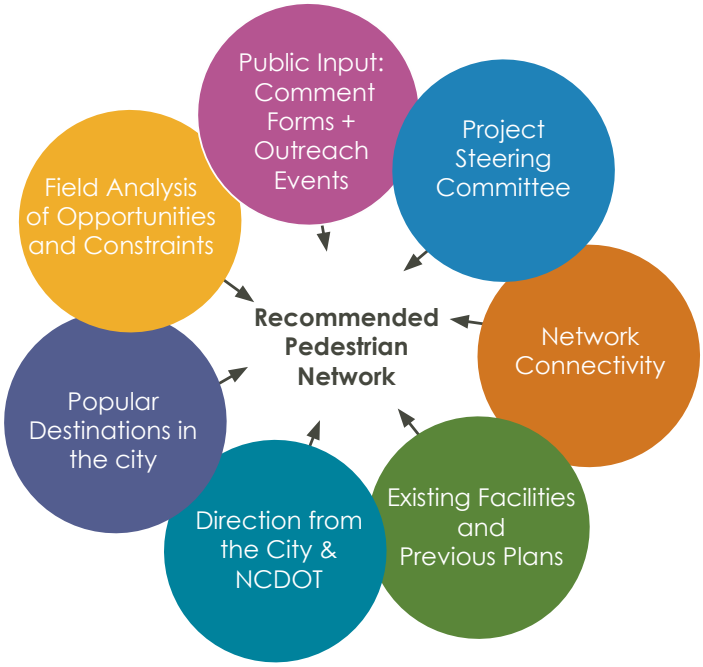
Elm Street pedestrian crossing near the library.

5 Recommendations

Contents

OVERVIEW

This chapter details the infrastructure improvements that are recommended to create a safe, accessible, and connected pedestrian network in High Point. A mix of facilities and implementation strategies are recommended to create this comprehensive network, including sidewalks, enhanced corridors, micro-gap fills and crossing improvements.



METHODOLOGY FOR NETWORK DEVELOPMENT

Recommendations were developed based on information from several sources, as highlighted in the image above. Fieldwork examined the potential and need for pedestrian facilities along and across key roadway corridors to make connections between popular destinations in High Point. All facility recommendations along NCDOT-maintained roadways will require review and approval by NCDOT Highway Divisions 7, 8, or 9 prior to implementation. Network recommendations assume that sidewalks are needed on both sides of the road. For micro gaps recommendations, these segments are for one side of the road. However, funding limitations may dictate how projects are implemented.

RECOMMENDED PEDESTRIAN NETWORK

Sidewalk

The sidewalks recommended for High Point are shown by the dashed orange lines in Map 5.1 (with existing sidewalks shown in solid grey lines) and listed in Table 5.1. These recommendations were chosen to expand the existing sidewalk network, address safety concerns, and to better connect destinations and neighborhoods.

General characteristics include:

- Sidewalks in High Point should be at least 5' wide, and, where possible, should include a buffer between the sidewalk and roadway.
- Drainage improvements may be necessary additions to a sidewalk project based on engineering judgment and existing conditions.
- Areas of higher pedestrian volume may require greater width, and sidewalks serving as part of the multi-use path system should be at least 10' in width.

Skeet Club Road is categorized as a sidewalk project. It is also listed as a TIP road widening project that will include drainage and pedestrian safety improvements.

Design Guidance

Sidewalks should contain adequate width to accommodate the high volumes and different walking speeds of pedestrians. The Americans with Disabilities Act requires a 4 foot clear width in the pedestrian zone plus 5 foot passing areas every 200 feet. Recommended dimensions shown below are based on NCDOT Complete Streets Planning and Design Guidelines. Exact dimensions should be selected in response to local context and expected/desired pedestrian volumes.*

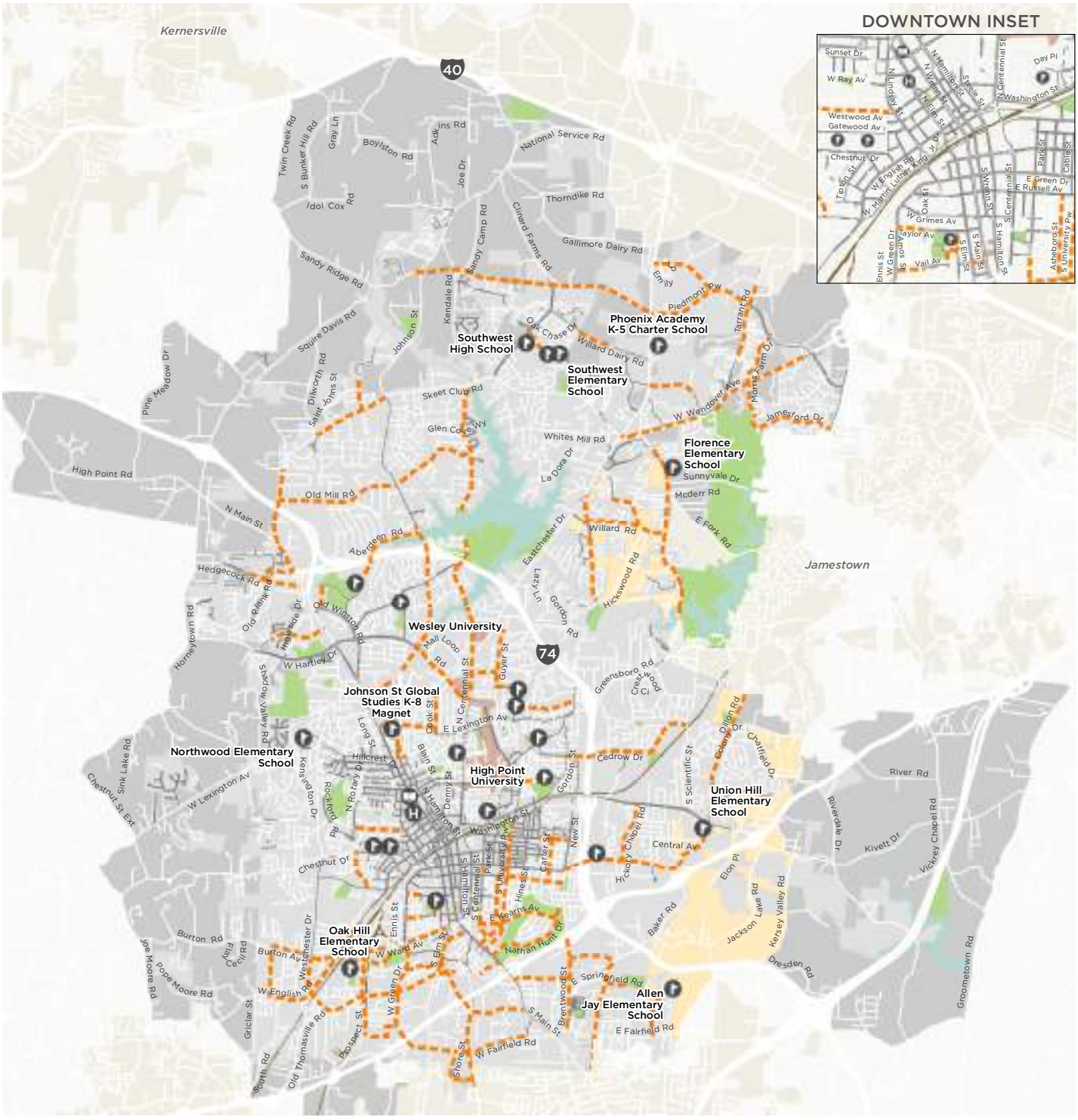
Street Classification	Parking Lane/ Enhancement Zone	Furnishing/ Green Zone	Pedestrian Through Zone	Frontage Zone	Total Sidewalk Area
Local Streets	7 feet	4 - 8 feet	5 - 6 feet	N/A	9 - 12 feet
Commercial Areas	8 - 10 feet	6 - 8 feet	10 - 18 feet	2 - 8 feet	18- 34 feet
Arterials and Collectors	8 - 10 feet	6 - 8 feet	6 - 12 feet	2 - 4 feet	14 -24 feet

Six feet enables two pedestrians (including wheelchair users) to walk side-by-side, or to pass each other comfortably

Total sidewalk area excludes parking dimensions

** Further design guidance can be found in Appendix A.*

MAP 5.1 RECOMMENDED FACILITIES - SIDEWALKS



HIGH POINT PEDESTRIAN PLAN

Legend

- Hospital
- Library
- School
- Railroad

Proposed Facilities
- Sidewalk

Existing Facilities
- Sidewalk

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

N

0 1 2 MILES

Table 5.1 Proposed Sidewalk Projects

Map IDs correspond with the segments labeled in the quadrant maps on 5-15 to 5-18

Map ID	Roadway	From	To	Length (Miles)	Ward
14	Allen Jay Rd/ E Springfield Rd	E Fairfield Rd	Ernest St	0.77	3
31	Asheboro St	Kearns Av	Russell Av	0.57	2
23	Baker Rd	Townsend Ave	Archdale city limit	1.37	3
80	Beaucrest Ave	Guyer St	N Centennial St	0.31	1
100	Bellevue Dr	Northside Ct	School Park Rd	0.27	4
25	Boundary Ave	N College Dr	Henry Pl	0.24	1
13	Brentwood St	Business Loop 85	E Fairfield Rd	1.13	3
19	Burton Ave	Dorothy St	Wright St	0.37	3
33	Burton Ave	Westchester Dr	English Rd	0.35	3
79	Carter St	E Russell Av	Leonard Av	0.54	2
16	Cedrow Dr	Gordon St	N Scientific St	1.66	1
133	Centennial St	Oakview Rd	Oak Hollow Marina	0.40	4
111	Centennial St	Countryside Dr	Oakview Rd	0.74	4, 6
122	Clinard Farms Rd	Sandy Ridge Rd	Barrow Rd	1.71	5, 6
129	Clinard Farms Rd	Eastchester Dr	Barrow Rd	1.28	6
76	Coltrane Ave/ W Kearns Ave	Cloverdale St	S Elm St	0.22	3
81	Cook St	Eastchester Dr	E Lexington Ave	0.50	1
131	Corporation Dr/ Shore St	Surrett Dr	W Fairfield Rd	0.63	3
121	Deep River Rd	Hickswood Rd	Sunset Hollow Dr	0.7	6
97	Dillon Rd	Jamestown city limit	Wiliton Wy	1.20	2
20	Dorothy St	W English Rd	Burton Av	0.61	3
57	E Dayton Ave	Main St	Cook St	0.72	1, 4
43	E Green Dr	Brentwood St	480 feet east of I-74	0.38	2
54	E Hartley Dr	Johnson St	N Centennial St	0.92	1, 4
30	E Kearns Ave	S University Pkwy	Nathan Hunt Dr	0.68	3
26	E Parris Ave	N Main St	Johnson St	0.46	4
85	E Springfield Rd	Baker Rd	Allen Jay Park	0.26	3
93	East Market Center Dr	S Main St	E Kearns Ave	0.38	3
104	English Rd	Ward Av	Mitchell Pl	0.30	3
56	Fairfield Rd	Surrett Dr	Plaza Ln	0.77	3
78	Fairview St/ Loflin Ave/ Hilltop St	Taylor Ave	Vail Ave	0.26	3
110	Fraley Rd	S Main St	Surrett Ct	0.67	3
137	Garden Club St	Existing sidewalk on Garden Club St	Skeet Club Rd	0.43	5
117	Hedgecock Rd/ Old Plank Rd	Existing sidewalk on Hedgecock Rd	N Main St	1.10	4, 5
17	Hickory Chapel Rd	Triangle Lake Rd	MLK Jr Dr	0.72	2
128	Hickswood Rd	Existing sidewalk on Hickswood Rd	Willard Rd	0.54	6
71	Jamesford Dr	Guilford College Rd	Morris Farm Dr	1.16	6
87	Johnson St	Shamrock Rd	Oakview Rd	0.71	4, 5
45	Johnson St	Oakview Rd	Proposed facility on Johnson St	1.20	4
74	Johnson St and Hamilton Pl	E State Ave	E Lexington Ave	0.50	1, 4
108	Kendall Av	S Main St	Kenilworth Dr	0.26	3
42	Lassiter Dr/ Guyer St/ Mcguinn Dr	Eastchester Dr	Shaver St	0.92	1
7	Leonard Ave	Meredith St	Brentwood St	0.38	2
102	Lincoln Dr	Van Buren St	113 feet west of Prospect St	0.16	3
103	Lincoln Dr	Prospect St	W Ward Av	0.40	3

Table 5.1 Proposed Sidewalk Projects (continued)

Map ID	Roadway	From	To	Length (Miles)	Ward
34	Model Farm Rd	Brentwood St	S Main St	0.69	3
141	Morris Farm Dr	Wendover Av	Jamesford Dr	0.42	6
127	Morris Farm Rd	Piedmont Pw	W Wendover Ave	0.65	6
90	N Centennial St	Countrysde Dr	N University Parkway	0.96	1, 4, 6
118	N Main St	Old Plank Rd	Shober Rd	0.40	5
91	N Rotary Dr	Chestnut Dr	Phillips Ave	0.50	3
136	Nathan Hunt Dr	Brentwood St	S Main St	1.18	3
120	Old Mill Rd	Johnson St	Skeet Club Rd	1.48	5
126	Old Mill Rd	Waterview Rd	Johnson St	1.10	5
107	Park St	E Green Dr	E Russell Av	0.12	2
51	Park St/Kearns Av	Lake Av	East Market Center Dr/University Pkwy	0.64	2, 3
123	Penny Rd	Willard Rd	Jamestown city limit	1.12	6
49	Penny Rd	Willard Rd	Samet Dr	1.13	6
41	Piedmont Pkwy	Eastchester Dr	Tarrant Rd	1.33	6
134	Potts Av	Wrightenberry St	Van Buren St	0.08	3
114	Premier Dr	490 feet east of Eagle Hill Dr	Eastchester Dr	0.61	6
50	Progress Av/ Bethel Dr/ Trinity Av	W Green Dr	Prospect St	0.54	3
82	Prospect St	Progress Av	West Market Center Dr	0.45	3
94	Prospect St	164 feet south of W Ward Av	West Market Center Dr	0.48	3
116	Regency Dr	Piedmont Pkwy	Eastchester Dr	0.84	6
18	Russell Ave	Brentwood St	S University Pkwy	0.70	2
77	S Elm St	S University Parkway	Coltrane Av	0.45	3
10	S University Parkway	S Downing St	E Green Dr	0.54	2
95	Shadybrook Rd/ Aberdeen Rd	Johnson St	Existing sidewalk on Aberdeen St near Shadybrook Elem	1.01	4, 5
119	Skeet Club Rd	Joyce Cir	N Main St	0.93	5
125	Skeet Club Rd	Johnson St	Dilworth Rd	1.00	5
46	Southwest School Rd	Barrow Rd	Existing sidewalk on Southwest School Rd	0.39	5
53	Surrett Ct	Finch Av	Archdale city limit	0.96	3
88	Tarrant Rd	Beechwood Dr	Hanging Leaf Pt	0.97	6
24	Taylor Ave	Green Dr	Grayson St	0.17	3
130	Textile Place/ Young Pl	Mill Ave	W Green Dr	0.26	3
84	Townsend Ave	Brentwood St	Baker Rd	0.56	3
2	Triangle Lake Rd	189 feet south of MLK Jr Dr	332 feet west of Kroll Ln	1.53	2
9	University Parkway	Kearns Av	Green Dr	0.68	2, 3
98	University Pkwy	Kearns Av	Main St	0.41	3
135	Vail Ave	Existing sidewalk on Vail Av	W Green Dr	0.19	3
86	Vail Ave	S Elm St	S Main St	0.08	3
21	W English Rd	Dorothy St	Westchester Dr	0.54	3
92	W English Rd	Burton Av	Westchester Dr	0.57	3
132	W Green Dr	Trinity Av	West Market Center Dr	0.43	3
96	W Green Dr	W Ward Ave	West Market Center Dr	0.62	3
22	W Green Dr/ W Fairfield Rd	Trinity Ave	Surrett Dr	1.01	3
106	W Ward Av	Lincoln Dr	Prospect St	0.35	3
55	W Ward Ave	W Green Dr	Fairview St	0.48	3

Table 5.1 Proposed Sidewalk Projects (continued)

	Roadway	From	To	Length (Miles)	Ward
44	W Wendover Ave	Gibson Park	Existing sidewalk on Wendover Ave	1.29	6
99	Ward Av	Fairview St	Elm St	0.11	3
113	Waterview Rd	Oak Hollow North Launch Ramp	White Fency Way	0.87	5
138	Waterview Rd	Glen Cove Way	Skeet Club Rd	0.67	5
70	Wendover Av	Eastchester Dr	Premier Dr	1.01	5, 6
89	West Market Center Dr	Old Thomasville Rd	W Green Dr	0.99	3
101	West Market Center Dr/ S University Pw	W Green Dr	W Connector	0.75	3
112	Westchester Dr	Burton Av	Old Thomasville Rd	0.63	3
105	Westover Dr	N Main St	Embers Ct	0.70	4
47	Westwood Ave	N Rotary Dr	193 feet east of Locke St	0.59	4
139	White Farm Ln	Willard Rd	Eastchester Dr	0.33	6
72	Willard Dairy Rd	Southwest School Rd	Existing sidewalk on Willard Dairy Rd	0.46	5, 6
140	Willard Rd	Penny Rd	Deep River Rd	1.01	6
32	Woodruff Ave	Wiltshire St	Deep River Rd	0.59	1

There are several examples, such as this residential street near the High Point Country Club, that have existing tree-lined sidewalks separated from the low-volume, low-speed roadway. This roadway does not have a recommendation in this pedestrian plan; instead it serves as a model for other streets within the study area.

Enhanced Corridor

Enhanced corridors are major thoroughfares that can benefit from arterial-level traffic calming (such as refuge islands, lane reductions, bicycle facilities, sidewalks, transit stop safety features and accommodations, etc.) and improvement of pedestrian amenities, such as pedestrian scale lighting. These corridors need improvements in order to become Complete Streets; currently their design accommodates only, or primarily, high-volume through-traffic by motor vehicles. In this pedestrian plan, the Enhanced Corridors were primarily selected because their existing road design currently serves only high-speed, high-volume traffic; fixing their design to accomodate other modes adequately will require a high investment of funding to retrofit.

Eastchester Drive in north High Point is recommended as an enhanced corridor project due to the design complexity, high traffic volume and speed, and lack of pedestrian access along the corridor.

The recommended enhanced corridors are shown in the dashed blue and dashed green lines in Map 5.2. The enhanced corridors are separated into two categories - sidewalks present or no sidewalk present. The enhanced corridors with sidewalks present are shown in Table 5.2. Enhanced corridors labeled as "no sidewalks present" may have partial sidewalks. These are listed in Table 5.3.

***Recommended action**: Review the proposed Enhanced Corridors and propose appropriate treatments and retrofits, based on the list of potential elements on this page and page 5-10, for each of these streets. As funding allows, pursue these retrofits. Keep a list of retrofits that could be achieved cost-effectively through normally scheduled resurfacing and maintenance projects that will occur over time."*

Table 5.2 Proposed Enhanced Corridors - Sidewalk Present

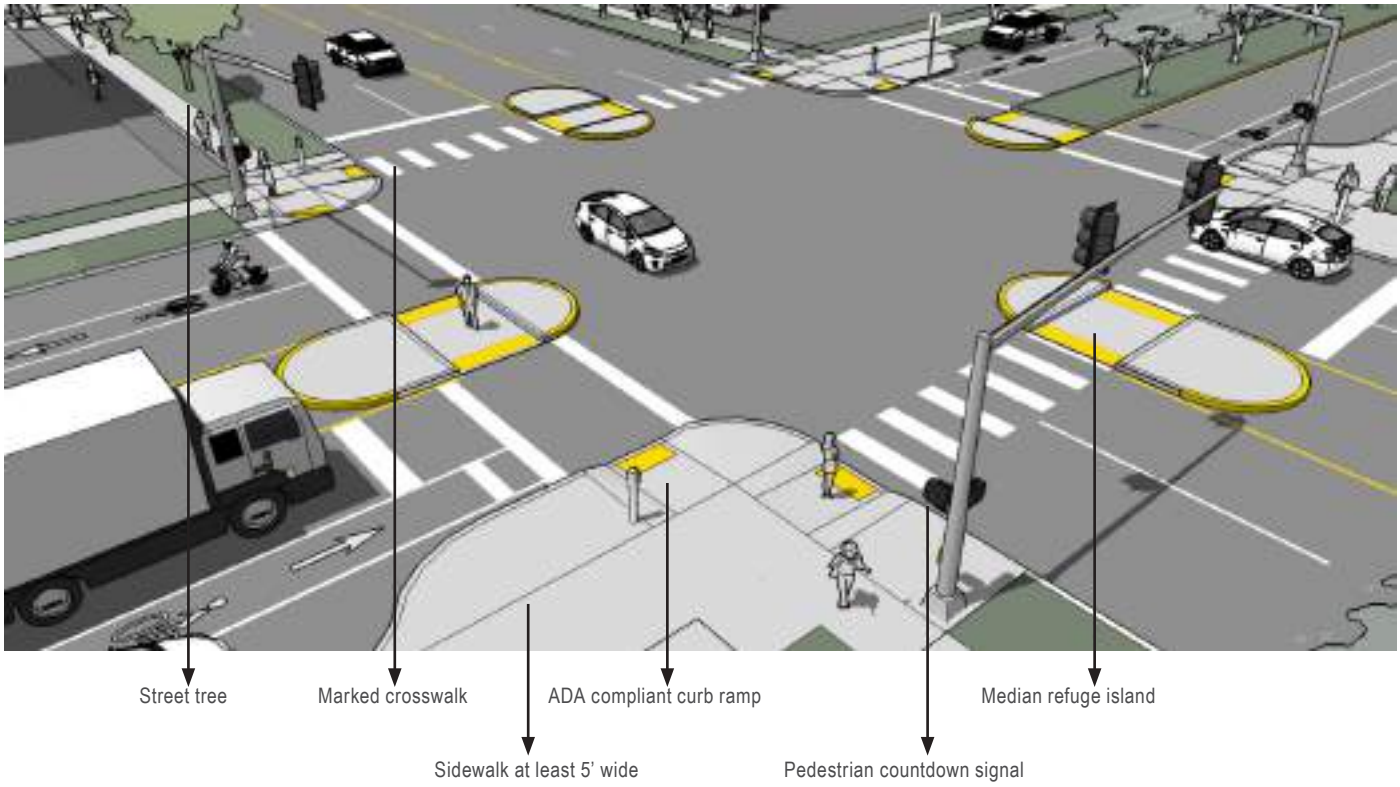
Map ID	Roadway	From	To	Length (Miles)	Ward
52	Elm St	Martin Luther King Jr Dr	Carl E Hensley Pl	1.12	3, 4
37	Elm St	MLK Jr Dr	Peanut on Elm St	0.72	4
5	Main St	Idol St	E High Av	1.76	2, 3
1	Main St	E High Av	Business Loop 85	1.83	3
11	Martin Luther King Jr Dr	Hickory Chapel Rd	Triangle Lake Rd	0.92	2

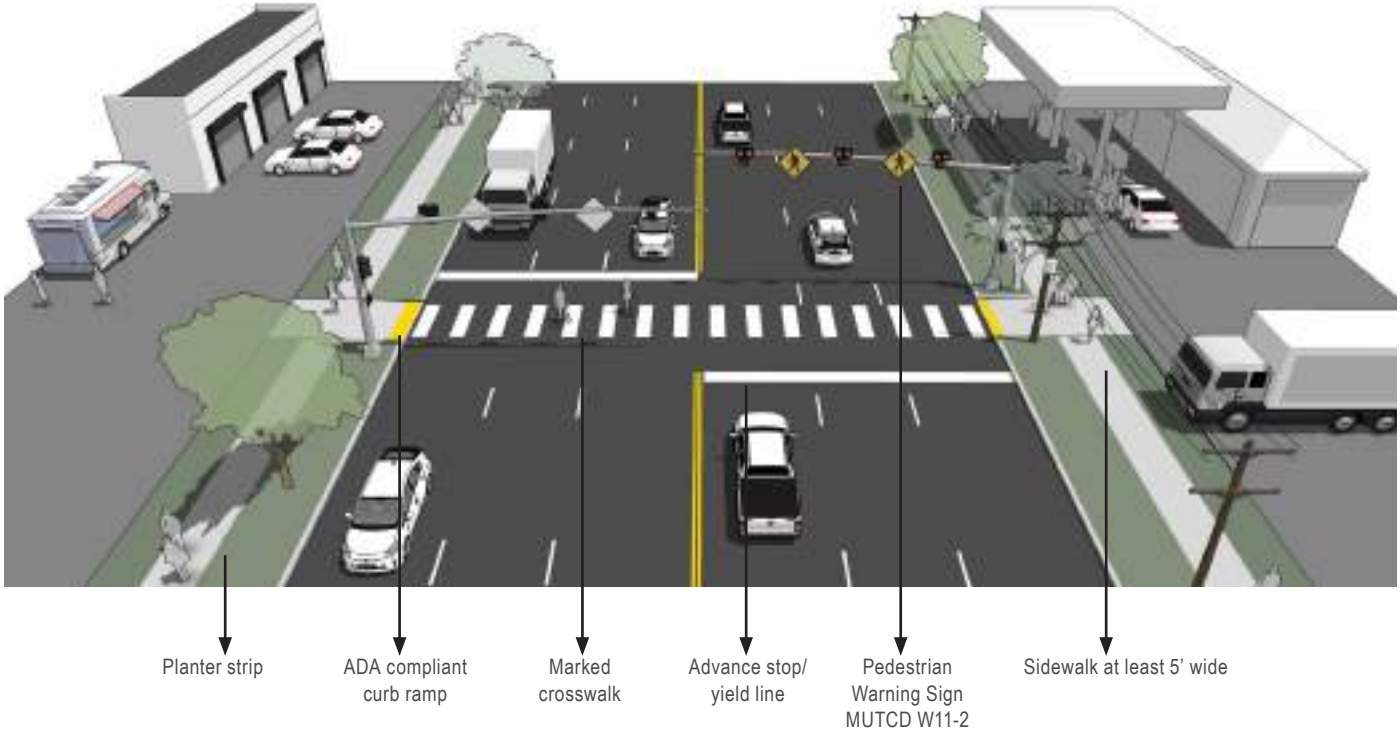
Table 5.3 Proposed Enhanced Corridors - No Sidewalk Present

Map ID	Roadway	From	To	Partial Sidewalk	Length (Miles)	Ward
8	E Lexington Av	Fifth St	Montlieu Av	Y	1.15	1
35	E Lexington Av	Fifth St	Main St	Y	1.08	1, 2, 4
28	Eastchester Dr	Ambassador Ct	Johnson St	N	1.68	1, 4, 6
39	Eastchester Dr	Skeet Club Rd	Gallimore Dairy Rd	N	2.46	5
48	Eastchester Dr	Skeet Club Rd	Programmed facility on Eastchester Dr	Y	1.84	6
29	Greensboro Rd	Penny Rd	Deep River Rd	Y	1.32	1
4	Main St	Business Loop 85	High Point city limit	Y	1.51	3
15	Martin Luther King Jr Dr	W English Rd	Railroad crossing on MLK Jr Dr	Y	1.45	2, 3, 4
36	Martin Luther King Jr Dr	US-311	Railroad crossing on MLK Jr Dr	Y	1.4	1, 2
38	Martin Luther King Jr Dr	Triangle Lake Rd	High Point ETJ	Y	0.52	2
73	Martin Luther King Jr Dr	Hickory Chapel Rd	US-311	Y	0.63	2
3	N Main St	Old Plank Rd	374 ft north of W Parris Av	Y	1.61	4, 5
124	W Lexington Av	Kentucky St	Swansgate Ln	Y	1.76	3, 4
58	W Lexington Av	N Main St	Westchester Dr	Y	0.95	3, 4
12	Westchester Dr	W Lexington Av	N Main St	Y	1	4
27	Westchester Dr	W Lexington Av	Philips Av	Y	1.62	3

Design Guidance

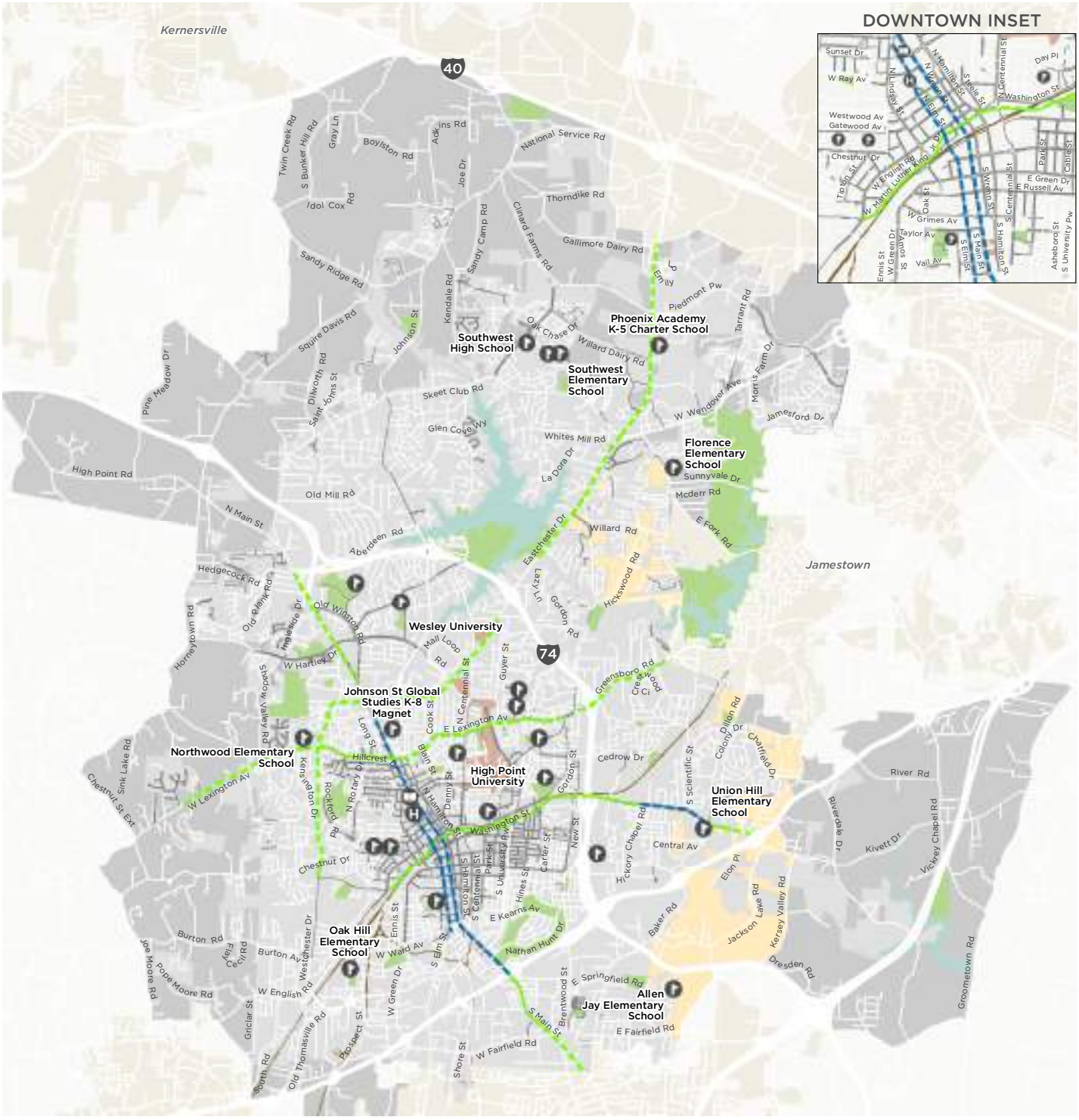
Enhanced corridors are extremely context sensitive and require further engineering analysis and design to determine the appropriate treatments. Each corridor is different and thus requires different treatments. To select the appropriate treatments, planners and engineers must look at the land use and other elements along the corridor. The diagrams below are examples of pedestrian amenities and design options often seen in an enhanced corridor project. The project cutsheet in Chapter 6 has more details on design characteristics for enhanced corridor projects.* The City of High Point should also consult the NCDOT Complete Streets Planning and Design Guidelines, which includes a Complete Streets selection matrix.





** Further design guidance can be found in Appendix A.*

MAP 5.2 RECOMMENDED FACILITIES - ENHANCED CORRIDORS



HIGH POINT PEDESTRIAN PLAN

MILES 0 1 2

Legend

- Hospital
- Library
- School
- Railroad
- Enhanced Corridor - Sidewalks Present
- Enhanced Corridor - No Sidewalks Present

Existing Facilities

- Sidewalk
- Recreation and Community Centers
- College; University
- Lakes
- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

Micro Gap

Micro gaps are short gaps in the existing sidewalk network. These gaps often leave pedestrians to walk in the roadway until they reach a sidewalk connection or intersection. For this plan, the micro gap category encompass gaps in the existing network that are 500 feet or less. These projects are categorized separately because of the opportunity they present for easy, low-cost implementation. These projects will often play a significant role in the accessibility of the pedestrian downtown and along high ridership transit corridors.

Example of a typical micro gap project where the sidewalk suddenly ends before connecting to an existing sidewalk or intersection.

Micro gap projects should be designed to the same standards outlined in the sidewalk project category. However, since they are completing a sidewalk gap, they should match the connecting sidewalk width and material type.

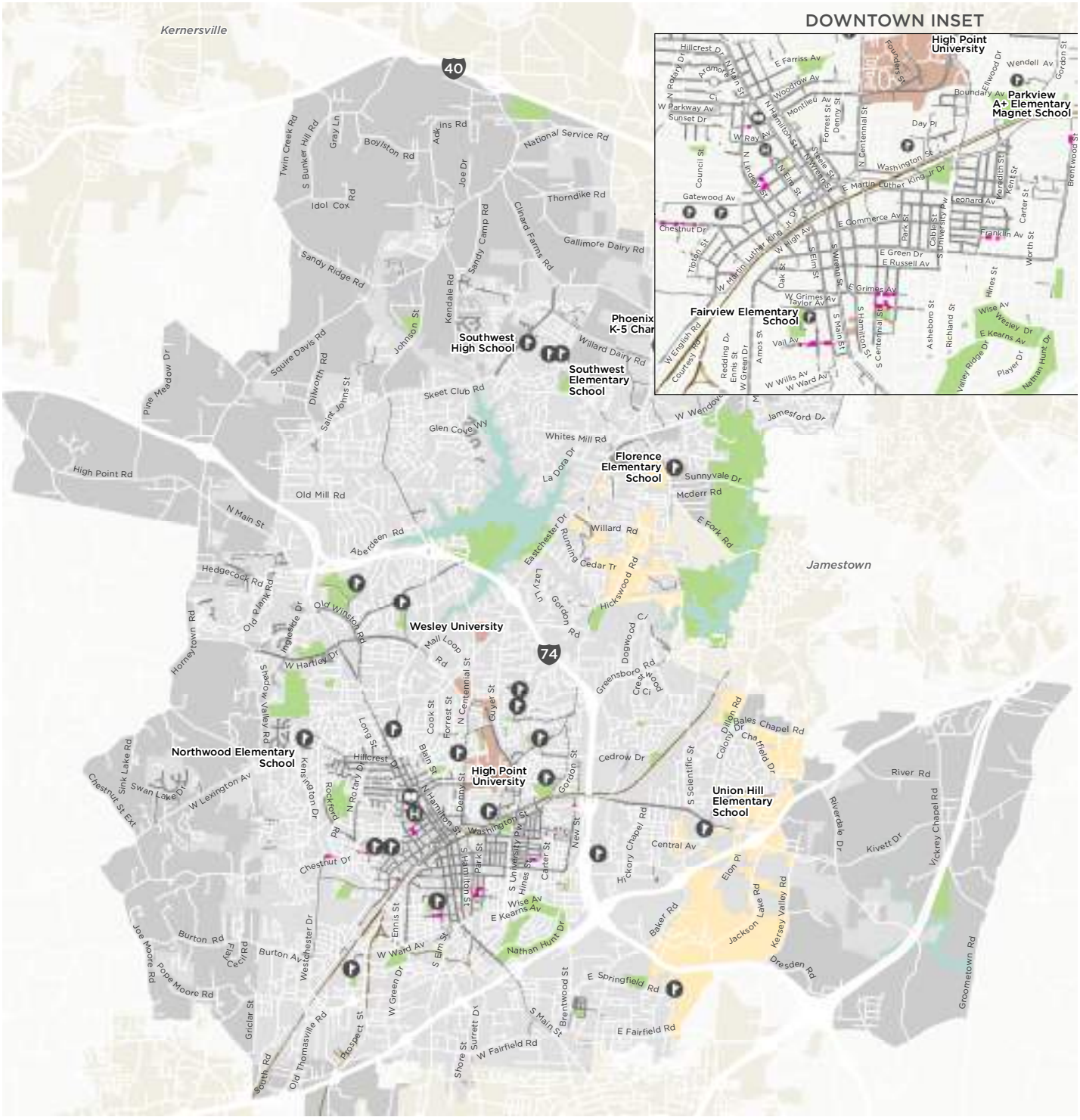
Short connections to a bus stop landing pad, such as the one shown above on Main Street, can be considered a micro gap project.

In Map 5.3, micro gaps are shown in dashed pink. Table 5.4 shows all of the recommendations for filling in existing micro gaps with new sidewalks. Micro gap projects that were in close proximity to one another were grouped into one project when projects were being prioritized. Prioritization methodology is covered in Chapter 6.

Table 5.4 Proposed Micro Gap Projects

Map ID	Roadway	To	From	Length (Miles)	Ward
67	Brentwood Av	Hayes Av	Lamb Av	0.07	2
62	Briggs Pl	Existing sidewalk between Martley St and W MLK Jr Dr	Existing sidewalk between Martley St and W MLK Jr Dr	0.04	3
61	Centennial St, Tate St, Wise Av	E Grimes Av	Existing sidewalk on Wise Av	0.18	2
63	Chestnut Dr	Existing sidewalk on Chestnut Dr	N Rotary Dr	0.05	3
6	Chestnut Dr	Carr St	Existing sidewalk on Chestnut Dr	0.03	3
64	Chestnut Dr	124 feet east of Carr St	440 feet west of Dale Pl	0.008	3
65	Chestnut Dr	Dale Pl	111 feet west of Dale Pl	0.019	3
115	Chestnut Dr	Existing sidewalk on Chestnut Dr	Westchester Dr	0.09	3, 4
60	E Grimes Av	Park St	Centennial St	0.21	2
68	Fairview St	Existing sidewalk on Fairview near Loflin Av	Existing sidewalk on Fairview near Vail Av	0.012	3
40	Franklin Av	73 feet east of Hines St	120 feet west of Caudell Pl	0.08	2
109	Sunset Dr	N Lindsay St	Existing sidewalk on Sunset Dr	0.05	4
59	Two mico gap segments on Vail Av	Hilltop St	Fairview St	0.12	3
66	Vail Av	S Elm St	Existing sidewalk on Vail Av	0.05	3
69	Vail Av	Mobile St	Existing sidewalk on Vail Av	0.03	3
75	Westwood Av, Pine St, Gatewood Av	Westwood Av	Existing sidewalk on Gatewood Av	0.17	4

MAP 5.3 RECOMMENDED FACILITIES - MICRO GAPS



HIGH POINT PEDESTRIAN PLAN

Legend

Proposed Facilities
- Micro gap

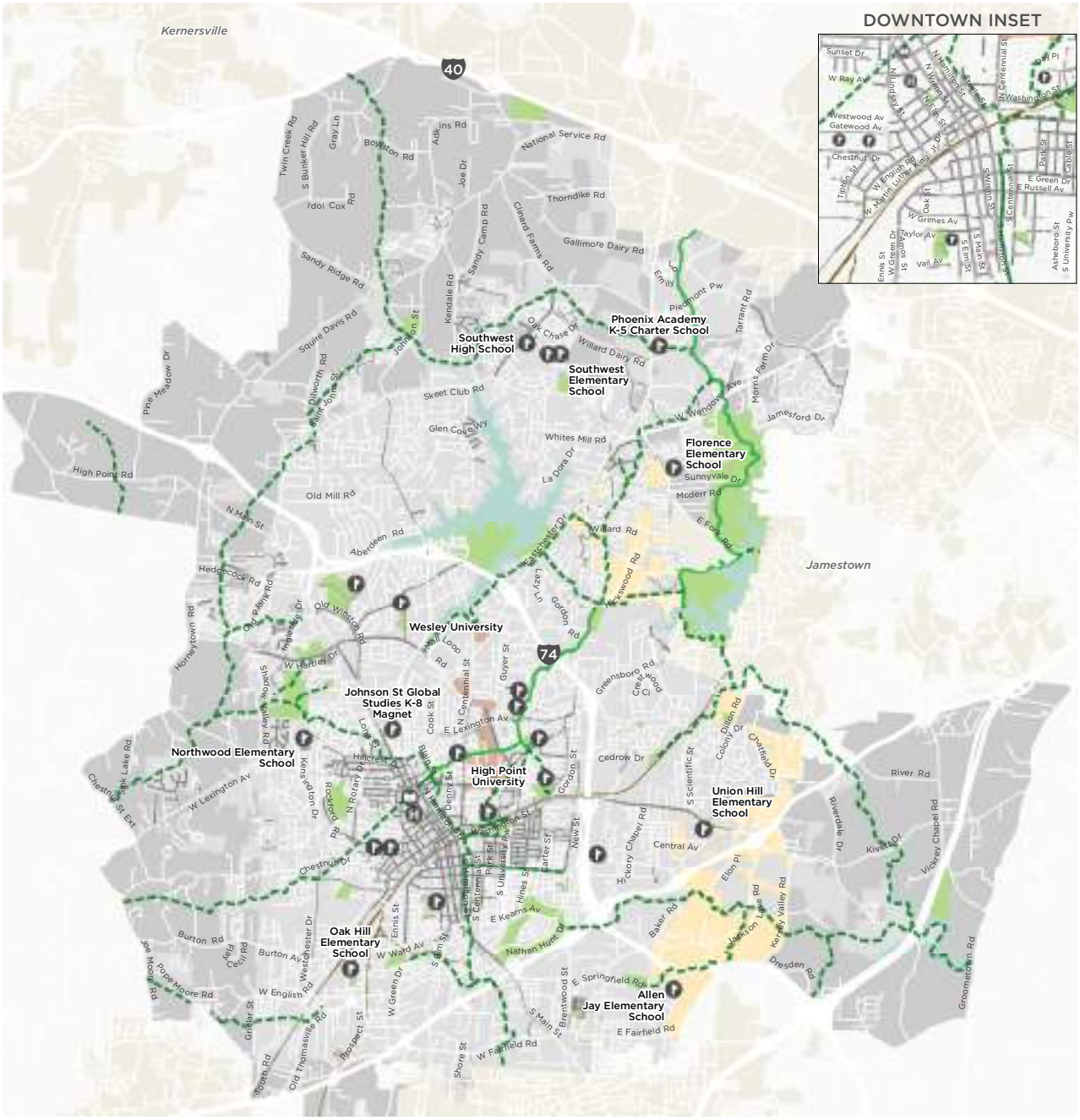
Existing Facilities
- Sidewalk

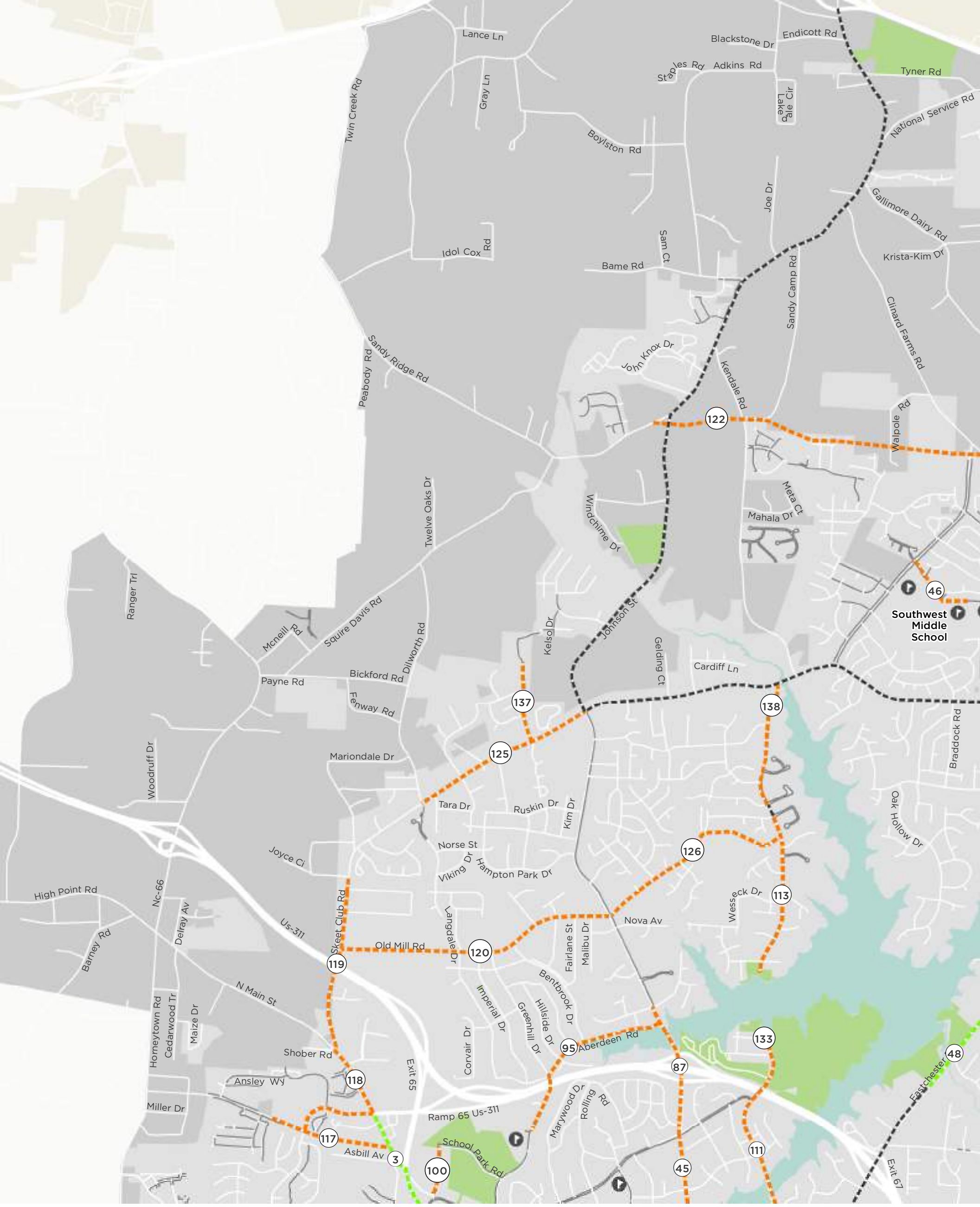
- Hospital
- Library
- School
- Railroad
- Recreation and Community Centers
- College; University
- Lakes
- High Point ETJ
- High Point City Limit
- Neighboring Municipalities
- HP Planning Boundary
- County

PROPOSED GREENWAYS

The map below shows existing and previously proposed greenways in High Point. Greenways are an integral part of the pedestrian network. These facilities are shown separately and were not ranked as part of the prioritization process. The proposed greenways will be further evaluated during the update of the High Point Greenway and Bicycle Plan, which will include recommendations for greenways.

MAP 5.4 EXISTING AND PROPOSED GREENWAYS





HIGH POINT PEDESTRIAN PLAN

PROPOSED PEDESTRIAN NETWORK

0 0.5 1 MILES

Legend

- Hospital
- Library
- School
- Railroad

Existing Facilities

- Sidewalk
- Greenway

Proposed Facilities

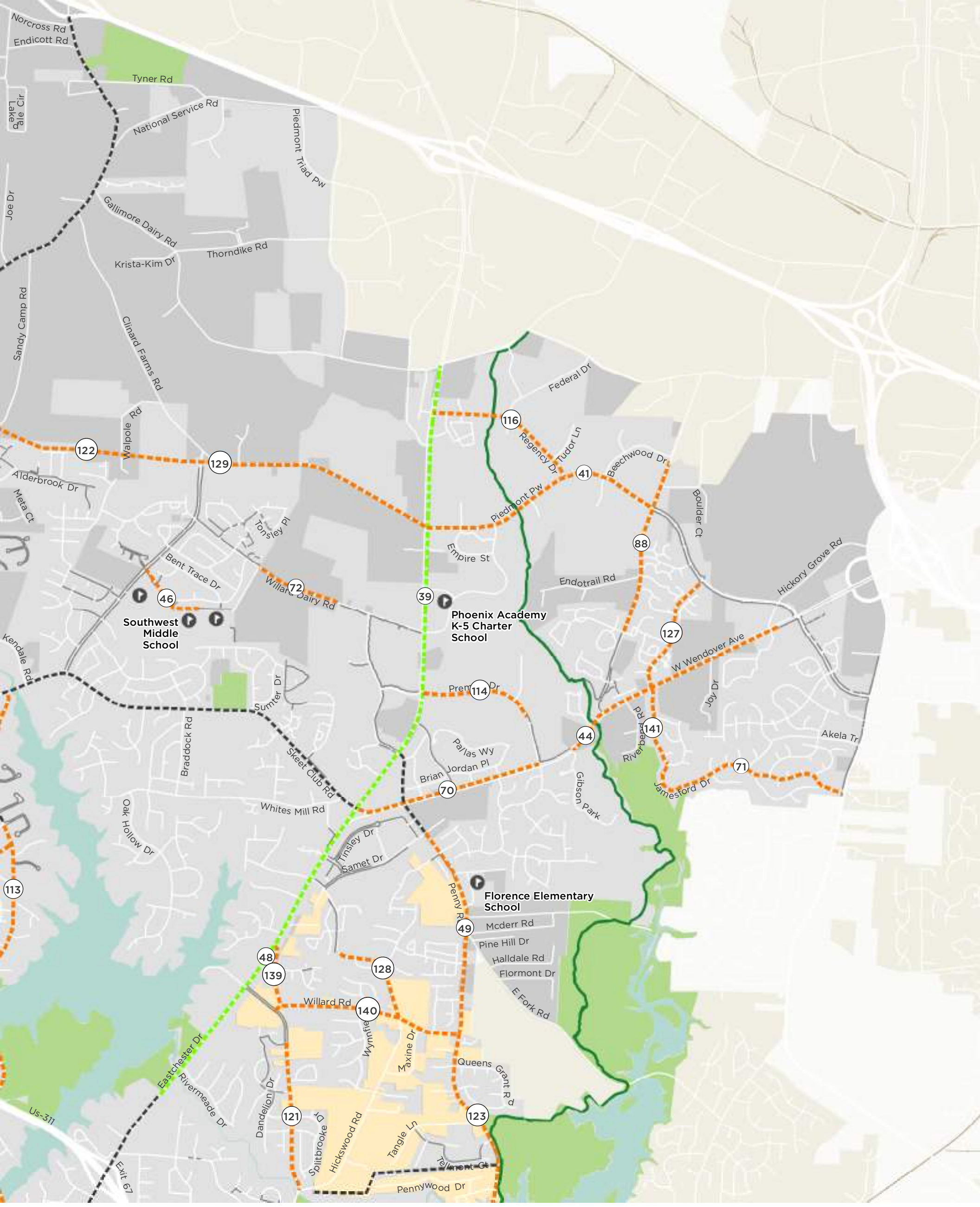
- New sidewalk
- Micro gap
- Enhanced Corridor - Sidewalks Present
- Enhanced Corridor - No Sidewalks Present

Programmed Facilities

- Programmed Projects

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County



HIGH POINT PEDESTRIAN PLAN

PROPOSED PEDESTRIAN NETWORK

N

0 0.5 1 MILES

Legend

- Hospital
- Library
- School
- Railroad

Existing Facilities

- Sidewalk
- Greenway

Proposed Facilities

- New sidewalk
- Micro gap
- Enhanced Corridor - Sidewalks Present
- Enhanced Corridor - No Sidewalks Present

Programmed Facilities

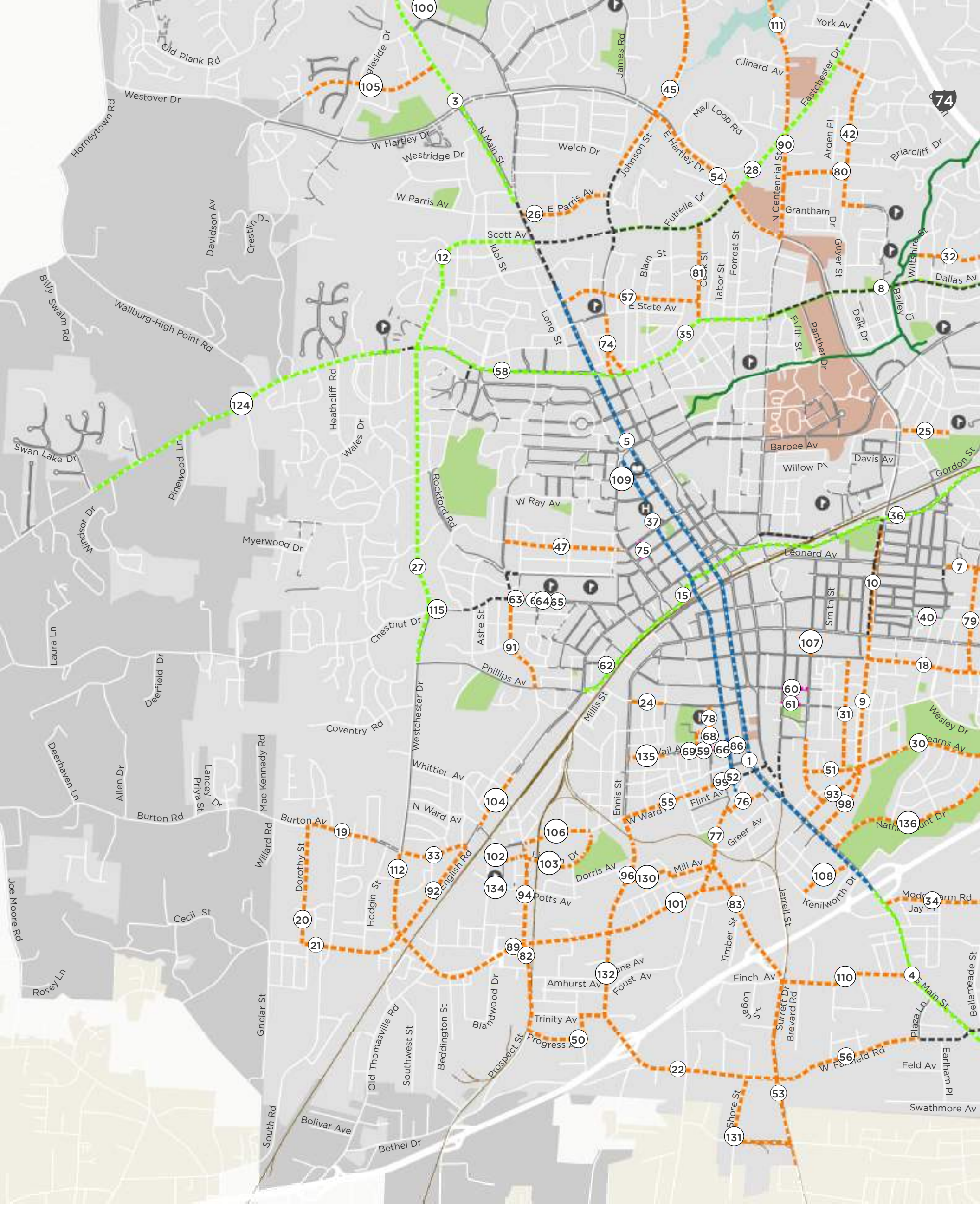
- Programmed Projects

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

HIGH POINT PEDESTRIAN PLAN

PROPOSED PEDESTRIAN NETWORK



0 0.5 1 MILES

Legend

- Hospital
- Library
- School
- Railroad

Existing Facilities

- Sidewalk
- Greenway

Proposed Facilities

- New sidewalk
- Micro gap
- Enhanced Corridor - Sidewalks Present
- Enhanced Corridor - No Sidewalks Present

Programmed Facilities

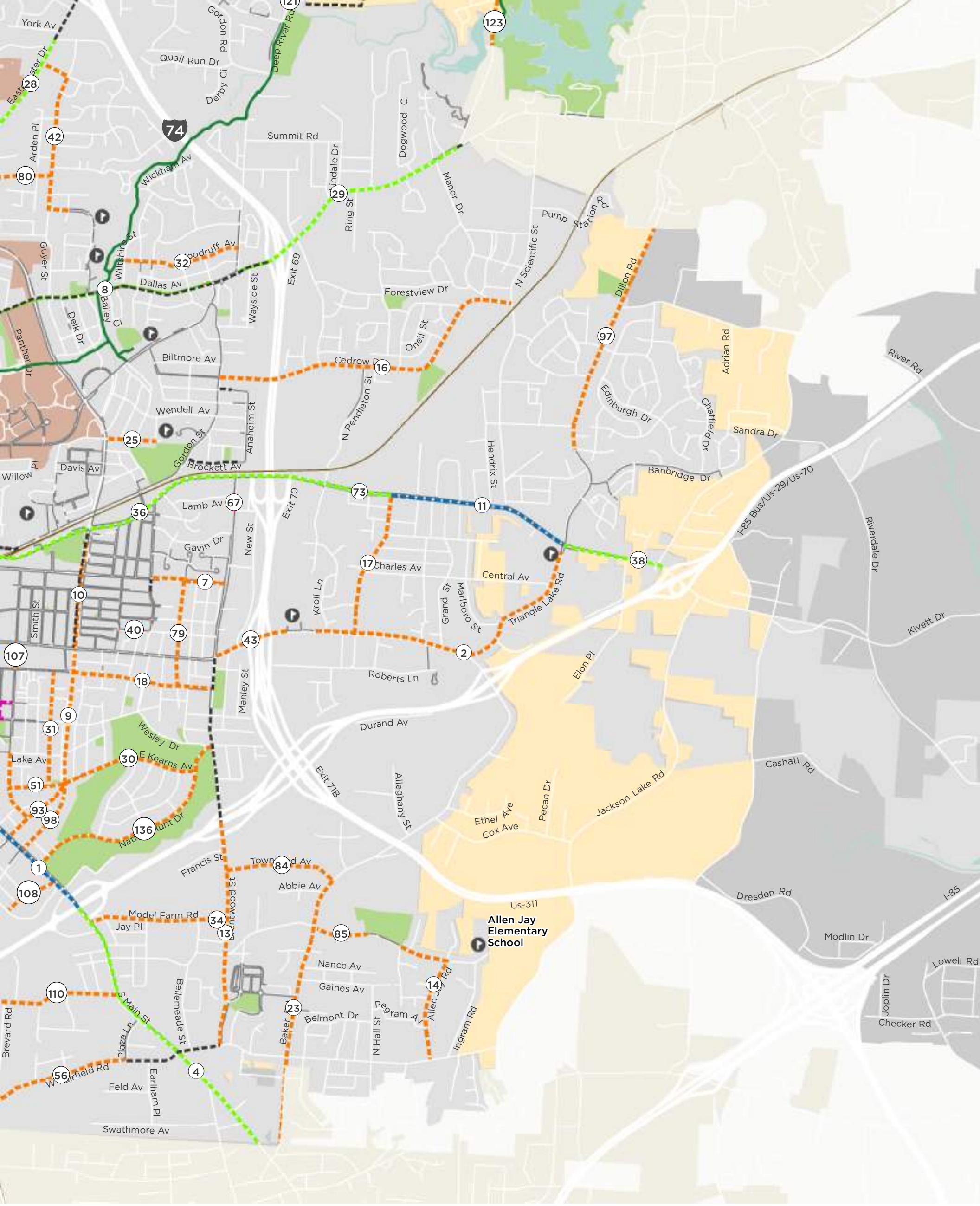
- Programmed Projects

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

HIGH POINT PEDESTRIAN PLAN

PROPOSED PEDESTRIAN NETWORK



Legend

- Hospital
- Library
- School
- Railroad

Existing Facilities

- Sidewalk
- Greenway

Proposed Facilities

- New sidewalk
- Micro gap
- Enhanced Corridor - Sidewalks Present
- Enhanced Corridor - No Sidewalks Present

Programmed Facilities

- Programmed Projects

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

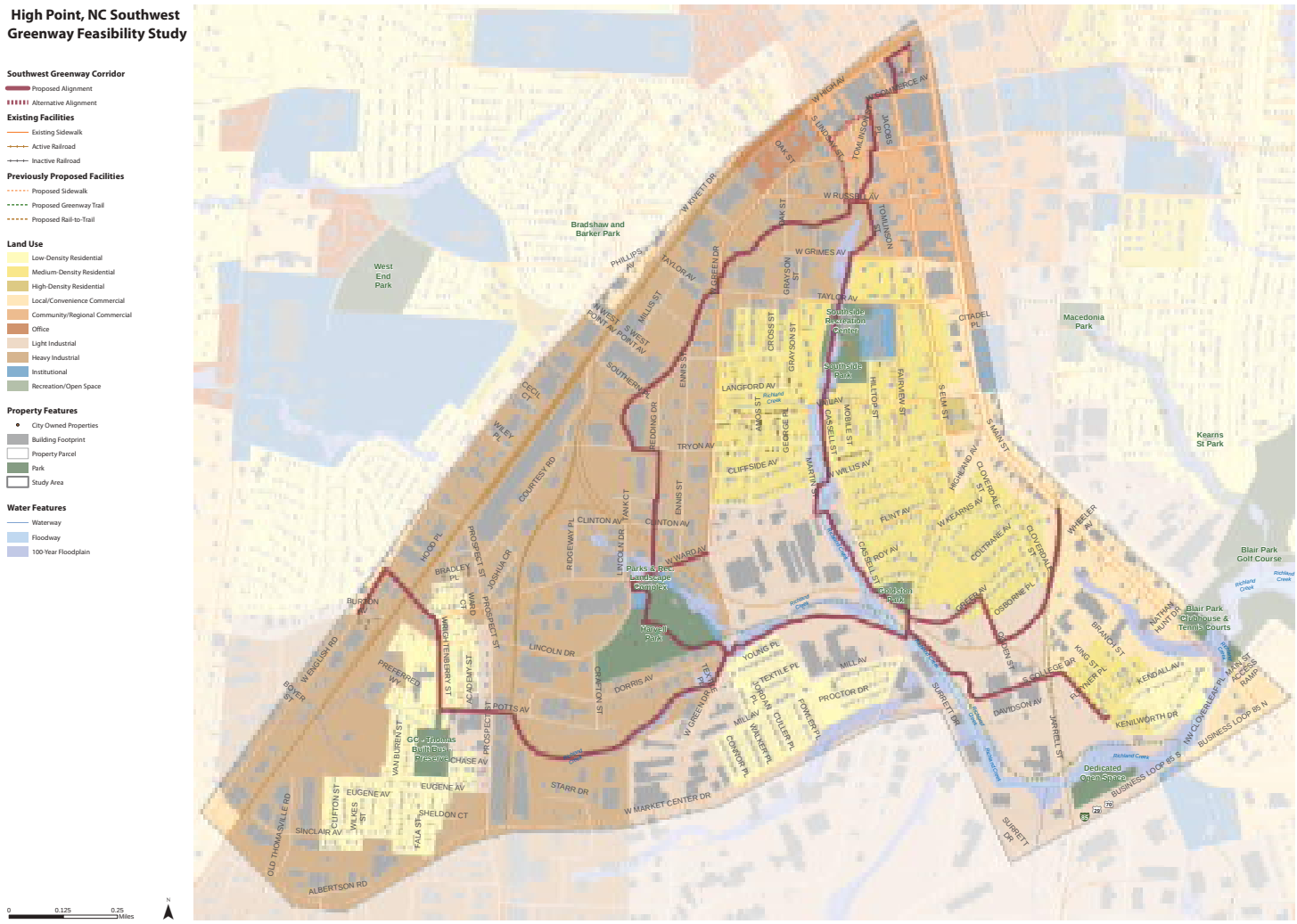
0 0.5 1 MILES

Southwest High Point Greenway Recommendations

The Southwest High Point Greenway Feasibility Study was completed in 2014 and this study recommended an alignment as well as physical attributes for the proposed greenway. The feasibility study was conducted in partnership with community members to identify its vision, goals, and alignment for the Southwest High Point Greenway. According to the feasibility study, the Southwest area of High Point is different from the rest of the city in that nearly half the population travels to work by carpool, public transportation, bicycling, or walking. The proposed alignment for the Southwest High Point Greenway spans 6.5 miles (see map below). Future greenway planning efforts should incorporate the Southwest High Point Greenway Feasibility Study into their planning processes.

Aside from the proposed alignment, the study also recommended a number of intersection treatments where users would have to cross a local road. See next page for a discussion of these crossing recommendations. These recommendations were brought over from the existing study and were not changed as part of the planning process for the pedestrian plan.

Figure 5.1. Southwest High Point Greenway - Proposed Alignment



Southwest High Point Greenway Crossing Recommendations

Crossing treatments are based on trail and roadway characteristics. Key roadway factors influencing the selected treatment include the posted speed limit, traffic volume, line of sight, street width, roadway and trail geometry, and intersection configuration. Each roadway intersection along the SWHP Greenway was inventoried and identified by a number that corresponds to the table below. In total, there are 40 at-grade roadway intersections along the SWHP Greenway corridor. Each intersection was cast into three treatment types: basic, intermediate, and complex. Intersection improvements will be further discussed in the following pages.

- **Basic**: unsignalized, mid-block. Treatments include high visibility crosswalk, new curb ramps, advanced pedestrian warning signage
- **Intermediate A**: unsignalized, mid-block. Treatments include high visibility crosswalk, new curb ramps, advanced pedestrian warning signage, median refuge island
- **Intermediate B**: at existing signalized four-way intersection. Treatments include re-striping high visibility crosswalk, new curb ramps, pedestrian countdown signal actuation and timing
- **Complex**: mid-block, actuated. Treatments include Rectangular Rapid Flash Beacon (RRFB), high visibility crosswalk, new curb ramps, advanced pedestrian warning signage, and possibly median refuge island.

Table 5-5. Southwest High Point Greenway - Intersection Treatments

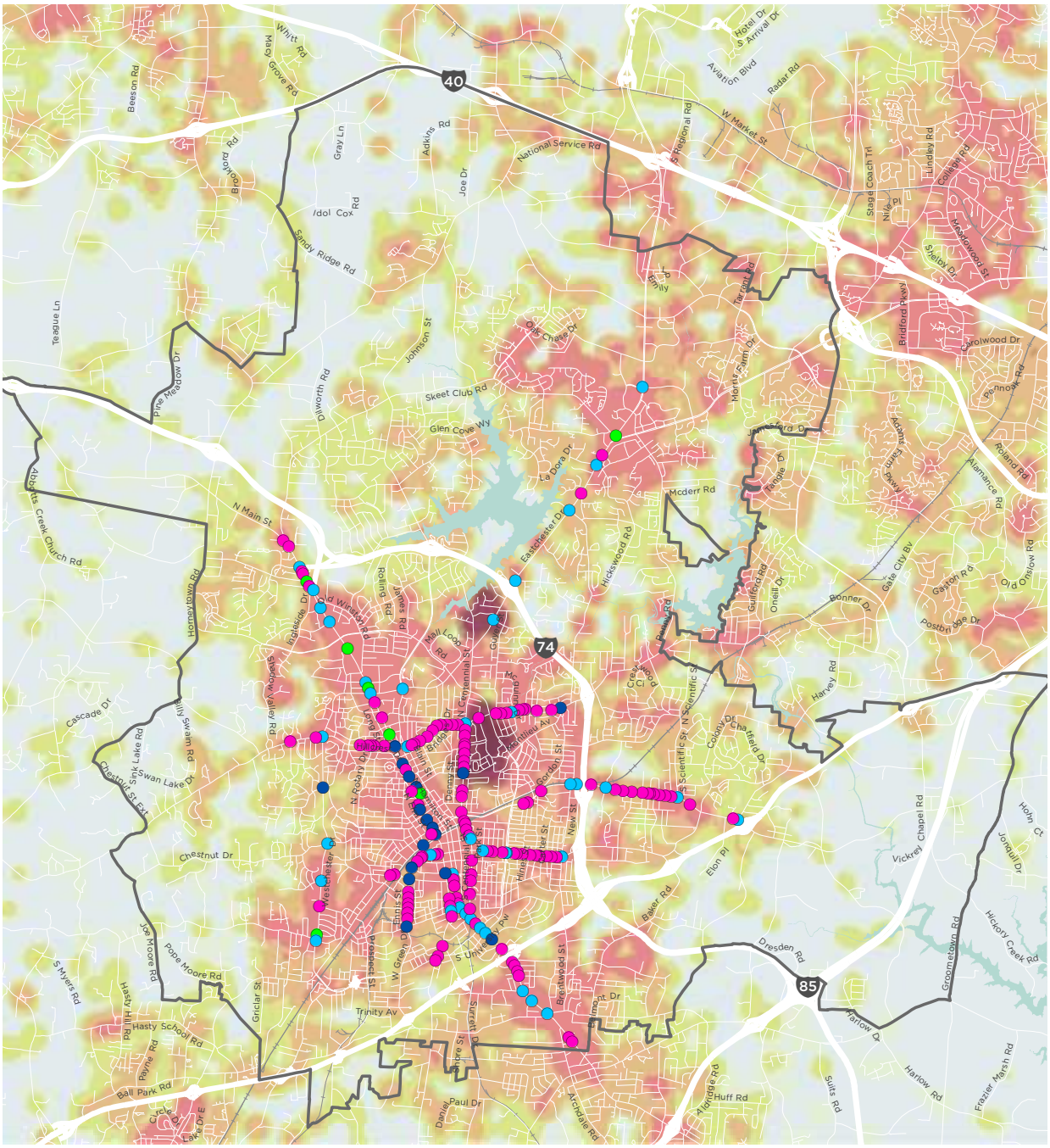
ID	Intersecting Road Name	Intersection Type	Recommended Treatment
A	W High Ave	Midblock	Basic
B	N Elm St	Signalized intersection	Intermediate B
C	Tomlinson St	Unsignalized intersection	Basic
D	W Green Dr	Midblock	Complex
E	W Russell Ave	Midblock	Basic
F	Oak St	Midblock	Basic
G	W Grimes Ave	Midblock	Basic
H	W Green Dr	Midblock	Intermediate A
I	Taylor Ave	Signalized intersection	Intermediate B
J	Ennis St	Midblock	Basic
K	Southern Pl	Midblock	Basic
L	Tryon Ave	Midblock	Basic
M	Redding Dr	Unsignalized intersection	Basic
N	Tank Ct	Unsignalized intersection	Basic
O	Clinton Ave	Unsignalized intersection	Basic
P	W Ward Ave	Unsignalized intersection	Complex
Q	W Green Dr	Unsignalized intersection	Complex
R	S Elm St	Midblock	Basic
S	Tomlinson St	Unsignalized intersection	Basic
T	Tomlinson St	Midblock	Basic

ID	Intersecting Road Name	Intersection Type	Recommended Treatment
U	W Grimes Ave	Midblock	Basic
V	Taylor Ave	Midblock	Basic
W	Vail Ave	Unsignalized traffic circle	Basic
X	Tryon Ave	Midblock	Basic
Y	W Willis Ave	Midblock	Basic
Z	W Ward Ave	Unsignalized intersection	Basic
AA	W English Rd	Signalized intersection	Intermediate B
BB	Lincoln Dr	Unsignalized intersection	Basic
CC	Potts Ave	Unsignalized intersection	Basic
DD	Prospect St	Unsignalized intersection	Basic
EE	Textile Pl	Midblock	Basic
FF	Ogden St	Unsignalized intersection	Basic
GG	Coltrane Ave	Signalized intersection	Intermediate B
HH	S Elm St	Midblock	Intermediate A
II	W Market Center Dr	Midblock	Complex
JJ	S College Dr	Midblock	Complex
KK	Ogden St	Unsignalized intersection	Basic
LL	Jarrell St	Unsignalized intersection	Basic
MM	Kenilworth Dr	Unsignalized intersection	Basic

Intersection Improvements

A field analysis was conducted in order to assess existing facilities at intersections along key corridors in High Point. Facilities were proposed at intersections without current pedestrian amenities or where pedestrian accommodations could be improved. Crossing treatments, as discussed in the previous page, should be taken into consideration in terms of improving the safety of intersections throughout the City of High Point. Map 5.5 shows proposed intersection improvements overlaid on pedestrian demand.

MAP 5.5 RECOMMENDED INTERSECTION IMPROVEMENTS



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Intersection Improvements

CORRIDORS EVALUATED FOR INTERSECTION IMPROVEMENT

+ Centennial St
+ Eastchester Ave
+ Elm St
+ Green Dr
+ Lexington Ave
+ MLK Jr Dr
+ Main St
+ Westchester Ave

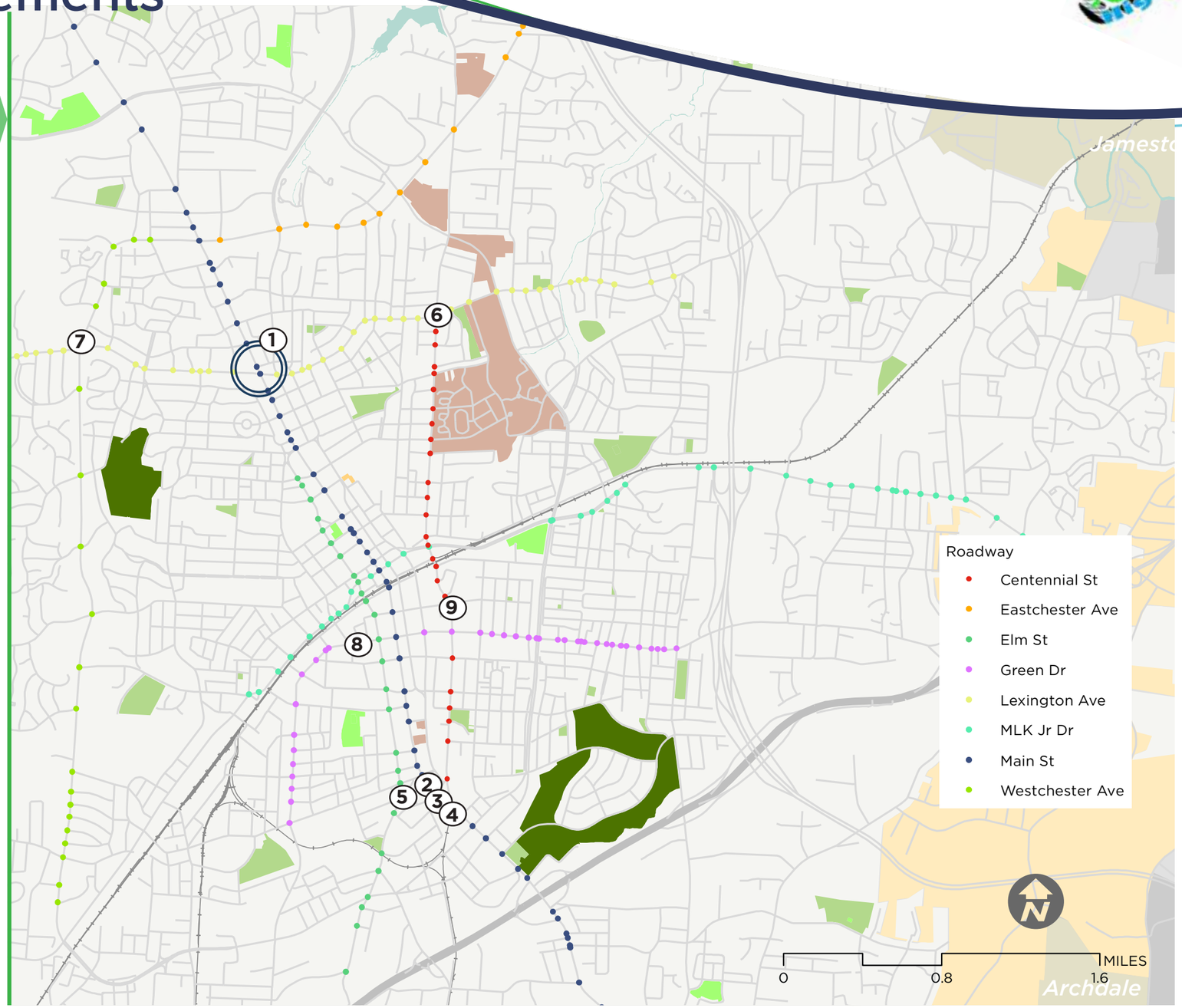
The below intersection locations have no treatments. A few intersections have ADA-compliant curb ramps, which is a requirement when roads are resurfaced within certain parameters. Crosswalks and pedestrian countdown signals are proposed for these intersections.

#	LOCATION
1	MAIN ST & WESTCHESTER DR
2	MAIN ST & WARD AVE
3	MAIN ST & KEARNS AVE
4	MAIN ST & COLTRANE AVE
5	ELM ST & WARD AVE
6	LEXINGTON AVE & N CENTENNIAL ST
7	LEXINGTON AVE & WESTCHESTER DR
8	GREEN DR & LINDSAY ST
9	CENTENNIAL ST & COMMERCE AVE

= Main St & Westchester Dr. Intersection
See more detail on page 5-19

This Intersection is the highest priority on the list because it connects three main corridors and lacks any type of pedestrian crossing treatment. It is also at the corner of a large amount of restaurants and shops, such as:

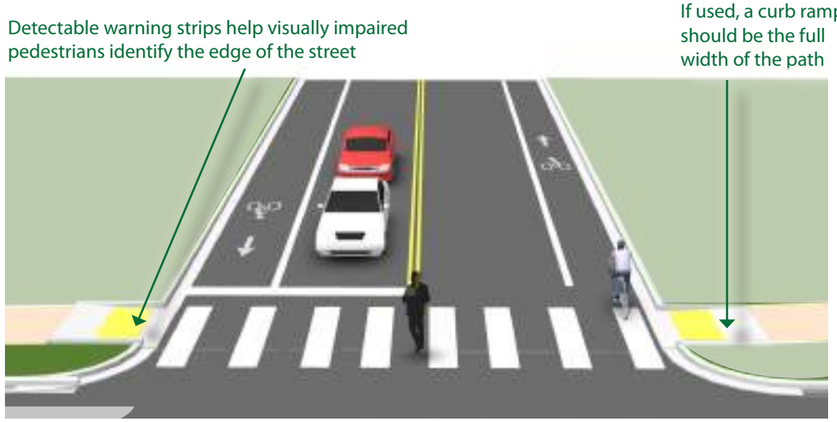
+ **Walgreens**
+ **Starbucks**
+ **Lulu and Blu Restaurant**
+ **Carolina's Diner**
+ **Claddagh Restauant & Pub**

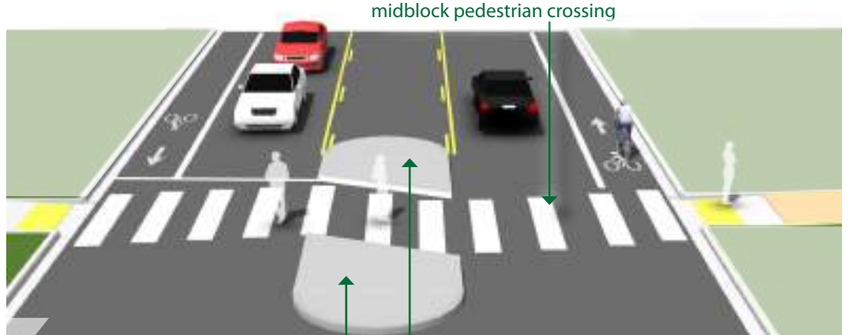


Intersection Improvements

Intersections, where pedestrians and vehicles come together, can be the most challenging part of a pedestrian network. if pedestrians cannot cross safely, mobility is limited and walking as a mode of transportation is discouraged. Page 5-17 contains an inventory of intersection improvements. Below is a summary of key design considerations.

INTERSECTION DESIGN CONSIDERATIONS





EXISTING

PROPOSED CORRIDOR IMPROVEMENTS

Intersection at N. Main St. and Westchester/Eastchester Dr.

Limited Access Highway Crossings

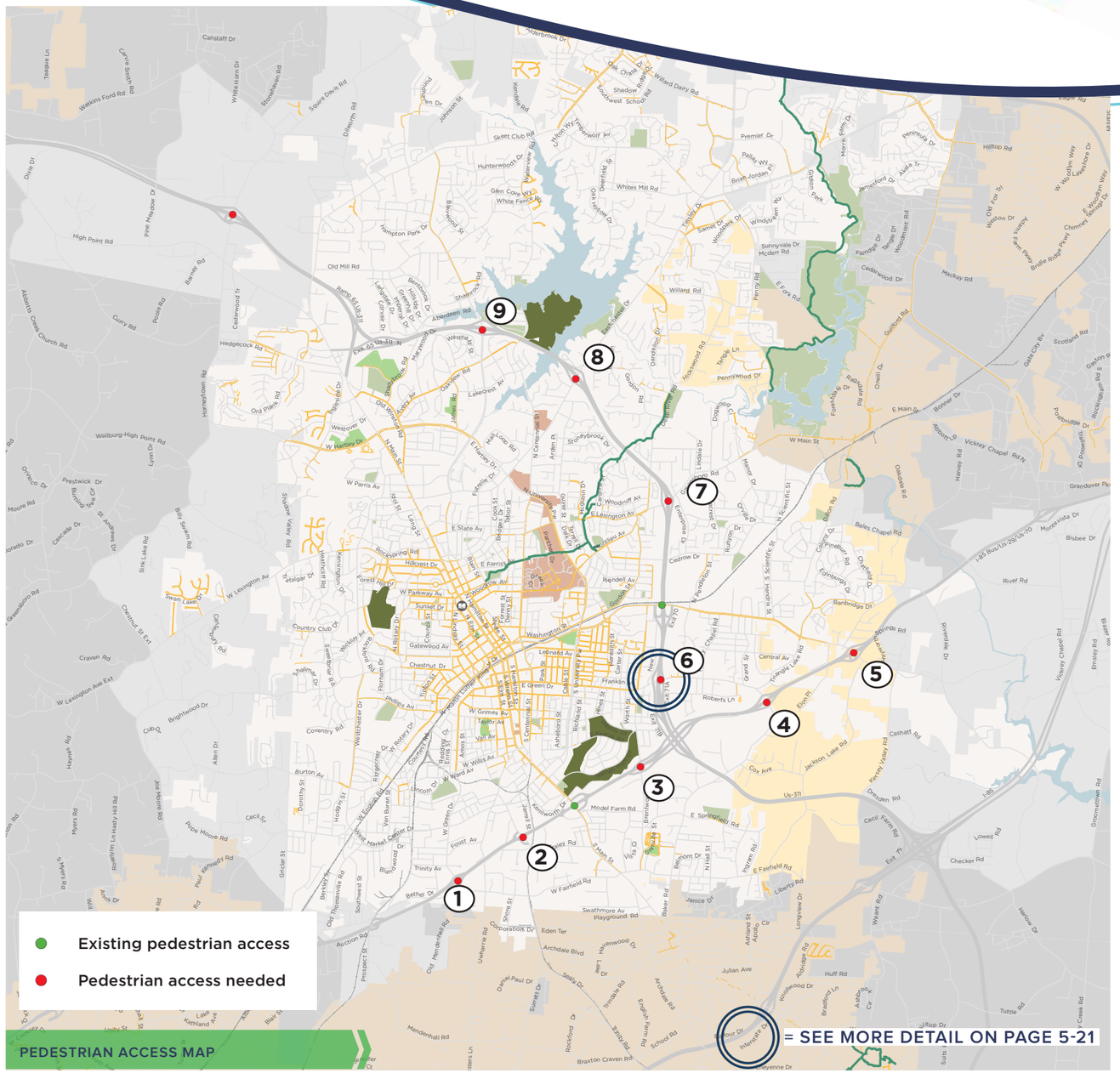
Many of High Point's residential areas are cut off from downtown because of two major Highways, US29/70/Bus 85 and I-74/US-311, that border the city. In order to create better pedestrian access to downtown High Point, streets that intersect these two major highways need infrastructure improvements. Each intersection was evaluated based on its infrastructure needs and ranked according to the level of difficulty required to increase pedestrian access.

LIMITED ACCESS DIFFICULTY RATINGS

1 = least difficult, 5 = most difficult

1 = Existing 5' Sidewalk	Needs = sidewalks to connect to bridge
2 = Existing 3' Sidewalk	Needs = sidewalks to be widened
3 = Existing Shoulders	Needs = structural assessment
4 = Road diet possible	Needs = traffic analyses and structural assessment
5 = Road diet will be difficult	Needs = traffic analyses and structural assessment

#	LOCATION	SPEED LIMIT	LANES	LANE WIDTHS	TURN LANES	2013 AADT	IMPLEMENTATION DIFFICULTY
1	US HWY 70 & W GREEN DR	35	5	5,12,12,12,12,12,5	1	1300/ 1500	1
2	US HWY 70 & SURRETT DR	35	3	3,12,14,12,3	0	5800/ 6600	2
3	US HWY 70 & BRENTWOOD ST	35	5	5,12,12,12,12,12,3	1	7600/ 13000	1
4	US HWY 70 & BAKER RD	35	3	6,12,12,12,4	1	4600/ 3600	3
5	US HWY 70 & E KIVETT DR	45	6	6,16,11,12,11,14,18,6	0	1300/ 400	1
6	US 311 & E GREEN AVE	25	5	12,11,12,12,15	1	7700	4
7	US 311 & GREENSBORO RD	25	6	12,12,12,12,13,13	0	15000	5
8	US 311 & EASTCHESTER DR	25	6	12,11,10,10,11,14	0	31000	5
9	US 311 & JOHNSON ST	45	5	3,14,12,12,12,12,3	0	14000	2



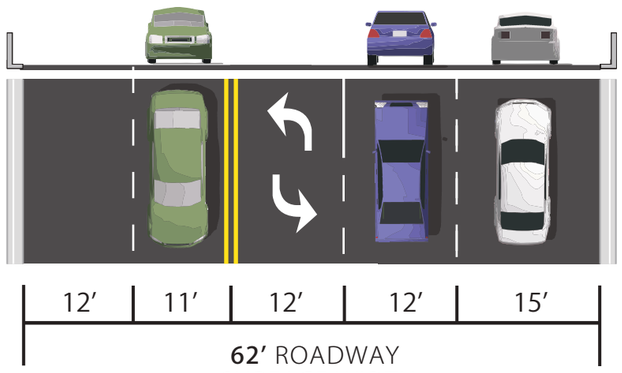
PEDESTRIAN ACCESS MAP

= SEE MORE DETAIL ON PAGE 5-21

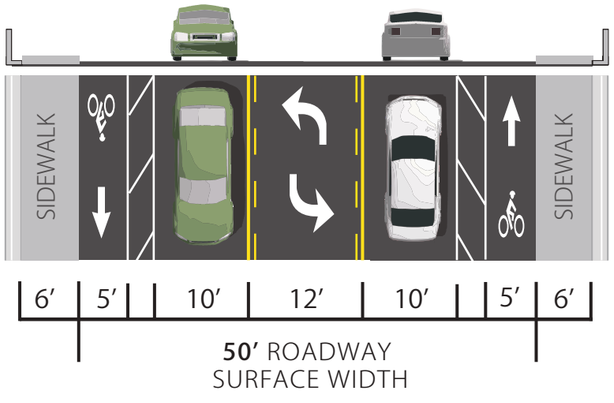
Limited Access Highway Crossings

I-74 runs north to south alongside the City of High Point. Where it runs below E. Green Avenue, it creates a separation between two residential areas, Triangle Lake Montessori Elementary School and two local grocery stores. Because East Green Avenue has a posted speed limit of 25 mph with a 7,700 AADT, there is potential for pavement reallocation. The road could be reconfigured so that motor vehicle travel may be equally well served by resulting travel lanes while also allowing room for sidewalks. This proposed change only applies to the bridge deck to allow sidewalks to be accommodated and does not apply to the whole street. Further traffic analysis will be needed to evaluate the impact of the proposed cross-section.

EXISTING E. GREEN AVE ACROSS US311



PROPOSED E. GREEN AVE ACROSS US311



SAMPLE OF EXISTING

Philadelphia, PA South Street Bridge

San Francisco, CA Golden Gate Bridge Pedestrian Crossing

EXISTING

PROPOSED CORRIDOR IMPROVEMENTS

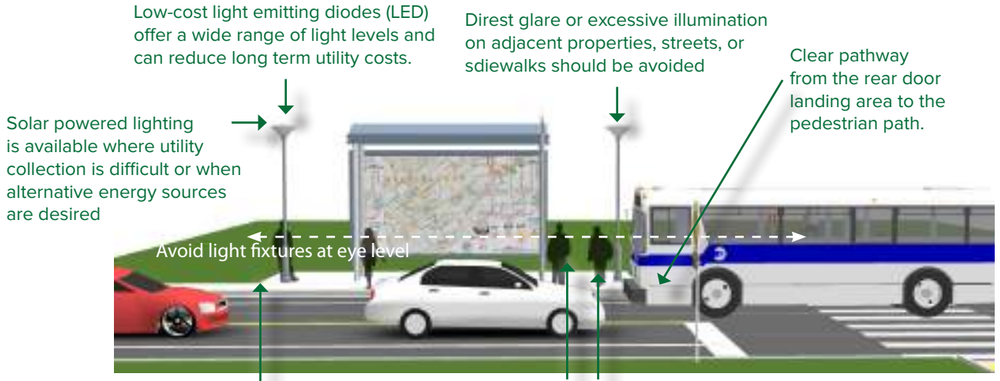
E. Green Ave. across US-311

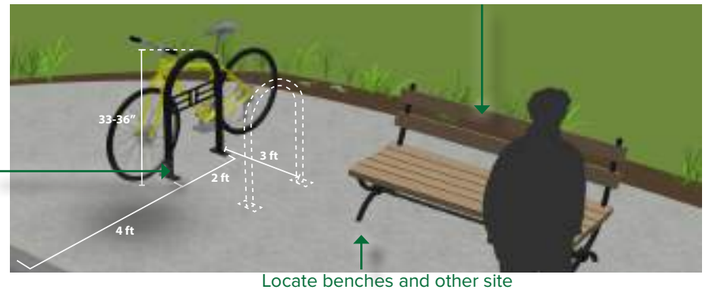
Transit Amenities

When designing functional, attractive, and inviting transit hubs, small details matter. Elements such as lighting fixtures, public art, benches, and other amenities help create a unique identity and a safe environment for public transit users. For further transit guidance, consult FHWA's "Pedestrian Safety Guide for Transit Agencies."

RECOMMENDED IMPROVEMENTS

- **Lighting**
- **Bus Route Info**
- **Shelter**
- **Bike Parking**
- **Trash receptacle**
- **Bench**
- **Public Art**





TRASH RECEPTACLES

+ In areas with adequate sunlight, consider compacting receptacles for trash and recyclables that use smart technology (such as Big Belly®).
+ Receptacles should be selected using the following criteria:
  + Expected trash/recycling amount
  + Maintenance and collection program requirements
  + Durability
  + Animal proof
+ Receptacles should be set back a minimum of 3 feet from the edge of the trail.

PUBLIC ART

+ When appropriate, artists could be engaged as part of the corridor planning and development process.
+ Artists should be encouraged to produce artwork in a variety of materials for each transit hub.
+ When appropriate, consider developing greenway furnishings and amenities with artistic intent. Consider how to provide continuity between elements while maintaining the unique styles of multiple artists.
+ Consider community based art and temporary installations.

Bottlestop Bus Shelter Project in Lexington, Kentucky

EXISTING

PROPOSED CORRIDOR IMPROVEMENTS

Main Street Bus Stop

This section of South Main Street, near Archdale Road, has several large employment centers in close proximity.

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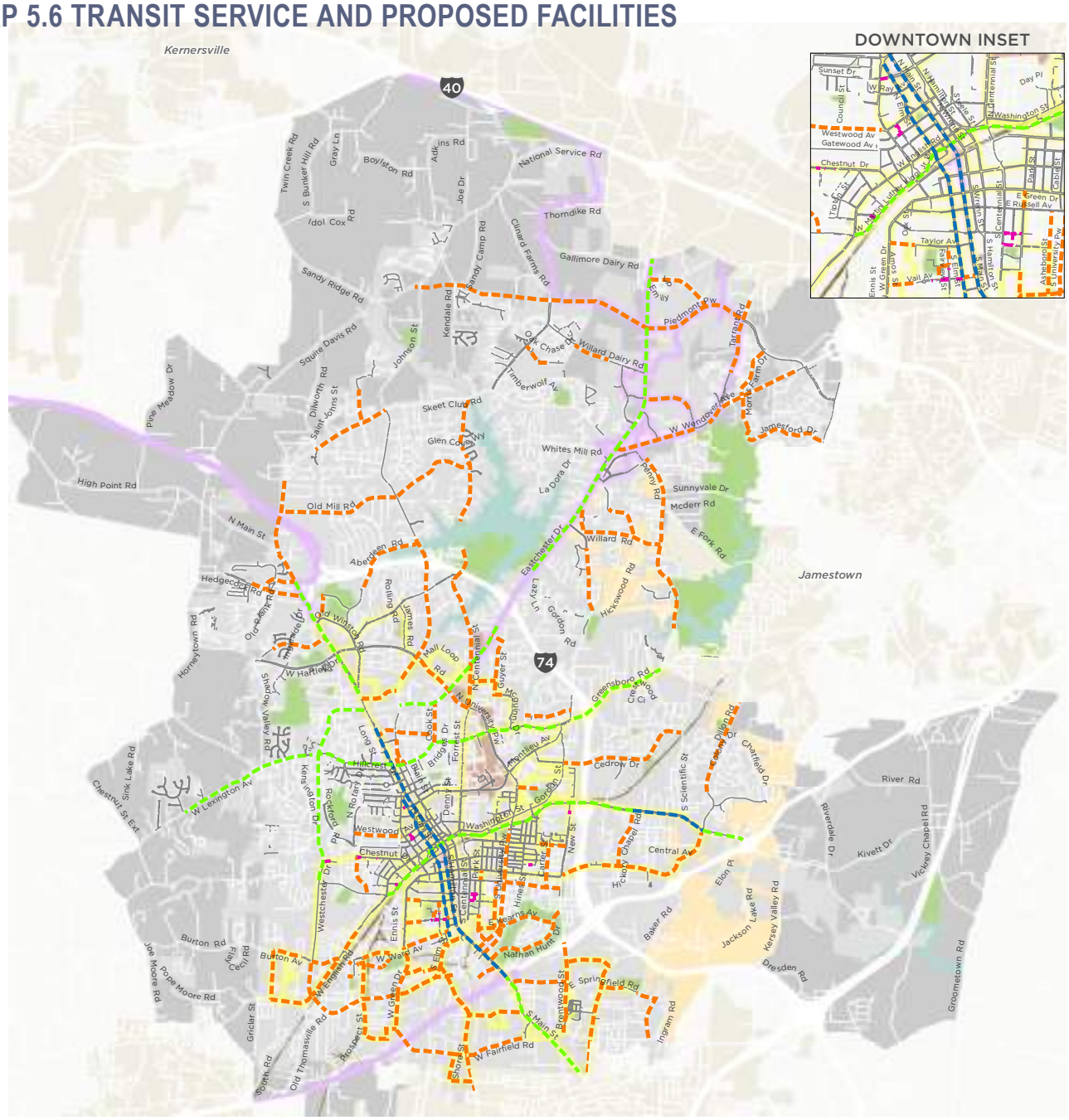
TRANSIT ACCESS

The map below shows all of the proposed pedestrian facilities and transit service in High Point. Available transit service in High Point includes the High Point Transit System (HPTS), which operates bus service and paratransit service, and Piedmont Authority for Regional Transportation (PART), which operates regional buses in the Piedmont area.

MAP 5.6 TRANSIT SERVICE AND PROPOSED FACILITIES



HIGH POINT PEDESTRIAN PLAN

Legend

- HPTS Bus Route
- PART Route
- Railroad

Existing Facilities

- Sidewalk

Proposed Facilities

- Sidewalk
- Micro gap
- Enhanced Corridor - Sidewalks Present
- Enhanced Corridor - No Sidewalks Present

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

N

0 1 2 MILES

ROAD DIETS

A roadway configuation known as a road diet may offer safety and mobility improvements to pedestrians at a low cost when they are applied to traditional four-lane undivided highways. According to guidance from the Federal Highway Administration (FHWA), a road diet typically involves converting an existing four-lane, undivided roadway segment to a three-lane segment with two through lanes and a center, two-way left-turn lane. Road diets result in benefits to all users, including improved mobility and access for all users, crash reduction between 19 to 47 percent, and reduced vehicle speeds. Implementing road diets allow for the reclaimed space to be used for other uses, such as bus lanes, pedestrian refuge islands, or sidewalks.

In High Point, several corridors could potentially be reconfigured as road diets. They are:

- Main Street
- Centennial Avenue
    - Eastchester Drive to the Lake
    - Green Drive to Lexington Avenue
- Shadybrook Road
- Fraley Road
- Dillon/Triangle Lake Road
- Elm Street
- Green/Russell one-way pair
- English/MLK Jr. Drive

Shadybrook Road

North Elm Street

INFRASTRUCTURE NETWORK & FUNDING ACTION STEPS				
TASK	**LEAD**	**SUPPORT**	**DETAILS**	**PHASE**
Implement pedestrian facility design training for key staff.	City Manager, Engineering Services	NCDOT Divisions (7, 8 and 9)	Become familiar with the design resources listed in Appendix A and available through NCDOT.	Short-term (2017)
Seek multiple funding sources and facility development options.	City Manager	City Council, Dept. of Transportation, High Point MPO, NCDOT Divisions (7, 8, and 9)	Chapter 6 contains project cost estimates and Appendix B contains potential funding opportunities. Explore available funding options and facilitate conversations with key stakeholders to identify potential partnerships. Leverage local funds or private investment towards the required match for federal funding opportunities, especially for larger investments such as Enhanced Corridor projects.	Short-term/ Ongoing (2017 onward)
Develop a long- term funding strategy	City Manager & City Council	Dept. of Transportation, High Point MPO, NCDOT Divisions (7, 8, and 9)	To allow continued development of the project recommendations, capital funds for pedestrian facility construction should be set aside every year. Powell Bill funds should be programmed for facility construction. Funding for an ongoing maintenance program should also be included in the City's operating budget. Consideration for a transportation bond to fund priority projects should be given.	Short-term/ Ongoing (2017 onward)
Pursue funding through NC Parks and Recreation Trust Fund (PARTF) for Southwest Greenway.	City Manager, Dept. of Transportation	Southwest Renewal Foundation	Review NC Parks and Recreation Trust Fund requirements and attend an informational workshop. PARTF funding announcements are made annually in August. Visit www.ncparks.gov for more information.	Mid-term (2018)
Ensure that priority projects are incorporated in NCDOT's prioritization process.	High Point MPO	City Manager, Dept. of Transportation, NCDOT Divisions	The MPO, the City of High Point, and NCDOT Divisions (7, 8, and 9) should coordinate to fund this plan's network recommendations over time. Use the plan cut-sheets and recommendation maps to communicate project details.	Mid-term (2018)
Improve crossing facilities across Main St.	Dept. of Transportation, and NCDOT Divisions (7, 8, and 9)	City Manager, NCDOT Bike/Ped Division	City and NCDOT Divisions 7, 8, and 9 should coordinate on design of future improvements to Main Street to ensure they accommodate pedestrian movement across the intersections.	Mid-term (2017-2019)
Set transit enhancement standards and implement along high ridership corridors	High Point Transit System (HPTS)	City Manager, Dept of Transportation, NCDOT Divisions (7, 8, and 9)	Since every transit rider is a pedestrian at some point in their trip, it is imperative that pedestrian access is given equitably across the City. Transit routes with high annual ridership rates should be monitored for crossing improvements, sidewalk access, and bus stop amenities. Design considerations are offered in Appendix A.	Ongoing (2017 onward)
Maintain pedestrian facilities.	Dept. of Transportation	City Manager, General Public (for reporting maintenance needs)	High Point should maintain existing and future pedestrian facilities, working with NCDOT where necessary. Adequate funding should be provided for maintenance activities every time a new pedestrian project or crossing improvement is design, funded, or implemented.	Ongoing (2017 onward)
Identify and schedule opportunities to mark pavement, and add other crossing treatments, as a component of regularly occurring resurfacing projects	Dept. of Transportation	High Point MPO, NCDOT Divisions (7, 8, and 9)	City and NCDOT Divisions should coordinate with one another to understand Divisions' resurfacing schedule (for state-maintained roads), understand current ADA guidance about when complying curb ramps must be constructed as part of surfacing projects, and determine which locations identified for corridor and intersection improvements in this plan are on the planned cycle of city maintenance or resurfacing projects	Ongoing (2017 on-ward)

Dam at Festival Park

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Piedmont Environmental Center

6 Implementation

Chapter Contents:

OVERVIEW

This chapter defines the priorities and structure for managing the implementation of the High Point Pedestrian Plan. Implementing the recommendations within this plan will require leadership and dedication to pedestrian facility development on the part of a variety of agencies. Equally critical, and perhaps more challenging, will be meeting the need for a recurring source of revenue. Even small amounts of local funding could be very useful and beneficial when matched with outside sources. Most importantly, the City need not accomplish the recommendations of this plan by acting alone; success will be realized through collaboration with regional and state agencies, the private sector, and non-profit organizations. Funding resources that may be available to High Point are presented in Appendix B of this plan.

Given the present day economic challenges faced by local governments (as well as their state, federal, and private sector partners), it is difficult to know what financial resources will be available at different time frames during the implementation of this plan. However, there are still important actions to take in advance of major investments, including key organizational steps, the initiation of education and safety programs, and the development of strategic, lower-cost sidewalk and crossing facilities. Following through on these priorities will allow the key stakeholders to prepare for the development of larger pedestrian and trail projects over time, while taking advantage of strategic opportunities as they arise.

Members of the Pedestrian Plan steering committee could be good candidates for a standing Pedestrian Advisory Committee (PAC) for the City during implementation.

HOW TO USE THIS PLAN

At the heart of every successful pedestrian plan is a coordinated effort by City staff, law enforcement, and other partners to support safe travel on foot. Everyone has a key role to play in implementing this plan.

City of High Point staff and elected/ appointed officials should use this report to establish programs and policies that educate, encourage, and prioritize infrastructure investments proposed throughout the city.

City of High Point Staff

City staff can use this report to document travel behaviors, existing roadway design deficiencies, and specific improvement opportunities. Coordination with NCDOT will be key to implementing several recommendations. This plan provides documentation and recommendations to refer to in shaping NCDOT projects and activities.

NCDOT

NCDOT staff, specifically within Divisions 7, 8, and 9, can use this plan to get familiar with proposed priority projects. NCDOT will play an integral role in the design, construction, and maintenance of pedestrian facilities throughout the city. During the project scoping process, the city and MPO can communicate with NCDOT personnel to affect how STIP projects are formulated and designed.

High Point Police Department

High Point Police can use this plan to target enforcement efforts on identified areas with high crashes, and to complement potential education and encouragement campaigns. Police department input can also help improve the recommended programs aimed at addressing safety issues and promoting active travel. Education of High Point Police Department about bicycling and pedestrian laws is also needed.

Pedestrian Advisory Committee

The Pedestrian Advisory Committee can use this plan as a framework for coordinating the development of the policies and programs recommended for the city. They can also use the programs chapter and action step table to advocate for improvements in High Point. An active Pedestrian Advisory Committee will be instrumental in implementing the plan.

Local stakeholders

Local stakeholders can use this plan to understand and confirm the conditions in their neighborhoods and near their organizations (if applicable) as well as become familiar with the ways in which they can support program goals. In many cases, education and encouragement programs require these dedicated volunteers. Local stakeholders can also provide input on NCDOT processes and projects.

PLANNING LEVEL COST ESTIMATES

The planning level cost estimates are based on the average per-mile cost of built projects:

- Multi-Use Path/Sidepaths (10-12') $600,000/mile
- Sidewalk (5' minimum) $264,000/mile

Per unit cost estimate for additional elements included in select priority projects and priority investments are as follows:

- Rectangular Rapid Flashing Beacon $22,250/each
- Median Refuge Island $13,520/each
- High-visibility Crosswalk $2,540/each
- Curb Extensions $13,000/each
- Wayfinding Signage $250/each

The source for the above costs utilizes a combination of recently constructed bicycle and pedestrian projects in North Carolina and the 2013 report, 'Costs for Pedestrian and Bicyclist Infrastructure Improvements' by the UNC Highway Safety Research Center (HSRC), prepared for the Federal Highway Administration. Planning level cost estimates for priority projects include 15% mobility/contingency factor. Priority investments include 20% mobility/contingency due to their complexity.

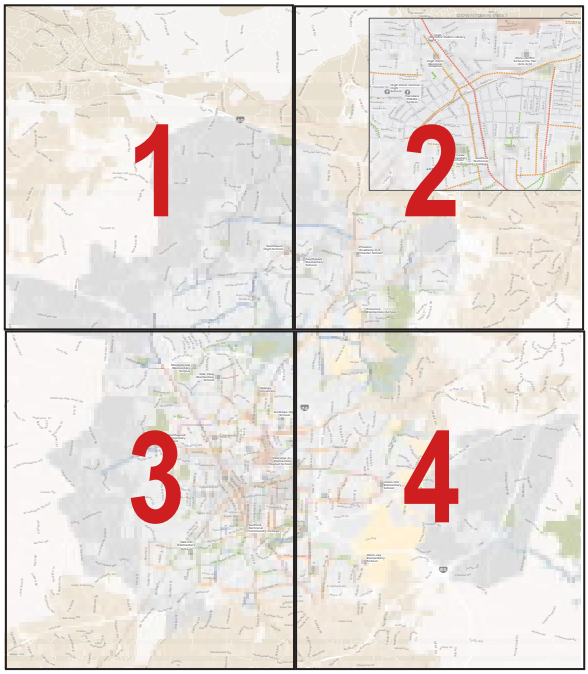
It is important to note that costs for bicycle and pedestrian infrastructure vary greatly from city to city and site to site. All cost estimates should be used only for estimating purposes and not necessarily for determining actual bid prices for a specific infrastructure project.

New sidewalk construction costs can vary based on several factors.

Further design is needed to develop detailed project costs.

City of High Point - Quadrants

The City of High Point is quite large, with a land area of approximately 95 square miles. For the purpose of this plan, the city was broken up into 4 quadrants in order to show the proposed priority network in more detail. Maps for each quadrant are shown on pages 6-9 through 6-12.



The maps on Pages 6-9 through 6-12 feature all project types (new sidewalk, enhanced corridors, and micro gaps) prioritized together

PRIORITIZATION METHODOLOGY

Previous Methodology

Prior to this plan, the City of High Point had developed a prioritization process to score and rank potential sidewalk projects. Five criteria were used:

- Number of **pedestrian generators** within 1/4 mile. Pedestrian generators include retail/ commercial businesses, bus routes, greenways, existing sidewalks, the train depot, the transit center, schools, parks, recreation centers, medical facilities, and libraries.
- Presence of a visible **worn path** along the shoulder of the road
- **Constructability** of the project. Factors include terrain, utility conflicts, and right-of-way constraints.
- **Posted speed limit**. Roadways with higher speed limits are generally more dangerous for pedestrians, thus pedestrian facilities are more imperative.
- **Pedestrian crash history** (awarded as bonus points). History of pedestrian crashes from the last 5 years is used to determine this criteria.

Table 6.1 on the following page lists the criteria and factors used to determine the scoring for each category. In chapter 2, a map of previously prioritized and Council approved projects can be found on page 2-13.

Table 6.1. Previous Prioritization Methodology

Criteria	Measurement	Points
Pedestrian generators within a 1/4 mile	0 generators	0
	1 generator	5
	2 generators	10
	3 generators	15
	4 generators	25
	5 or more generators	35
Worn Path	No	0
	Yes	30
Constructability	Complex	10
	Moderate	15
	Simple	20
Posted speed limit	20 mph	0
	25 mph	5
	30 mph	5
	35-40 mph	10
	Greater than or equal to 40 mph	15
Pedestrian crash history	No	0
	Yes	10 bonus

Worn foot path on Fairfield Road

Commercial establishments on Main Street

New Methodology

As part of the planning process, project consultants, City staff and steering committee members reviewed the prioritization methodology of several peer cities in North Carolina (Raleigh, Greenville, Wilmington, and Greensboro). A new prioritization methodology was adapted based on this peer city review in order to encompass factors that were not previously considered. This new prioritization process is still similar to the old methodology in that it considers demand, safety, and speed limit. Equity, presence of micro gaps, and transit access are three added criteria used to prioritize projects.

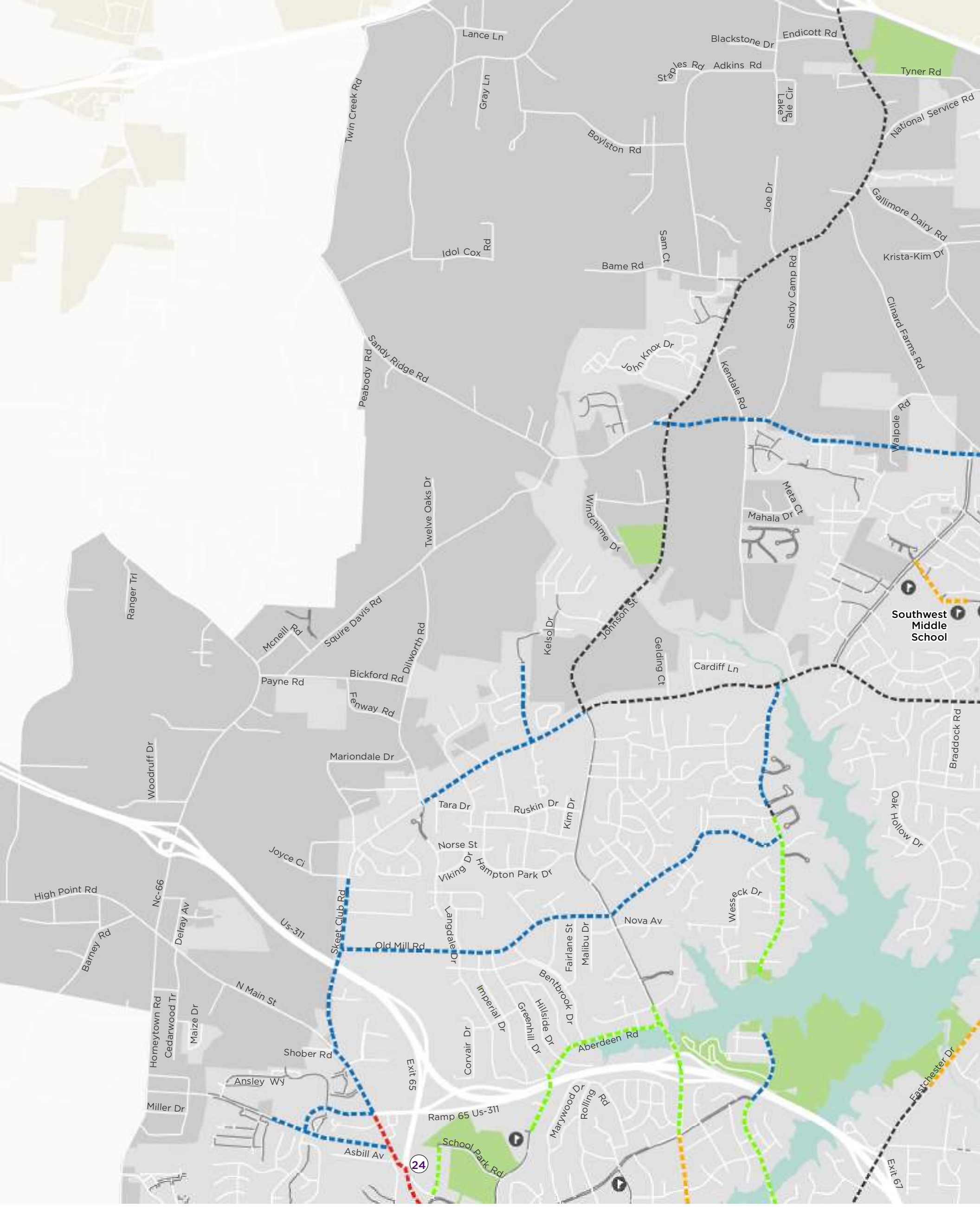
Lengthier recommended facilities were broken into segments according to logical points, such as major crossings or existing pedestrian facilities. Shorter segments that were close together were grouped into one project. Project prioritization was then carried out using Geographic Information Systems (GIS) software which allows for a large number of projects to be prioritized systematically and for this process to be easily replicated. Table 6.2 below describes the new prioritization criteria. See Appendix D for a complete list of projects.

Table 6.2. Project Prioritization Criteria

Criteria	Definition	Input	Rank	Measurement	Points
Demand	To what extent does this improve pedestrian access to areas where we expect to find high pedestrian demand?	Demand composite map measure showing geographies (census tracts) where pedestrian demand is high. Indicators used include schools, transit stops, population, employment, parks, greenways/trails, and key destinations.	High	Census tract scored in the top tier in the demand analysis	30
			Medium	Census tract scored in the middle tier in the demand analysis	15
			Low	Census tract scored in the low tier in the demand analysis	0
Safety	To what extent does the project provide an immediate safety improvement at a location with a recorded safety concern?	Collision analysis shows intersections and street corridors with highest crashes.	High	Multiple pedestrian crashes have occurred at the segment or at the intersection over the past five years for which there is data	30
			Medium	A pedestrian crash occurred at the segment or at the intersection in the past five years for which there is data	15
			Low	No crashes occurred	0
Equity	To what extent does the project benefit underserved communities?	Equity composite measure showing geographies (census tracts) where pedestrian improvements could benefit underserved populations (indicators include race, income, vehicle ownership, and limited English proficiency)	High	Census tract scored in the top tier in the Equity Analysis	20
			Medium	Census tract scored in the middle tier in the Equity Analysis	10
			Low	Census tract scored in the low tier in the Equity Analysis	0
Speed Limit	Is this project located along a high speed corridor?	Posted speed limit	High	Posted speed limit is greater than 35 mph	10
			Medium	Posted speed limit is between 25 to 35 mph	5
			Low	Posted speed limit is less than 25 mph	0
Micro Gap	Does the project fill an identified facility gap or connect to existing sidewalk on both ends of the project limit?	Use roadway data and existing sidewalk data to identify area gaps, facility quality gaps, and linear gaps. A gap is defined by a maximum length of 500 feet.	N/A	Segment connects to existing sidewalk on both ends of the project limits and is less than 500 feet	10
Transit Access	To what extent does this improve pedestrian access to the transit network?	Transit annual weekday ridership	N/A	Segment is located along a transit corridor that has an annual weekday ridership over 70,000 (identified in the High Point Short Range Transit Plan). Corridors include North Main Street, South Main Street, Montlieu Ave., Leonard Ave., and E Green Drive	20

HIGH POINT PEDESTRIAN PLAN

PROPOSED PEDESTRIAN NETWORK



0 0.5 1 MILES

Legend

- Hospital
- Library
- School
- Railroad

Proposed Facilities

- Tier 1: 87 - 105 points
- Tier 2: 69 - 86 points
- Tier 3: 50 - 68 points
- Tier 4: 30 - 49 points

Existing Facilities

- Sidewalk
- Greenway

Programmed Facilities

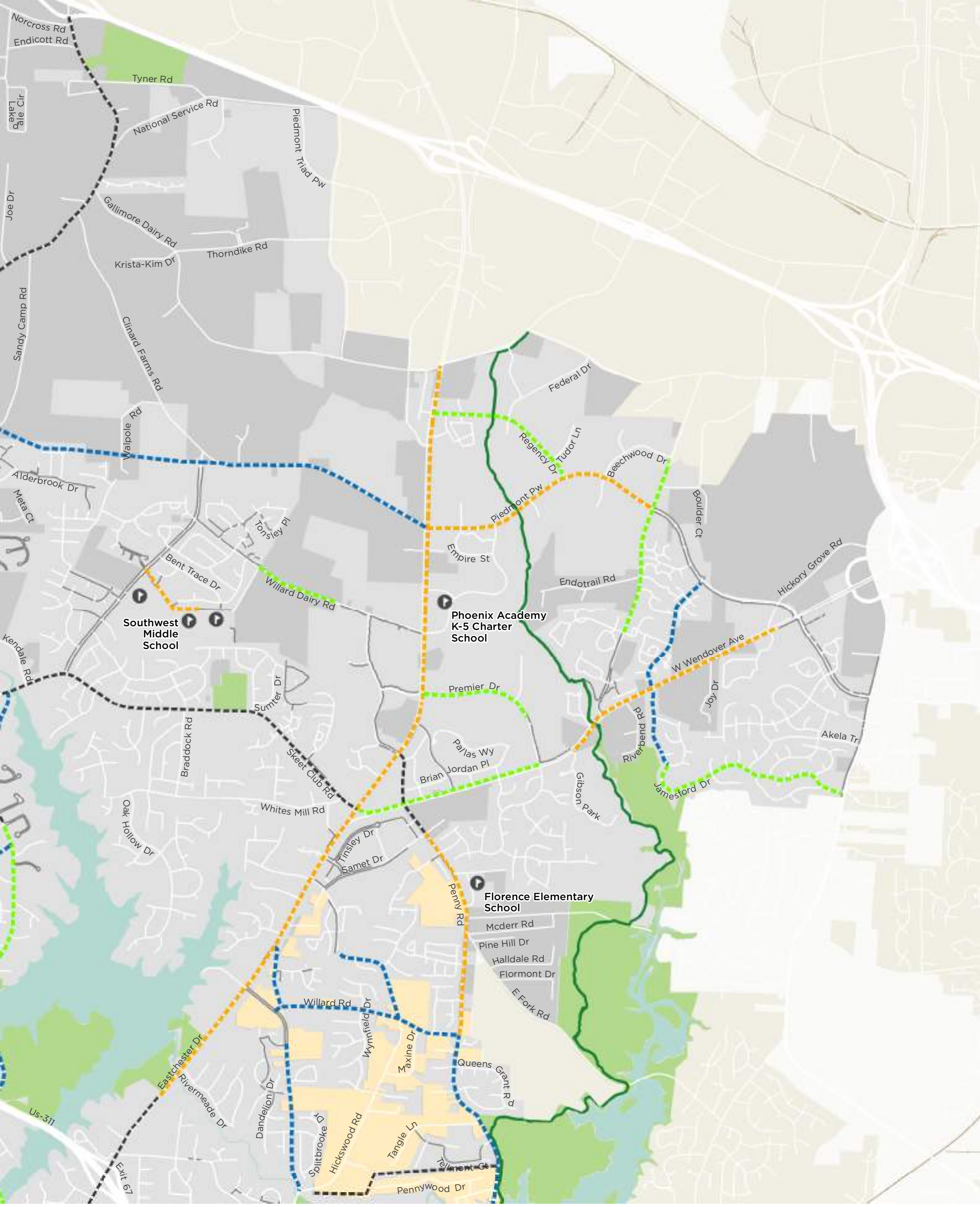
- Programmed Projects

- Recreation and Community Centers
- College; University
- Lakes

- High Point ETJ
- High Point City Limit
- HP Planning Boundary
- Neighboring Municipalities
- County

HIGH POINT PEDESTRIAN PLAN

PROPOSED PEDESTRIAN NETWORK



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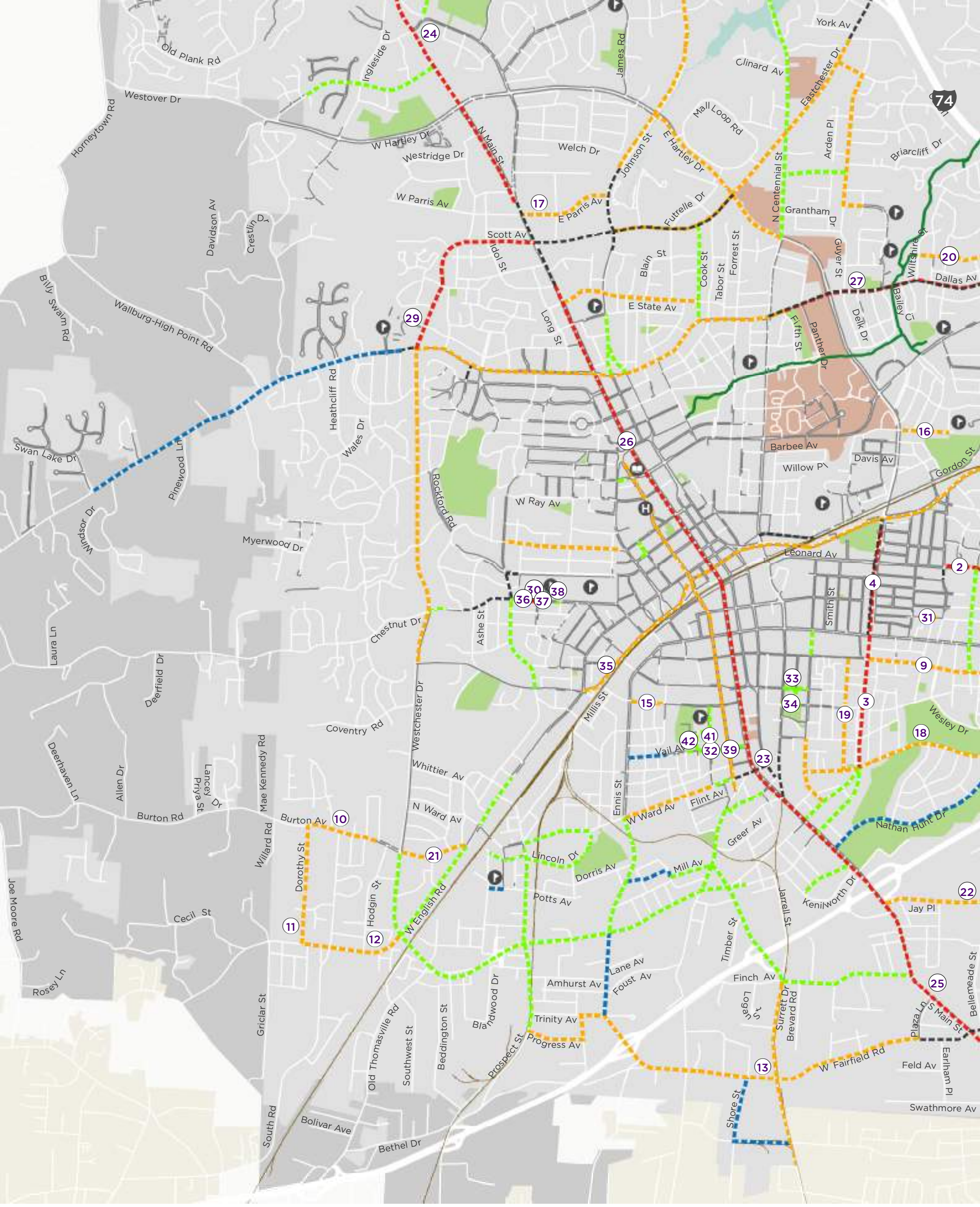
N

0 0.5 1 MILES

HIGH POINT PEDESTRIAN PLAN

PROPOSED PEDESTRIAN NETWORK



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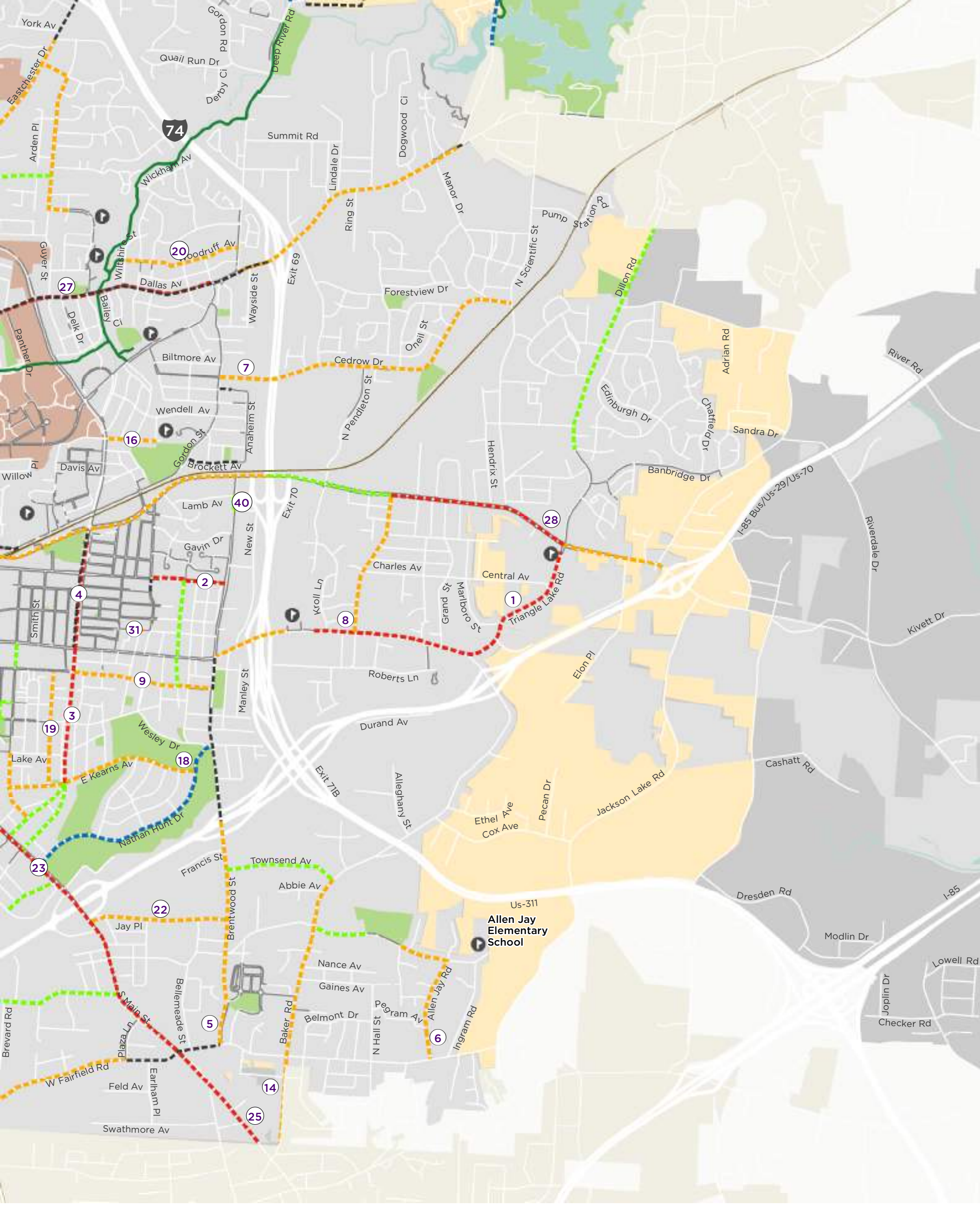

HIGH POINT PEDESTRIAN PLAN

PROPOSED PEDESTRIAN NETWORK

Legend

- Hospital
- Library
- School
- Railroad

Proposed Facilities

- Tier 1: 87 - 105 points
- Tier 2: 69 - 86 points
- Tier 3: 50 - 68 points
- Tier 4: 30 - 49 points

Existing Facilities

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- County

N

0 0.5 1 MILES

PRIORITIZED PROJECTS

Cost estimates for the top projects in each category are based on the estimates for each mile of new sidewalk listed on page 6-5. It does not include right-of-way acquisition, utility conflicts, and other potential costs. These cost estimates should be reevaluated by an engineer or project designer prior to implementation.

The following three tables list projects that had the highest score for each category (based on the prioritization process). The intention was to show the top 5-10 projects per category. However, when projects tied with the same score, all projects with that same score are listed in the table. Map IDs correspond to the four maps in the previous pages.

New Sidewalks

104 new sidewalk projects were identified and proposed to expand the pedestrian network. For these projects, sidewalks are proposed for both sides. Based on the prioritization process, the projects listed in Table 6.3 are the projects that scored the highest. These projects should be implemented first when funds become available.

Table 6.3. Top New Sidewalk Projects

Map ID	Roadway	From	To	Ward	Miles	Score	Cost Estimate
1	Triangle Lake Rd	189 feet south of MLK Jr Dr	332 feet west of Kroll Ln	2	1.53	105	$403,920 - $504,900
2	Leonard Av	Meredith St	Brentwood St	2	0.38	90	$100,320 - $125,400
3	University Parkway	Kearns Av	Green Dr	2, 3	0.68	90	$179,520 - $224,400
4	S University Parkway	S Downing St	E Green Dr	2	0.54	90	$142,560 - $178,200
5	Brentwood St	Business Loop 85	E Fairfield Rd	3	1.13	85	$298,320 - $372,900
6	Allen Jay Road/ E Springfield Rd	E Fairfield Rd	Ernest St	3	0.77	85	$203,280 - $254,100
7	Cedrow Dr	Gordon St	N Scientific St	1	1.66	85	$438,240 - $547,800
8	Hickory Chapel Rd	Triangle Lake Rd	MLK Jr Dr	2	0.72	85	$190,080 - $237,600
9	Russell Av	Brentwood St	S University Parkway	2	0.70	85	$184,800 - $231,000
10	Burton Av	Dorothy St	Wright St	3	0.37	85	$97,680 - $122,100
11	Dorothy St	W English Rd	Burton Av	3	0.61	85	$161,040 - $201,300
12	W English Rd	Dorothy St	Westchester Dr	3	0.54	85	$142,560 - $178,200
13	W Green Dr/ W Fairfield Rd	Trinity Av	Surrett Dr	3	1.01	85	$266,640 - $333,300
14	Baker Rd	Townsend Av	Archdale city limit	3	1.37	85	$361,680 - $452,100
15	Taylor Av	Green Dr	Grayson St	3	0.17	85	$44,880 - $56,100
16	Boundary Av	N College Dr	Henry Pl	1	0.24	85	$63,360 - $79,200
17	E Parris Av	N Main St	Johnson St	4	0.46	85	$121,440 - $151,800
18	E Kearns Av	S University Parkway	Nathan Hunt Dr	3	0.68	85	$179,520 - $224,400
19	Asheboro St	Kearns Av	Russell Av	2	0.57	85	$150,480 - $188,100
20	Woodruff Av	Wiltshire St	Deep River Rd	1	0.59	85	$155,760 - $194,700
21	Burton Av	Westchester Dr	English Rd	3	0.35	85	$92,400 - $115,500
22	Model Farm Rd	Brentwood St	S Main St	3	0.69	85	$182,160 - $227,700

Triangle Lake Road Sidewalks

The segment starts from an existing sidewalk 332 feet west of Kroll Lane and ends at an existing sidewalk segment 189 feet south of MLK Jr Drive. There is a sidewalk on one side of Triangle Lake Road from E MLK Jr Drive to Central Avenue, which is the side adjacent to Union Hill Elementary School. From Sales Street to Williams Memorial CME Church, there is one 12' travel lane in each direction. The remainder of the existing roadway consists of two 12' travel lanes in each direction.

PROJECT AT A GLANCE

- Project type: 5'-wide sidewalk
- Length: 8,078 ft (1.53 miles)
- Highest scoring new sidewalk project from prioritization process
- Trip Generators: Union Hill Elementary School, neighborhoods connections from Triangle Lake Road, Williams Memorial CME Church, Homelegance, High Point Furniture Sales, daycare center, Triangle Grocery

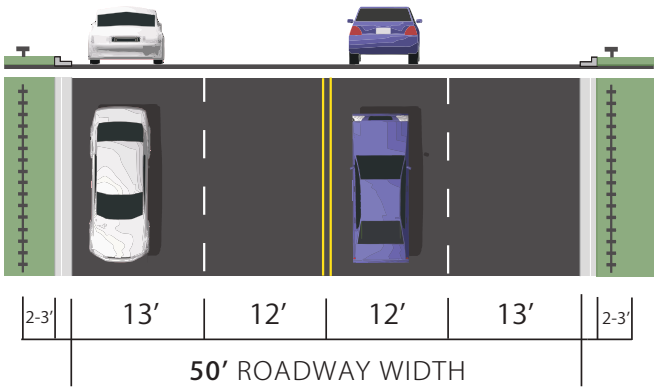
COST ESTIMATE

- Estimated $404,000 - $505,200 construction cost
- Estimated $600,000 - $700,000 total cost, assuming NCDOT or federal funding (including construction, 20% contingency, utilities, preliminary engineering and environmental, NCDOT engineering and construction, and construction administration)

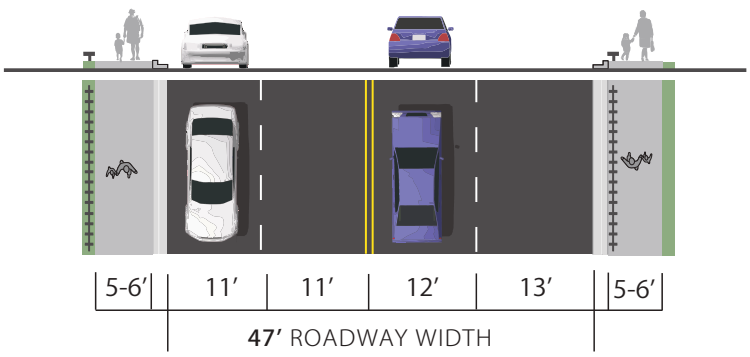
POTENTIAL FUNDING MECHANISMS

- NCDOT/STI funding: Regional & Division levels
- FAST Act Surface Transportation Block Grant program and Transportation Alternatives program
- Metropolitan Transportation Improvement Program
- Congestion Mitigation and Air Quality Program (CMAQ)

EXISTING



PROPOSED



Triangle Lake Road is one of the corridor segments listed on page 5-25 that could potentially be improved with reconfiguration to a 3-lane road diet.

Triangle Lake Road and Kroll Lane

Triangle Lake Road and Kroll Lane - Proposed Improvements

1. A sidewalk that is at least five feet wide is recommended for both sides of this corridor.
2. ADA compliant curb ramps should be installed at all locations where the sidewalk meets an intersection.
3. Because of the existing gully on one side of the road, the curb line was moved in order to avoid utility coordination. Space from the existing travel lanes was reallocated to the proposed sidewalk.
4. It is recommended to install the sidewalk behind the existing guard rail on the east side of Triangle Lake Road. Drainage improvements will need to be evaluated, as well as the potential for a retaining wall.

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Skeet Club Rd and Eastchester Dr Intersection

PROJECT AT A GLANCE

The intersection of Skeet Club Road and Eastchester Dr currently does not have any accessible pedestrian accommodations. These two key north High Point corridors connect the following destinations:

- Palladium Shopping Area
- Oak Hollow Square
- Food Lion Shopping Center
- Deep River Pointe and Alexandria Park Apartments

PROJECT DETAILS

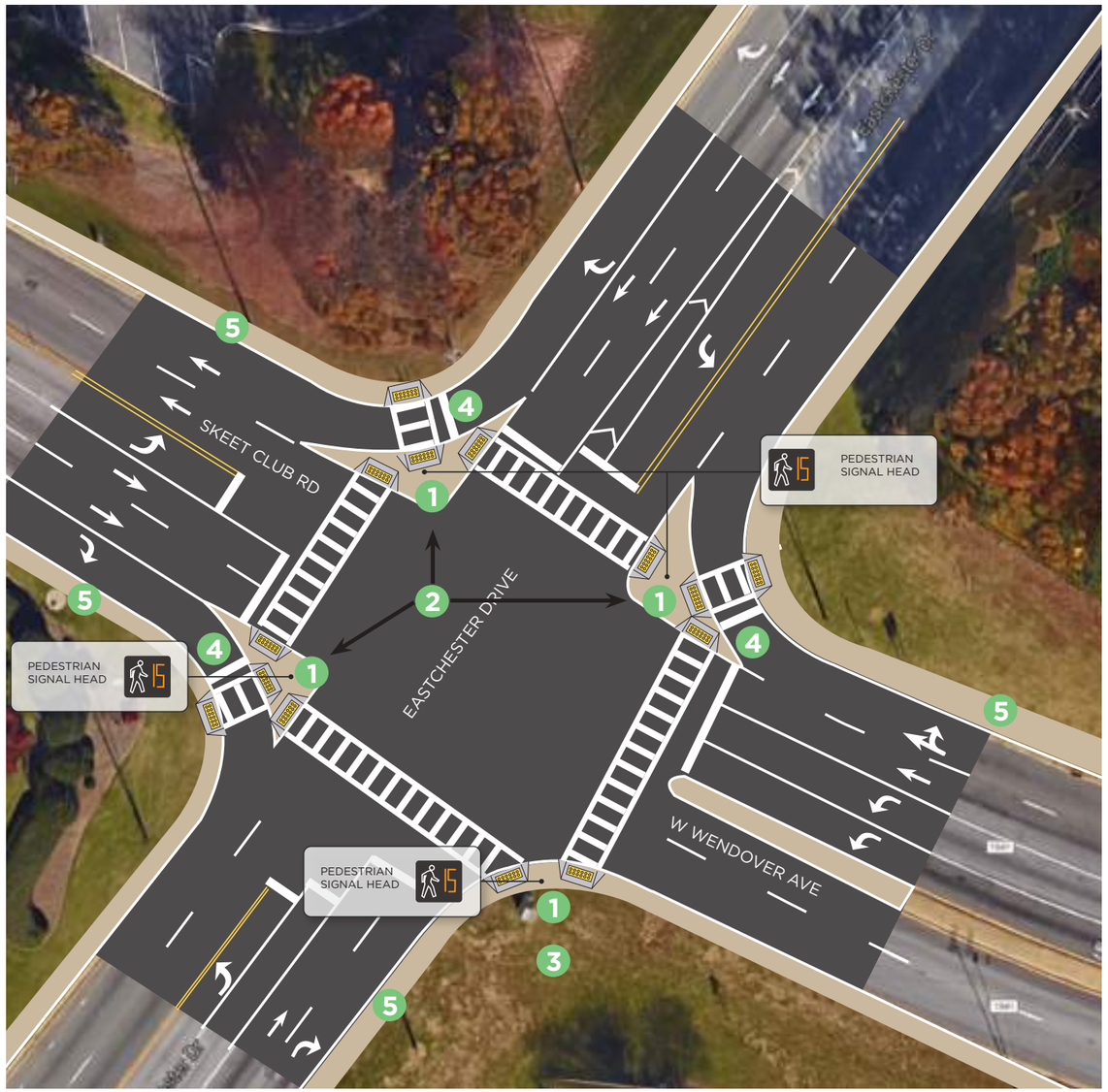
The intersection is maintained by NCDOT, meaning any implementation will require coordination and approval. The City has a funded sidewalk project on Skeet Club Road and the proposed intersection improvements should be incorporated into the future sidewalk project to be efficient with resources.

DESIGN CONSIDERATIONS

1. Pedestrian countdown signals and wheelchair ramps connecting to sidewalk at each end of the high-visibility crosswalks should be installed at each corner of the intersection
2. Potential for median refuge islands, along three corners, depending on space and truck turning movements.
3. A pedestrian refuge island is not recommended at the southeast corner because of the Right-of-Way acquisition costs that would be required and the turning movement conflicts the radius of the intersection would require. Furthermore, signal pole relocation would be required.
4. The right turn movement speed should be controlled in order to yield to pedestrian traffic. A turning movement template would need to be applied in order to ensure adequate movements while also reducing speed and increasing pedestrian visibility.
5. The sidewalk shown here is just an example of the proposed sidewalk. The utility poles along both corridors may limit the ability for a planting strip between the curb and sidewalk. All efforts should be made to implement a buffer during sidewalk design. A six (6) foot sidewalk width is recommend along both major arterials. A ten (10) foot path could be considered along Eastchester Drive.

PROPOSED INTERSECTION IMPROVEMENTS

This is not a design plan; precise locations and elements should be designed in accordance with engineering standards.



Enhanced Corridors

Twenty-one enhanced corridor projects were identified through the planning process, and Table 6.4 highlights the projects that scored the highest. A project cutsheet was developed for a segment of Main Street (see pages 6-15 and 6-16). Enhanced corridors may include different elements depending on specific pedestrian needs, and this project cutsheet illustrates design possibilities for an enhanced corridor in High Point. There are several factors that influence the cost of implementing a corridor streetscape project that could not be predicted with certainty in this planning document.

Table 6.4 Top Enhanced Corridor Projects

Map ID	Roadway	From	To	Category	Ward	Miles	Score
23	Main St	E High Av	Business Loop 85	Enhanced Corridor - Sidewalks Present	3	1.83	105
24	N Main St	Old Plank Rd	374 feet north of W Parris Av and N Main St	Enhanced Corridor - No Sidewalk Present	4, 5	1.61	105
25	Main St	Business Loop 85	High Point City Limit	Enhanced Corridor - No Sidewalk Present	3	1.51	105
26	Main St	Idol St	E High Av	Enhanced Corridor - Sidewalks Present	2, 3	1.76	105
27	E Lexington Av	Fifth St	Montlieu Av	Enhanced Corridor - No Sidewalks Present	1	1.15	90
28	Martin Luther King Jr Dr	Hickory Chapel Rd	Triangle Lake Rd	Enhanced Corridor - Sidewalks Present	2	0.92	90
29	Westchester Dr	W Lexington Av	N Main St	Enhanced Corridor - No Sidewalks Present	4	1.00	90

Micro Gaps

Sixteen micro gap projects that connect to existing pieces of sidewalk infrastructure were identified through the planning process. Based on the prioritization process, the projects listed in Projects in Table 6.5 are the projects that scored the highest.

Table 6.5 Top Micro Gap Projects

Map ID	Roadway	From	To	Ward	Miles	Score	Cost Estimate
30	Chestnut Dr	Existing sidewalk on Chestnut Dr	Carr St	3	0.03	95	$7,920 - $9,900
31	Franklin Av	120 feet west of Caudell Pl	73 feet east of Hines St	2	0.08	80	$21,120 - $26,400
32	Two micro gap segments on Vail Av	Fairview St	Hilltop St	3	0.12	65	$31,680 - $39,600
33	E Grimes Av	Centennial St	Park St	2	0.21	65	$55,440 - $69,300
34	Micro gaps on Centennial St, Tate St, Wise Av	Existing sidewalk on Wise Av	E Grimes Av	2	0.18	65	$47,520 - $59,400
35	Micro gap on Briggs Pl	Existing sidewalk between Markley St and W MLK Jr Dr	Existing sidewalk between Markley St and W MLK Jr Dr	3	0.04	65	$10,560 - $13,200
36	Chestnut Dr	N Rotary Dr	Existing sidewalk on Chestnut Dr	3	0.05	65	$13,200 - $16,500
37	Chestnut Dr	440 feet west of Dale Pl	124 feet east of Carr St	3	0.01	65	$2,640 - $3,300
38	Chestnut Dr	111 feet west of Dale Pl	Dale Pl	3	0.02	65	$5,280 - $6,600
39	Vail Av	Existing sidewalk on Vail Av	S Elm St	3	0.05	65	$13,200 - $16,500
40	Brentwood Av	Lamb Av	Hayes Av	2	0.07	65	$18,480 - $23,100
41	Micro gap on Fairview St	Existing sidewalk on Fairview near Vail Av	Existing sidewalk on Fairview near Loflin Av	3	0.01	65	$2,640 - $3,300
42	Micro gap on Vail Av	Existing sidewalk on Vail Av	Mobile St	3	0.03	65	$7,920 - $9,900

Enhanced Corridor Priorities

Major corridors in High Point were analyzed and ranked in the order of their need for enhancement. Some are in need of sidewalks; corridors with sidewalks could be reconfigured with the addition of landscaping, lighting, public transit amenities, and wayfinding signage.

RECOMMENDED IMPROVEMENTS

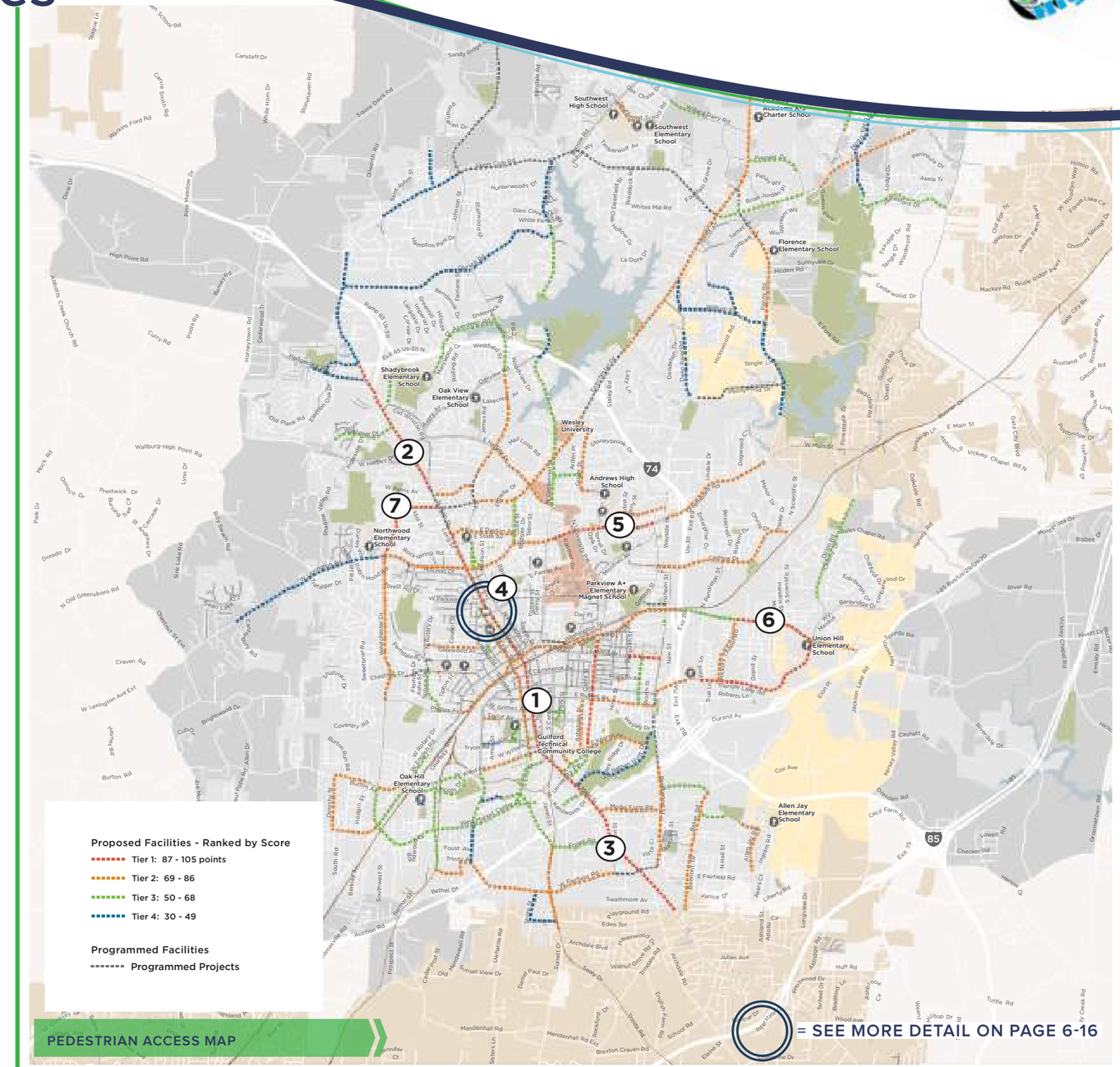
+ Lighting =Lighting will make pedestrians safer and more comfortable walking at night

+ Bus Shelter =A pedestrian corridor with access to public transit will increase walking in High Point

+ Wayfinding =Maps and directional signage will make people more sure and comfortable navigating High Point by foot

#	ROADWAY	FROM	TO	CATEGORY	SCORE
1	Main St	Business Loop 85	E High Av	Enhanced Corridor - Sidewalks Present	105
2	N Main St	374 feet north of W Parris Av and N Main St	Old Plank Rd	Enhanced Corridor - No Sidewalk Present	105
3	Main St	High Point City Limit	Business Loop 85	Enhanced Corridor - No Sidewalk Present	105
4	Main St*	E High Av	Idol St	Enhanced Corridor - Sidewalks Present	105
5	E Lexington Av	Montlieu Av	Fifth St	Enhanced Corridor - No Sidewalks Present	90
6	Martin Luther King Jr Dr	Triangle Lake Rd	Hickory Chapel Rd	Enhanced Corridor - Sidewalks Present	90
7	Westchester Dr	N Main St	W Lexington Av	Enhanced Corridor - No Sidewalks Present	90

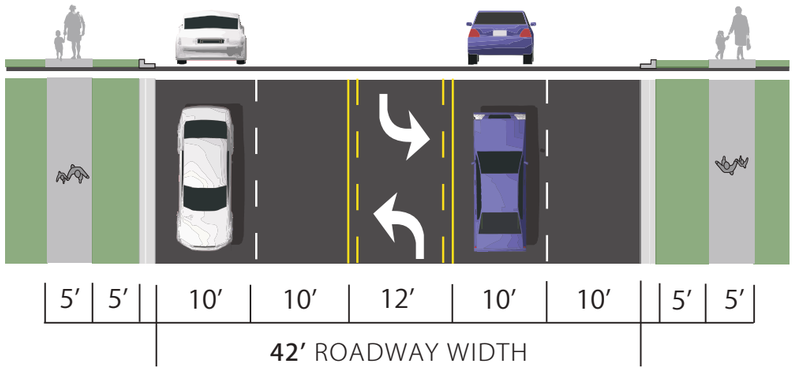
** The following page shows a photosimulation of proposed improvements to this corridor*



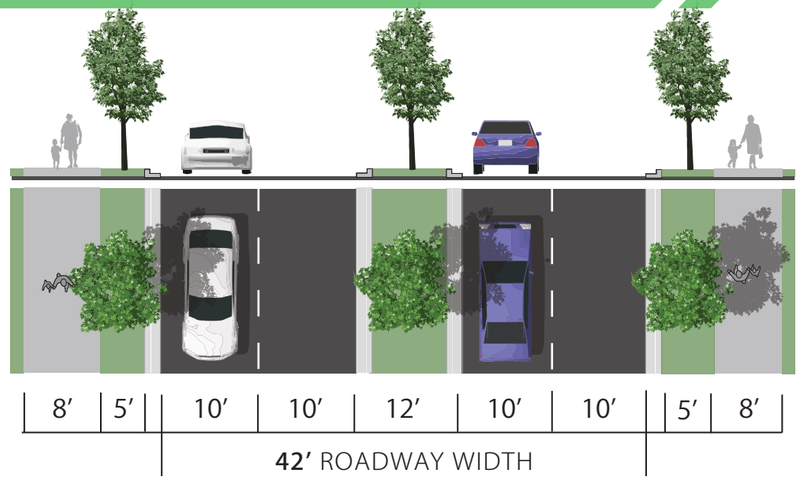
Main Street - From E High Ave to Idol St

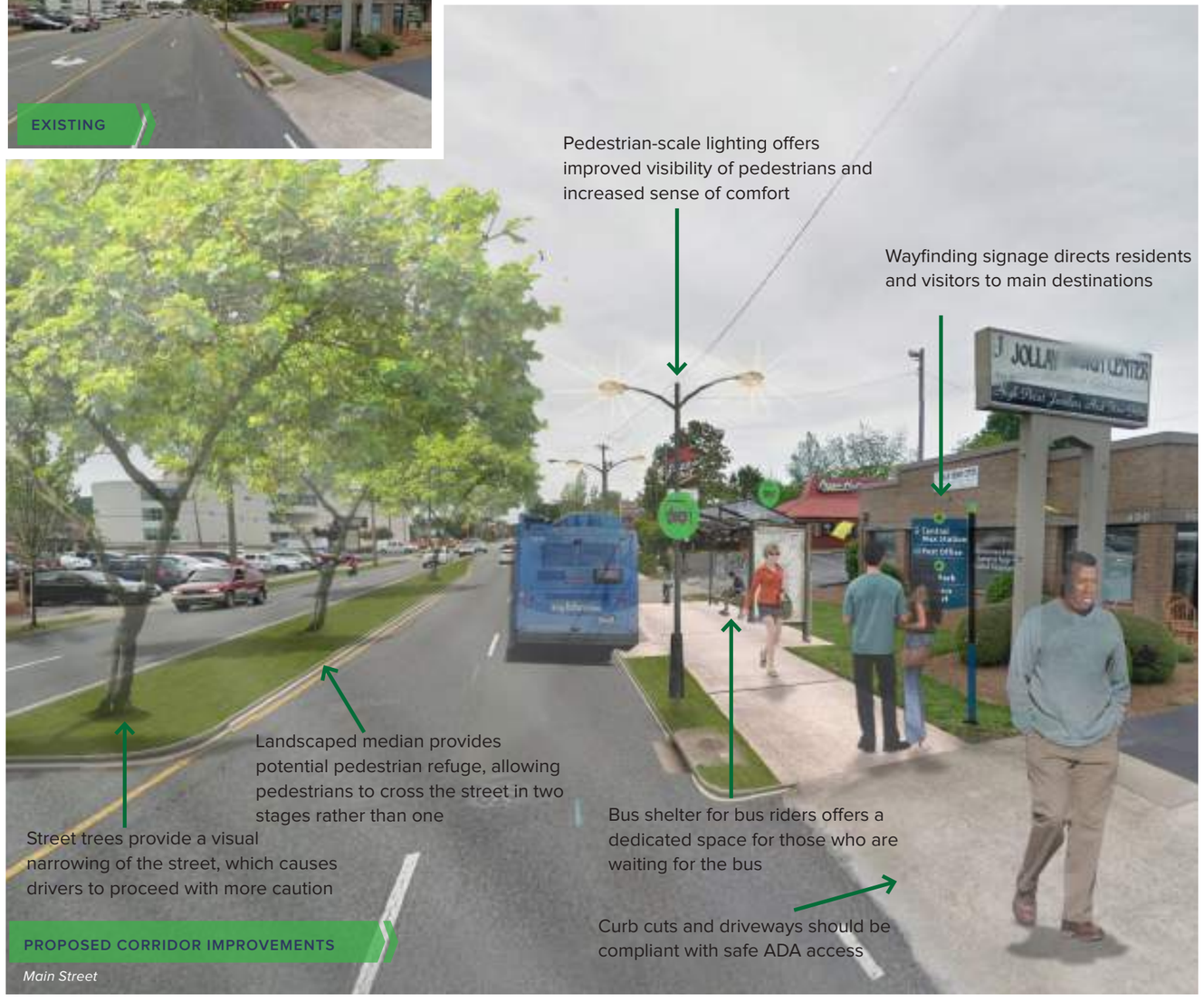
Main Street near the library is wide with a narrow small sidewalk creating an environment that prioritizes the car over the pedestrian. Widening the sidewalk, adding pedestrian lighting, landscaping and wayfinding signage would aid in allowing pedestrians to feel safer and more comfortable, and would increase the amount of people walking.

EXISTING N. MAIN STREET



PROPOSED N. MAIN STREET





Main Street

PERFORMANCE MEASURES

The performance measures in the plan are important for assessing whether the plan is meeting its goals over time. Data on these measures should be collected on a routine basis to help track progress. This information will allow for adjustments to help ensure that plan goals are achieved.

The plan performance measures are based on the goals of the plan (see Page 1-4 in Chapter 1). The performance measures are generally outcome-based, and the intent is to prioritize investments that do the best job of achieving desired plan outcomes. The performance measures were selected based on the High Point MPO's ability to collect relevant data. Data and performance measures outlined in the following tables represent the way the High Point MPO will track achievement of plan goals over time.

*Table 6.6. Pedestrian Plan Performance Measure Targets**

Goal	Performance Measure	Baseline Measurement	Performance Target
Connectivity	Percentage of planned pedestrian facility network completed	2016 percentage (calculate percentage based on final network map)	100 percent of pedestrian system constructed by 2030
Safety	Pedestrian collision rate	2013 rate	Reduce pedestrian collision rate by half between 2016 and 2030
	Number of fatalities and serious injuries	2013 number	Zero fatalities by 2030
Transit Access	Percentage of pedestrian facility network completed within 1/4 mile of all High Point Transit System (HPTS) stops	2016 percentage	100 percent of pedestrian system within 1/4 mile of bus stops constructed by 2025
Health and well-being	Percentage of overweight and obese children and adults	2016 percentage (according to Guilford County Health Department)	Reduce childhood obesity by 2% by 2020 and reduce adult obesity by 2% by 2020

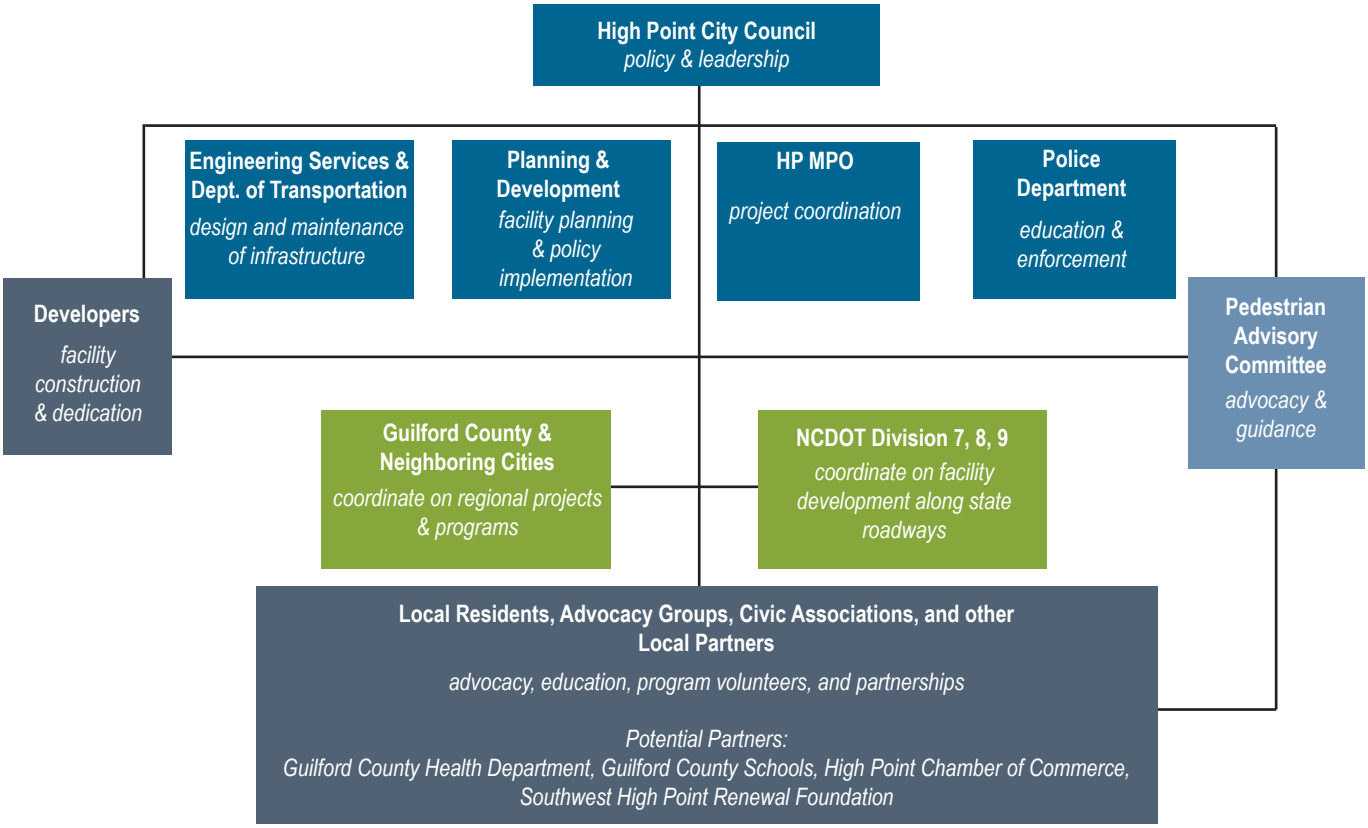
Table 6.7 Pedestrian Plan Performance Measure Trends

Goal	Performance Measure	Baseline Measurement	Desired Trend
Connectivity	Key travel sheds completed (within a quarter-mile of transit stops and quarter-mile of schools)	2016 percentage of key travel sheds completed	Increase
Safety	Per capita pedestrian collision rate	2013 rate	Decrease
Transit Access	HPTS ridership	2016 ridership numbers	Increase (relative to population)
Health and well-being	Self-reported physical activity	2015 State of Guilford County's Health Report	Increase

** Policy improvements are needed in order to achieve the plan's goals. Refer to Chapter 3 for guidance on improving city policies*

ORGANIZATIONAL FRAMEWORK FOR IMPLEMENTATION

The key players and steps involved in implementation are summarized in this organizational framework, and described in more detail within the action step tables in chapters 3, 4, 5, and 6.



IMPLEMENTATION ACTION STEPS				
TASK	**LEAD**	**SUPPORT**	**DETAILS**	**PHASE**
Communicate the goals of this plan and its top priority projects to other local and regional groups.	City Manager, PAC	Dept. of Transportation, High Point MPO	The purpose of this step is to network with potential project partners, and to build support for implementing the top projects. Possible groups to receive a presentation: High Point MPO, Guilford County Health Department, Guilford County School Health Advisory Council (SHAC), Southwest Renewal Foundation, High Point Chamber of Commerce, NCDOT Planning Branch, etc.	Short-term/Ongoing (Beginning 2017)
Designate an advisory committee for the implementation of this plan.	City Council	City Manager, Project Steering Committee	Using the steering committee formed to oversee the development of this plan, a standing Pedestrian Advisory Committee should be formed to focus on implementation of this plan. For the purpose of these action steps, this group will be referred to as "PAC" below.	Short-term (2017)
Begin annual meeting with key project partners.	City Manager, PAC	NCDOT, and local & regional stakeholders	Key project partners (see org. chart on page 6-18) should meet on an annual basis to evaluate the implementation of this Plan. Meetings could also include on-site tours of priority project corridors.	Short-term/Ongoing (Beginning Fall 2017)
Monitor NCDOT bridge replacement projects, resurfacing program, and STIP allocations.	Dept. of Transportation	High Point MPO, Engineering Services, NCDOT Divisions 7, 8, 9	Provisions should always be made to include a walking and bicycling facility as a part of vehicular bridges. All new or replacement bridges should accommodate two-way travel for all users. Even though bridge construction and replacement does not occur regularly, it is important to consider these policies for long-term pedestrian planning. NCDOT bridge policy states that sidewalks shall be included on new NCDOT road bridges with curb and gutter approach roadways. A determination of providing sidewalks on one or both sides is made during the planning process. The City may need to request sidewalks in writing (according to Bridge Policy). Facility design standards such as widths of facilities and heights of handrails are presented in Appendix A: Design Guidelines. City of High Point needs to stay on top of quarterly NCDOT Division resurfacing schedules and should initiate quarterly check-ins with Division Operations & Maintenance personnel. City should also identify any opportunities for pavement markings and other features to be included.	Short-term/Ongoing (Fall 2017)
Monitor NCDOT resurfacing schedule	Dept. of Transportation	NCDOT Dvisions 7, 8, 9, Project Steering Committee	Every quarter, members of the Steering Committee should review the three-year resurfacing/ restriping schedule from Divisions 7, 8, 9 to ensure there are no missed opportunities for project improvements to be made	Ongoing (Beginning Fall 2017)

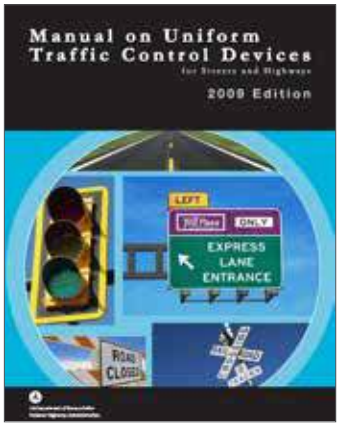
IMPLEMENTATION ACTION STEPS (CONTINUED)				
TASK	LEAD	SUPPORT	DETAILS	PHASE
Conduct a project review meeting to identify opportunities for Pedestrian Plan to be implemented.	Dept. of Transportation	City Manager and all Departments, High Point MPO	Review all existing High Point plans and priorities to identify overlap and shared goals. Look for opportunities to combine resources, leverage funding, and facilitate a more efficient project development process.	Short-term/Ongoing (Spring 2018)
Implement high priority projects within each category (micro gap, sidewalk, and enhanced corridor).	Dept. of Transportation, Engineering Services	City Manager, NCDOT Divisions (7, 8, and 9)	By quickly moving forward on priority projects, High Point will demonstrate its commitment to carrying out this plan and will better sustain the enthusiasm generated during the public outreach stages of the planning process. Refer to Chapter 5: Network Recommendations for priority project ranking and the prioritization methodology.	Mid-term/Ongoing (2018 onward)
Develop funding strategy for Main Street Enhanced Corridor Project.	Dept. of Transportation	High Point MPO, NCDOT Division 7, 8 and 9	By facilitating group discussions and leveraging resources, work towards identifying funding sources for the design of the top priority Enhanced Corridor project on Main Street.	Mid-term (Spring 2018)
Implement a Wayfinding Program.	Dept. of Transportation	Engineering Services, High Point MPO	A relatively low-cost, mid-term action that the City of High Point can pursue immediately is to develop and adopt a wayfinding signage style, policy, and procedure, to be applied throughout the entire community, to make it easier for people to find destinations. Posting signage that includes walk travel times to major destinations can help to increase awareness of the ease and efficiency of pedestrian travel. See Appendix A: Design Guidelines for more detailed guidance on signage and wayfinding improvements.	Mid-term (2018 onward)
Monitor plan performance measures.	Dept. of Transportation	City Council, City Manager	The performance measures outlined on page 6-17 should be stated in an official report within two years after the plan is adopted. Review implementation progress annually.	Mid-term (2018-2019)
Secure Priority Greenway Trail Easements .	Parks & Recreation	City Manager, Dept. of Transportation	Explore opportunities to revise existing easements to accommodate public access greenway trail facilities. Similarly, as new easements are acquired in the future, the possibility of public access should be considered. Sewer easements are very commonly used for this purpose, offering cleared and graded corridors that easily accommodate trails. This approach avoids the difficulties associated with acquiring land, and it better utilizes the City's resources.	Mid-term (2018 onward)
Update Plan.	City Council & Pedestrian Advisory Committee	Dept. of Transportation	This plan should be updated by 2021 (about five years from adoption). If many projects and programs have been completed by then, a new set of priorities should be established. If not, a new implementation strategy should be established.	Long-Term (2021)

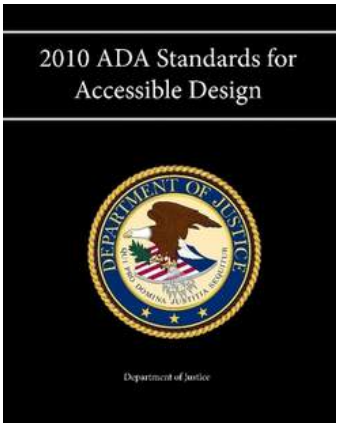
Pedestrians cross the road in north High Point

A Design Guidelines

OVERVIEW

The sections that follow serve as an inventory of pedestrian and bicycle design treatments and provide guidelines for their development. These treatments and design guidelines are important because they represent the tools for creating a walk- and bicycle-friendly, safe, and accessible community. The guidelines are not, however, a substitute for a more thorough evaluation by a landscape architect or engineer upon implementation of facility improvements. Some improvements may also require cooperation with the NCDOT for specific design solutions. The following standards and guidelines are referred to in this guide.





- The Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) is the primary source for guidance on lane striping requirements, signal warrants, and recommended signage and pavement markings.
- Meeting the requirements of the Americans with Disabilities Act (ADA) is an important part of any bicycle and pedestrian facility project. The United States Access Board's proposed Public Rights-of-Way Accessibility Guidelines (PROWAG) and the 2010 ADA Standards for Accessible Design (2010 Standards) contain standards and guidance for the construction of accessible facilities.
- The North Carolina Department of Transportation Complete Streets Planning and Design Guidelines, released in 2012, provides NCDOT and municipality staff with a guide to planning and designing streets that meet the needs of all users, including pedestrians, bicyclists, and motor vehicles. The guidelines include detailed information on the processes, street types, and recommendations for creating complete streets in North Carolina.

Should these standards be revised in the future and result in discrepancies with this appendix, the standards should prevail for all design decisions. A qualified engineer or landscape architect should be consulted for the most up to date and accurate cost estimates.

PEDESTRIAN FACILITIES

DESIGN NEEDS OF PEDESTRIANS

Types of Pedestrians

Pedestrians have a variety of characteristics and the transportation network should accommodate a variety of needs, abilities, and possible impairments. Age is one major factor that affects pedestrians' physical characteristics, walking speed, and environmental perception. Children have low eye height and walk at slower speeds than adults. They also perceive the environment differently at various stages of their cognitive development. Older adults walk more slowly and may require assistive devices for walking stability, sight, and hearing. Table A-1 to the right summarizes common pedestrian characteristics for various age groups.

The MUTCD recommends a normal walking speed of three and a half feet per second when calculating the pedestrian clearance interval at traffic signals. The walking speed can drop to three feet per second for areas with older populations and persons with mobility impairments. While the type and degree of mobility impairment varies greatly across the population, the transportation system should accommodate these users to the greatest reasonable extent.

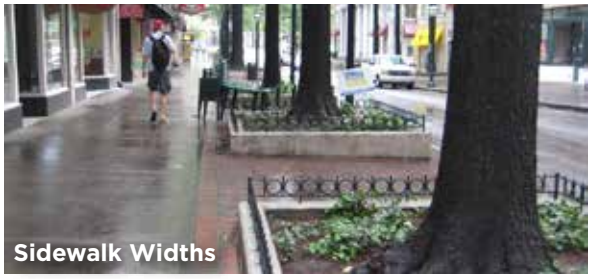
Table A-1: Pedestrian Characteristics by Age

Age	Characteristics
0-4	Learning to walk Requires constant adult supervision Developing peripheral vision and depth perception
5-8	Increasing independence, but still requires supervision Poor depth perception
9-13	Susceptible to "dart out" intersection dash Poor judgment Sense of invulnerability
14-18	Improved awareness of traffic environment Poor judgment
19-40	Active, fully aware of traffic environment
41-65	Slowing of reflexes
65+	Difficulty crossing street Vision loss Difficulty hearing vehicles approaching from behind Could become disoriented or have limited cognitive abilities

PEDESTRIAN FACILITIES

Sidewalks

Sidewalks are the most fundamental element of the walking network, as they provide an area for pedestrian travel that is separated from vehicle traffic. Sidewalks are typically constructed out of concrete and are separated from the roadway by a curb or gutter and sometimes a landscaped planting strip area. Sidewalks are a common application in both urban and suburban environments.



Sidewalk Widths

Attributes of well-designed sidewalks include the following:

- **Accessibility:** A network of sidewalks should be accessible to all users.
- **Adequate width:** Two people should be able to walk side-by-side and pass a third comfortably. Different walking speeds should be possible. In areas of intense pedestrian use, sidewalks should accommodate a high volume of walkers.
- **Safety:** Design features of the sidewalk should allow pedestrians to have a sense of security and predictability. Sidewalk users should not feel they are at risk due to the presence of adjacent traffic.
- **Continuity:** Walking routes should be obvious and should not require pedestrians to travel out of their way unnecessarily.
- **Landscaping:** Plantings and street trees should contribute to the overall psychological and visual comfort of sidewalk users, and be designed in a manner that contributes to the safety of people.
- **Drainage:** Sidewalks should be well graded to minimize standing water.
- **Social space:** There should be places for standing, visiting, and sitting. The sidewalk area should be a place where adults and children can safely participate in public life.
- **Quality of place:** Sidewalks should contribute to the character of neighborhoods and business districts.

Sidewalk Obstructions and Driveway Ramps

Pedestrian Amenities

Pedestrian-Scale Lighting

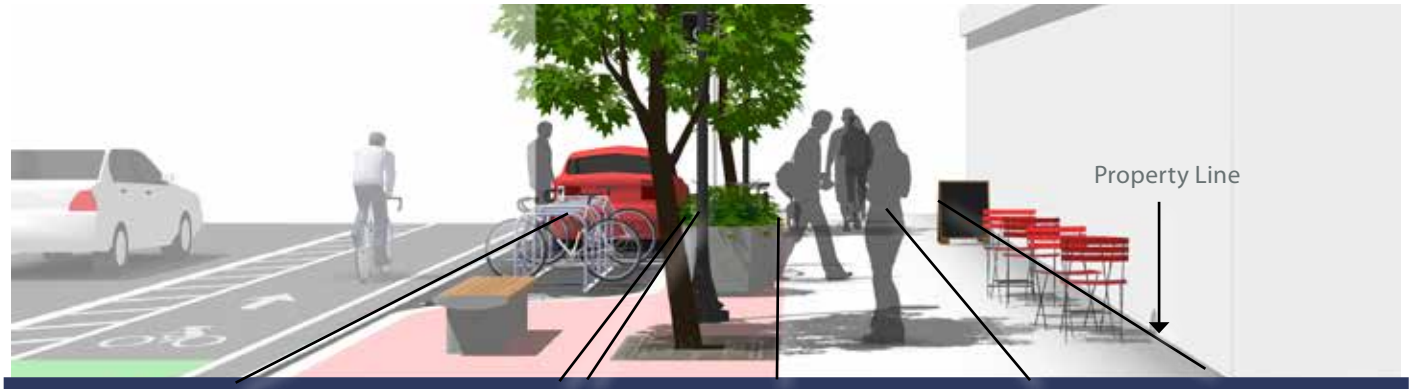
SIDEWALK WIDTHS

Description

The width and design of sidewalks will vary depending on street context, functional classification, and pedestrian demand. Below are preferred widths of each sidewalk zone according to general street type. Standardizing sidewalk guidelines for different areas of the city, dependent on the above listed factors, ensures a minimum level of quality for all sidewalks.

Guidance

It is important to provide adequate width along a sidewalk corridor. Two people should be able to walk side-by-side and pass a third comfortably. In areas of high demand, sidewalks should contain adequate width to accommodate the high volumes and different walking speeds of pedestrians. The Americans with Disabilities Act requires a 4 foot clear width in the pedestrian zone plus 5 foot passing areas every 200 feet.



Street Classification	Parking Lane/ Enhancement Zone	Furnishing/ Green Zone	Pedestrian Through Zone	Frontage Zone	Total Sidewalk Area
Local Streets	7 feet	4 - 8 feet	5 - 6 feet	N/A	9 - 12 feet
Commercial Areas	8 - 10 feet	6 - 8 feet	10 - 18 feet	2 - 8 feet	18- 34 feet
Arterials and Collectors	8 - 10 feet	6 - 8 feet	6 - 12 feet	2 - 4 feet	14 -24 feet

Areas that have significant accumulations of snow during the winter may prefer a wider furnishing zone for snow storage.

Six feet enables two pedestrians (including wheelchair users) to walk side-by-side, or to pass each other comfortably

Total sidewalk area excludes parking dimensions

Recommended dimensions shown here are based on the NCDOT Complete Streets Planning and Design Guidelines. Exact dimensions should be selected in response to local context and expected/desired pedestrian volumes.

MATERIALS AND MAINTENANCE

Sidewalks are typically constructed out of concrete and are separated from the roadway by a curb or gutter and sometimes a landscaped boulevard. Surfaces must be firm, stable, and slip resistant.

ADDITIONAL REFERENCES

USDOJ. (2010). ADA Standards for Accessible Design.
United States Access Board. (2007). Public Rights-of-Way Accessibility Guidelines (PROWAG).
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

SIDEWALK OBSTRUCTIONS AND DRIVEWAY RAMPS

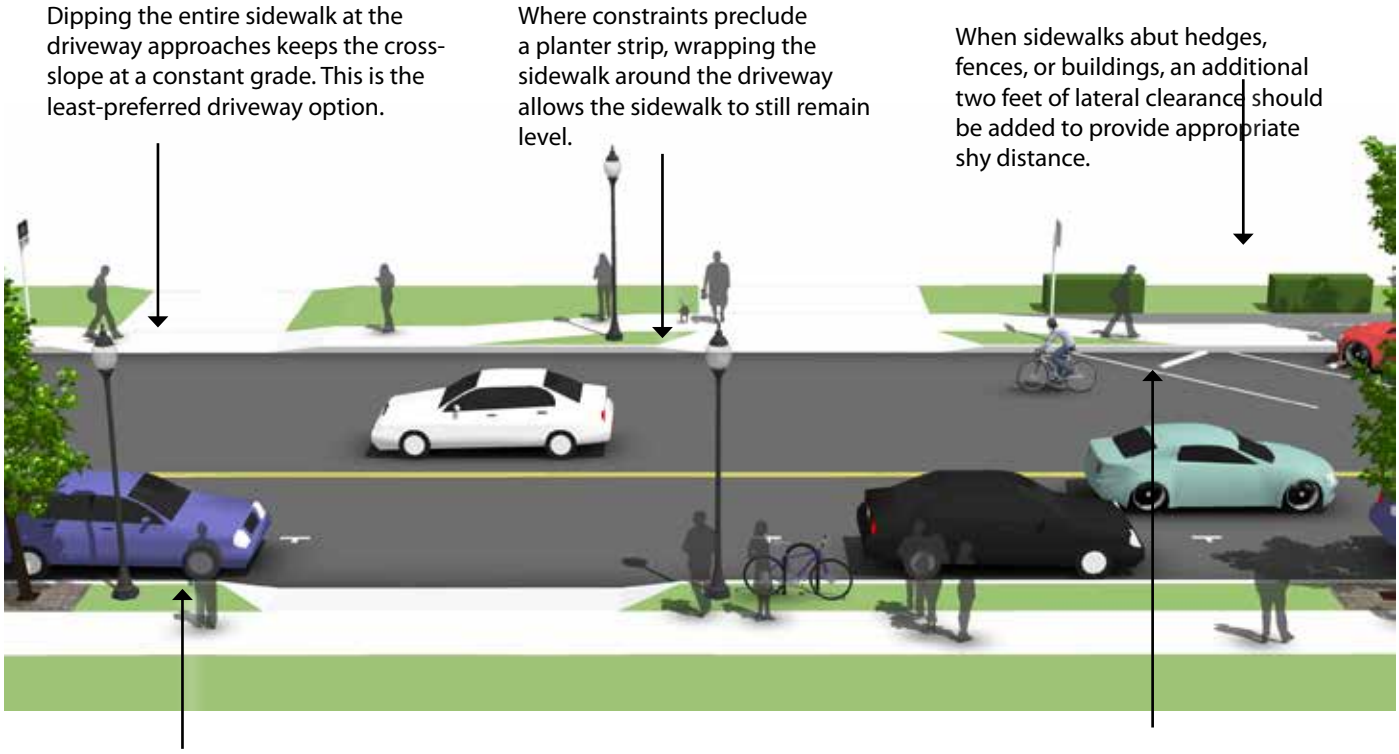
DESCRIPTION

Obstructions to pedestrian travel in the sidewalk corridor typically include driveway ramps, curb ramps, sign posts, utility and signal poles, mailboxes, fire hydrants and street furniture.

GUIDANCE

Reducing the number of accesses reduces the need for special provisions. This strategy should be pursued first.

Obstructions should be placed between the sidewalk and the roadway to create a buffer for increased pedestrian comfort.



Driveways are a common sidewalk obstruction, especially for wheelchair users. When constraints only allow curb-tight sidewalks, dipping the entire sidewalk at the driveway approaches keeps the cross-slope at a constant grade. However, this may be uncomfortable for pedestrians and could create drainage problems behind the sidewalk.

MATERIALS AND MAINTENANCE

Excessive cracks, gaps, pits, settling, and lifting of the sidewalk creates a pedestrian tripping hazard and reduces ADA accessibility; damaged sidewalks should be repaired.

ADDITIONAL REFERENCES

USDOJ. (2010). ADA Standards for Accessible Design.
United States Access Board. (2007). Public Rights-of-Way Accessibility Guidelines (PROWAG).
AASHTO. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.

PEDESTRIAN AMENITIES

DESCRIPTION

A variety of streetscape elements can define the pedestrian realm, offer protection from moving vehicles, and enhance the walking experience. Pedestrian amenities should be placed in the furnishing zone on a sidewalk corridor. Signs, meters, and tree wells should go between parking spaces. Key features are presented below.

Street Trees

In addition to their aesthetic and environmental value, street trees can slow traffic and improve safety for pedestrians. Trees add visual interest to streets and narrow the street's visual corridor, which may cause drivers to slow down. It is important that trees do not block light or the vision triangle.

Street Furniture

Providing benches at key rest areas and viewpoints encourages people of all ages to use the walkways by ensuring that they have a place to rest along the way. Benches should be 20" tall to accommodate elderly pedestrians comfortably. Benches can be simple (e.g., wood slats) or more ornate (e.g., stone, wrought iron, concrete). If alongside a parking zone, street furniture must be 3 feet from the curbface.

Green Features

Green stormwater strategies may include bioretention swales, rain gardens, tree box filters, and pervious pavements (pervious concrete, asphalt and pavers). Bioswales are natural landscape elements that manage water runoff from a paved surface. Plants in the swale trap pollutants and silt from entering a river system.

Lighting

Pedestrian scale lighting improves visibility for both pedestrians and motorists - particularly at intersections. Pedestrian scale lighting can provide a vertical buffer between the sidewalk and the street, defining pedestrian areas.

MATERIALS AND MAINTENANCE

Establishing and caring for your young street trees is essential to their health. Green features may require routine maintenance, including sediment and trash removal, and clearing curb openings and overflow drains.

ADDITIONAL REFERENCES

United States Access Board. (2007). Public Rights-of-Way Accessibility Guidelines (PROWAG).

NCDOT. (2012). Complete Streets Planning and Design Guidelines.

PEDESTRIAN SCALE LIGHTING

DESCRIPTION

Pedestrian scale lighting improves visibility for both pedestrians and motorists - particularly at intersections and in areas of high pedestrian activity.

Pedestrian scale lighting is characterized by short light poles (around 15 feet high), close spacing, low levels of illumination (except at crossings), and the use of LED lamps to produce good color rendition, long service life and high energy efficiency.

GUIDANCE

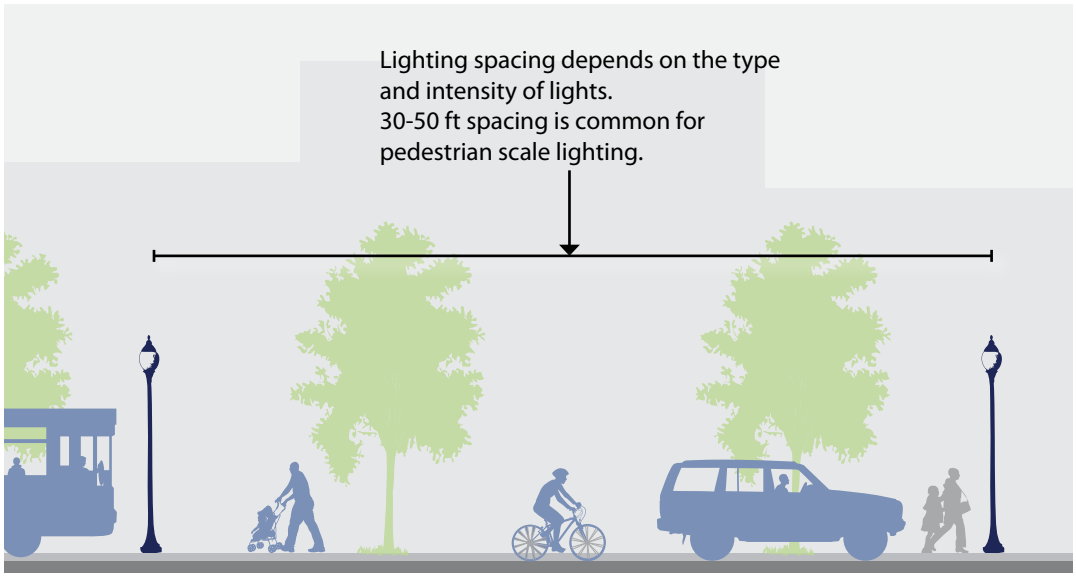
Locate lighting at the following locations:

- Pedestrian oriented areas
- Street crossings (intersection and mid block)
- Entrances and exits of bridges
- Areas near churches, schools, and community centers with nighttime pedestrian activity.

Placement details and dimensions:

- Spacing should be provided for minimum illumination levels while limiting excess light pollution
- Luminaries should direct light downward
- Ligting poles should be placed in the furniture zone of the sidewalk and not interfere with pedestrian travel.

Solar powered lights are available where utility collection is difficult.



DISCUSSION

Both street and pedestrian lighting levels should be considered for the same street corridor, especially in areas with tree canopy. “Dark Sky” lighting should be considered within residential districts.

MATERIALS AND MAINTENANCE

Low-cost light emitting diodes (LED) offer a wide range of light levels and can reduce long term utility costs.

ADDITIONAL REFERENCES

Illuminating Engineering Society of North America. (2005). American National Standard Practice for Roadway Lighting.
AASHTO. (2012). Guide for the Development of Bicycle Facilities.
FHWA. (2005). Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations.

PEDESTRIANS AT INTERSECTIONS

PEDESTRIANS AT INTERSECTIONS

Attributes of pedestrian-friendly intersection design include:

- **Clear Space:** Corners should be clear of obstructions. They should also have enough room for curb ramps, for transit stops where appropriate, and for street conversations where pedestrians might congregate.
- **Visibility:** It is critical that pedestrians on the corner have a good view of vehicle travel lanes and that motorists in the travel lanes can easily see waiting pedestrians.
- **Legibility:** Symbols, markings, and signs used at corners should clearly indicate what actions the pedestrian should take.
- **Accessibility:** All corner features, such as curb ramps, landings, call buttons, signs, symbols, markings, and textures, should meet accessibility standards and follow universal design principles.
- **Separation from Traffic:** Corner design and construction should be effective in discouraging turning vehicles from driving over the pedestrian area. Crossing distances should be minimized.
- **Lighting:** Adequate lighting is an important aspect of visibility, legibility, and accessibility.

These attributes will vary with context but should be considered in all design processes. For example, suburban and rural intersections may have limited or no signing. However, legibility regarding appropriate pedestrian movements should still be taken into account during design.


Marked/Raised Crosswalks


Median Refuge Islands


Minimizing Curb Radii


Curb Extensions


ADA Compliant Curb Ramps

MARKED CROSSWALKS

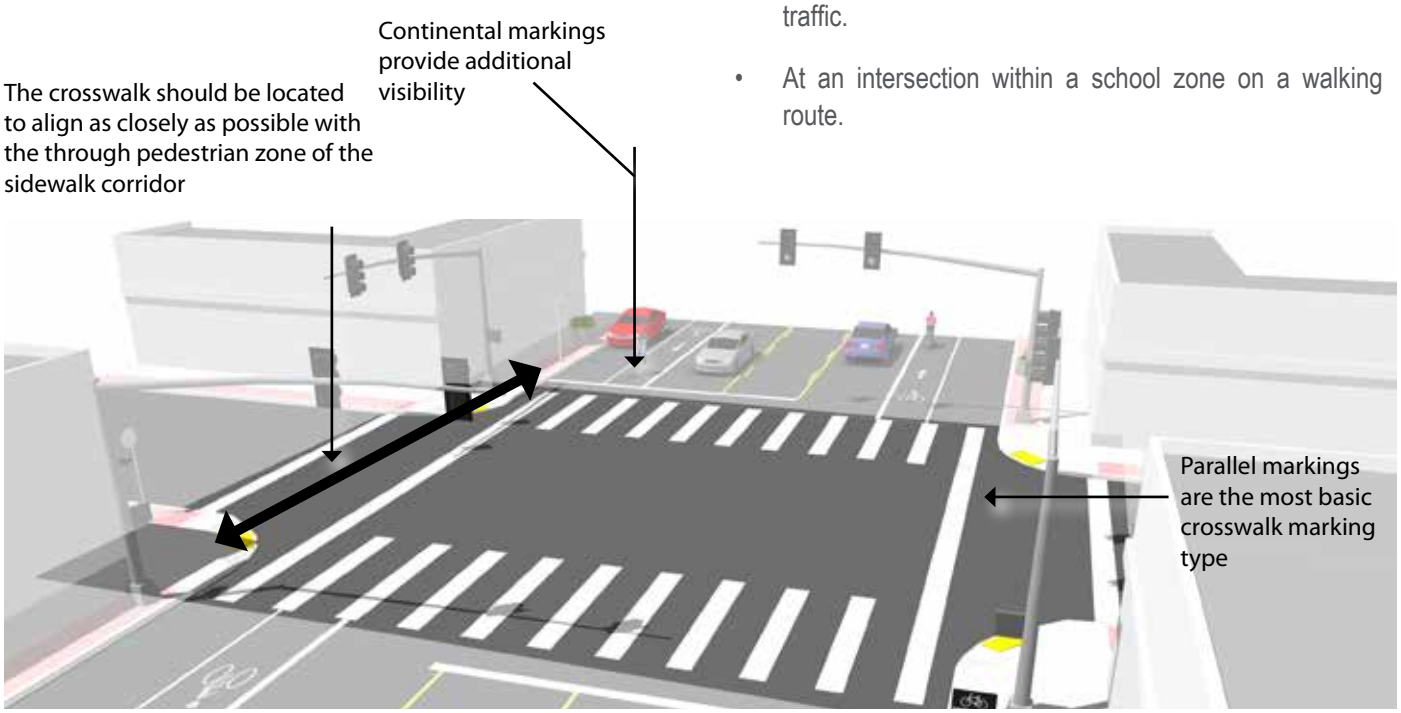
DESCRIPTION

A marked crosswalk signals to motorists that they must stop for pedestrians and encourages pedestrians to cross at designated locations. Installing crosswalks alone will not necessarily make crossings safer especially on multi-lane roadways.

At mid-block locations, crosswalks can be marked where there is a demand for crossing and there are no nearby marked crosswalks.

GUIDANCE

- At signalized intersections, all crosswalks should be marked. At unsignalized intersections, crosswalks may be marked under the following conditions:
- At a complex intersection, to orient pedestrians in finding their way across.
- At an offset intersection, to show pedestrians the shortest route across traffic with the least exposure to vehicular traffic and traffic conflicts.
- At an intersection with visibility constraints, to position pedestrians where they can best be seen by oncoming traffic.
- At an intersection within a school zone on a walking route.



Continental crosswalk markings should be used at crossings with high pedestrian use or where vulnerable pedestrians are expected, including: school crossings, across arterial streets for pedestrian-only signals, at mid-block crosswalks, and at intersections where there is expected high pedestrian use and the crossing is not controlled by signals or stop signs.

MATERIALS AND MAINTENANCE

Because the effectiveness of marked crossings depends entirely on their visibility, maintaining marked crossings should be a high priority. Thermoplastic markings offer increased durability compared to conventional paint.

ADDITIONAL REFERENCES

FHWA. (2009). Manual on Uniform Traffic Control Devices. (3B.18)
AASHTO. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.
FHWA. (2005). Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations.

RAISED CROSSWALKS

DESCRIPTION

A raised crosswalk or intersection can eliminate grade changes from the pedestrian path and give pedestrians greater prominence as they cross the street. Raised crosswalks should be used only in very limited cases where a special emphasis on pedestrians is desired, and application should be reviewed on case-by-case basis.

GUIDANCE

- Use detectable warnings at the curb edges to alert vision-impaired pedestrians that they are entering the roadway.
- Approaches to the raised crosswalk may be designed to be similar to speed humps.
- Raised crosswalks can also be used as a traffic calming treatment.

Like a speed hump, raised crosswalks have a traffic slowing effect which may be unsuitable on emergency response routes.

MATERIALS AND MAINTENANCE

Because the effectiveness of marked crossings depends entirely on their visibility, maintaining marked crossings should be a high priority.

ADDITIONAL REFERENCES

FHWA. (2009). Manual on Uniform Traffic Control Devices. (3B.18)
AASHTO. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.
USDOJ. (2010). ADA Standards for Accessible Design.
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

MEDIAN REFUGE ISLANDS

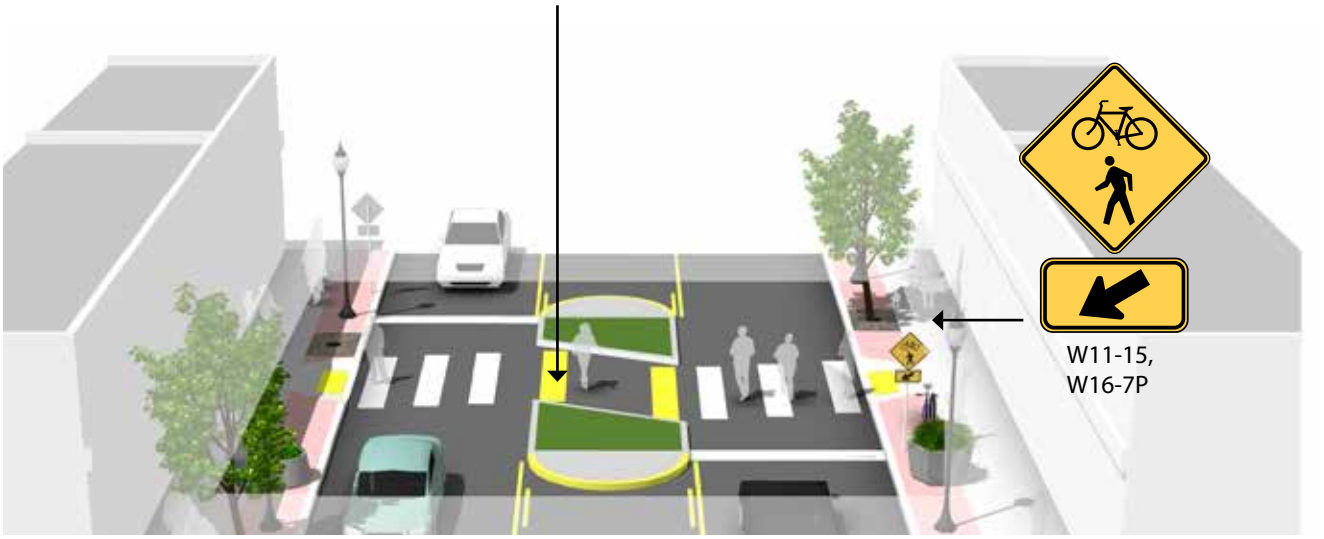
DESCRIPTION

Median refuge islands are located at the mid-point of a marked crossing and help improve pedestrian safety by allowing pedestrians to cross one direction of traffic at a time. Refuge islands minimize pedestrian exposure by shortening crossing distance and increasing the number of available gaps for crossing.

GUIDANCE

- Can be applied on any roadway with a left turn center lane or median that is at least 6' wide.
- Appropriate at signalized or unsignalized crosswalks
- The refuge island must be accessible, preferably with an at-grade passage through the island rather than ramps and landings.
- The island should be at least 6' wide between travel lanes (to accommodate bikes with trailers and wheelchair users) and at least 20' long.
- On streets with speeds higher than 25 mph there should also be double centerline marking, reflectors, and "KEEP RIGHT" signage.

Cut through median islands are preferred over curb ramps, to better accommodate bicyclists.



If a refuge island is landscaped, the landscaping should not compromise the visibility of pedestrians crossing in the crosswalk. Shrubs and ground plantings should be no higher than 1 ft 6 in. On multi-lane roadways, consider configuration with active warning beacons for improved yielding compliance.

MATERIALS AND MAINTENANCE

Refuge islands may collect road debris and may require somewhat frequent maintenance. Refuge islands should be visible to snow plow crews and should be kept free of snow berms that block access.

ADDITIONAL REFERENCES

FHWA. (2009). Manual on Uniform Traffic Control Devices.
AASHTO. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.
NACTO. (2012). Urban Bikeway Design Guide.
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

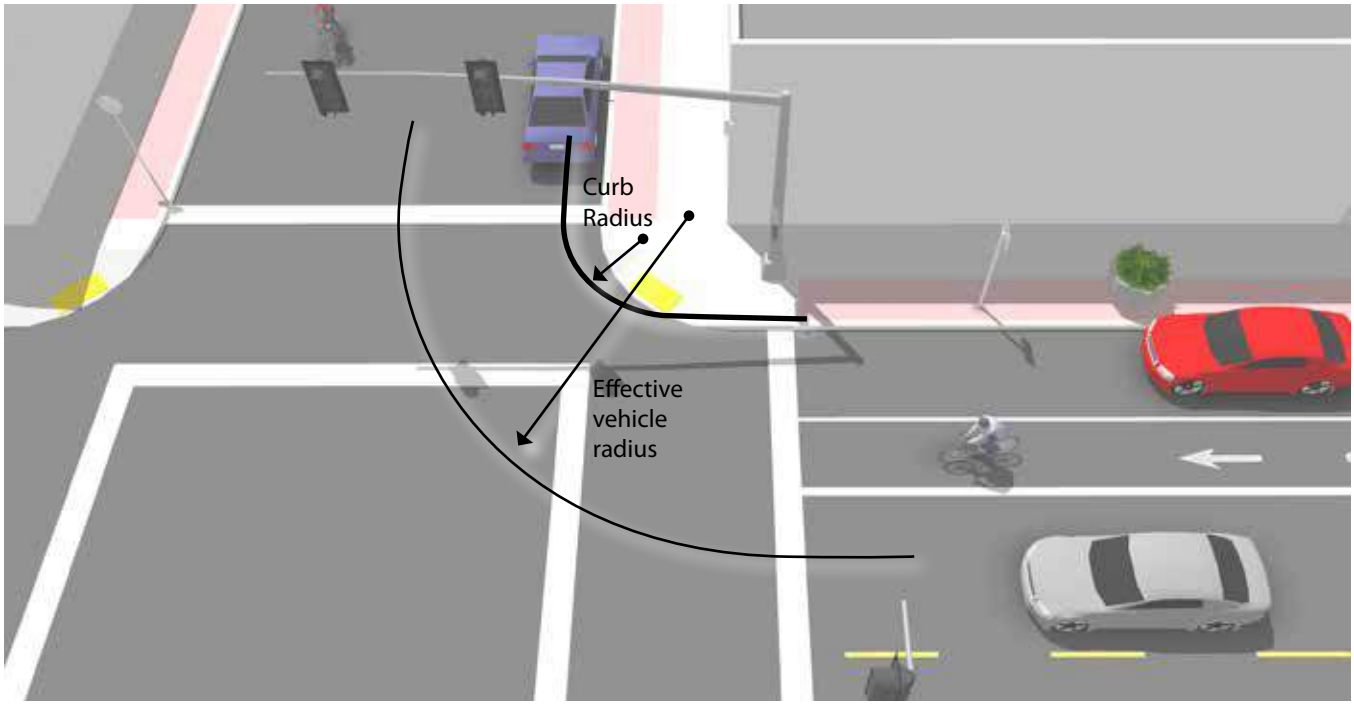
MINIMIZING CURB RADII

DESCRIPTION

The size of a curb's radius can have a significant impact on pedestrian comfort and safety. A smaller curb radius provides more pedestrian area at the corner, allows more flexibility in the placement of curb ramps, results in a shorter crossing distance and requires vehicles to slow more on the intersection approach. During the design phase, the chosen radius should be the smallest possible for the circumstances.

GUIDANCE

The radius may be as small as 3 ft where there are no turning movements, or 5 ft where there are turning movements, adequate street width, and a larger effective curb radius created by parking or bike lanes.



Several factors govern the choice of curb radius in any given location. These include the desired pedestrian area of the corner, traffic turning movements, street classifications, design vehicle turning radius, intersection geometry, and whether there is parking or a bike lane (or both) between the travel lane and the curb.

MATERIALS AND MAINTENANCE

Improperly designed curb radii at corners may be subject to damage by large trucks.

ADDITIONAL REFERENCES

AASHTO. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.

AASHTO. (2004). A Policy on Geometric Design of Highways and Streets.

NCDOT. (2012). Complete Streets Planning and Design Guidelines.

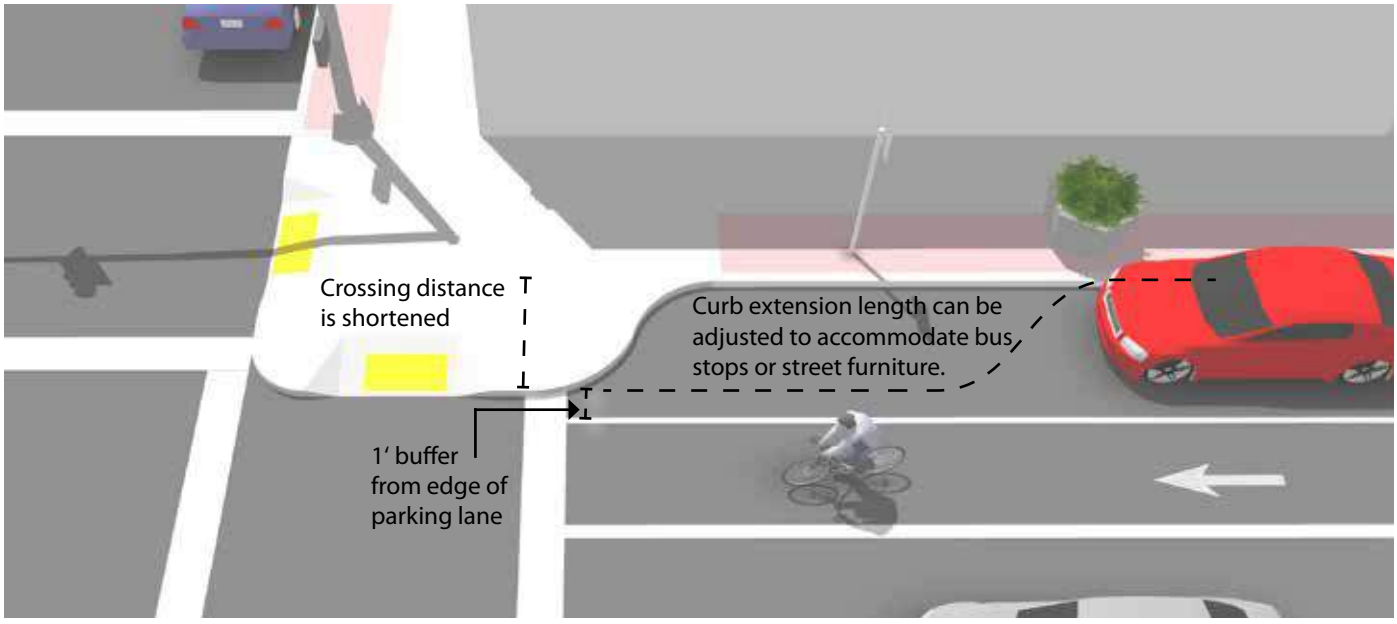
CURB EXTENSIONS

DESCRIPTION

Curb extensions minimize pedestrian exposure during crossing by shortening crossing distance and giving pedestrians a better chance to see and be seen before committing to crossing. They are appropriate for any crosswalk where it is desirable to shorten the crossing distance and there is a parking lane adjacent to the curb.

GUIDANCE

- In most cases, the curb extensions should be designed to transition between the extended curb and the running curb in the shortest practicable distance.
- For purposes of efficient street sweeping, the minimum radius for the reverse curves of the transition is 10 ft and the two radii should be balanced to be nearly equal.
- Curb extensions should terminate one foot short of the parking lane to maximize bicyclist safety.



If there is no parking lane, adding curb extensions may be a problem for bicycle travel and truck or bus turning movements.

MATERIALS AND MAINTENANCE

Planted curb extensions may be designed as a bioswale, a vegetated system for stormwater management.

ADDITIONAL REFERENCES

AASHTO. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities. AASHTO. (2004). A Policy on Geometric Design of Highways and Streets.
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

ADA COMPLIANT CURB RAMPS

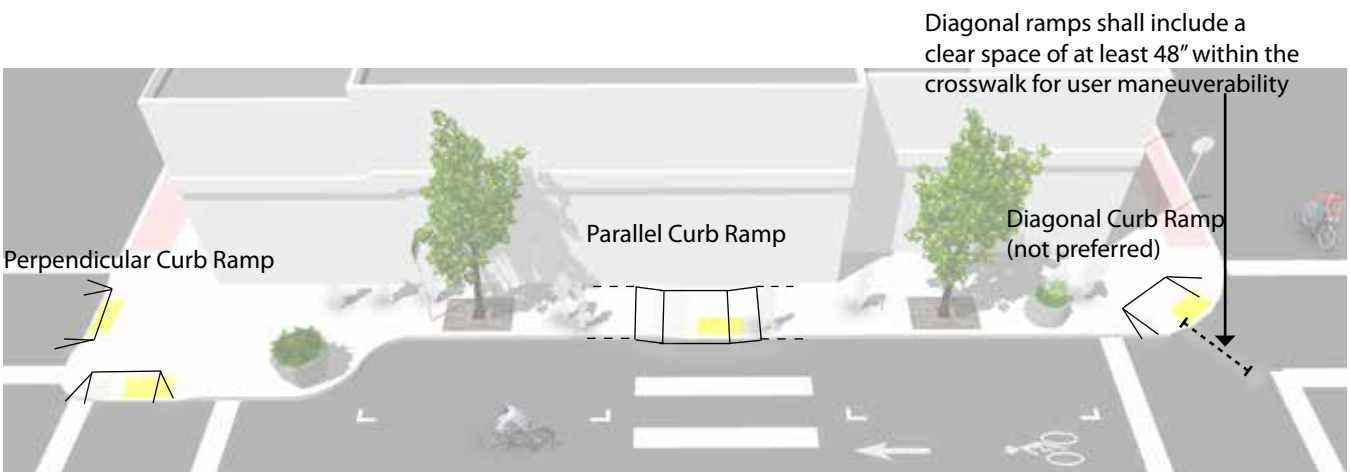
DESCRIPTION

Curb ramps are the design elements that allow all users to make the transition from the street to the sidewalk. There are a number of factors to be considered in the design and placement of curb ramps at corners. Properly designed curb ramps ensure that the sidewalk is accessible from the roadway. A sidewalk without a curb ramp can be useless to someone in a wheelchair, forcing them back to a driveway and out into the street for access.

Although diagonal curb ramps might save money, they create potential safety and mobility problems for pedestrians,including reduced maneuverability and increased interaction with turning vehicles, particularly in areas with high traffic volumes. Diagonal curb ramp configurations are the least preferred of all options.

GUIDANCE

- The landing at the top of a ramp shall be at least 4 feet long and at least the same width as the ramp itself.
- The ramp shall slope no more than 1:50 (2.0%) in any direction.
- If the ramp runs directly into a crosswalk, the landing at the bottom will be in the roadway.
- If the ramp lands on a dropped landing within the sidewalk or corner area where someone in a wheelchair may have to change direction, the landing must be a minimum of 5'-0" long and at least as wide as the ramp, although a width of 5'-0" is preferred.



Crosswalk spacing not to scale. For illustration purposes only.

The edge of an ADA compliant curb ramp will be marked with a tactile warning device (also known as truncated domes) to alert people with visual impairments to changes in the pedestrian environment. Contrast between the raised tactile device and the surrounding infrastructure is important so that the change is readily evident. These devices are most effective when adjacent to smooth pavement so the difference is easily detected. The devices must provide color contrast so partially sighted people can see them.

MATERIALS AND MAINTENANCE

It is critical that the interface between a curb ramp and the street be maintained adequately. Asphalt street sections can develop potholes at the foot of the ramp, which can catch the front wheels of a wheelchair.

ADDITIONAL REFERENCES

United States Access Board. (2002). Accessibility Guidelines for Buildings and Facilities.
United States Access Board. (2007). Public Rights-of-Way Accessibility Guidelines (PROWAG).
USDOJ. (2010). ADA Standards for Accessible Design.

SIGNALIZATION

Crossing beacons and signals facilitate crossings of roadways for pedestrians and bicyclists. Beacons make crossing intersections safer by clarifying when to enter an intersection and by alerting motorists to the presence of pedestrians and bicyclists.

Pedestrians at Signalized Crossings

Flashing amber warning beacons can be utilized at unsignalized intersection crossings. Push buttons, signage, and pavement markings may be used to highlight these facilities for pedestrians, bicyclists and motorists.

Pedestrian Hybrid Beacon

Determining which type of signal or beacon to use for a particular intersection depends on a variety of factors. These include speed limits, traffic volumes, and the anticipated levels of pedestrian and bicycle crossing traffic.

An intersection with crossing beacons may reduce stress and delays for crossing users, and discourage illegal and unsafe crossing maneuvers.

Rectangular Rapid Flash Beacons

PEDESTRIANS AT SIGNALIZED CROSSINGS

DESCRIPTION

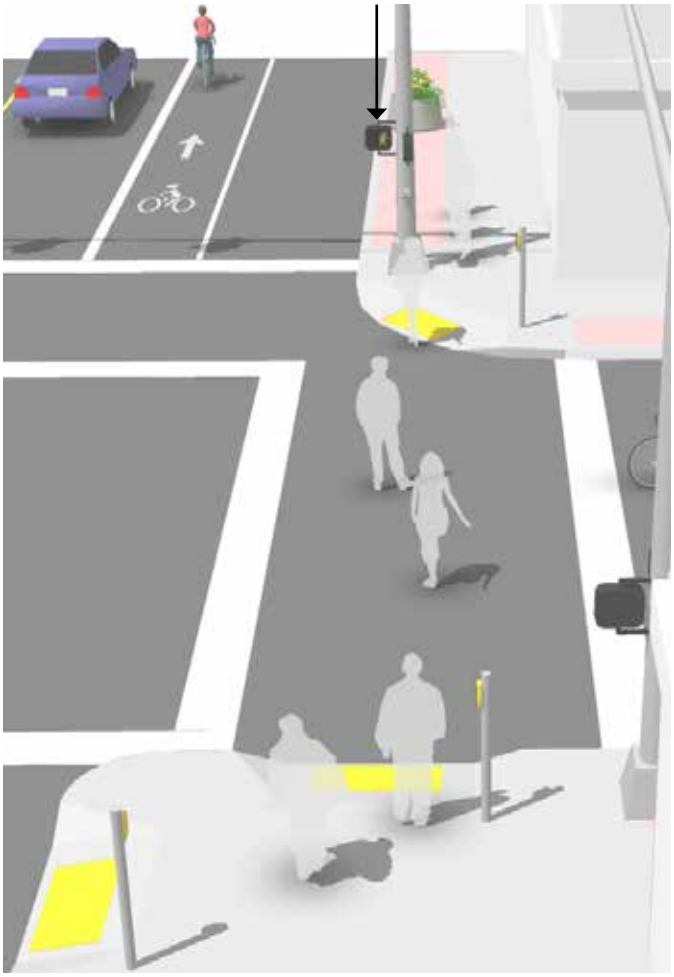
Pedestrian Signal Head

- All traffic signals should be equipped with pedestrian signal indications except where pedestrian crossing is prohibited by signage.
- Countdown signals should be used at all signalized intersections to indicate whether a pedestrian has time to cross the street before the signal phase ends.

Signal Timing

- Providing adequate pedestrian crossing time is a critical element of the walking environment at signalized intersections. The MUTCD recommends traffic signal timing to assume a pedestrian walking speed of 3.5' per second, meaning that the length of a signal phase with parallel pedestrian movements should provide sufficient time for a pedestrian to safely cross the adjacent street.
- At crossings where older pedestrians or pedestrians with disabilities are expected, crossing speeds as low as 3' per second may be assumed.
- In busy pedestrian areas such as downtowns, the pedestrian signal indication should be built into each signal phase, eliminating the requirement for a pedestrian to actuate the signal by pushing a button.

Audible pedestrian traffic signals provide crossing assistance to pedestrians with vision impairment at signalized intersections



Consider the use of a Leading Pedestrian Indication (LPI) to provide additional traffic protected crossing time to pedestrians

When push buttons are used, they should be located so that someone in a wheelchair can reach the button from a level area of the sidewalk without deviating significantly from the natural line of travel into the crosswalk, and marked (for example, with arrows) so that it is clear which signal is affected. In areas with very heavy pedestrian traffic, consider an all-pedestrian signal phase to give pedestrians free passage in the intersection when all motor vehicle traffic movements are stopped.

MATERIALS AND MAINTENANCE

It is important to repair or replace traffic control equipment before it fails. Consider semi-annual inspections of controller and signal equipment, intersection hardware, and loop detectors.

ADDITIONAL REFERENCES

United States Access Board. (2007). Public Rights-of-Way Accessibility Guidelines (PROWAG).

AASHTO. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.

NCDOT. (2012). Complete Streets Planning and Design Guidelines.

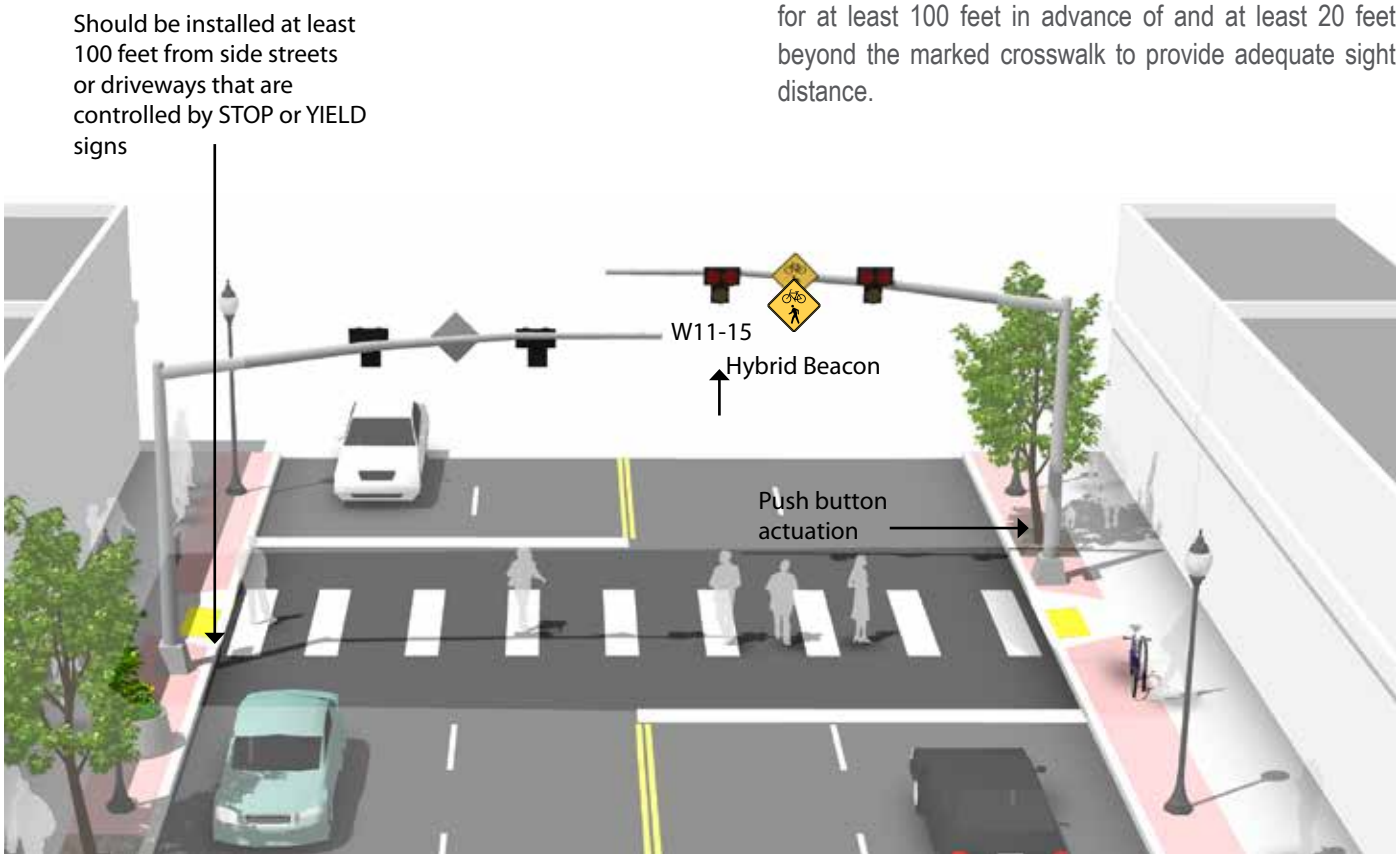
PEDESTRIAN HYBRID BEACON

DESCRIPTION

Hybrid beacons are used to improve non-motorized crossings of major streets. A hybrid beacon consists of a signal-head with two red lenses over a single yellow lens on the major street, and a pedestrian signal head for the crosswalk.

GUIDANCE

- Hybrid beacons may be installed without meeting traffic signal control warrants if roadway speed and volumes are excessive for comfortable pedestrian crossings.
- If installed within a signal system, signal engineers should evaluate the need for the hybrid signal to be coordinated with other signals.
- Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk to provide adequate sight distance.



Hybrid beacon signals are normally activated by push buttons, but may also be triggered by infrared, microwave or video detectors. The maximum delay for activation of the signal should be two minutes, with minimum crossing times determined by the width of the street. Each crossing, regardless of traffic speed or volume, requires additional review by a registered engineer to identify sight lines, potential impacts on traffic progression, timing with adjacent signals, capacity, and safety.

MATERIALS AND MAINTENANCE

Hybrid beacons are subject to the same maintenance needs and requirements as standard traffic signals. Signing and striping need to be maintained to help users understand any unfamiliar traffic control.

ADDITIONAL REFERENCES

FHWA. (2009). Manual on Uniform Traffic Control Devices.
NACTO. (2012). Urban Bikeway Design Guide.
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

RECTANGULAR RAPID FLASH BEACONS

DESCRIPTION

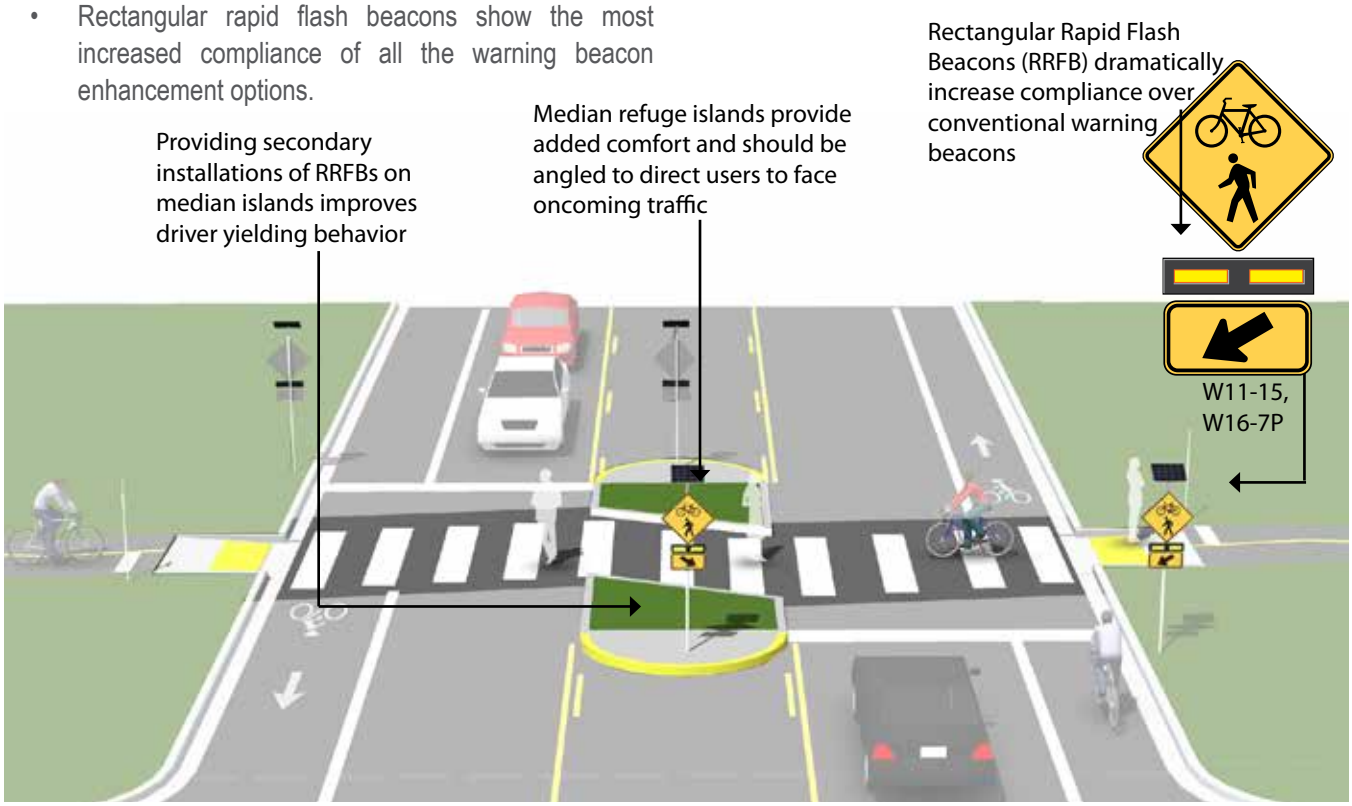
Enhanced marked crossings are unsignalized crossings with additional treatments designed to increase motor vehicle yielding compliance on multi-lane or high volume roadways.

- These enhancements include trail user or sensor actuated warning beacons, Rectangular Rapid Flash Beacons (RRFB) shown below, or in-roadway warning lights.
- Rectangular rapid flash beacons show the most increased compliance of all the warning beacon enhancement options.

GUIDANCE

Guidance for marked/unsignalized crossings applies.

- Warning beacons shall not be used at crosswalks controlled by YIELD signs, STOP signs, or traffic control signals.
- Warning beacons shall initiate operation based on user actuation and shall cease operation at a predetermined time after the user actuation or, with passive detection, after the user clears the crosswalk.



DISCUSSION

An FHWA report presented study results showing of the effectiveness of going from a no-beacon arrangement to a two-beacon RRFB installation increased yielding from 18 percent to 81 percent. A four-beacon arrangement raised compliance to 88%. Additional studies of long term installations show little to no decrease in yielding behavior over time. Additional studies in Oregon reported compliance rates as high as 99% when actuated.

MATERIALS AND MAINTENANCE

Locate markings out of wheel tread when possible to minimize wear and maintenance costs. Signing and striping need to be maintained to help users understand any unfamiliar traffic control.

ADDITIONAL REFERENCES

FHWA. (2009). Manual on Uniform Traffic Control Devices.
FHWA. (2008). MUTCD - Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons (IA-11).
FHWA. (2010). Effects of Yellow Rectangular Rapid-Flashing Beacons on Yielding at Multilane Uncontrolled Crosswalks.
(2013). Alhajri, F., Carlso, K., Foster, N., Georde, D. A Study on Driver's Compliance to Rectangular Rapid Flashing Beacons.

MULTI-USE PATHS

MULTI-USE PATHS

A multi-use path (also known as a greenway) allows for two-way, off-street bicycle use and also may be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users. These facilities are frequently found in parks, along rivers, beaches, and in greenbelts or utility corridors where there are few conflicts with motorized vehicles. Trail facilities can also include amenities such as lighting, signage, and fencing (where appropriate). Key features of Multi-use paved trails include:

- Frequent access points from the local road network.
- Directional signs to direct users to and from the trail.
- A limited number of at-grade crossings with streets or driveways.
- Terminating the trail where it is easily accessible to and from the street system.
- Separate treads for pedestrians and bicyclists when heavy use is expected.


General Design Practices


Trails Along Roadways


Natural Surface Trail


Boardwalks


Trail/Roadway Crossings


Bridges

MULTI-USE PATHS

DESCRIPTION

Multi-use paths can provide a desirable facility, particularly for recreation, and users of all skill levels preferring separation from traffic. Bicycle trails should generally provide directional travel opportunities not provided by existing roadways.

GUIDANCE

Width

- 8 feet is the minimum allowed for a two-way bicycle trail and is only recommended for low traffic situations.
- 10 feet is recommended in most situations and will be adequate for moderate to heavy use.
- 12 feet is recommended for heavy use situations with high concentrations of multiple users. A separate track (5' minimum) can be provided for pedestrian use.

Lateral Clearance

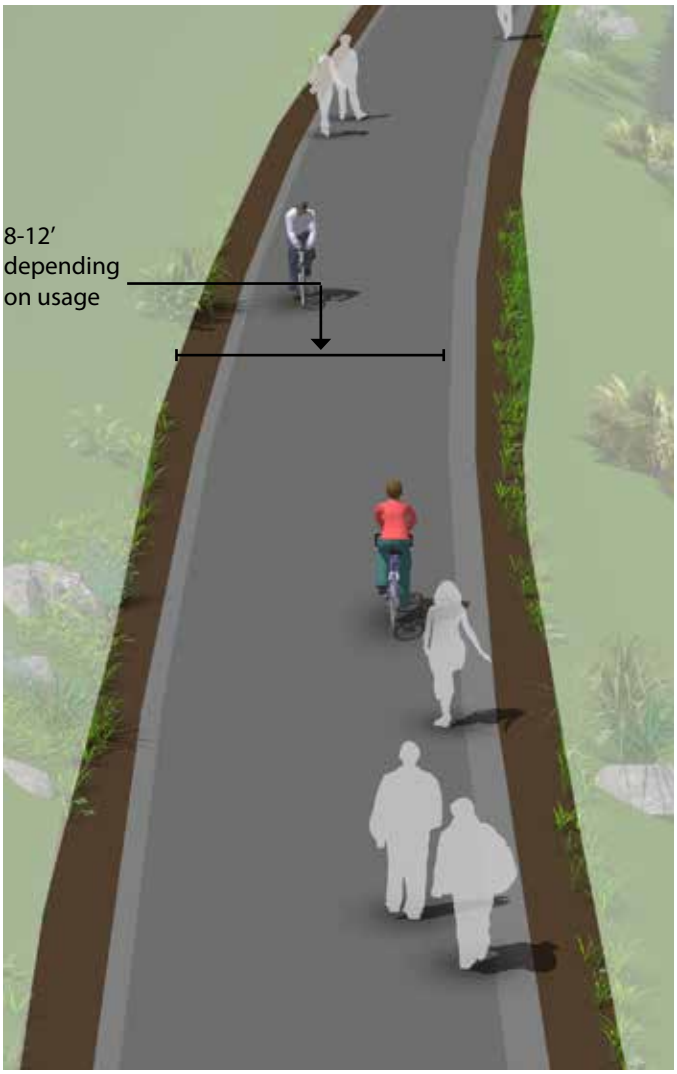
- A 2 foot or greater shoulder on both sides of the trail should be provided. An additional foot of lateral clearance (total of 3') is required by the MUTCD for the installation of signage or other furnishings.
- If bollards are used at intersections and access points, they should be colored brightly and/or supplemented with reflective materials to be visible at night.

Overhead Clearance

- Clearance to overhead obstructions should be 8 feet minimum, with 10 feet recommended.

Striping

- When striping is required, use a 4 inch dashed yellow centerline stripe with 4 inch solid white edge lines.
- Solid centerlines can be provided on tight or blind corners, and on the approaches to roadway crossings.



DISCUSSION

Terminate the trail where it is easily accessible to and from the street system, preferably at a controlled intersection or at the beginning of a dead-end street.

MATERIALS AND MAINTENANCE

Asphalt is the most common surface for bicycle trails. The use of concrete for trails has proven to be more durable over the long term. Saw cut concrete joints rather than troweled improve the experience of trail users.

ADDITIONAL REFERENCES

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

FHWA. Manual on Uniform Traffic Control Devices. 2009.

Flink, C. Greenways: A Guide To Planning Design And Development. 1993.

MULTI-USE PATHS ALONG ROADWAYS

DESCRIPTION

Multi-use paths along roadways, also called Sidepaths, are a type of trail that run adjacent to a street.

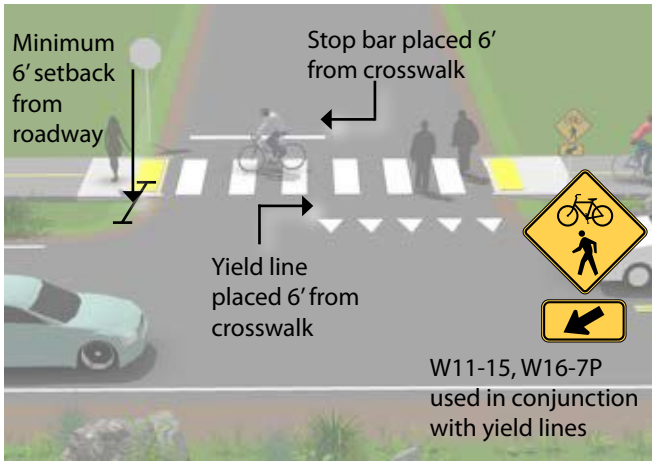
- Because of operational concerns it is generally preferable to place trails within independent rights-of-way away from roadways. However, there are situations where existing roads provide the only corridors available.
- Along roadways, these facilities create a situation where a portion of the bicycle traffic rides against the normal flow of motor vehicle traffic and can result in wrong-way riding where bicyclists enter or leave the trail.
- The AASHTO Guide for the Development of Bicycle Facilities cautions practitioners of the use of two-way sidepaths on urban or suburban streets with many driveways and street crossings.

In general, there are two approaches to crossings: adjacent crossings and setback crossings, illustrated below.

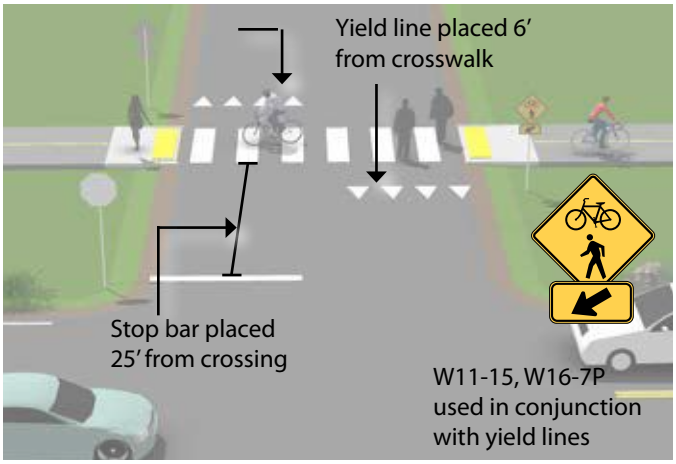
GUIDANCE

- Guidance for sidepaths should follow that for general design practises of multi-use trails.
- A high number of driveway crossings and intersections create potential conflicts with turning traffic. Consider alternatives to sidepaths on streets with a high frequency of intersections or heavily used driveways.
- Where a sidepath terminates special consideration should be given to transitions so as not to encourage unsafe wrong-way riding by bicyclists.
- Crossing design should emphasize visibility of users and clarity of expected yielding behavior. Crossings may be STOP or YIELD controlled depending on sight lines and bicycle motor vehicle volumes and speeds.

Adjacent Crossing - A separation of 6 feet emphasizes the conspicuity of riders at the approach to the crossing.



Setback Crossing - A set back of 25 feet separates the trail crossing from merging/turning movements that may be competing for a driver's attention.



DISCUSSION

The provision of a multi-use paved trail adjacent to a road is not a substitute for the provision of on-road accommodation such as paved shoulders or bike lanes, but may be considered in some locations in addition to on-road bicycle facilities. To reduce potential conflicts in some situations, it may be better to place one-way sidepaths on both sides of the street.

MATERIALS AND MAINTENANCE

Asphalt is the most common surface for bicycle trails. The use of concrete for trails has proven to be more durable over the long term. Saw cut concrete joints rather than troweled improve the experience of trail users.

ADDITIONAL REFERENCES

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

NACTO. Urban Bikeway Design Guide. See entry on Raised Cycle Tracks. 2012.

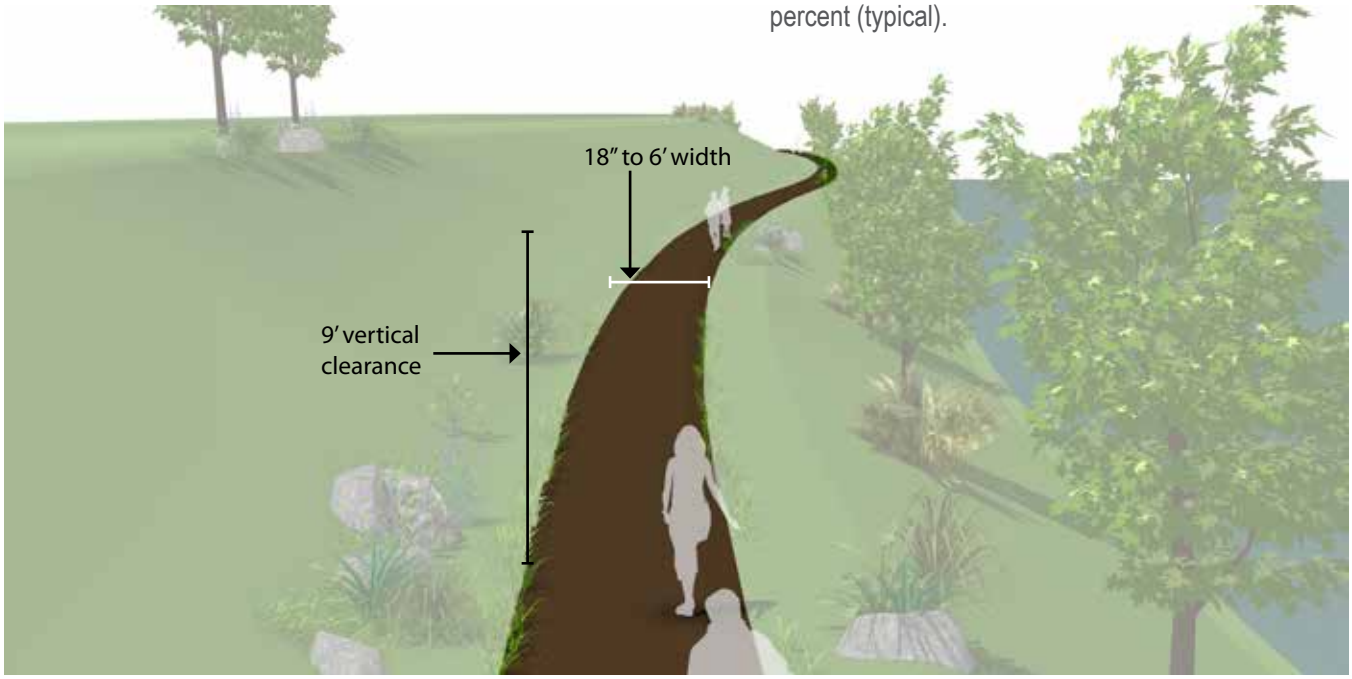
NATURAL SURFACE TRAIL

DESCRIPTION

Sometimes referred to as footpaths, hiking trails or single track trails, the soft surface multi-use trail is used along corridors that are environmentally-sensitive but can support bare earth, wood chip, or boardwalk trails. Natural surface trails are a low-impact solution and found in areas with limited development or where a more primitive experience is desired.

GUIDANCE

- Trails can vary in width from 18 inches to 6 feet or greater; vertical clearance should be maintained at nine-feet above grade.
- Mountain bike trails are typically 18-24 inches wide and have compacted bare earth or leaf litter surfacing.
- Base preparation varies from machine-worked surfaces to those worn only by usage.
- Trail surface can be made of dirt, rock, soil, forest litter, or other native materials. Some trails use crushed stone (a.k.a. "crush and run") that contains about 4% fines by weight, and compacts with use.
- Provide positive drainage for trail tread without extensive removal of existing vegetation; maximum slope is five percent (typical).



DISCUSSION

Trail erosion control measures include edging along the low side of the trail, steps and terraces to contain surface material, and water bars to direct surface water off the trail; use bedrock surface where possible to reduce erosion. Due to their narrow width and ability to contour with the natural topography, single-track mountain bike trails typically require the least amount of disturbance and support features of all types of trails.

MATERIALS AND MAINTENANCE

Consider implications for accessibility when weighing options for surface treatments.

ADDITIONAL REFERENCES

IMBA. Managing Mountain Biking. 2007.
IMBA. Trail Solutions. 2004.
Flink, C. Greenways: A Guide To Planning Design And Development. 1993.

BOARDWALKS

DESCRIPTION

Boardwalks are typically required when crossing wetlands or other poorly drained areas. They are usually constructed of wooden planks or recycled material planks that form the top layer of the boardwalk. The recycled material has gained popularity in recent years since it lasts much longer than wood, especially in wet conditions. A number of low-impact support systems are also available that reduce the disturbance within wetland areas to the greatest extent possible.

GUIDANCE

- Boardwalk width should be a minimum of 10 feet when no rail is used. A 12 foot width is preferred in areas with average anticipated use and whenever rails are used.
- When the height of a boardwalk exceeds 30", railings are required.
- If access by vehicles is desired, boardwalks should be designed to structurally support the weight of a small truck or a light-weight vehicle.

DISCUSSION

In general, building in wetlands is subject to regulations and should be avoided.

The foundation normally consists of wooden posts or auger piers (screw anchors). Screw anchors provide greater support and last much longer.

MATERIALS AND MAINTENANCE

Decking should be either non-toxic treated wood or recycled plastic. Cable rails are attractive and more visually transparent but may require maintenance to tighten the cables if the trail has snow storage requirements.

ADDITIONAL REFERENCES

AASHTO. Guide for the Development of Bicycle Facilities. 2012.
FHWA. Wetland Trail Design and Construction. 2007.

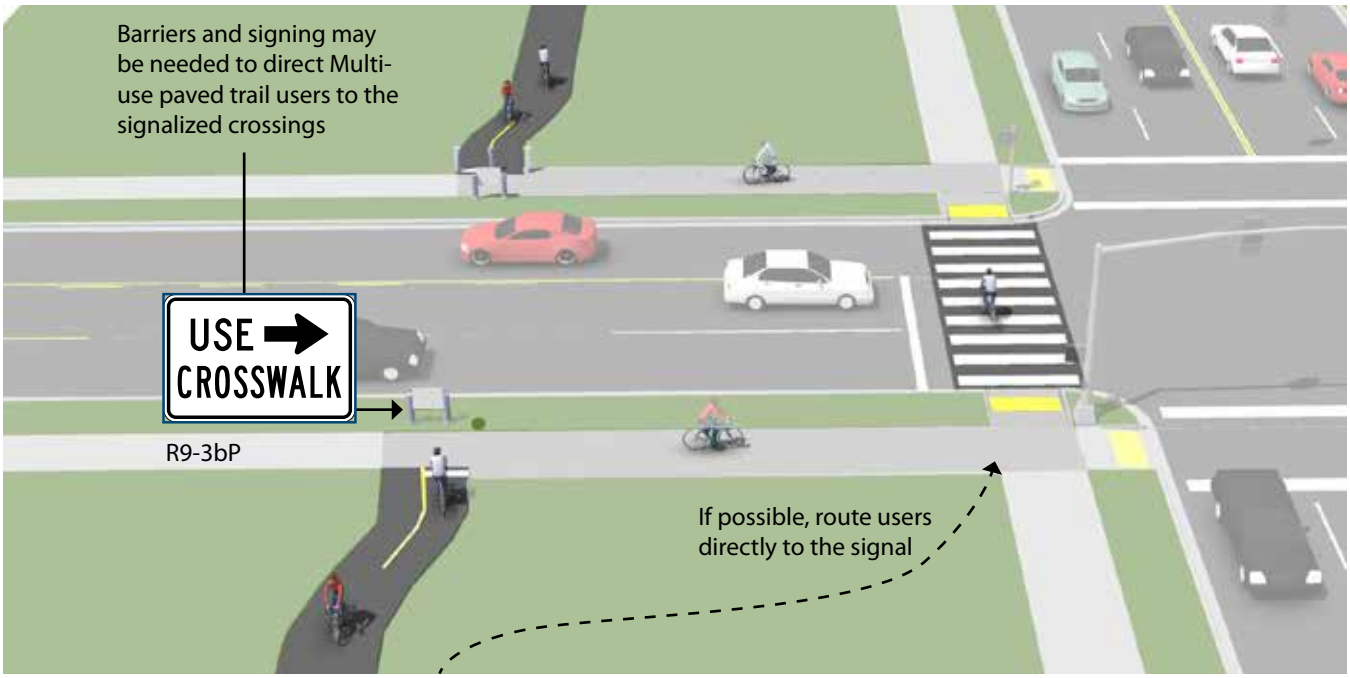
TRAIL/ROADWAY CROSSINGS: ROUTE USERS TO SIGNALIZED CROSSINGS

DESCRIPTION

Trail crossings within approximately 400 feet of an existing signalized intersection with pedestrian crosswalks are typically diverted to the signalized intersection to avoid traffic operation problems when located so close to an existing signal. For this restriction to be effective, barriers and signing may be needed to direct trail users to the signalized crossing. If no pedestrian crossing exists at the signal, modifications should be made.

GUIDANCE

- Trail crossings should not be provided within approximately 400 feet of an existing signalized intersection. If possible, route trail directly to the signal.



DISCUSSION

In the US, the minimum distance a marked crossing can be from an existing signalized intersection varies from approximately 250 to 660 feet. Engineering judgement and the context of the location should be taken into account when choosing the appropriate allowable setback. Pedestrians are particularly sensitive to out of direction travel and jaywalking may become prevalent if the distance is too great.

MATERIALS AND MAINTENANCE

If a sidewalk is used for crossing access, it should be kept clear of snow and debris and the surface should be level for wheeled users.

ADDITIONAL REFERENCES

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.

TRAIL/ROADWAY CROSSINGS: OVERCROSSINGS

DESCRIPTION

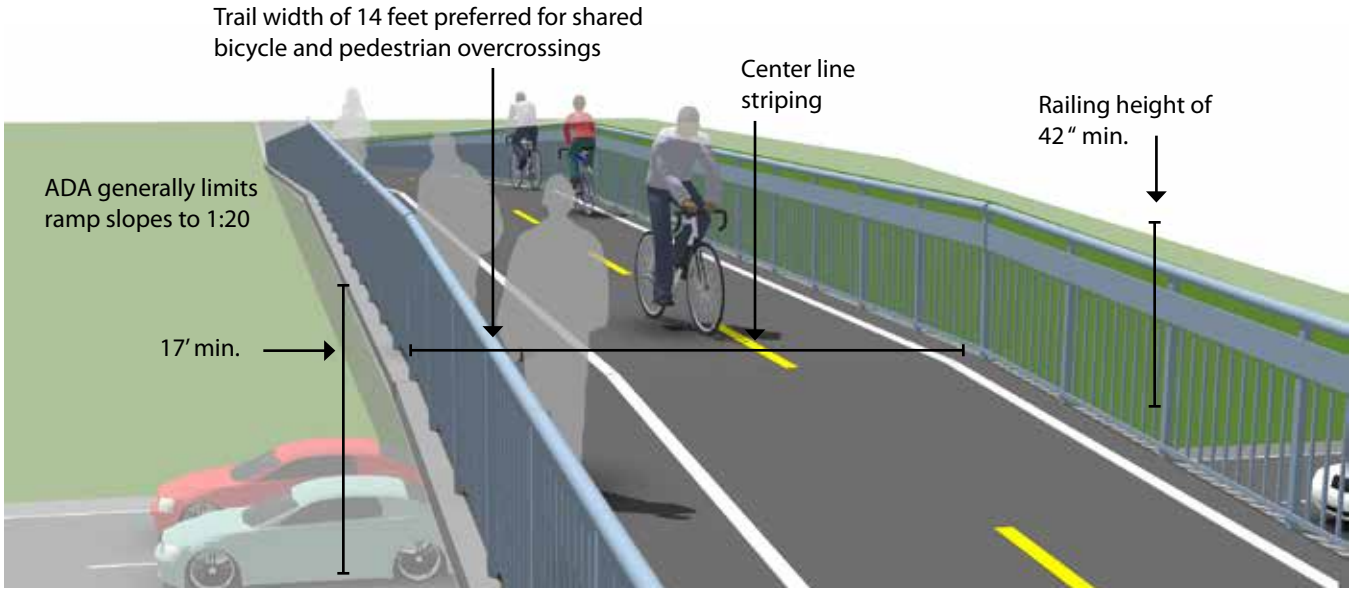
Bicycle/pedestrian overcrossings provide critical non-motorized system links by joining areas separated by barriers such as deep canyons, waterways or major transportation corridors. In most cases, these structures are built in response to user demand for safe crossings where they previously did not exist.

There are no minimum roadway characteristics for considering grade separation. Depending on the type of facility or the desired user group grade separation may be considered in many types of projects.

Overcrossings require a minimum of 17 feet of vertical clearance to the roadway below versus a minimum elevation differential of around 12 feet for an undercrossing. This results in potentially greater elevation differences and much longer ramps for bicycles and pedestrians to negotiate.

GUIDANCE

- 8 foot minimum width, 14 feet preferred. If overcrossing has any scenic vistas additional width should be provided to allow for stopping. A separate 5 foot pedestrian area may be provided for facilities with high bicycle and pedestrian use.
- 10 foot headroom on overcrossing; clearance below will vary depending on feature being crossed.
- Roadway: 17 feet
  Freeway: 18.5 feet
  Heavy Rail Line: 23 feet
- The overcrossing should have a centerline stripe even if the rest of the trail does not have one.



DISCUSSION

Overcrossings for bicycles and pedestrians typically fall under the Americans with Disabilities Act (ADA), which strictly limits ramp slopes to 5% (1:20) with landings at 400 foot intervals, or 8.33% (1:12) with landings every 30 feet. Overcrossings pose potential concerns about visual impact and functional appeal, as well as space requirements necessary to meet ADA guidelines for slope.

MATERIALS AND MAINTENANCE

Potential issues with vandalism.

Overcrossings can be more difficult to clear of snow than undercrossings.

ADDITIONAL REFERENCES

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.

BRIDGES

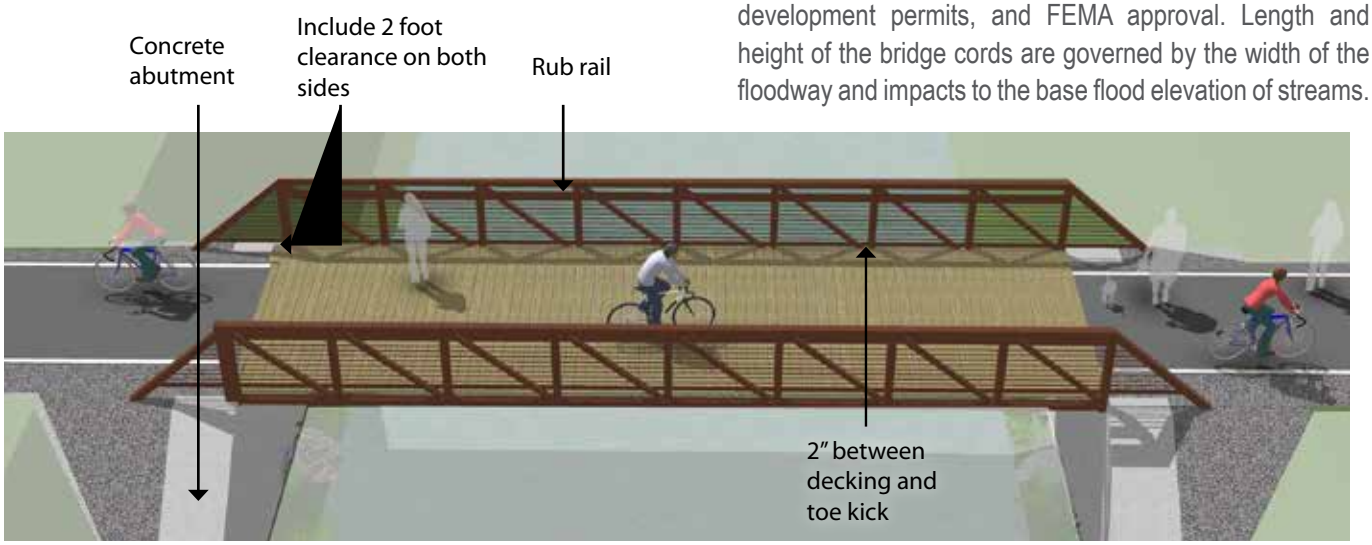
DESCRIPTION

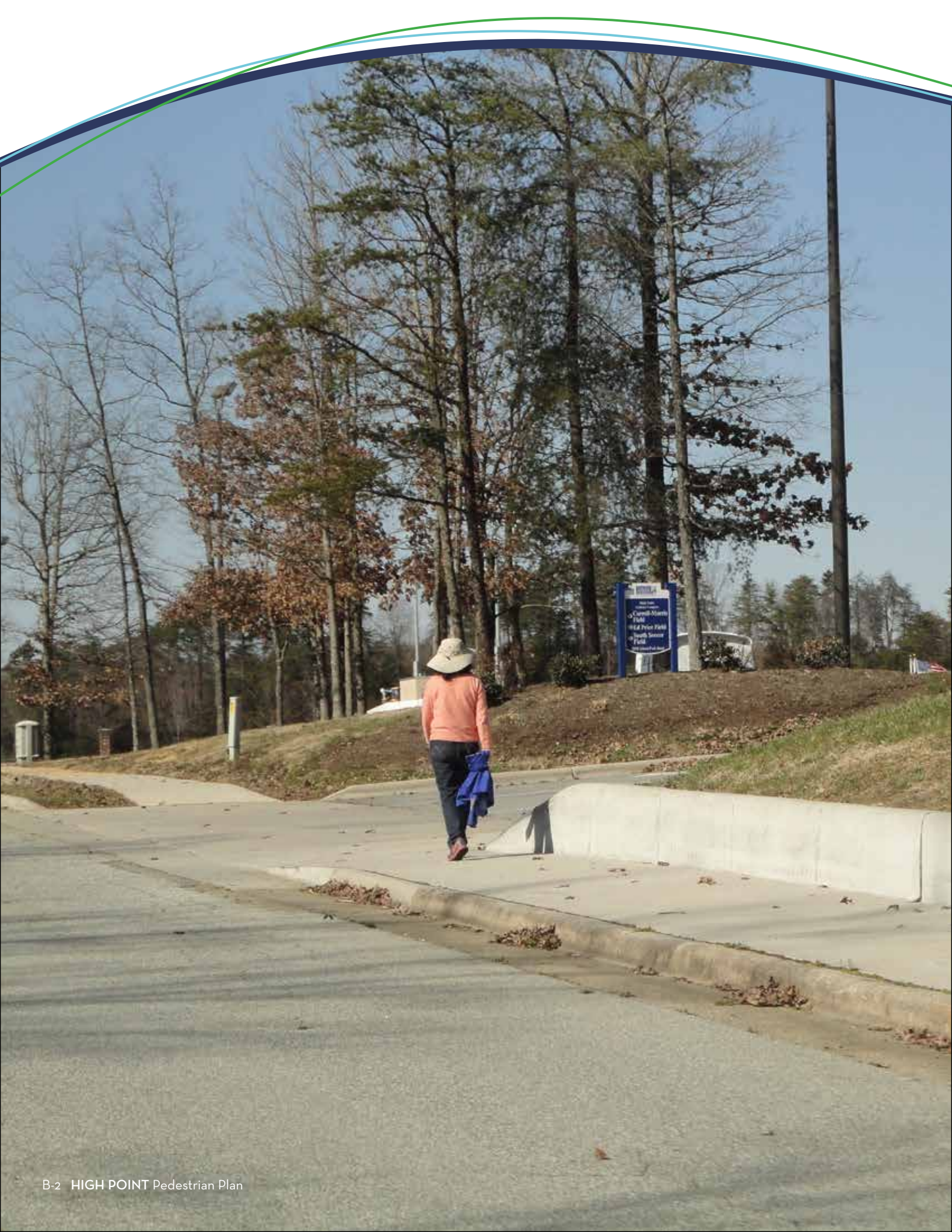
Greenway trail bridges are most often used to provide user access over natural features such as streams and rivers, where a culvert is not an option or the span length exceeds 20 feet. The type and size of bridges can vary widely depending on the greenway trail and specific site requirements. Bridges often used for greenway trails include suspension bridges and prefabricated clear span bridges. When determining a bridge design for greenway trails, it is important to consider emergency and maintenance vehicle access.

Greenway trails that are poorly designed through water features can impact wetlands and streams, and become conduits for delivering sediments, nutrients, and pathogens to the watershed. Greenway trails that cross streams can exhibit bank and streambed erosion if not properly constructed.

GUIDANCE

- The clear span width of the bridge should include 2 feet of clearance on both ends of the bridge approach for the shoulder.
- Bridge deck grade should be flush with adjacent greenway trail tread elevation to provide a smooth transition.
- Railing heights on bridges should include a 42 inch minimum guard rail, and 48 inches where hazardous conditions exist.
- A minimum overhead clearance of 10 feet is desirable for emergency vehicle access. Maximum opening between railing posts is 4 inches.
- A greenway trail bridge should support 10 tons for 10 foot wide greenway trails, and 20 tons for wider than 10 feet for emergency vehicle access.
- Bridges along greenway trails that allow equestrian use should be designed for mounted unit loadings.
- When crossing small headwater streams, align the crossing as far upstream as possible in the narrowest section of stream channel to minimize impact.
- Greenway trail drainage features should be constructed to manage stormwater before the greenway trail crosses the watercourse.
- All abutment and foundation design should be completed and sealed by a professional structural engineer licensed in the State of North Carolina.
- All greenway trail bridges will require local building permits, stormwater and land disturbance permits, floodplain development permits, and FEMA approval. Length and height of the bridge cords are governed by the width of the floodway and impacts to the base flood elevation of streams.





B Funding

Overview

Multiple approaches should be taken to support bicycle facility development and programming. It is important to secure the funding necessary to undertake priority projects but also to develop a long-term funding strategy to allow continued development of the overall system. Dedicated local funding sources will be important for the implementation of this plan.

Local government funds for bicycle facilities should be set aside every year, even if only for a small amount. Small amounts of local funding can be matched to outside funding sources. A variety of local, state, and federal options and sources exist and should be pursued.

The following section identifies federal, state, local and private/ non-profit foundation sources of funding for planning, design, implementation and maintenance of bicycle infrastructure. The descriptions are intended to provide an overview of available options and do not represent a comprehensive list. It should be noted that this section reflects the funding available at the time of writing. The funding amounts, fund cycles, and even the programs themselves are susceptible to change without notice.

Federal Funding Sources

Federal funding is typically directed through state agencies to local governments either in the form of grants or direct appropriations. Federal funding typically requires a local match of five percent to 50 percent, but there are sometimes exceptions. The following is a list of possible Federal funding sources that could be used to support the construction of bicycle facilities.

Fixing America's Surface Transportation (FAST Act)

In December 2015, President Obama signed the FAST Act into law, which replaces the previous Moving Ahead for Progress in the Twenty-First Century (MAP-21). The Act provides a long-term funding source of $305 billion for surface transportation and planning for FY 2016-2020. Overall, the FAST Act retains eligibility for larger programs - Transportation Investments Generating Economic Recovery (TIGER), Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), and Highway Safety Improvement Program (HSIP). The FAST Act maintains the federal government's focus on safety, preserves the established structure of various highway-related programs, streamlines project delivery, and provides a dedicated funding source for freight projects.

In North Carolina, federal monies are administered through the North Carolina Department of Transportation (NCDOT) and Metropolitan Planning Organizations (MPOs). Most, but not all, of these programs are focused on transportation rather than recreation, with an emphasis on reducing auto trips and providing intermodal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system. Most FAST ACT funds are available through the STI process.

For more information: http://www.fhwa.dot.gov/fastact/summary.cfm

Transportation Alternatives (TA)

Transportation Alternatives (TA) is a funding source under the FAST Act that consolidates three formerly separate programs under SAFETEA-LU: Transportation Enhancements (TE), Safe Routes to School (SRTS), and the Recreational Trails Program (RTP). Funds are available through a competitive process. These funds may be used for a variety of pedestrian, bicycle, and streetscape projects. These include:

- SRTS programs - infrastructure and noninfrastructure programs
- Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation, including sidewalks, bikeways, pedestrian and bicycle signals, traffic calming techniques, and lighting and other safety-related infrastructure
- Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, seniors, and individuals with disabilities
- Construction of rail-trails
- Recreational trails program

Eligible entities for TA funding include local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts or schools, tribal governments, and any other local or regional government entity with responsiblility for oversight of transportation or recreational trails that the State determines to be eligible.

The FAST Act provides $84 million for the Recreational Trails Program. Funding is prorated among the 50 states and Washington D.C. in proportion to the relative amount of off-highway recreational fuel tax that its residents paid. To administer the funding, states hold a statewide competitive process. The legislation stipulates that funds must conform to the distribution formula of 30% for motorized projects, 30% for non-motorized projects, and 40% for mixed used projects. Each state governor is given the opportunity to "opt out" of the RTP.

For more information: https://www.fhwa.dot.gov/fastact/factsheets/transportationalternativesfs.cfm

Surface Transportation Block Grant (STBG) Program

The FAST Act converts the Surface Transportation Program into the Surface Transportation Block Grant (STBG) program. This program is among the most flexible eligibilities among all Federal-aid and highway programs. Funding for the STBG Program will increase from $819 million per year to $835 million in 2016 and 2017 and to $850 million in 2018 through 2020.

The Surface Transportation Program (STP) provides states with flexible funds which may be used for a variety of highway, road, bridge, and transit projects. A wide variety of pedestrian improvements are eligible, including trails, sidewalks, crosswalks, pedestrian signals, and other ancillary facilities. Modification of sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA) is also an eligible activity. Safe Routes to School programs, congestion pricing projects and strategies, and recreational trails projects are other eligible activities. Under the FAST Act, a State may use STBG funds to create and operate a State office to help deisgn, implement, and oversee public-private partnerships eligible to receive Federal highway or transit funding. In general, projects cannot be located on local roads or rural minor collectors. However, there are exceptions. These exceptions include recreational trails, pedestrian and bicycle projects, and Safe Routes to School programs.

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

Highway Safety Improvement Program (HSIP)

HSIP provides $2.2 - $2.4 billion nationally (FY 2016-2020) for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. The HSIP requirements prior to the enactment of the FAST Act are still applicable, including the need for a comprehensive, data-driven State Highway Safety Plan (SHSP) that defines the State's safety goals and describes strategies to improve safety.

HSIP funds must be used for safety projects that are consistent with the State's SHSP and that correct or improve a hazardous road location or features to address a highway safety problem. Most eligible activities are infrastructure-related. Bicycle and pedestrian safety improvements, traffic calming projects, and crossing treatments for non-motorized users in school zones areeligible for these funds. Examples include pedestrian hybrid beacons, medians, and pedestrian crossing islands. Workforce development, training, and education activities are other eligible uses of HSIP funds.

For more information: http://www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm

Safe Routes to School (SRTS) Program

SRTS enables and encourages children in grades K-8 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. Funding is administered by State Departments of Transportation (DOTs). Eligible recipients are state, local, and regional agencies as well as nonprofit organizations. Project sponsors may be school or community based groups. Around 10-30% of each state's funding is to be spent on noninfrastructure activities, such as encouragement programs, additional law enforcement activities, and educational curricula.

Infrastructure-related projects improve the ability of students to walk or bike to and from school. Types of projects include sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bike crossing improvements, bicycle facilities, pedestrian facilities, and secure bike parking.

For more information: http://www.fhwa.dot.gov/environment/safe_routes_to_school/guidance/#toc123542170

Other Federal Funding Sources

TIGER Discretionary Grants

The U.S. Department of Transportation's (DOT) Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants are intended to support multimodal projects, surface transportation projects, rail, transit, and port projects. Applicants must describe how their proposed project would achieve TIGER's five long-term outcomes - safety, economic competitiveness, state of good repair, quality of life, and environmental sustainability.

Eligible applicants for TIGER Discretionary Grants are State, local and tribal governments. This includes U.S. territories, transit agencies, port authorities, and metropolitan planning organizations (MPOs). Eligible projects are capital projects that include highway or bridge projects (including bicycle and pedestrian related projects), certain public transportation projects, passenger and freight rail transportation projects, and intermodal projects.

For more information: https://www.transportation.gov/policy-initiatives/tiger/2016-tiger-applications-faqs

Federal Transit Administration Enhanced Mobility of Seniors and Individuals with Disabilities

This program aims to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program can be used for capital expenses that support transportation and non-emergency medical transportation to meet the special needs of older adults and persons with disabilities, including providing access to an eligible public transportation facility when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. States and designated recipients are direct recipients. Eligible subrecipients include nonprofit organizations, states or local governments, or operators of public transportation. Types of eligible projects include transit-related information technology systems, building an accessible path to a bus stop (curb cuts, sidewalks, accessible pedestrian signals), and improving signage.

For more information: https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310

Economic Development Administration

Under Economic Development Administration's (EDA) Public Works and Economic Adjustment Assistance programs, grant applications are accepted for projects that promote economic development. State and local entities may apply for funding for projects that address a wide range of economic challenges. Under this program, Implementation Grants support infrastructure improvements, including site acquisition, site preparation, construction, and rehabilitation of facilities. Selection criteria emphasize projects that are able to start quickly, create jobs faster, and that will enable the community or region to become more economically prosperous. Application deadlines are typically in March and June.

For more information: https://www.eda.gov/funding-opportunities/index.htm

Federal Lands Transportation Program (FLTP)

The FLTP funds projects that improve transportation infrastructure owned and maintained by the following Federal Lands Management Agencies: National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), USDA Forest Service, Bureau of Land Management (BLM), U.S. Army Corps of Engineers, Bureau of Reclamation, and indepedent Federal agencies with land and natural resource management responsibilities. FLTP funds are for available for program administration, transportation planning, research, engineering, rehabilitation, construction, and restoration of Federal Lands Transportation Facilities. Transportation projects that are on the public network that provide access to, adjacent to, or through Federal lands are also eligible for funding. Under the FAST Act, $335 - $375 million has been allocated to the program per fiscal year from 2016 - 2020.

For more information: https://flh.fhwa.dot.gov/programs/fltp/documents/FAST%20FLTP%20fact%20sheet.pdf

Partnership for Sustainable Communities

Founded in 2009, the Partnership for Sustainable Communities (PSC) is a joint project of the Environmental Protection Agency (EPA), the U.S. Department of Housing and Urban Development (HUD), and the U.S. Department of Transportation (USDOT). The partnership aims to "improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide."

PSC is based on six livability principles, one of which explicitly addresses the need for alternative transportation options. ("Provide more transportation choices: Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health"). PSC is not a formal agency with a regular annual grant program. Nevertheless, it is an important effort that has already led to some new grant opportunities (including both TIGER I and TIGER II grants). North Carolina jurisdictions should track PSC communications and be prepared to respond proactively to announcements of new grant programs. Initiatives that speak to multiple livability goals are more likely to score well than initiatives that are narrow in scope. PSC livability principles include: provide more transportation choices, promote equitable, affordable housing, enhance economic competitiveness, support existing communities, coordinate and leverage federal policies and investment, and value communities and neighborhoods.

For more information:

http://www.sustainablecommunities.gov/

https://www.epa.gov/smartgrowth/hud-dot-epa-partnership-sustainable-communities

Resource for Rural Communities: http://www.sustainablecommunities.gov/sites/sustainablecommunities.gov/files/docs/federal_resources_rural.pdf

Federal Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction. The program is administered by the Department of Environment and Natural Resources as a grant program for states and local governments. Maximum annual grant awards for county governments, incorporated municipalities, public authorities, and federally recognized Indian tribes are $250,000. The local match may be provided with in-kind services or cash.

For more information: https://www.nps.gov/subjects/lwcf/stateside.htm

Rivers, Trails, and Conservation Assistance Program

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service (NPS) program that provides technical assistance via direct NPS staff involvement to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program only provides planning assistance; there are no implementation funds available. Projects are prioritized for assistance based on criteria, including conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. Project applicants may be state and local agencies, tribes, nonprofit organizations, or citizen groups. National parks and other federal agencies may apply in partnership with other local organizations. This program may benefit trail development in North Carolina indirectly through technical assistance, particularly for community organizations, but is not a capital funding source. Annual application deadline is August 1st.

For more information: https://www.nps.gov/orgs/rtca/index.htm

For more information: https://flh.fhwa.dot.gov/programs/fltp/documents/FAST%20FLTP%20fact%20sheet.pdf

Environmental Contamination Cleanup Funding Sources

EPA's Brownfields Program provides direct funding for brownfields assessment, cleanup, revolving loans, and environmental job training. EPA's Brownfields Program collaborates with other EPA programs, other federal partners, and state agencies to identify and leverage more resources for brownfields activities. The EPA provides assessment grants to recipients to characterize, assess, and conduct community involvement related to brownfields sites. They also provide Area-wide planning grants (AWP) which provides communities with funds to research, plan, and develop implementation strategies for areas affected by one or more brownfields.

For more information: https://www.epa.gov/brownfields/types-brownfields-grant-funding

National Fish and Wildlife Foundation: Five Star & Urban Waters Restoration Grant Program

The Five Star & Urban Waters Restoration Grant Program seeks to develop community capacity to sustain local natural resources for future generations by providing modest financial assistance to diverse local partnerships for wetland, riparian, forest and coastal habitat restoration, urban wildlife conservation, stormwater management as well as outreach, education and stewardship. Projects should focus on water quality, watersheds and the habitats they support. The program focuses on five priorities: on-the-ground restoration, community partnerships, environmental outreach, education, and training, measurable results, and sustainability. Eligible applicants include nonprofit organizations, state government agencies, local governments, municpal governments, tribes, and educational institutions. Projects are required to meet or exceed a 1:1 match to be competitive.

For more information: http://www.nfwf.org/fivestar/Pages/home.aspx

State Funding Sources

There are multiple sources for state funding of bicycle and pedestrian transportation projects. However, beginning July 1, 2015, state transportation funds cannot be used to match federally funded transportation projects, according to a law passed by the North Carolina Legislature.

North Carolina Department of Transportation (NCDOT) Strategic Transportation Investments (STI)

The NCDOT's State Transportation Improvement Program is based on the Strategic Transportation Investments Bill, signed into law in 2013. The Strategic Transportation Investments (STI) Initiative introduces the Strategic Mobility Formula, a new way to fund and prioritize transportation projects.

The new Strategic Transportation Investments Initiative is scheduled to be fully implemented by July 1, 2015. Projects slated for construction after that time will be ranked and programed according to the new formula. The new Strategic mobility formula assigns projects for all modes into one of three categories: 1) Statewide Mobility, 2) Regional Impact, and 3) Division Needs.

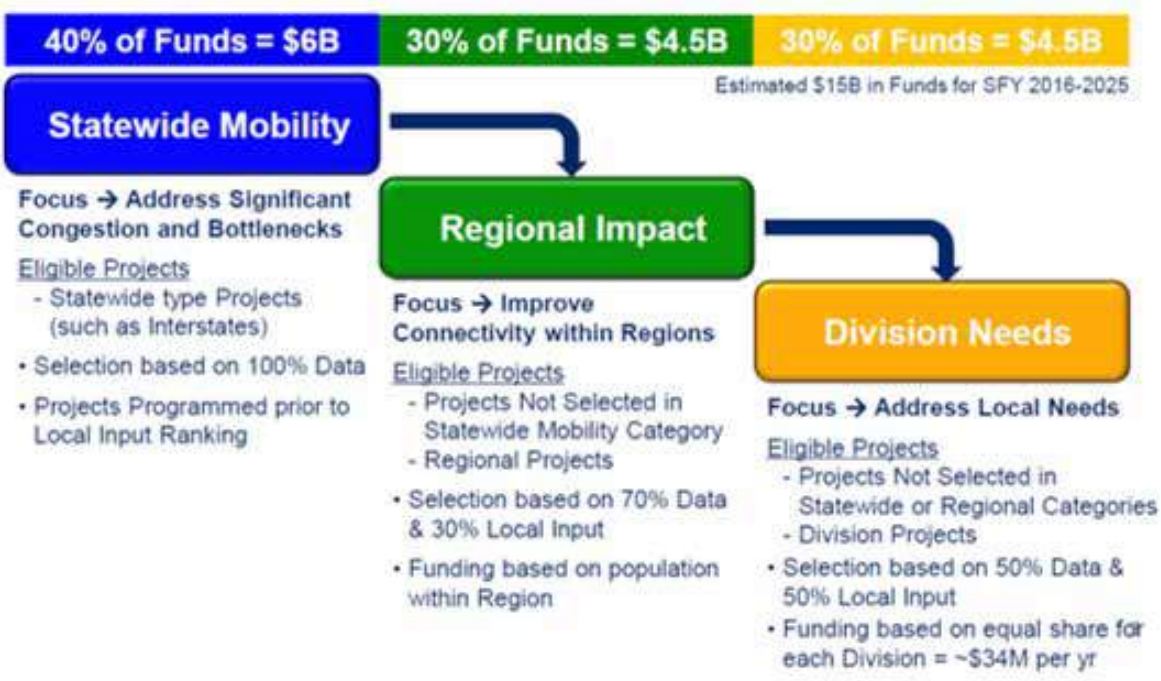
All independent bicycle and pedestrian projects are placed in the "Division Needs" category, and are currently ranked based on 50% data (safety, access, demand, connectivity, and cost effectiveness) and 50% local input, with a breakdown as follows:

Safety 15%

- Definition: Projects or improvements where bicycle or pedestrian accommodations are non-existent or inadequate for safety of users
- How it's measured: Crash history, posted speed limits, and estimated safety benefit
- Calculation:
    - Bicycle/pedestrian crashes along the corridor within last five years: 40% weight
    - Posted speed limits, with higher points for higher limits: 40% weight
    - Project safety benefit, measured by each specific improvement: 20% weight

Access 10%

- Definition: Destinations that draw or generate high volumes of bikes/pedestrians
- How it's measured: Type of and distance to destination



Demand 10%

- Definition: Projects serving large resident or employee user groups
- How its measured: # of households and employees per square mile within 1 ½ mile bicycle or ½ mile pedestrian facility + factor for unoccupied housing units (second homes)

Connectivity 10%

- Definition: Measure impact of project on reliability and quality of network
- How it's measured: Creates score per each SIT based on degree of bike/ped separation from roadway and connectivity to similar or better project type

Cost Effectiveness 5%

- Definition: Ratio of calculated user benefit divided by NCDOT project cost
- How it's measured: Safety + Demand + Access + Connectivity)/Estimated Project Cost to NCDOT

Local Input 50%

- Definition: Input from MPO/RPOs and NCDOT Divisions, which comes in the form points assigned to projects.
- How it is measured: Base points + points for population size. A given project is more likely to get funded if it is assigned base points from both the MPO/RPO and the Division, making the need for communicating the importance of projects to these groups critical. Further, projects that have a local match will score higher.

Additional bicycle and pedestrian project requirements:

- Federal funding typically requires a 20% non-federal match
- State law prohibits state match for bicycle and pedestrian projects (except for Powell Bill)
- Limited number of project submittals per MPO/RPO/ Division
- Minimum project cost requirement is $100,000
- Bike/Ped projects typically include: bicycle lanes, multi-use path/greenway, paved shoulders, sidewalks, pedestrian signals, SRTS infrastructure projects, and other streetscape/multi-site improvements (such as median refuge, signage, etc.)

These rankings largely determine which projects will be included in NCDOT's State Transportation Improvement Program (STIP). The STIP is a federally mandated transportation planning document that details transportation planning improvements prioritized by the stakeholders for inclusion in NCDOT's Work Program over the next 10 years. "More than 900 non-highway construction projects were prioritized for years 2015-2020, totaling an estimated $9 billion. NCDOT will only have an estimated $1.5 billion to spend during this time period." The STIP is updated every 2 years. The STIP contains funding information for various transportation divisions of NCDOT, including, highways, rail, bicycle and pedestrian, public transportation and aviation. A project does not have to be fully funded to be in the STIP.

For more information on STIP: www.ncdot.gov/strategictransportationinvestments/

To access the STIP: https://connect.ncdot.gov/projects/planning/Pages/State-Transportation-Improvement-Program.aspx

For more about the STI process: http://www.ncdot.gov/download/performance/performance_TheProcess.pdf

Incidental Projects

Bicycle and Pedestrian accommodations such as; bike lanes, wide paved shoulders, sidewalks, intersection improvements, bicycle and pedestrian safe bridge design, etc. are frequently included as "incidental" features of larger highway/roadway projects. This is increasingly common with the adoption of NCDOT's "Complete Streets" Policy.

In addition, bicycle safe drainage grates and handicapped accessible sidewalk ramps are now a standard feature of all NCDOT highway construction. Most pedestrian safety accommodations built by NCDOT are included as part of scheduled highway improvement projects funded with a combination of federal and state roadway construction funds, and usually with a local match. On-road bicycle accommodations, if warranted, typically do not require a local match.

"Incidental Projects" are often constructed as part of a larger transportation project, when they are justified by local plans that show these improvements as part of a larger, multi-modal transportation system. Having a local bicycle or pedestrian plan is important, because it allows NCDOT to identify where bike and pedestrian improvements are needed, and can be included as part of highway or street improvement project. It also helps local government identify what their priorities are and how they might be able to pay for these projects. Under "Complete Streets" local governments may be responsible for a portion of the costs for bicycle and pedestrian projects. The cost share breakdown is based on population size as follows:

- >100,000 = 50% local match
- 50,000 - 100,000 = 40% local match
- 10,000 - 50,000 = 30% local match
- <10,000 = 20% local match

For more information: https://connect.ncdot.gov/projects/planning/RNAProjDocs/2014-06FinalReport.pdf

SPOT Safety Program

The Spot Safety Program is a state-funded public safety investment and improvement program that provides highly effective low-cost safety improvements for intersections and sections of North Carolina's 79,000 miles of state maintained roads in all 100 counties of North Carolina. The Spot Safety Program is used to develop smaller improvement projects to address safety, potential safety, and operational issues. The program is funded with state funds and currently receives approximately $9 million per state fiscal year. Other monetary sources (such as Small Construction or Contingency funds) can assist in funding Spot Safety projects, however, the maximum allowable contribution of Spot Safety funds per project is $250,000.

The Spot Safety Program targets hazardous locations for expedited low cost safety improvements such as traffic signals, turn lanes, improved shoulders, intersection upgrades, positive guidance enhancements (rumble strips, improved channelization, raised pavement markers, long life highly visible pavement markings), improved warning and regulatory signing, roadside safety improvements, school safety improvements, and safety appurtenances (like guardrail and crash attenuators).

A Safety Oversight Committee (SOC) reviews and recommends Spot Safety projects to the Board of Transportation (BOT) for approval and funding. Criteria used by the SOC to select projects for recommendation to the BOT include, but are not limited to, the frequency of correctable crashes, severity of crashes, delay, congestion, number of signal warrants met, effect on pedestrians and schools, division and region priorities, and public interest.

For more information: https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx

Highway Hazard Elimination Program

The Hazard Elimination Program is used to develop larger improvement projects to address safety and potential safety issues. The program is funded with 90 percent federal funds and 10 percent state funds. The cost of Hazard Elimination Program projects typically ranges between $400,000 and $1 million. A Safety Oversight Committee (SOC) reviews and recommends Hazard Elimination projects to the Board of Transportation (BOT) for approval and funding. These projects are prioritized for funding according to a safety benefit to cost (B/C) ratio, with the safety benefit being based on crash reduction. Once approved and funded by the BOT, these projects become part of the department's State Transportation Improvement Program (STIP).

For more information: https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx

Governor's Highway Safety Program

The Governor's Highway Safety Program (GHSP) funds safety improvement projects on state highways throughout North Carolina. All funding is performance-based. Substantial progress in reducing crashes, injuries, and fatalities is required as a condition of continued funding. Permitted safety projects include checking station equipment, traffic safety equipment, and BikeSafe NC equipment. However, funding is not allowed for speed display signs. This funding source is considered to be "seed money" to get programs started. The grantee is expected to provide a portion of the project costs and is expected to continue the program after GHSP funding ends. Applications must include county level crash data. Local governments, including county governments and municipal governments, are eligible to apply.

For more information: http://www.ncdot.org/programs/ghsp/

Safe Routes to School (SRTS)

SRTS is managed by NCDOT, but is federally funded; See Federal Funding Sources above for more information.

Community Development Block Grant Funds

Community Development Block Grant (CDBG) funds are available to local municipal or county governments that qualify for community development projects that provide decent housing and suitable living environments and by expanding economic opportunities, principally for persons of low and moderate income. State CDBG funds are provided by the U.S. Department of Housing and Urban Development (HUD) to the state of North Carolina. Some urban counties and cities in North Carolina receive CDBG funding directly from HUD. Each year, CDBG provides funding to local governments for hundreds of critically-needed community improvement projects throughout the state. These community improvement projects are administered by the Division of Community Assistance and the Commerce Finance Center under eight grant categories. CDBG funds may be used for activities which include, but are not limited to: acquisition of real property, construction of public facilities and improvements, such as streets, neighborhood centers, and conversion of school buildings for eligible purposes, and activities related to energy conservation.

For more information: https://www.hudexchange.info/programs/cdbg-entitlement/cdbg-entitlement-program-eligibility-requirements/

The North Carolina Division of Parks and Recreation – Recreational Trails and Adopt-a-Trail Grants

The Adopt-a-Trail Grant Program (AAT) awards $108,000 annually to government agencies, nonprofit organizations and private trail groups for trail projects. Funding from the federal Recreational Trails Program (RTP), which is used for renovating or constructing trails and greenways, is allocated to states. The North Carolina Division of Parks and Recreation and the State Trails Program manages these funds with a goal of helping citizens, organizations and agencies plan, develop and manage all types of trails ranging from greenways and trails for hiking, biking, and horseback riding to river trails and off-highway vehicle trails. Grants are availble to governmental agencies and nonprofit organizations. The maximum grant amount is $100,000 and requires a 25% match of RTP funds received. Permissible uses include:

- New trail or greenway construction
- Trail or greenway renovation
- Approved trail or greenway facilities
- Trail head/ trail markers
- Purchase of tools to construct and/or renovate trails/ greenways
- Land acquisition for trail purposes
- Planning, legal, environmental, and permitting costs - up to 10% of grant amount
- Combination of the above

Grant applications are typically due in May.

For more information: http://www.ncparks.gov/more-about-us/grants/trail-grants/recreational-trails-program

NC Parks and Recreation Trust Fund (PARTF)

The Parks and Recreation Trust Fund (PARTF) provides dollar-for-dollar matching grants to local governments for parks and recreational projects to serve the general public. Counties, incorporated municipalities, and public authorities, as defined by G.S. 159-7, are eligible applicants. A local government can request a maximum of $500,000 with each application. An applicant must match the grant dollar-for-dollar, 50 percent of the total cost of the project, and may contribute more than 50 percent. The appraised value of land to be donated to the applicant can be used as part of the match. The value of in-kind services, such as volunteer work, cannot be used as part of the match. Property acquired with PARTF funds must be dedicated for public recreational use.

For more information: http://www.ncparks.gov/more-about-us/parks-recreation-trust-fund/eligibility

Clean Water Management Trust Fund

The Clean Water Management Trust Fund (CWMTF) is available to any state agency, local government, or non-profit organization whose primary purpose is the conservation, preservation, and restoration of North Carolina's environmental and natural resources. Grant assistance is provided to conservation projects that:

- enhance or restore degraded waters;
- protect unpolluted waters, and/or
- contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits;
- provide buffers around military bases to protect the military mission;
- acquire land that represents the ecological diversity of North Carolina; and
- acquire land that contributes to the development of a balanced State program of historic properties.

For 2017, CWMTF expects to award over $25 million to projects that protect natural and cultural resources.

For more information: http://www.cwmtf.net/#appmain.htm

Duke Energy Water Resources Fund

Duke Energy is investing $10 million in a fund for projects that benefit waterways in the Carolinas. The fund supports science-based, research-supported projects and programs that provide direct benefit to at least one of the following focus areas:

Improve water quality, quantity and conservation;

Enhance fish and wildlife habitats;

Expand public use and access to waterways; and

Increase citizens' awareness about their roles in protecting these resources.

Applications are open to nonprofit organizations and local government agencies. Funding decisions are made twice a year. Local and regional government agencies could consider this resource for proposed greenways across the region such as the Browns Creek section of proposed greenway as part of Priority Project D in Elizabethtown.

For more information: http://www.nccommunityfoundation.org/page/other-grant-opportunities/duke-energy-water-resource-fund-grants/applying-to-the-duke-energy-water-resources-fund

Urban and Community Forestry Grant

The North Carolina Division of Forest Resources Urban and Community Forestry grant can provide funding for a variety of projects that will help plan and establish street trees as well as trees for urban open space. The goal is to improve public understanding of the benefits of preserving existing tree cover in communities and assist local governments with projects which will lead to more effective and efficient management of urban and community forests. Grant requests should range between $1,000 and $15,000 and must be matched equally with non-federal funds. Grant funds may be awarded to any unit of local or state government, public educational institutions, approved non-profit 501(c)(3) organizations, and other tax-exempt organizations. First time municipal applicant and municipalities seeking Tree City USA status are given priority for funding. Grant applications are due by March 31st of each year and recipients are notified by mid-July.

For more about Tree City USA status, including application instructions, visit: http://ncforestservice.gov/Urban/urban_grant_overview.htm

Local Government Funding Sources

Municipalities often plan for the funding of pedestrian and bicycle facilities or improvements through development of Capital Improvement Projects (CIP) or occasionally, through their annual Operating Budgets. In Raleigh, for example, the greenway system has been developed over many years through an annual dedicated source of funding that has ranged from $100,000 to $500,000 and administered through the Recreation and Parks Department. CIPs should include all types of capital improvements (water, sewer, buildings, streets, etc.) versus programs for single purposes. This allows municipal decision-makers to balance all capital needs. Typical capital funding mechanisms include the capital reserve fund, capital protection ordinances, municipal service district, tax increment financing, taxes, fees, and bonds. Each category is described below. A variety of possible funding options available to North Carolina jurisdictions for implementing pedestrian and bicycle projects are also described below. However, many will require specific local action as a means of establishing a program if it's not already in place.

Powell Bill Funds

Annually, State street-aid (Powell Bill) allocations are made to incorporated municipalities which establish their eligibility and qualify as outlined by G.S. 136-41.1 through 136-41.4. Powell Bill funds shall be expended only for the purposes of maintaining, repairing, constructing, reconstructing or widening of local streets that are the responsibility of the municipalities. It may also be used for planning, construction, and maintenance of bikeways or sidewalks within municipal limits or within the area of a metopolitan planning organization or rural planning organization. Beginning July 1, 2015, under the Strategic Transportation Investments initiative, Powell Bill funds may no longer be used to provide a match for federal transportation funds such as Transportation Alternatives. Certified Statement, street listing, add/delete sheet and certified map from all municipalities are due between July 1st and July 21st of each year. Additional documentation is due shortly afterwards.

For more information: https://connect.ncdot.gov/municipalities/State-Street-Aid/Pages/default.aspx

Capital Reserve Fund

Municipalities have statutory authority to create capital reserve funds for any capital purpose, including pedestrian facilities. The reserve fund must be created through ordinance or resolution that states the purpose of the fund, the duration of the fund, the approximate amount of the fund, and the source of revenue for the fund. Sources of revenue can include general fund allocations, fund balance allocations, grants, and donations for the specified use.

Capital Project Ordinances

Municipalities can pass Capital Project Ordinances that are project specific. The ordinance identifies and makes appropriations for the project.

Local Improvement District (LID)

Local Improvement Districts (LIDs) are most often used by cities to construct localized projects such as streets, sidewalks, or bikeways. Through the LID process, the costs of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation.

Municipal Service District

Municipalities have statutory authority to establish municipal service districts, to levy a property tax in the district additional to the town-wide property tax, and to use the proceeds to provide services in the district. Downtown revitalization projects are one of the eligible uses of service districts, and can include projects such as street, sidewalk, or bikeway improvements within the downtown taxing district.

Tax Increment Financing

Project Development Financing bonds, also known as Tax Increment Financing (TIF) is a relatively new tool in North Carolina, allowing localities to use future gains in taxes to finance the current improvements that will create those gains. When a public project (e.g., sidewalk improvements) is constructed, surrounding property values generally increase and encourage surrounding development or redevelopment. The increased tax revenues are then dedicated to finance the debt created by the original public improvement project. Streets, streetscapes, and sidewalk improvements are specifically authorized for TIF funding in North Carolina. Tax Increment Financing typically occurs within designated development financing districts that meet certain economic criteria that are approved by a local governing body. TIF funds are generally spent inside the boundaries of the TIF district, but they can also be spent outside the district if necessary to encourage development within it. Although larger cities use this type of financing more often, Woodfin, NC is an example of a small town that has used this type of financing.

Municipal Vehicle Tax

NCGS 20-97 allows municipalities to establish a vehicle fee/tax and a percentage of funding can be used for maintaining, repairing, constructing, reconstructing, widening, or improving public streets in the city or town that do not form a part of the State highway system.

Other Local Funding Options

- Bonds/Loans
- Taxes
- Impact fees
- Exactions
- Installment purchase financing
- In-lieu-of fees
- Partnerships

Private and Nonprofit Funding Sources

Many communities have solicited greenway funding assistance from private foundations and other conservation-minded benefactors. Below are examples of private funding opportunities.

FUNDING FOR TRAIL DEVELOPMENT

Rails-to-Trails Conservancy

RTC launched a new grant program in 2015 to support organizations and local governments that are implementing projects to build and improve rail-trails. Under the Doppelt Family Trail Development Fund, RTC will award a total of $85,000 per year through a competitive process, which is then distributed among several qualifying projects. Eligible applicants include nonprofit organizations and state, regional, and local government agencies. Two types of grants are available - community support grants and project transformation grants. Around three to four community support grants are awarded each year, ranging from $5,000-$10,000 each. Community Support Grants support nonprofit organizations or "Friends of the Trail" groups that need funding to get trail development or trail improvement efforts off the ground. Each year, 1-2 Project Transformation Grants area awarded that range from $15,000-$50,000. The intention of these grants is to enable an organization to complete a significant trail development or improvement project. For both types of grants, applications for projects on rail-trails and rails-with-trails are given preference, but rail-trail designation is not a requirement. The trail must serve multiple user types, such as bicycling, walking, and hiking, and must be considered a trail, greenway, or shared-use path.

The fund was established with a $80,000 grant from Jeff Doppelt of Great Neck, New York, a long-time supporter of RTC and development of rail-trails in the United States, and an additional $20,000 donation from an anonymous donor. Applications are due January 31st of each year but applicants should check the website for grant application announcements.

For more information: http://www.railstotrails.org/our-work/doppelt-family-trail-development-fund/

National Trails Fund

American Hiking Society created the National Trails Fund in 1998, which is the only privately supported national grants program that provides funding to grassroots organizations working toward establishing, protecting, and maintaining foot trails in America. National Trails Fund grants help give local organizations the resources they need to secure access, volunteers, tools and materials to protect America's cherished public trails. To date, American Hiking has granted more than $588,000 to 192 different trail projects across the U.S. for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from $500 to $3,000 per project. Only 501(c)3 nonprofit organizations are eligible to apply. Applicants must be current members of American Hiking Society's Alliance of Hiking Organizations. Except for land acquisition projects, funded projects must be completed in a year. Multi-year projects may be considered if they are exceptional cases. Projects the American Hiking Society will consider include:

- Securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements.
- Building and maintaining trails which will result in visible and substantial ease of access, improved hiker safety, and/or avoidance of environmental damage.
- Constituency building surrounding specific trail projects - including volunteer recruitment and support.

For more information: https://americanhiking.org/national-trails-fund/

American Greenways Eastman Kodak Awards

The Conservation Fund's American Greenways Program has teamed with the Eastman Kodak Corporation and the National Geographic Society to award small grants ($500 to $2,500) to stimulate the planning, design, and development of greenways. These grants can be used for activities such as mapping, conducting ecological assessments, surveying land, holding conferences, developing brochures, producing interpretive displays, incorporating land trusts, planning bike paths, and building trails. Grants are primarily awarded to local, regional, or

statewide nonprofit organizations. Public agencies may apply but preference is given to community organizations. Grants are awarded based on the importance of the project to local greenway development efforts, demonstrated community support, extent to which the grant will result in matching funds, likelihood of tangible results, and the capacity of the organization to complete the project. Applications can be submitted from March 1st through June 1st of each calendar year.

For more information: http://www.rlch.org/funding/kodak-american-greenways-grants

FUNDING FOR CONSERVATION EFFORTS

National Fish and Wildlife Foundation (NFWF)

The National Fish and Wildlife Foundation (NFWF) is a private, nonprofit, tax-exempt organization chartered by Congress in 1984. The National Fish and Wildlife Foundation sustains, restores, and enhances the Nation's fish, wildlife, plants, and habitats. Through leadership conservation investments with public and private partners, the Foundation is dedicated to achieving maximum conservation impact by developing and applying best practices and innovative methods for measurable outcomes.

The Foundation provides grants through more than 70 diverse conservation grant programs.One of the most relevant programs for bicycle and pedestrian projects is Acres for America. Funding priorities include conservation of bird, fish, plants and wildlife habitats, providing access for people to enjoy outdoors, and connecting existing protected lands. Federal, state, and local governement agencies, educational institutions, Native Amerian tribes, and nonprofit organizations may apply twice annually for matching grants. Due to the competitive nature of grant funding for Acres for America, all awarded grants require a minimum 1:1 match.

For more information: http://www.nfwf.org/whatwedo/grants/Pages/home.aspx

The Trust for Public Land

Land conservation is central to the mission of the Trust for Public Land (TPL). Founded in 1972, the TPL is the only national non-profit working exclusively to protect land for human enjoyment and well-being. TPL helps acquire land and transfer it to public agencies, land trusts, or other groups that intend to conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities.

For more information: http://www.tpl.org

Land for Tomorrow Campaign

Land for Tomorrow is a diverse partnership of businesses, conservationists, farmers, environmental groups, health professionals, and community groups committed to securing support from the public and General Assembly for protecting land, water, and historic places. The campaign was successful in 2013 in asking the North Carolina General Assembly to continue to support conservation efforts in the state. The state budget bill includes about $50 million in funds for key conservation efforts in North Carolina. Land for Tomorrow works to enable North Carolina to reach a goal of ensuring that working farms and forests, sanctuaries for wildlife, land bordering streams, parks, and greenways, land that helps strengthen communities and promotes job growth, and historic downtowns and neighborhoods will be there to enhance the quality of life for generations to come.

For more information: http://www.land4tomorrow.org/

The Conservation Alliance

The Conservation Alliance is a nonprofit organization of outdoor businesses whose collective annual membership dues support grassroots citizen-action groups and their efforts to protect wild and natural areas. Grants are typically about $35,000 each. Since its inception in 1989, The Conservation Alliance has contributed $4,775,059 to environmental groups across the nation, saving over 34 million acres of wild lands.

The Conservation Alliance Funding Criteria:

- The Project should be focused primarily on direct citizen action to protect and enhance our natural resources for recreation.
- The Alliance does not look for mainstream education or scientific research projects, but rather for active campaigns.
- All projects should be quantifiable, with specific goals, objectives, and action plans and should include a measure for evaluating success.
- The project should have a good chance for closure or significant measurable results over a fairly short term (within four years).

For more information: http://www.conservationalliance.com/grants/?yearly=2016

FUNDING FOR ENVIRONMENTAL INITIATIVES

Blue Cross Blue Shield of North Carolina Foundation (BCBS)

Blue Cross Blue Shield (BCBS) focuses on programs that use an outcome-based approach to improve the health and well-being of residents. The Healthy Places grant concentrates on increased physical activity and active play through support of improved built environments such as sidewalks and safe places to bike. Nonprofit organizations and government entities are eligible to apply. Eligible grant applicants must be located in North Carolina, be able to provide recent tax forms, and depending on the size of the non-profit, provide an audit. BCBS does not have a traditional grant cycle and announces grant opportunities on a periodic basis. Grants can range from small-dollar equipment grants to large, multi-year partnerships.

For more information: http://www.bcbsncfoundation.org/faqs

Duke Energy Foundation

Funded by Duke Energy shareholders, this foundation makes charitable grants to nonprofit organizations and government agencies. Grant applicants must serve communities that are also served by Duke Energy. The grant program has several investment priorities, one of which is environment, and this is the most applicable to bicycle and pedestrian projects. Duke Energy supports initiatives that help protect and restore wildlife and natural resources, with a special focus on water and air. The application period is typically from July 1st to August 31st.

For more information: https://www.duke-energy.com/community/duke-energy-foundation

FUNDING FOR COMMUNITY DEVELOPMENT INITIATIVES

North Carolina Community Foundation

The North Carolina Community Foundation, established in 1988, is a statewide foundation seeking gifts from individuals, corporations, and other foundations to build endowments and ensure financial security for non-profit organizations and institutions throughout the state. Based in Raleigh, the foundation also manages a number of community affiliates throughout North Carolina, that make grants in the areas of human services, education, health, arts, religion, civic affairs, and the conservation and preservation of historical, cultural, and environmental resources. The foundation also manages various scholarship programs statewide. Nonprofit organizations and local government units, such as public schools, are eligible to apply. The foundation will only give consideration to applicants that serve counties within its affiliate network.

For more information: http://www.nccommunityfoundation.org/grants-scholarships

Z. Smith Reynolds Foundation

This Winston-Salem-based foundation has been assisting environmental projects in North Carolina for many years. Grant recipients include nonprofit organizations, colleges and universities, religious entities, and government agencies that have projects or programs that serve North Carolinians. The Foundation focuses its grant making on five focus areas: Community Economic Development; Environment; Public Education; Social Justice and Equity; and Strengthening Democracy. The "environment" focus area is the most applicable for bicycle and pedestrian projects. This focus area seeks to protect and restore ecosystems in the state's mountains and coastal areas. The Z. Smith Reynolds Foundation is committed to accommodating the increasing growth demands in the state in environmentally sustainable ways, including through enhanced transportation options. Deadline to apply is typically in August.

For more information: http://www.zsr.org/grants-programs

Bank of America Charitable Foundation

The Bank of America Charitable Foundation is one of the largest in the nation. Its grantmaking activities are focused on 3 focus areas: workforce development and education, community development, and basic needs. The area of focus most relevant to increased recreational opportunities and trails is community development, which provides funding for projects that foster green communities and for transit oriented development projects. Only nonprofit organizations are eligible to apply for funding.

For more information: www.bankofamerica.com/foundation

LOCAL TRAIL SPONSORS

A sponsorship program for trail amenities allows smaller donations to be received from both individuals and businesses. Cash donations could be placed into a trust fund to be accessed for certain construction or acquisition projects associated with the greenways and open space system. Some recognition of the donors is appropriate and can be accomplished through the placement of a plaque, the naming of a trail segment, and/or special recognition at an opening ceremony. Types of gifts other than cash could include donations of services, equipment, labor, or reduced costs for supplies.

CORPORATE DONATIONS

Corporate donations are often received in the form of liquid investments (i.e. cash, stock, bonds) and in the form of land. Municipalities typically create funds to facilitate and simplify a transaction from a corporation's donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented.

PRIVATE INDIVIDUAL DONATIONS

Private individual donations can come in the form of liquid investments (i.e. cash, stock, bonds) or land. Municipalities typically create funds to facilitate and simplify a transaction from an individual's donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented.

FUNDRAISING/CAMPAIGN DRIVES

Organizations and individuals can participate in a fundraiser or a campaign drive. It is essential to market the purpose of a fundraiser to rally support and financial backing. Often times fundraising satisfies the need for public awareness, public education, and financial support.

VOLUNTEER WORK

It is expected that many citizens will be excited about the development of a greenway corridor. Individual volunteers from the community can be brought together with groups of volunteers form church groups, civic groups, scout troops and environmental groups to work on greenway development on special community workdays. Volunteers can also be used for fund-raising, maintenance, and programming needs.

INNOVATIVE FUNDING OPTIONS

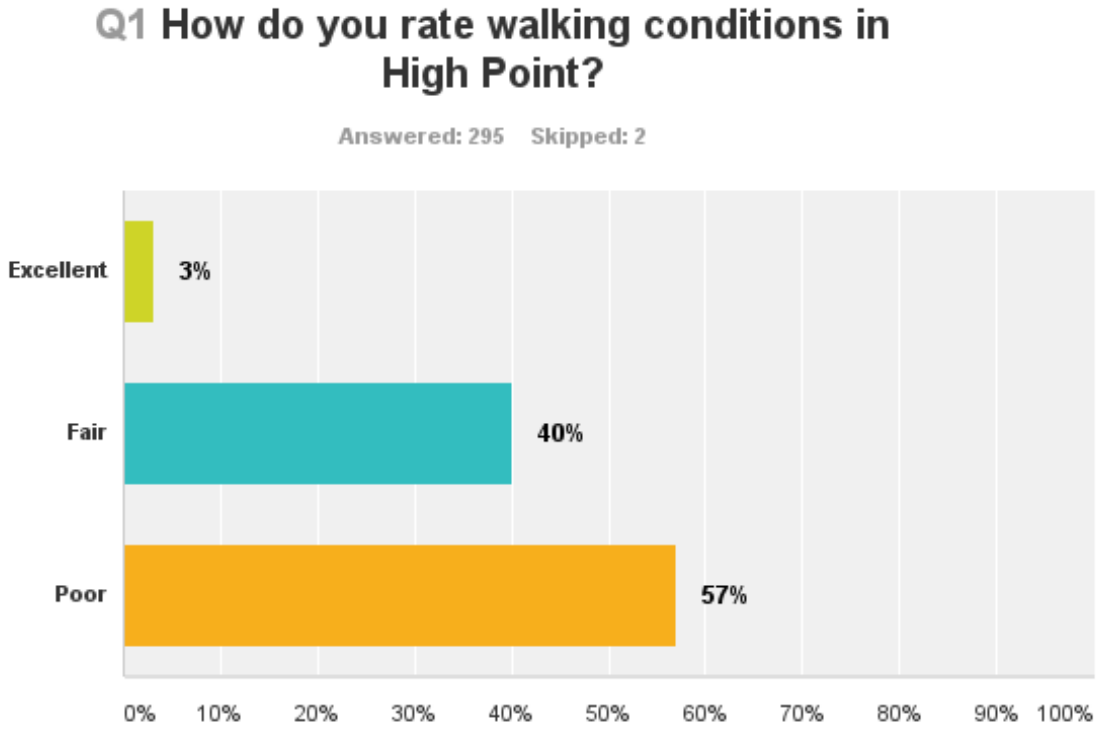
Crowdsourcing "is the process of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community, rather than from traditional employees or suppliers."

For some success stories and ideas for innovative fundraising techniques: http://www.americantrails.org/resources/funding/TipsFund.html

Public Comments

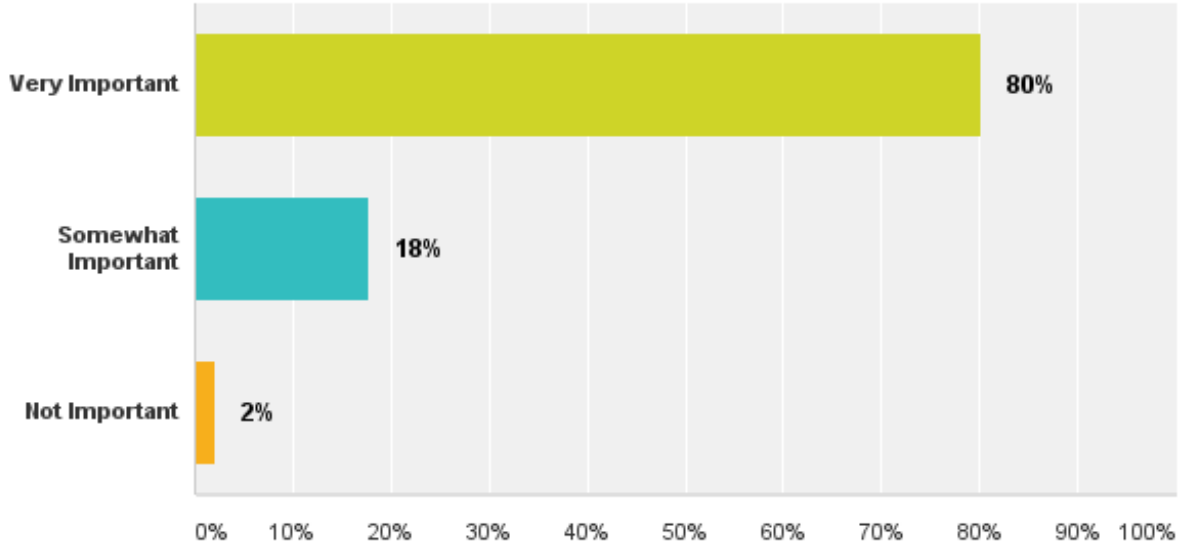
OVERVIEW

The public comment form was open from April to August 2016. An online format and hardcopy format were available for the survey. A total of 300 responses was collected. Of the 300 surveys completed, 3 were Spanish surveys. The following charts display the survey results by question.



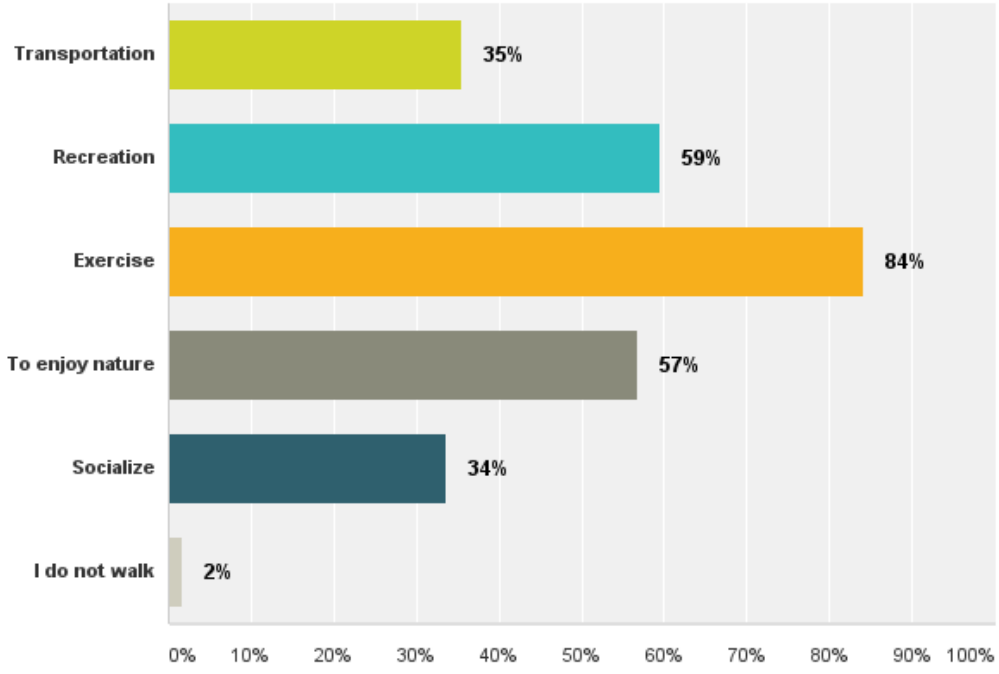
Q2 How important to you is improving walking conditions in High Point?

Answered: 292 Skipped: 5



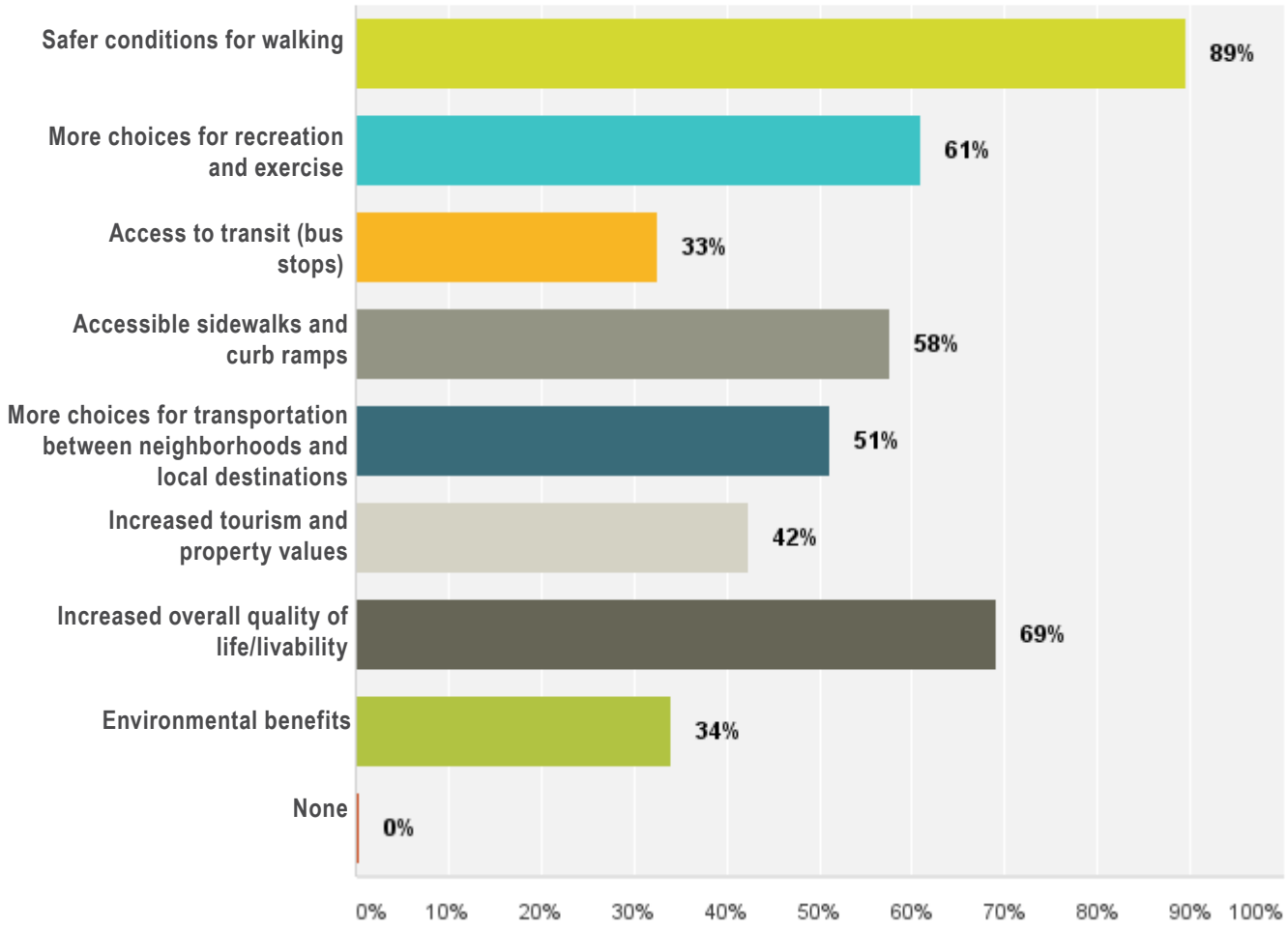
Q3 When walking in High Point, what is (or would be) the primary purpose of your trip? (check all that apply)

Answered: 291 Skipped: 6



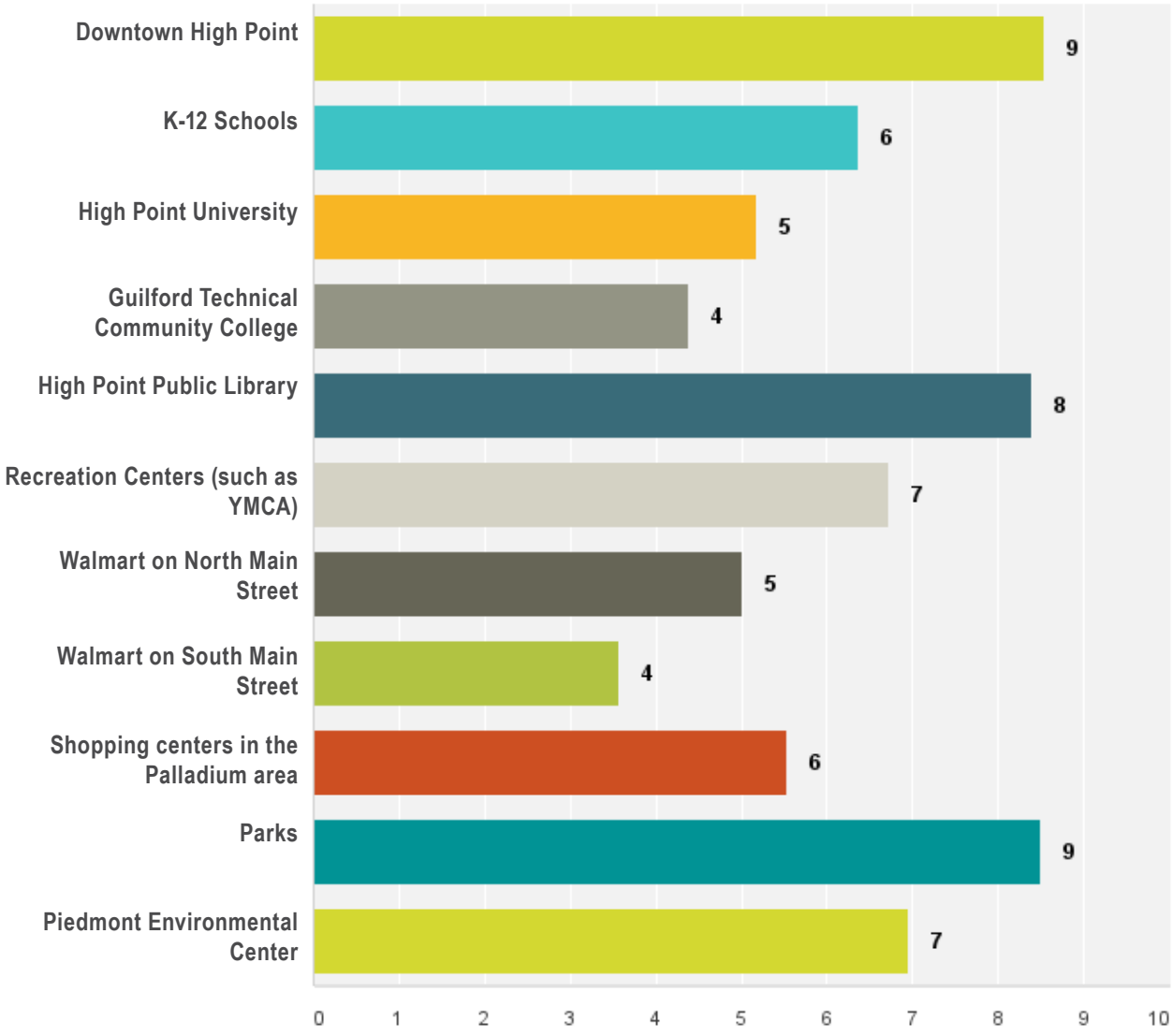
Q4 What should be the most important goals and outcomes of High Point Moves? (check all the apply)

Answered: 285 Skipped: 12



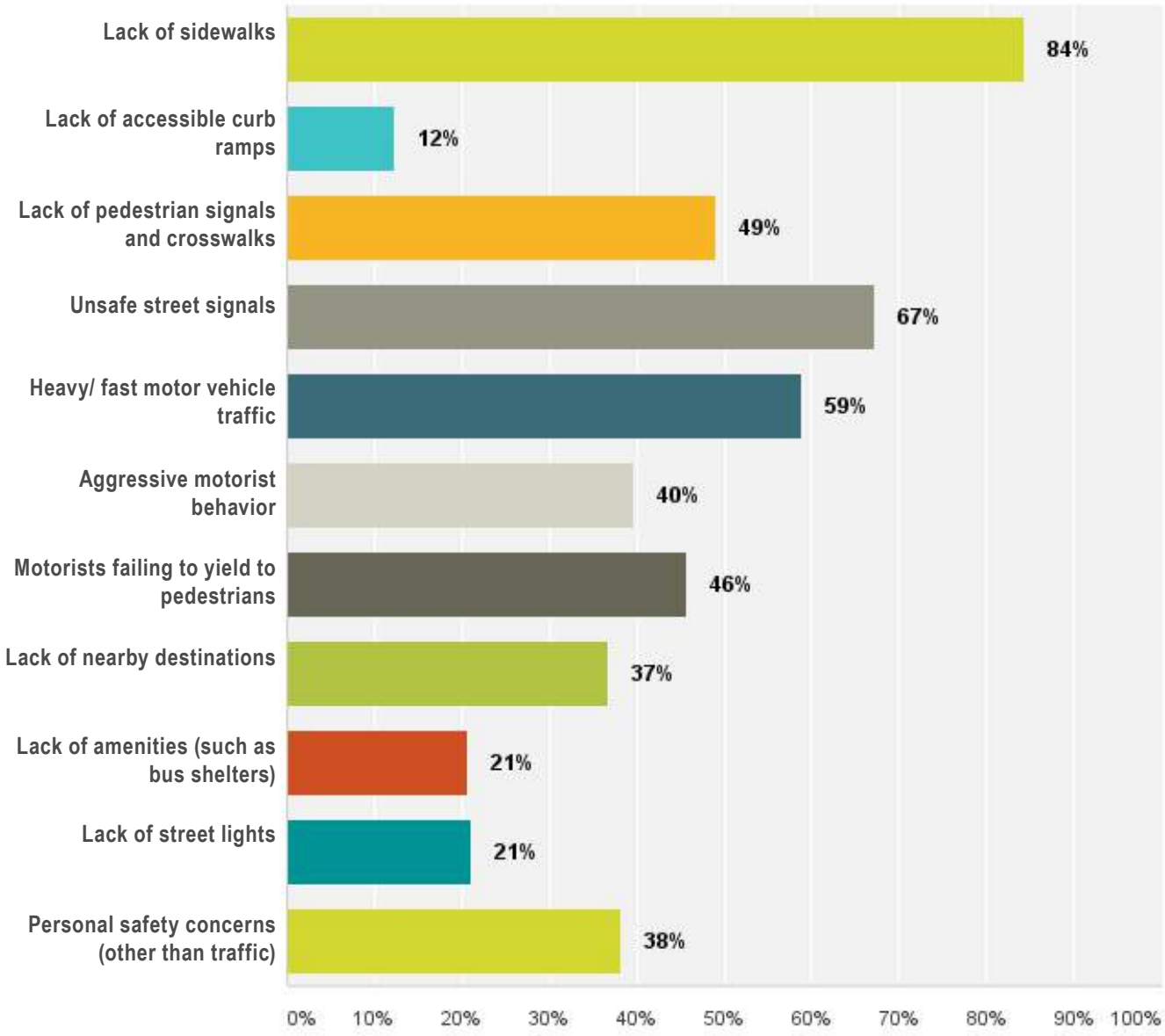
Q5 What destinations would you most like to be able to reach by walking? Please rank (1 = most like to reach, 11 = least like to reach)

Answered: 254 Skipped: 43



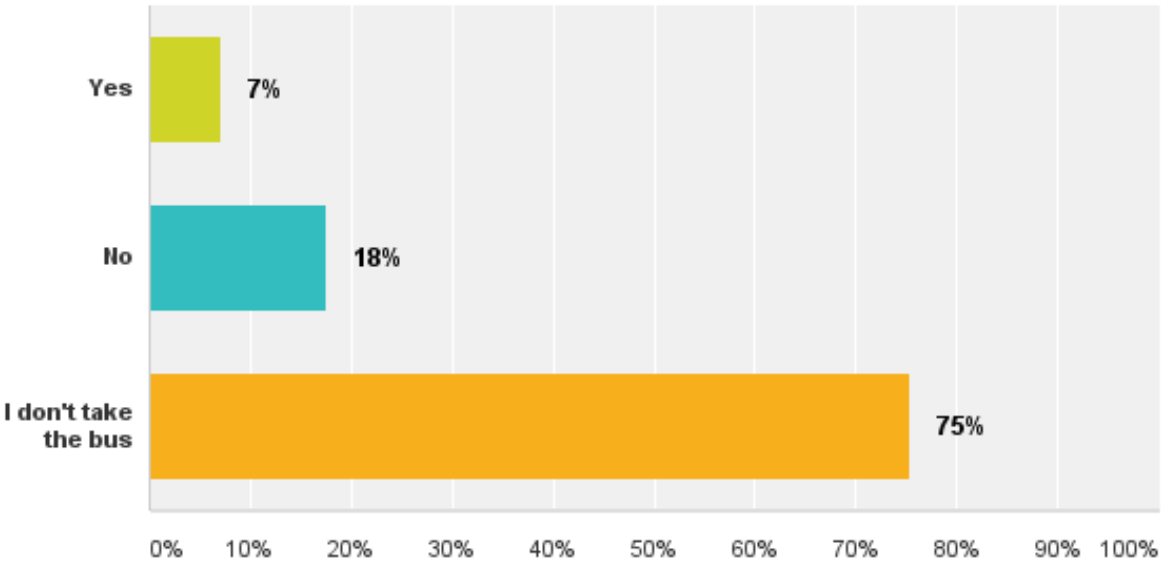
Q6 What do you think are the factors that most DISCOURAGE walking in High Point? Please select up to five factors.

Answered: 275 Skipped: 22



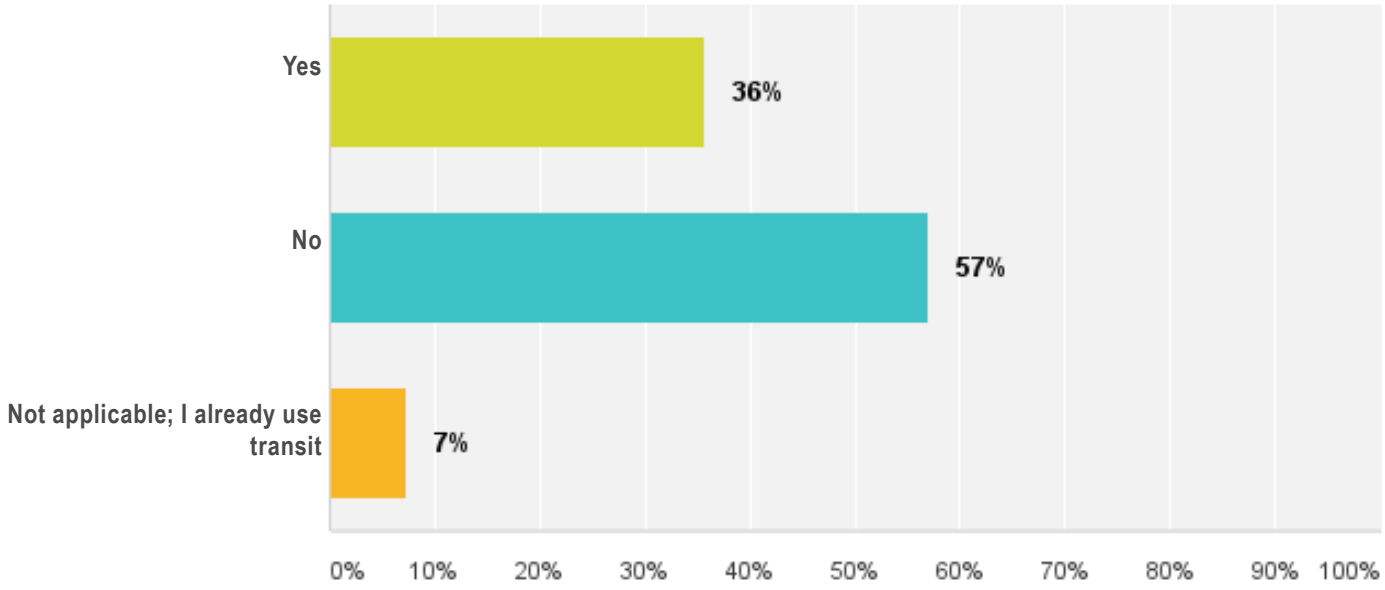
Q7 Does your current bus route(s) have sidewalks?

Answered: 267 Skipped: 30



Q8 If you do not currently use transit, would you take the bus if there were sidewalks?

Answered: 260 Skipped: 37

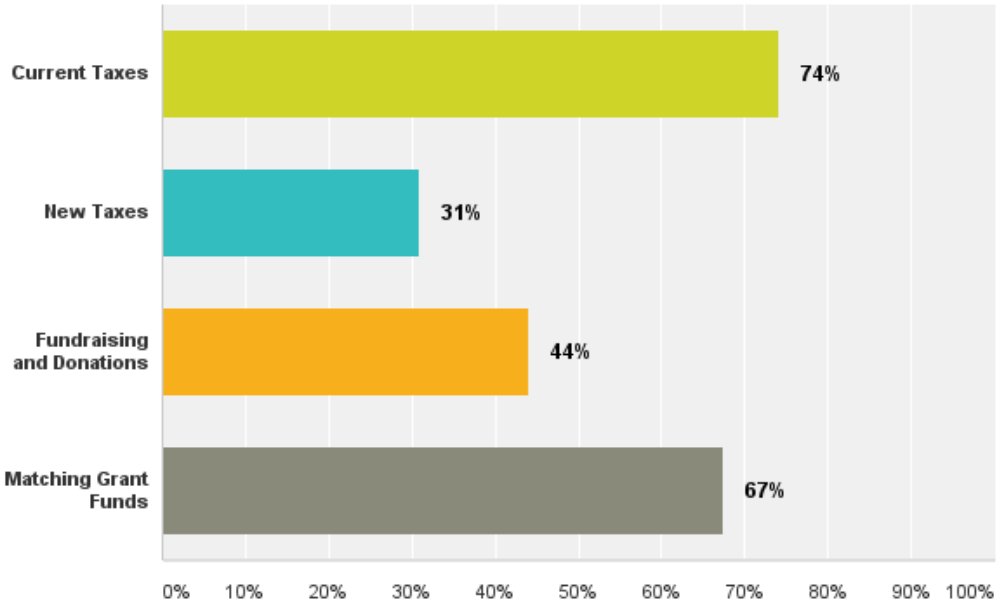


Q9 What are the top three locations for improving conditions for walking in High Point? Examples include locations where we need a sidewalk, crosswalk, or pedestrian signal.

Answered: 206 Skipped: 91

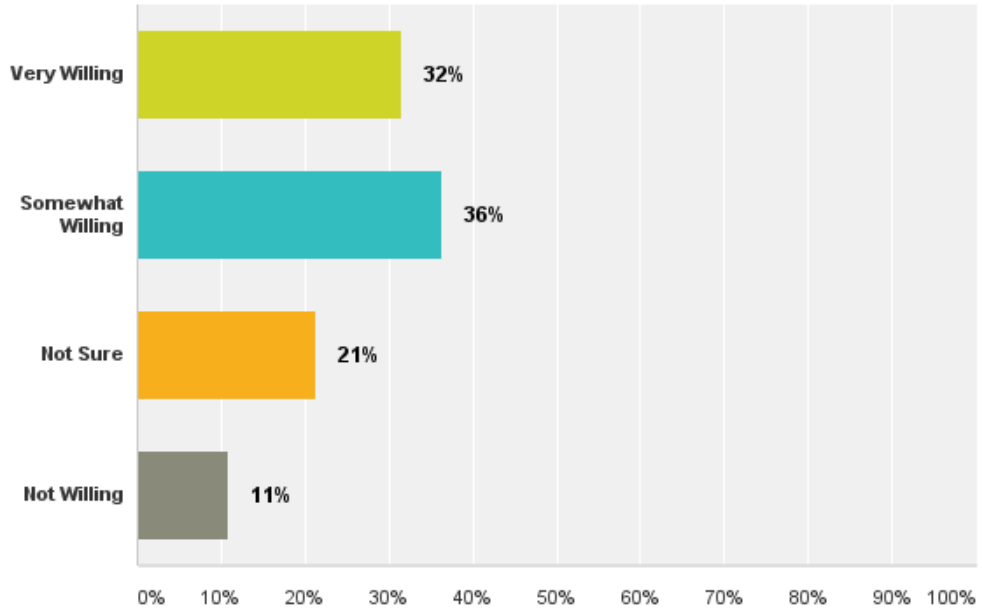
Q10 How should pedestrian facilities be funded within High Point?(Select all that apply)

Answered: 243 Skipped: 54



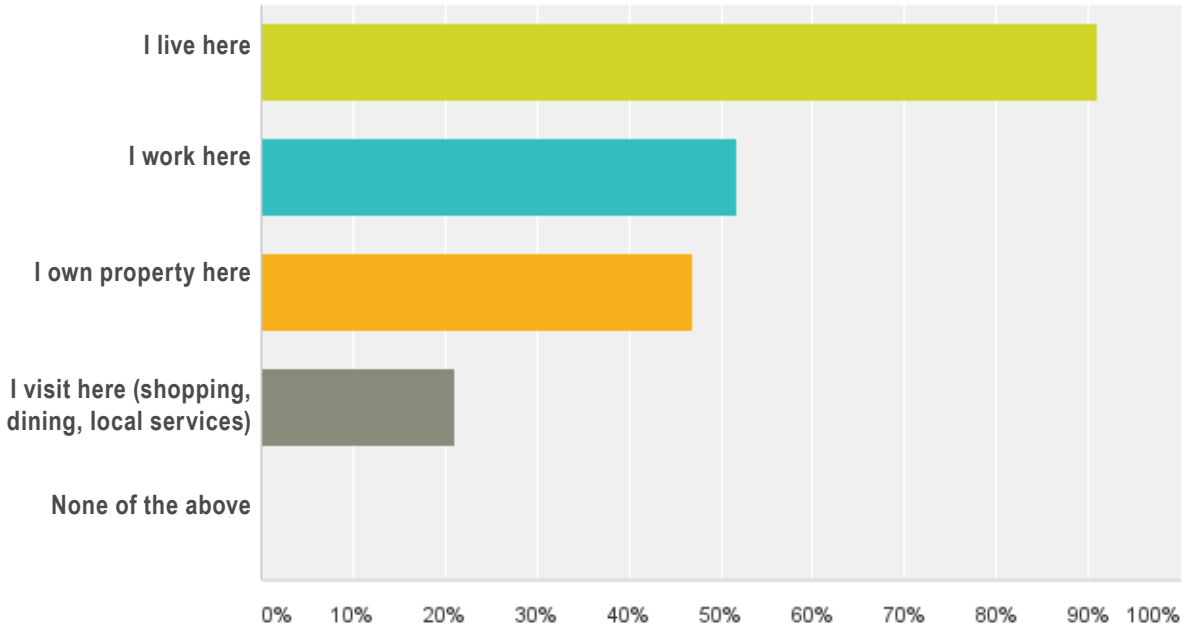
Q11 How willing would you be to pay some increase in taxes to fund pedestrian facilities in High Point?

Answered: 250 Skipped: 47



Q12 What is your relationship to High Point?

Answered: 255 Skipped: 42



D Project List

OVERVIEW

The following project list includes all 141 projects that were scored during the prioritization process. The table is organized by project scores - highest scoring projects appear first in the table and the lowest scoring projects can be found at the end of the table.

Map ID	Roadway	From	To	Category	Miles	Partial Sidewalk	Ward	Composite Score
1	Main St	E High Av	Business Loop 85	Enhanced Corridor - Sidewalks Present	1.83		3	105
2	Triangle Lake Rd	189 feet south of MLK Jr Dr	332 feet west of Kroll Ln	New sidewalk	1.53		2	105
3	N Main St	Old Plank Rd	374 feet north of W Parris Av and N Main St	Enhanced Corridor - No Sidewalks Present	1.61	Y	4, 5	105
4	Main St	Business Loop 85	High Point city limit	Enhanced Corridor - No Sidewalks Present	1.51	Y	3	105
5	Main St	Idol St	E High Av	Enhanced Corridor - Sidewalks Present	1.76		2, 3	105
6	Chestnut Dr	Existing sidewalk on Chestnut Dr	Carr St	Micro gap	0.03		3	95
7	Leonard Ave	Meredith St	Brentwood St	New sidewalk	0.38		2	90
8	E Lexington Av	Fifth St	Montlieu Av	Enhanced Corridor - No Sidewalks Present	1.15	Y	1	90
9	University Parkway	Kearns Av	Green Dr	New sidewalk	0.68		2, 3	90
10	S University Parkway	S Downing St	E Green Dr	New sidewalk	0.54		2	90
11	Martin Luther King Jr Dr	Hickory Chapel Rd	Triangle Lake Rd	Enhanced Corridor - Sidewalks Present	0.92		2	90
12	Westchester Dr	W Lexington Av	N Main St	Enhanced Corridor - No Sidewalks Present	1.00	Y	4	90
13	Brentwood St	Business Loop 85	E Fairfield Rd	New sidewalk	1.13		3	85

Map ID	Roadway	From	To	Category	Miles	Partial Sidewalk	Ward	Composite Score
14	Allen Jay Rd/ E Springfield Rd	E Fairfield Rd	Ernest St	New sidewalk	0.77		3	85
15	Martin Luther King Jr Dr	W English Rd	Railroad crossing on MLK Jr Dr	Enhanced Corridor - No Sidewalks Present	1.45	Y	2, 3, 4	85
16	Cedrow Dr	Gordon St	N Scientific St	New sidewalk	1.66		1	85
17	Hickory Chapel Rd	Triangle Lake Rd	MLK Jr Dr	New sidewalk	0.72		2	85
18	Russell Ave	Brentwood St	S University Pkwy	New sidewalk	0.70		2	85
19	Burton Ave	Dorothy St	Wright St	New sidewalk	0.37		3	85
20	Dorothy St	W English Rd	Burton Av	New sidewalk	0.61		3	85
21	W English Rd	Dorothy St	Westchester Dr	New sidewalk	0.54		3	85
22	W Green Dr/ W Fairfield Rd	Trinity Ave	Surrett Dr	New sidewalk	1.01		3	85
23	Baker Rd	Townsend Ave	Archdale city limit	New sidewalk	1.37		3	85
24	Taylor Ave	Green Dr	Grayson St	New sidewalk	0.17		3	85
25	Boundary Ave	N College Dr	Henry Pl	New sidewalk	0.24		1	85
26	E Parris Ave	N Main St	Johnson St	New sidewalk	0.46		4	85
27	Westchester Dr	W Lexington Av	Phillips Av	Enhanced Corridor - No Sidewalks Present	1.62	Y	3	85
28	Eastchester Dr	Ambassador Ct	Johnson St	Enhanced Corridor - No Sidewalks Present	1.68	N	1, 4, 6	85
29	Greensboro Rd	Penny Rd	Deep River Rd	Enhanced Corridor - No Sidewalks Present	1.32	Y	1	85
30	E Kearns Ave	S University Pkwy	Nathan Hunt Dr	New sidewalk	0.68		3	85
31	Asheboro St	Kearns Av	Russell Av	New sidewalk	0.57		2	85
32	Woodruff Ave	Wiltshire St	Deep River Rd	New sidewalk	0.59		1	85
33	Burton Ave	Westchester Dr	English Rd	New sidewalk	0.35		3	85
34	Model Farm Rd	Brentwood St	S Main St	New sidewalk	0.69		3	85
35	E Lexington Ave	Fifth St	Main St	Enhanced Corridor - No Sidewalks Present	1.08	Y	1, 2, 4	85
36	Martin Luther King Jr Dr	US-311	Railroad crossing on MLK Jr Dr	Enhanced Corridor - No Sidewalks Present	1.40	Y	1, 2	85
37	Elm St	MLK Jr Dr	Peanut on N Elm St	Enhanced Corridor - Sidewalks Present	0.72		4	85
38	Martin Luther King Jr Dr	Triangle Lake Rd	High Point ETJ	Enhanced Corridor - No Sidewalks Present	0.52	Y	2	85
39	Eastchester Dr	Skeet Club Blvd	Gallimore Dairy Rd	Enhanced Corridor - No Sidewalks Present	2.46	N	5	80
40	Franklin Ave	120 feet west of Caudell Pl	73 feet east of Hines St	Micro gap	0.08		2	80

Map ID	Roadway	From	To	Category	Miles	Partial Sidewalk	Ward	Com-posite Score
41	Piedmont Pkwy	Eastchester Dr	Tarrant Rd	New sidewalk	1.33		6	80
42	Lassiter Dr/ Guyer St/ Mcguinn Dr	Eastchester Dr	Shaver St	New sidewalk	0.92		1	75
43	E Green Dr	Brentwood St	480 feet east of I-74	New sidewalk	0.38		2	75
44	W Wendover Ave	Gibson Park	Existing sidewalk on Wendover Ave	New sidewalk	1.29		6	75
45	Johnson St	Oakview Rd	Proposed facility on Johnson St	New sidewalk	1.20		4	75
46	Southwest School Rd	Barrow Rd	Existing sidewalk on Southwest School Rd	New sidewalk	0.39		5	75
47	Westwood Ave	N Rotary Dr	193 feet east of Locke St	New sidewalk	0.59		4	75
48	Eastchester Dr	Skeet Club Rd	Programmed facility on Eastchester Dr	Enhanced Corri-dor - No Sidewalks Present	1.84	Y	6	75
49	Penny Rd	Willard Rd	Samet Dr	New sidewalk	1.13		6	75
50	Progress Av/ Bethel Dr/ Trinity Av	W Green Dr	Prospect St	New sidewalk	0.54		3	70
51	Park St/Kearns Av	Lake Av	East Market Center Dr/University Pkwy	New sidewalk	0.64		2, 3	70
52	Elm St	Martin Luther King Jr Dr	Carl E Hensley Pl	Enhanced Corridor - Sidewalks Present	1.12		3, 4	70
53	Surrett Ct	Finch Av	Archdale city limit	New sidewalk	0.96		3	70
54	E Hartley Dr	Johnson St	N Centennial St	New sidewalk	0.92		1, 4	70
55	W Ward Ave	W Green Dr	Fairview St	New sidewalk	0.48		3	70
56	Fairfield Rd	Surrett Dr	Plaza Ln	New sidewalk	0.77		3	70
57	E Dayton Ave	Main St	Cook St	Sidewalk	0.72		1, 4	70
58	W Lexington Ave	N Main St	Westchester Dr	Enhanced Corri-dor - No Sidewalks Present	0.95	Y	3, 4	70
59	Two micro gap segments on Vail Ave	Fairview St	Hilltop St	Micro gap	0.12		3	65
60	E Grimes Ave	Centennial St	Park St	Micro gap	0.21		2	65
61	Micro gaps on Centennial St, Tate St, Wise Ave	Existing sidewalk on Wise Av	E Grimes Av	Micro gap	0.18		2	65
62	Micro gap on Briggs Pl	Existing sidewalk be-tween Markley St and W MLK Jr Dr	Existing sidewalk between Markley St and W MLK Jr Dr	Micro gap	0.04		3	65
63	Chestnut Dr	N Rotary Dr	Existing sidewalk on Chestnut Dr	Micro gap	0.05		3	65
64	Chestnut Dr	440 feet west of Dale Pl	124 feet east of Carr St	Micro gap	0.01		3	65
65	Chestnut Dr	111 feet west of Dale Pl	Dale Pl	Micro gap	0.02		3	65
66	Vail Ave	Existing sidewalk on Vail Ave	S Elm St	Micro gap	0.05		3	65
67	Brentwood Ave	Lamb Ave	Hayes Ave	Micro gap	0.07		2	65

Map ID	Roadway	From	To	Category	Miles	Partial Sidewalk	Ward	Composite Score
68	Micro gap on Fairview St	Existing sidewalk on Fairview near Vail Av	Existing sidewalk on Fairview near Loflin Av	Micro gap	0.01		3	65
69	Micro gap on Vail Av	Existing sidewalk on Vail Av	Mobile St	Micro gap	0.03		3	65
70	Wendover Av	Eastchester Dr	Premier Dr	New sidewalk	1.01		5, 6	60
71	Jamesford Dr	Guilford College Rd	Morris Farm Dr	New sidewalk	1.16		6	60
72	Willard Dairy Rd	Southwest School Rd	Existing sidewalk on Willard Dairy Rd	New sidewalk	0.46		5, 6	60
73	Martin Luther King Jr Dr	Hickory Chapel Rd	US 311	Enhanced Corridor - No Sidewalks Present	0.63	Y	2	60
74	Johnson St and Hamilton Pl	E State Ave	E Lexington Ave	New sidewalk	0.50		1, 4	55
75	Micro gaps on Westwood Av, Pine St, Gatewood Av	Existing sidewalk on Gatewood Av	Westwood Av	Micro gap	0.17		4	55
76	Coltrane Ave/ W Kearns Ave	Cloverdale St	S Elm St	New sidewalk	0.22		3	55
77	S Elm St	S University Parkway	Coltrane Av	New sidewalk	0.45		3	55
78	Fairview St/ Loflin Ave/ Hilltop St	Taylor Ave	Vail Ave	New sidewalk	0.26		3	55
79	Carter St	E Russell Av	Leonard Av	New sidewalk	0.54		2	55
80	Beaucrest Ave	Guyer St	N Centennial St	New sidewalk	0.31		1	55
81	Cook St	Eastchester Dr	E Lexington Ave	New sidewalk	0.50		1	55
82	Prospect St	Progress Av	West Market Center Dr	New sidewalk	0.45		3	55
83	Mill Ave/ Surrett Dr	Finch Av	Proctor Dr	New sidewalk	0.92		3	55
84	Townsend Ave	Brentwood St	Baker Rd	New sidewalk	0.56		3	55
85	E Springfield Rd	Baker Rd	Allen Jay Park	New sidewalk	0.26		3	55
86	Vail Ave	S Elm St	S Main St	New sidewalk	0.08		3	55
87	Johnson St	Shamrock Rd	Oakview Rd	New sidewalk	0.71		4, 5	55
88	Tarrant Rd	Beechwood Dr	Hanging Leaf Pt	New sidewalk	0.97		6	55
89	West Market Center Dr	Old Thomasville Rd	W Green Dr	New sidewalk	0.99		3	55
90	N Centennial St	Countrysde Dr	N University Parkway	New sidewalk	0.96		1, 4, 6	55
91	N Rotary Dr	Chestnut Dr	Phillips Ave	New sidewalk	0.50		3	55
92	W English Rd	Burton Av	Westchester Dr	New sidewalk	0.57		3	55
93	East Market Center Dr	S Main St	E Kearns Ave	New sidewalk	0.38		3	55
94	Prospect St	164 feet south of W Ward Av	West Market Center Dr	New sidewalk	0.48		3	55
95	Shadybrook Rd/ Aberdeen Rd	Johnson St	Existing sidewalk on Aberdeen St near Shadybrook Elem	New sidewalk	1.01		4, 5	55
96	W Green Dr	W Ward Ave	West Market Center Dr	New sidewalk	0.62		3	55
97	Dillon Rd	Jamestown city limit	Wiliton Wy	New sidewalk	1.20		2	55

Map ID	Roadway	From	To	Category	Miles	Partial Sidewalk	Ward	Com-posite Score
98	University Pkwy	Kearns Av	Main St	New sidewalk	0.41		3	55
99	Ward Av	Fairview St	Elm St	New sidewalk	0.11		3	55
100	Bellevue Dr	Northside Ct	School Park Rd	New sidewalk	0.27		4	55
101	West Market Center Dr/ S University Pw	W Green Dr	W Connector	New sidewalk	0.75		3	55
102	Lincoln Dr	Van Buren St	113 feet west of Prospect St	New sidewalk	0.16		3	55
103	Lincoln Dr	Prospect St	W Ward Av	New sidewalk	0.40		3	55
104	English Rd	Ward Av	Mitchell Pl	New sidewalk	0.30		3	55
105	Westover Dr	N Main St	Embers Ct	New sidewalk	0.70		4	55
106	W Ward Av	Lincoln Dr	Prospect St	New sidewalk	0.35		3	55
107	Park St	E Green Dr	E Russell Av	New sidewalk	0.12		2	55
108	Kendall Av	S Main St	Kenilworth Dr	New sidewalk	0.26		3	55
109	Sunset Dr	Existing sidewalk on Sunset Dr	N Lindsay St	Micro gap	0.05		4	55
110	Fraley Rd	S Main St	Surrett Ct	New sidewalk	0.67		3	55
111	Centennial St	Countryside Dr	Oakview Rd	New sidewalk	0.74		4, 6	55
112	Westchester Dr	Burton Av	Old Thomasville Rd	New sidewalk	0.63		3	55
113	Waterview Rd	Oak Hollow North Launch Ramp	White Fency Way	New sidewalk	0.87		5	50
114	Premier Dr	490 feet east of Eagle Hill Dr	Eastchester Dr	New sidewalk	0.61		6	50
115	Chestnut Dr	Westchester Dr	Existing sidewalk on Chestnut Dr	Micro gap	0.09		3, 4	50
116	Regency Dr	Piedmont Pkwy	Eastchester Dr	New sidewalk	0.84		6	50
117	Hedgecock Rd/ Old Plank Rd	Existing sidewalk on Hedgecock Rd	N Main St	New sidewalk	1.10		4, 5	45
118	N Main St	Old Plank Rd	Shober Rd	New sidewalk	0.40		5	45
119	Skeet Club Rd	Joyce Cir	N Main St	New sidewalk	0.93		5	45
120	Old Mill Rd	Johnson St	Skeet Club Rd	New sidewalk	1.48		5	45
121	Deep River Rd	Hickswood Rd	Sunset Hollow Dr	New sidewalk	0.79		6	45
122	Clinard Farms Rd	Sandy Ridge Rd	Barrow Rd	New sidewalk	1.71		5, 6	45
123	Penny Rd	Willard Rd	Jamestown city limit	New sidewalk	1.12		6	45
124	W Lexington Av	Kentucky St	Swansgate Ln	Enhanced Corri-dor - No Sidewalks Present	1.76	Y	3, 4	45
125	Skeet Club Rd	Johnson St	Dilworth Rd	New sidewalk	1.00		5	45
126	Old Mill Rd	Waterview Rd	Johnson St	New sidewalk	1.10		5	45
127	Morris Farm Rd	Piedmont Pw	W Wendover Ave	New sidewalk	0.65		6	45
128	Hickswood Rd	Existing sidewalk on Hickswood Rd	Willard Rd	New sidewalk	0.54		6	45
129	Clinard Farms Rd	Eastchester Dr	Barrow Rd	New sidewalk	1.28		6	45
130	Textile Place/ Young Pl	Mill Ave	W Green Dr	New sidewalk	0.26		3	40
131	Corporation Dr/ Shore St	Surrett Dr	W Fairfield Rd	New sidewalk	0.63		3	40

Map ID	Roadway	From	To	Category	Miles	Partial Sidewalk	Ward	Com-posite Score
132	W Green Dr	Trinity Av	West Market Center Dr	New sidewalk	0.43		3	40
133	Centennial St	Oakview Rd	Oak Hollow Marina	New sidewalk	0.40		4	40
134	Potts Av	Wrightenberry St	Van Buren St	New sidewalk	0.08		3	40
135	Vail Av	Existing sidewalk on Vail Av	W Green Dr	New sidewalk	0.19		3	40
136	Nathan Hunt Dr	Brentwood St	S Main St	New sidewalk	1.18		3	40
137	Garden Club St	Existing sidewalk on Garden Club St	Skeet Club Rd	New sidewalk	0.43		5	40
138	Waterview Rd	Glen Cove Way	Skeet Club Rd	New sidewalk	0.67		5	35
139	White Farm Ln	Willard Rd	Eastchester Dr	New sidewalk	0.33		6	35
140	Willard Rd	Penny Rd	Deep River Rd	New sidewalk	1.01		6	30
141	Morris Farm Dr	Wendover Av	Jamesford Dr	New sidewalk	0.42		6	30