Town of Wingate

Comprehensive Pedestrian Plan

Final Plan May 2013

Adopted by the Wingate Board of Commissioners on the 18th day of June, 2013.

Prepared for The Town of Wingate, NC and:

State of North Carolina Department of Transportation

Division of Bicycle & Pedestrian Transportation

Prepared By:

alta PLANNING + DESIGN

Acknowledgements

Project Steering Committee

John Lee Bates –Community Wingate

Jennifer Huntley – President of Wingate Athletics

Ella T. Hargett – Community resident

Jerry Earnhardt – Retired State Trooper

Arthur Henderson – Cowboys Design Landscaping

Sandra Thomas – Town of Wingate

Brad Sellers – Town of Wingate

Barry Glass – Town of Wingate Police Department

Karen Nash – Wingate Elementary

Linda Stedje-Larsen - Wingate University

North Carolina Department of Transportation

Helen Chaney, Division of Bicycle and Pedestrian Transportation

NCDOT Division 5

Project Consultants

Alta Planning + Design

Davidson, NC

Fuss & O'Neill

Columbia, SC

CONTENTS

1 Project Overview

Purpose....1-1
Background....1-1
Vision & Goals....1-2
Planning Process....1-3
Benefits of a Walkable Community....1-4

2 Existing Conditions

Overview....2-1
Land Use & Development....2-1
Demographics....2-2
Existing Pedestrian Conditions....2-3
Existing Plans....2-7

3 Opportunities and Challenges

Overview....3-1
Key Opportunities....3-1
Key Challenges....3-1

4 Network Recommendations

Overview....4-1
Methodology....4-1
The Pedestrian Network....4-2
Project Cut Sheets....4-12

5 Policies & Programs

Overview....5-1
Education....5-2
Encouragement....5-5
Enforcement....5-8
Safe Routes to School Toolkit....5-9
Pedestrian Policies....5-12

6 Implementation Strategies

Overview....6-1
Key Action Steps....6-1
Key Partners....6-4
Performance Measures....6-7
Facility Development Methods....6-9

Appendix A: Design Guidelines....A-1

Appendix B: Funding Strategies....B-1

Appendix C: Public Involvement....C-1

This Page Intentionally Left Blank for Printing

Acknowledgements

1 Project Overview

Purpose

This Plan will guide the Town of Wingate, NCDOT, and other local and regional partners in improving infrastructure for pedestrians in Wingate and fostering a 'walking culture' through related programs and policies.

Background

NCDOT's Bicycle and Pedestrian Planning Grant Initiative

In 2012, the Town of Wingate was awarded a matching grant from the North Carolina Department of Transportation (NCDOT) Bicycle and Pedestrian Planning Grant Initiative. The purpose of the grant is to encourage municipalities to develop comprehensive bicycle plans and pedestrian plans. This program has assisted more than 100 North Carolina communities and is administered through NCDOT's Division of Bicycle and Pedestrian Transportation (DBPT).

Community Initiative

This Plan combines past planning efforts with new research and analysis, and includes public input. The result is a complete, up-to-date framework for moving forward with tangible pedestrian improvements.

The Town is very committed to becoming pedestrian-friendly. In fact, the town recently applied for, and was award a Clean Water Management Trust Fund grant to develop a Greenway Master Plan which will focus on the development of a multi-use trail along the Meadow Branch Stream in the Town. The Town recently approved the *Wingate 2020 Comprehensive Master Plan*, which envisions Wingate as a pedestrian friendly town that embraces the principles of Complete Streets. The Town is determined to improve walkability and connectivity of pedestrian facilities throughout the community.

Current pedestrian c onditions within Wingate do not adequately serve the needs of its residents. This Plan will provide guidance for enhancing conditions for pedestrians throughout town, particularly in areas identified by the project steering committee. the public, and town staff. Beyond physical improvements, this Plan also outlines policies and programs to help encourage people to walk more often, drive more safely, and to grow as a town with the needs of pedestrians taken into full consideration.

Chapter Outline

Purpose 1-1
Background 1-1
Vision and Goals 1-2
The Planning Process 1-3
Benefits of a Walkable Community 1-4

Vision and Goals

The following vision statement and goals were developed during the Steering Committee meeting and reinforce the goals and vision of the Town's adopted 2020 Comprehensive Plan. The vision statement apply to both the Plan itself, and the desired outcome of its implementation.

Pedestrian Plan Vision Statement

Wingate Will:

1. **Promote walking** as a healthy alternative to the use of personal automobiles.
2. **Be** a vibrant, friendly and caring college town for people of all ages.
3. **Provide safe and attractive pedestrian connections** for residents and visitors to access local destinations, retail areas, schools, and parks; and to explore downtown and attend town events by walking
4. **Be a walkable and safe community** that embraces Complete Streets
5. **Educate town residents on the benefits of being a walkable community** with greenways, trails and pedestrian facilities.
6. **Plan for future growth** by requiring new development to construct sidewalks, while protecting its environmental resources and maintaining quality public services at an affordable cost.
7. **Create a gateway into the community** along Highway 74 (between Bivens and Camden Streets) that welcomes visitors and give residents a "sense of place" by protecting and enhancing this priority corridor.
8. **Prioritize an action plan for implementation** of the recommendation of the Pedestrian Master Plan

Measurable Goals of the Pedestrian Plan

- Provide walking paths that connect Wingate University, Wingate Elementary School, and the surrounding neighborhoods
- Review and update as necessary current Land Use ordinance that requires sidewalks on one side of every new street and landscaped street buffer in highway commercial areas.
- Fill gaps in the existing sidewalk network.
- Target Complete Streets initiatives that include pedestrian amenities and traffic calming to the following priority corridors surrounding the Downtown area:
  - Main Street
  - Elm Street
  - Candem Street
  - Wilson Street
  - Bivens Street
  - Williams Road
  - Pearl Street
  - Cedar Street
  - Oak Street
  - Maye Street
- Improve safety of Highway 74 and its crossings between Bivens and Camden Streets through the implementation of a road diet, a raised planted median, and pedestrian automated signals and high visibility crosswalks at every signalized intersection.
- Increase sidewalks in neighborhoods, including the Highland neighborhood.
- Provide lighting and benches to improve comfort and safety of the pedestrian facilities.

Public Open House. 09.24.2012

The Planning Process

The Project Steering Committee

The project steering committee for the pedestrian plan consists of local staff and key stakeholders. The project steering committee met with project consultants from Alta Planning four times throughout the process. During the first meeting (September 2012) the committee focused on project vision and goals and exiting conditions. During the second meeting (November 2012) the committee discussed proposed improvements and pedestrian related programs needed in the Town of Wingate

Appendix B includes a summary of the comments received during these meetings.

Data Collection and Analysis

The consultant conducted thorough on-the-ground field research in September 2012. Field research included an intersection inventory and a photographic inventory. This base line information in addition to aerial photography and geographic information systems (GIS) data (including the City's sidewalk inventory and planned greenway network) were used in assessing existing conditions, which are the focus of Chapter 2 of this Plan, and to identify opportunities and constraints for pedestrian facility development.

Public Involvement

In September 2012, a project website was developed with input and guidance from the Steering Committee. The website was publicly launched in September 2012. An online public survey developed for the project and was released on the project website in September 2012.

The first public engagement event was held at the Wingate Community Center on September 24, 2012. People were invited to learn about the plan and provide comments about where they would like to see improvements for walking and bicycling. A public input map, survey, and posters were provided for review and project consultants answered questions and took comments. Attendees were also pointed to an online link where they could fill out a web-based survey if preferred. More than twenty people representing neighborhoods and Wingate institutions and agencies attended the meeting to learn about the plan and provide input. The general feedback was highly positive, with many people impressed that the Town of Wingate was being proactive in addressing walkability.

Public Open House. 09.24.2012

In November (2012) the Town of Wingate hosted a focus group with representatives from Wingate University and the consultant Alta Planning to discuss pedestrian issues and desired improvements on streets around campus. The main subjects discussed included sidewalk gaps, safe crossings needed, lighting, traffic and speed calming, and targeting programs.

An online survey was developed for the project and made available on-line and paper form between the months of Sepetember and December of 2012. A total of 50 responses form town residents were collected. Appendix C presents the results of the public survey and the summary of the public engagement, and steering committee meetings completed throughout the duration of the project

Benefits of a Walkable Community

When considering the level of dedication in time and valuable resources that it takes to create a walkable community, it is also important to assess the immense value of pedestrian transportation. **There are economic benefits, quality of life benefits, health benefits, environmental benefits and transportation benefits of a walkable community.**

Throughout history, physical exercise has been accepted as an effective way of managing a person's mental, emotional and physical state. Walking, in particular, is one of the most highly recommended types of exercises to incorporate into your daily schedule. Some people enjoy the solitude of walking alone. Other people need the stimulation of interacting with others, such as joining a walking or running group.

Walking helps to improve people's health and fitness, enhance environmental conditions, decrease traffic congestion, and will contribute to a greater sense of community.

In a 2011 Community Preference Survey conducted by the National Association of Realtors (NAR), 66% of respondents selected being within walking distance of stores and other community amenities as being important. **When given an opportunity to select which community they would most like to live in, a community described as:**

"a mix of single family detached houses, townhouses, apartments and condominiums on various sized lots, with almost all streets having sidewalks, destinations such as shopping, restaurants, a library, and a school are within a few blocks of your home, and where parking is limited when you decide to drive to local stores, restaurants and other places **ranked higher and was found to be more desirable than a community described as:**

"only single family houses on large lots, with no sidewalks, destinations such as shopping, restaurants, a library, and a school are within a few miles of your home, limiting your transportation choices to mainly the automobile, but there is enough parking when you drive to these destinations and public transportation, such as bus, subway, light rail, or commuter rail, is distant or unavailable".

2011 National Associations of Realtors Survey

46% of respondents answered: **my community has too few shops and restaurants within easy walking distance**

46% of respondents answered: **my community has too few sidewalks**

Economic Benefits

Walking is an affordable form of transportation. A walkable community directly affects a citizen's transportation costs. According to the Pedestrian and Bicycle Information Center (PBIC), of Chapel Hill, NC, the cost of operating a car for a year is approximately $5,170, while walking is virtually free. The PBIC explains, "When safe facilities are provided for pedestrians and bicyclists, more people are able to be productive, active members of society. Car ownership is expensive, and consumes a major portion of many Americans' income." A study cited by the Victoria Transport Policy Institute's 2011 "Transportation Affordability" found that households in automobile-dependent communities devote 50% more to transportation (more than $8,500 annually) than households in communities with more accessible land use and more multi-modal transportation systems (less than $5,500 annually). Walking becomes even more attractive from an economic standpoint when the rising price of oil (and decreasing availability) is factored into the equation. The unstable cost of fuel reinforces the idea that local communities should be built to accommodate people-powered transportation, such as walking and biking.

There are also economic benefits of a walkable community from a real estate standpoint. The study by CEO's for Cities "Walking the Walk: How Walkability Raises Home Values in U.S. Cities" estimates how much market value homebuyers implicitly attach to houses with higher "Walk Scores". The study looked at data for more

than 90,000 recent home sales in 15 different markets around the Nation. While controlling for key characteristics that are known to influence housing value, the study showed a positive correlation between walkability and housing prices in 13 of the 15 housing markets studied.[1]

For example, within a new development in Apex, North Carolina, new lots situated on greenways were priced $5,000 higher than comparable lots off the greenway. In Charlotte, national builders typically charge premiums ranging from $1000 to $5000 for $120,000-$200,000 homes bordering open space and greenways".[2]

"Greenways and pedestrian trails have been shown to increase the value of adjacent properties by as much as 5 to 20%."

Trails can play a part in making communities more walkable, and they too have a positive economic impact. In a survey of homebuyers by the National Association of Realtors and the National Association of Home Builders, trails ranked as the second most important community amenity out of a list of 18 choices.[3] Additionally, the study found that 'trail availability' outranked 16 other options including security, ball fields, golf courses, parks, and access to shopping or business centers. Findings from the American Planning Association,[4] the Rails-to-Trails Conservancy,[5] and the Trust for Public Land,[6] further substantiate the positive connection between walkability and property values across the country.

According to the Federal Highway Administration, the basic cost of a single mile of urban, four-lane highway is between $20 million and $80 million. In urban bottlenecks where congestion is the worst, common restrictions such as the high costs of right of ways and the needs to control high traffic volumes can boost that figure to $290 million or more.[7] By contrast, the costs of bicycle and pedestrian facilities range anywhere from a few thousand dollars per mile to rarely more than $1 million, with great variability between types of infrastructure local circumstances.[8]

"Me thinks that the moment my legs begin to move, my thoughts begin to flow."

(Henry David Thoreau)

Quality of Life Benefits

Many factors go into determining quality of life for the citizens of a community: the local education system, prevalence of quality employment opportunities, and affordability of housing are all items that are commonly cited. Increasingly however, citizens claim that access to alternative means of transportation and access to quality recreational opportunities such as parks, trails, greenways, and bicycle routes, are important factors for them in determining their overall pleasure within their community. Communities with such amenities can attract new businesses, industries, and in turn, new residents.

Walking is a fundamental social community activity.

"The true charm of pedestrianism does not lie in the walking, or in the scenery, but in the talking…the scenery and the woodsy smells are good to bear in upon a man an unconscious and unobtrusive charm and solace to eye and soul and sense; but the supreme pleasure comes from the talk."

(Mark Twain)

Members of a community who walk to a destination are more likely meet or make friends or other social or commercial contacts than members of a community who drive to a destination. Provided there are viable alternatives to driving, "Americans are willing to change their travel habits, as the dramatic increases in gas prices in 2008 have shown. Every day, more commuters switch to public transportation, bicycling and walking in places where prior infrastructure investments have made these options safe and convenient".[9]

Other impacts include a reduction in overall neighborhood noise levels. According to the National Center for Safe Routes to School, "Walking or biking to school gives children time for physical activity and a sense of responsibility and independence; allows them to enjoy being outside; and provides them with time to socialize with their parents and friends and to get to know their neighborhoods".[10]

It is particularly important for people who are transportation disadvantaged (people with disabilities, elders, children, and people with low incomes). Poor walking conditions can contribute to what is considered "social exclusion", that is, the physical, economic and social isolation of vulnerable populations.

In a 2004 Centers for Disease Control and Prevention survey, 1,588 adults answered questions about barriers to walking to school for their youngest child aged 5 to 18 years.[11] The main reasons cited by parents included distance to school, at 62%, and traffic-related danger, at 30%. Strategic additions to municipal trail systems could shorten the distance from homes to schools, and overall pedestrian and bicycle improvements can improve the safety of our roadways.

Health Benefits

As mentioned in the introduction, many people incorporate walking into their daily routines as a way to manage their mental, emotional and physical state. In a December 2010 article published by the Mayo Clinic, it is suggested that, "walking, like other exercise, can help you achieve a number of important health benefits such as:

- Lowered low-density lipoprotein (LDL) cholesterol (the "bad" cholesterol)
- Higher high-density lipoprotein (HDL) cholesterol (the "good" cholesterol)
- Lowered blood pressure
- Reduced risk of or manage type 2 diabetes
- Improved mood
- Feeling strong and fit

Research shows that regular, brisk walking can reduce the risk of heart attack by the same amount as more vigorous exercise, such as jogging." In addition to research by the Mayo Clinic, a growing number of studies show that the design of our communities—including neighborhoods, towns, transportation systems, parks, trails and other public recreational facilities—affects people's ability to reach the recommended daily 30 minutes of moderately intense physical activity (60 minutes for youth). In short, a diverse trails network will create better opportunities for active lifestyles.

Center for Disease Control

30 minutes of moderately intense exercise" is equivalent to:

1.5 miles of walking; or

5 miles of bicycling; or

1 less slice of pizza.

The increased rate of disease associated with inactivity reduces quality of life for individuals and increases medical costs for families, companies, and local governments. The CDC determined that creating and improving places to be active could result in a 25% increase in the number of people who exercise at least three times a week.[12]

This is significant considering that for people who are inactive, even small increases in physical activity can bring measurable health benefits. The establishment of a safe and reliable network of sidewalks and trails can have a positive impact on the health of nearby residents. The Rails-to-Trails Conservancy puts it simply: "Individuals must choose to exercise, but communities can make that choice easier".[13]

Environmental benefits

When people choose to get out of their cars and walk, they make a positive environmental impact. They reduce their use of gasoline, which then reduces the volume of pollutants in the air. Other environmental impacts can be improvements in local water quality as fewer automobile-related

discharges wind up in the local rivers, streams, and lakes.

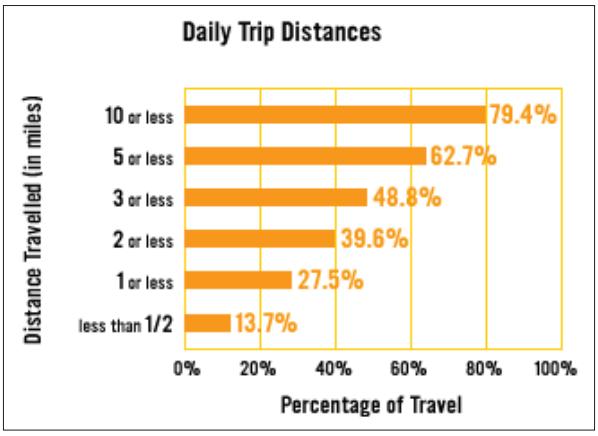
Trails and greenways are also part of the pedestrian network, conveying their own unique environmental benefits. Greenways protect and link fragmented habitat and provide opportunities for protecting plant and animal species. Aside from connecting places without the use of air-polluting automobiles, trails and greenways also reduce air pollution by protecting large areas of plants that create oxygen and filter air pollutants such as ozone, sulfur dioxide, carbon monoxide and airborne particles of heavy metal. Finally, greenways improve water quality by creating a natural buffer zone that protects streams, rivers and lakes, preventing soil erosion and filtering pollution caused by agricultural and road runoff.

Transportation benefits

> "The civilized man has built a coach, but has lost the use of his feet."
>
> (Ralph Waldo Emerson)

According to the U.S. Environmental Protection Agency, fewer children walk or bike to school than did so a generation ago. In 1969, 48% of students walked or biked to school, but by 2001, less than 16% of students between 5 and 15 walked or biked to or from school.[14]

A National Household Travel Survey found that



roughly 40% of all trips taken by car are less than two miles (see chart below).[15]

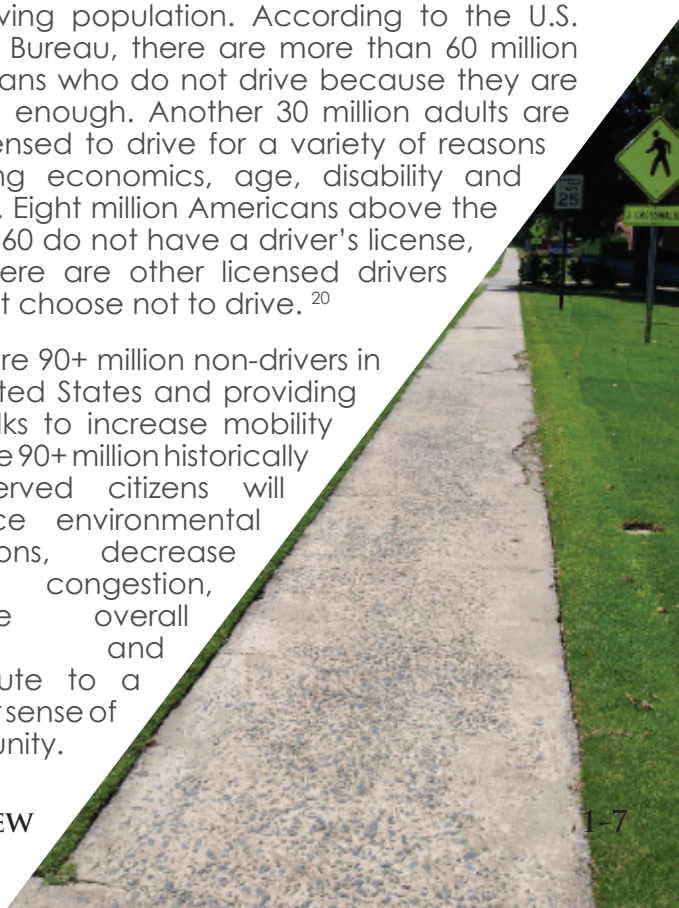
Nearly two-thirds of all households say they have satisfactory shopping available within walking distance of their home and 57% of parents with children 13 years or younger live within one mile of a public elementary school.[16] By replacing short car trips with bicycle trips, residents have a significant positive impact on local traffic and congestion. Traffic congestion reduces mobility, increases auto-operating costs, adds to air pollution, and causes stress in drivers. Furthermore, every car trip replaced with a pedestrian trip reduces U.S. dependency on fossil fuels, which is a national goal. Currently, out of every dollar drivers spend on gasoline, at least $0.35 flow into foreign economies. [17]

According to the Brookings Institution, the number of older Americans is expected to double [between 2000 and 2025].[18] All but the most fortunate seniors will confront an array of medical and other constraints in their mobility even as they continue to seek both an active community life, and the ability to age in place. Trails built as part of the pedestrian transportation network generally do not allow for motor vehicles. However, they do accommodate motorized wheelchairs, which is an important asset for the growing number of senior citizens who deserve access to independent mobility.

These built environments have repeatedly been associated with more walking, bicycling and transit use, more overall physical activity, and lower body weights; lower rates of traffic injuries and fatalities, particularly for pedestrians; lower rates of air pollution and greenhouse gas emissions; and better mobility for non-driving populations".[19]

Creating a walkable community provides greater and safer mobility all residents, especially the non-driving population. According to the U.S. Census Bureau, there are more than 60 million Americans who do not drive because they are not old enough. Another 30 million adults are not licensed to drive for a variety of reasons including economics, age, disability and choice. Eight million Americans above the age of 60 do not have a driver's license, and there are other licensed drivers who just choose not to drive. [20]

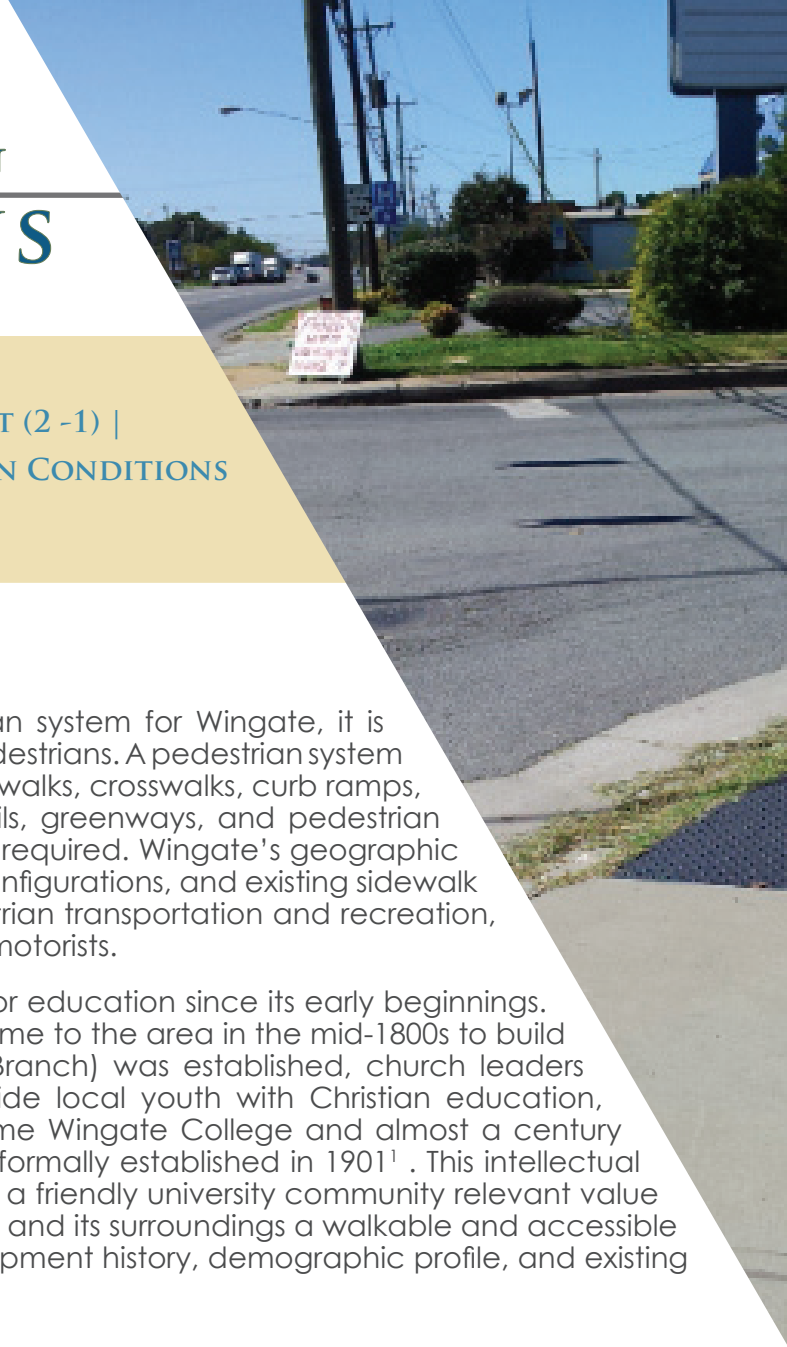
There are 90+ million non-drivers in the United States and providing sidewalks to increase mobility for these 90+ million historically underserved citizens will enhance environmental conditions, decrease traffic congestion, improve overall health and contribute to a greater sense of community.



Footnotes from, "The Benefits of a Walkable Community":

1. CEOs for Cities. (2010) Walking the Walk: How Walkability Raises Home Values in U.S. Cities
2. http://www.charmeck.org/mecklenburg/county/ParkandRec/Greenways/Documents/1benefits.pdf
3. National Association of Realtors and National Association of Home Builders (2002).Consumer's Survey on Smart Choices for Home Buyers.
4. How Cities Use Parks for Economic Development, 2002.
5. Economic Benefits of Trails and Greenways, 2005.
6. Economic Benefits of Parks and Open Space, 1999.
7. Active Transportation for America: The Case for Federal Investment in Bicycling and Walking. Rails to Trails Conservancy and Bikes Belong Coalition 2008 / Sissel, S., Cost per Highway Mile, 2008.
8. Krizek, K.e Guidelines for Analysis of Investments in Bicycle Facilities, 2006.
9. Active Transportation for America: The Case for Federal Investment in Bicycling and Walking. Rails to Trails Conservancy and Bikes Belong Coalition 2008.
10. National Center for Safe Routes to School. (2006). National Center for Safe Routes to School Talking Points.
11. Centers for Disease Control and Prevention. The Importance of Regular Physical Activity for Children. Accessed in 2005 from www.cdc.gov/nccdphp/dnpao/index.html.
12. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2002). Guide to Community Preventive Services.
13. Rails-to-Trails Conservancy. (2006) Health and Wellness Benefits.
14. U.S. EPA (2003). Travel and Environmental Implications of School Siting.
15. 'Daily Trip Distances' chart from the Bicycle and Pedestrian Information Center website, www.pedbikeinfo.org.
16. U.S. Census Bureau, American Housing Survey for the United States: 2005. 2006.
17. Active Transportation for America: The Case for Federal Investment in Bicycling and Walking. Rails to Trails Conservancy and Bikes Belong Coalition 2008.
18. Brookings Institution. 2003. The Mobility Needs of Older Americans: Implications for Transportation Reauthorization.
19. American Public Health Association. (2010) The Hidden Health Costs of Transportation.
20. U.S. DOT "Distribution of Licensed Drivers 2001.

2 Existing Conditions



Chapter Outline

Overview (2-1) | Land Use & Development (2 -1) | Demographics (2-2) | Existing Pedestrian Conditions (2-3) | Existing Plans (2-6)

Overview

In order to propose a comprehensive pedestrian system for Wingate, it is critical to examine the existing environment for pedestrians. A pedestrian system consists of several types of facilities including sidewalks, crosswalks, curb ramps, pedestrian countdown timers, speed tables, trails, greenways, and pedestrian bridges, thus an analysis of all of these facilities is required. Wingate's geographic characteristics, existing roadway and land use configurations, and existing sidewalk facilities significantly affect the viability of pedestrian transportation and recreation, and the everyday decisions of pedestrians, and motorists.

The town of Wingate was recognized as a hub for education since its early beginnings. According to Wingate's history the first settlers came to the area in the mid-1800s to build a Baptist Church, once the church (Meadow Branch) was established, church leaders initiated the development of a school to provide local youth with Christian education, the school – named The Wingate School became Wingate College and almost a century later became Wingate University. The Town was formally established in 1901[1] . This intellectual background gives the town's goals of becoming a friendly university community relevant value and emphasizes the need to make the university and its surroundings a walkable and accessible destination. This chapter assess Wingate's development history, demographic profile, and existing pedestrian conditions.

Land Use & Development

Wingate has seen significant residential growth through recent annexations of residential subdivisions developments. Wingate is located along U.S. Highway 74 on the edge of the Charlotte metropolitan area in Union County approximately 7 miles east of Monroe, NC. US Highway 74 divides the Town acting as the spine for the commercial town center. Highway 74 is a heavily traveled route linking the western mountains and the eastern coast of North Carolina.

The land use patterns of Wingate are a result of its heritage as a small, college and farm town. In addition to the university, key institutions in the community include the Wingate Elementary school, seven churches including the original Wingate Baptist church, a nursing home and the Jesse Helms Center. **Table 2-1** summarizes the existing Land Use distribution in the Town according to the *2020 Town of Wingate Comprehensive Plan.*[2]

Strip mall type developments predominate along the main corridors (Highway 74 and Main Street). The main destinations in town include Wingate University, the elementary school, the Wingate Community Park and center and residential neighborhoods. New pedestrian-oriented development patterns and streetscape improvements are being implemented by the Town and University along Main Street. A proposed new toll road (The Monroe Bypass) will traverse the northern town limits, connecting I-485 in Charlotte with US 74 east of Wingate. This bypass will significantly

change the traffic patterns across Wingate, allowing the existing US 74 town spine to thrive as an attractive pedestrian friendly commercial corridor that welcomes residents and visitors to explore the town by foot. Future land use plans proposed in the Town's Comprehensive Plan for the town center in intend for the development of mix-uses including curb-front stores, offices, and residential uses on the upper level(s) of buildings, to give these corridors a more traditional Main Street' appearance.

Outside of the Town Center, small neighborhoods have developed in the past 50 years. Many of these **neighborhoods lack sidewalks**, and are cul-de-sac type developments disconnected from each other. However, low traffic speeds along the roadways and **the short distances** between destinations within the town create opportunities for numerous walking trips once a pedestrian network is developed.

Table 2-1: Existing Land Use Distribution

Land Use	Acres	% of Total
Commercial	372.8	7.8%
Institutional	157.8	3.3%
Multi-Family Residential	19.7	0.4%
Single Family Residential	3865.0	80.6%
Dedicated Open Space	41.9	0.9%
Other (Rights of Way, etc)	340.8	7.1%

Demographics

Needs and demands related to walking can be better understood through an analyses of demographic information. US Census demographic data provide local information such as the primary means of transportation to work and the percent of population not owning a vehicle. **Table 2-2** presents selected population and economic characteristics for the Town of Wingate obtained form the 2010 U.S. Census and the *American Community Survey* (ACS) estimates for 2006 to 2009.

Table 2-2: Town Wingate Census Demographics Estimates

Subject	Data Source	Estimate	% of Total
Total Population	**2010 US Census**	**3,491**	**100**
16 years and over		2,682	82.2
16 years and under (calculated)		809	17.8
65 years and over		296	8.5
Employed population 16 years and over	**ACS (2006-2010)**	**1,362**	**100**
Commuting to work by car alone		1,198	88
Commuting to work by walking		13	1.0
Number of Households		**1605**	**100**
No. of household without access to automobile		117	7.3
Median household income		$41,419	N/A

In meeting the goals of this plan, the proposed recommendations will be prioritized with input from residents, the Steering Committee and key community stakeholders. Special attention will be paid to projects that allow Wingate's population to walk to local destinations more often. Wingate University is identified in the *2020 Comprehensive Plan* as the primary employer in Wingate, by providing safe and convenient walking paths to the University campus and surrounding neighborhoods and destinations the percent of walking commuting trips can increase significantly in the next 5 years.

Student crossing near Wingate University

Existing Pedestrian Conditions

Fieldwork Observations

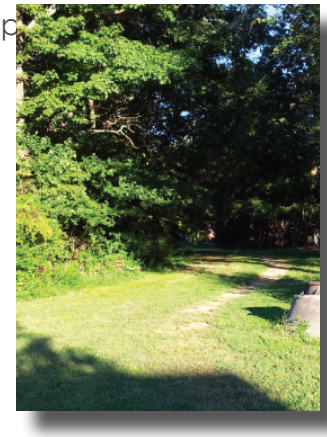
The Town of Wingate features Wingate University, Wingate Elementary School, Jesse Helms Center, several churches, and shopping areas. The Town is bisected by one mile of US Highway 74, an artery which provides access to the Town's commercial areas. US Highway 74 consists four travel lanes through Wingate, and carries a relatively high volume of traffic (24,000 vehicles per day as of 2010 data), with high numbers of trucks. Although the posted speed limit is 35 MPH, traffic tends to flow at a faster speed. The future Monroe Bypass is anticipated to change traffic patterns along US Highway 74. Located parallel to US Highway 74 is one mile of Seaboard Railroad tracks, carrying approximately eighteen trains in a 24-hour period. Numerous residential neighborhoods, Wingate University, and shopping areas create a need and desire for pedestrian access along and across US74 and the railway tracks, but many intersections and crossing facilities are not safe for pedestrians. In some areas, gaps in the sidewalks network and a lack of safe crossings make pedestrian travel difficult.

Two intersections in the Town are signalized: US Highway 74 and Main Street, and US Highway 74 and Bivens Street. At these intersections, only one crosswalk (with standard crosswalk lines) is present at the Main Street crossing. These intersections are characterized by wide curb radii, and no pedestrian countdown signals, pedestrian refuge medians, or high-visibility crosswalks are present at these intersections.

Numerous pedestrians were observed around Wingate, particularly in the areas in and near Wingate University. While the University and its immediate environs contain some pedestrian facilities (including portions of Camden Street, which has been closed to accommodate pedestrians), and although sidewalks exist in limited locations throughout the Town, there are sidewalk **segments that have become overgrown with vegetation and are deteriorating**, creating a disconnected and unsafe pedestrian network facilities. **Some sidewalks are blocked by other obstructions (such as utility poles), or are subject to limited sight distance issues.** At the N. Camden St. entrance to Wingate University, no facilities exist to aid in pedestrians crossing US Highway 74, and no sidewalks exist to accommodate pedestrians as they enter the campus, although pedestrian visitors and employees approaching from the south side of US Highway 74 must cross US Highway 74 to access the campus. In other locations, **worn "paths of desire" appear where pedestrians walk to access** important destinations.

Many roads are without sidewalks throughout the Town's neighborhoods. Examples include the Highland neighborhood, Wingate Estates, Grove Park, Colonial Meadows, and College Park neighborhoods. **The area around Wingate Elementary School lacks adequate sidewalks, crosswalks, and traffic calming measures.** The existing sidewalk network, roadway network, parcels, speed tables, schools and other destinations are shown on **Map 2-1** on the next

Signalized Intersection at US 74 and Bivens Street: no sidewalks or pedestrian crossing treatments



Worn path between Stewart St and Food Lion.

This page left blank intentionally

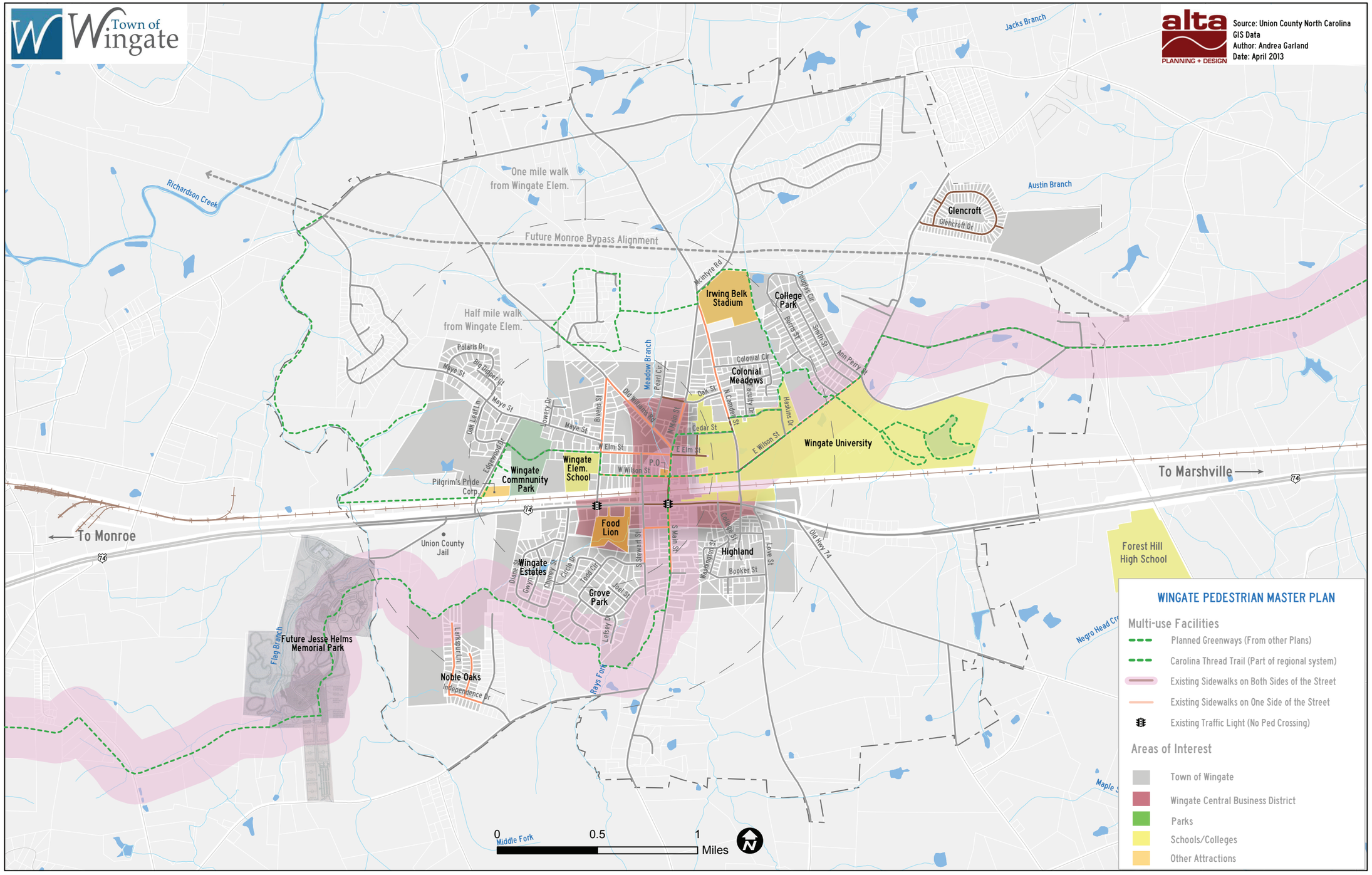


Figure 2-1: Existing Conditions Map

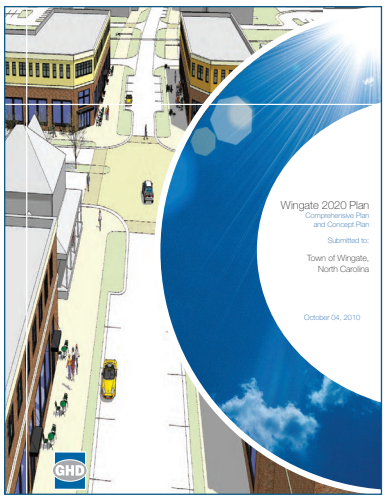
This page intentionally left blank

Existing Plans

Wingate 2020 Plan, Comprehensive Plan and Concept Plan (2010)

Community Vision Statement

The proposed vision statement for the Town realized through community and stakeholders input is as follows:



"Wingate is a vibrant, friendly and caring college town for people of all ages and races. Wingate is responsive to the needs of its residents, honors its history while planning for growth, and values the educational and cultural benefits of the university. ***Wingate strives to be pedestrian friendly*** *and environmentally responsible while providing a healthy economic infrastructure and social opportunities for all.*

The community envisions a town that will:

- Support safe and vibrant neighborhoods and public spaces
- Promote Diversity
- Create business opportunities
- Encourage partnership and cooperation among Wingate Stakeholders
- **Provide mobility options for Wingate Residents**
- **Create and maintain good planning and design principles**
- Provide effective and Efficient Public Services

Key Action Steps:

Land Use

Goal: *Help the Town of Wingate achieve the future land use vision identified in the Wingate 2020 Plan*

1. Review current Wingate Land use Ordinance
2. Modify the existing B-1 (Central Business) zoning classification to carry out the envisioned Town Center Concept
3. Modify the existing HC (highway corridor mixed use) zoning classification to ensure the creation of a compatible highway-oriented commercial district that complements the Town Center.
4. Develop standards and guidance for allowing Traditional Neighborhood Development (TDN) in residential zoning classification
5. Review current streets and sidewalks regulations to ensure:
   - Vehicular and pedestrian access between adjoining residential developments;
   - Avoiding excessively long cul-de-sac streets;
   - Requiring sidewalks at least along one side of every street;
   - Requiring landscaped street buffer in highway commercial areas.
6. Design standards for small-lot residential development that include:
   - Sidewalks adjacent to both sides of all internal streets
   - Greater building setbacks and wider buffer areas
7. Design standards for commercial Development to address issues such as:
   - Back-of-curb development;
   - Parking lots on the side or the rear of buildings;

- Windows along sidewalks to keep street life active;
- Establish minimum open space requirements for such residential uses a multi-family, condominium developments, PUD's, TDN's PRD's, cluster subdivisions, and manufactured home parks

8. Seek opportunities for the development of specific plans such as:

- Pedestrian and Bicycle Master Plan
- Greenways and Parks Master Plan
- Downtown Streetscape Improvements Plan

Mobility

Goal: *Creating a walkable community*

1. Establish a Complete Streets Policy. The town should develop a directive that builds upon the base established by NCDOT. The proposed language for the Policy framework is a follows:

"The Town of Wingate embraces the principles of Complete Streets. New and retrofitted street within the Town will be designed in a manner to balance the needs of all anticipated users, regardless of their selected mode of travel. *This Policy applies to all roadways within the Town, including state, county, and local facilities, and will be applied to new construction and retrofits of existing facilities, including resurfacing"*

2. Target Street for Complete Streets Initiatives - The following streets should be considered priority for Complete Streets initiatives, and evaluated to determine specific measures such as road diets, or incorporation of traffic calming:

- Main Street
- Elm Street
- Camden Street
- Wilson Street
- Bivens Street
- Williams Road
- Pearl Street
- Cedar Street
- Oak Street

3. Revise Town Traffic Calming Policy and Guidelines –The town should revisit and revise the policy to include the following measures in addition to the existing speed humps and tables:

- On Street Parking
- Splitter Islands – median placed in the middle of two lanes of traffic
- Mini-Circles – small scale round about
- Roundabouts
- Miniblock Pinchpoints / Bulbouts
- Intersection Bulbouts
- Raised Crosswalks (intersection and midblock)

4. Develop comprehensive Greenway and Trail System – The town should pursue creation and implementation of a comprehensive in-town greenway system for not only recreational purposes, but also to provide an alternative to motor vehicles for daily community to work or classes at Wingate University.

Wingate Current State of Mobility

A Citizen Satisfaction Survey, conducted for the 2020 Comprehensive Plan indicates that:

- 64.7% of respondents are dissatisfied with the amount of sidewalks/footpaths in Wingate.
- About the quality and maintenance of existing sidewalks/footpaths, 32% are dissatisfied and 32% are satisfied, and 36% are neutral.
- 48% are dissatisfied with the amount of lighting along existing roads and sidewalks, and 24% are neutral

Downtown Wingate

Goal: *To enhance the quality of development and create a more vibrant downtown for Wingate.*

The Plan establishes that the framework for future efforts and initiatives should pursue the following premises:

- Revitalizing the new downtown area so it can serve as the community's main activity center
- Emphasizing the appropriate mix of retail, commercial residential uses within a human scaled environment
- Maintain connectivity within the town center and links to the rest of the community

1. Tame Highway 74 – The plan envisions a Downtown where Highway 74 corridor between Bivens and Camden Streets is a primary doorway into Wingate. Recommendations to achieve this goal include:

   - Incorporate a planted median in place of the center two-way left turn;
   - Restripe travel lanes at 11 feet.
   - Establish textured turn lanes at critical intersections;
   - Provide textured or high-visibility crosswalks and pedestrian countdown clock at Main Street, Bivens Street, and any new proposed signalized intersections resulting from the Master Plan implementation.
   - Establish Town "gateways" at Bivens Street and Camden Street
   - Provide continuous sidewalks and shade trees in the parkway strip
   - Provide "rail with trail" along CSX facility to provide parallel bicycle facility through town.
2. Establish Pedestrian Priority Street in Downtown – The plan proposes a strategy for targeting downtown streets for Complete Streets retrofits. This strategy would include initiatives such as:

   - Lane diets to 10 feet width;
   - Establishment of on-street parking;
   - Incorporation of traffic calming elements such as bulbouts, splitter islands, and mini circles, and raised and/or textured crosswalks at intersections.
   - Main Street and Elm Street would be first candidates for implementation of these strategies.

2011 Wingate University Campus Master Plan

The Wingate University Campus Master Plan was updated in 2011. The update was guided and supported by University community- trustees, faculty, staff, students, and Wingate community leaders.

Vision

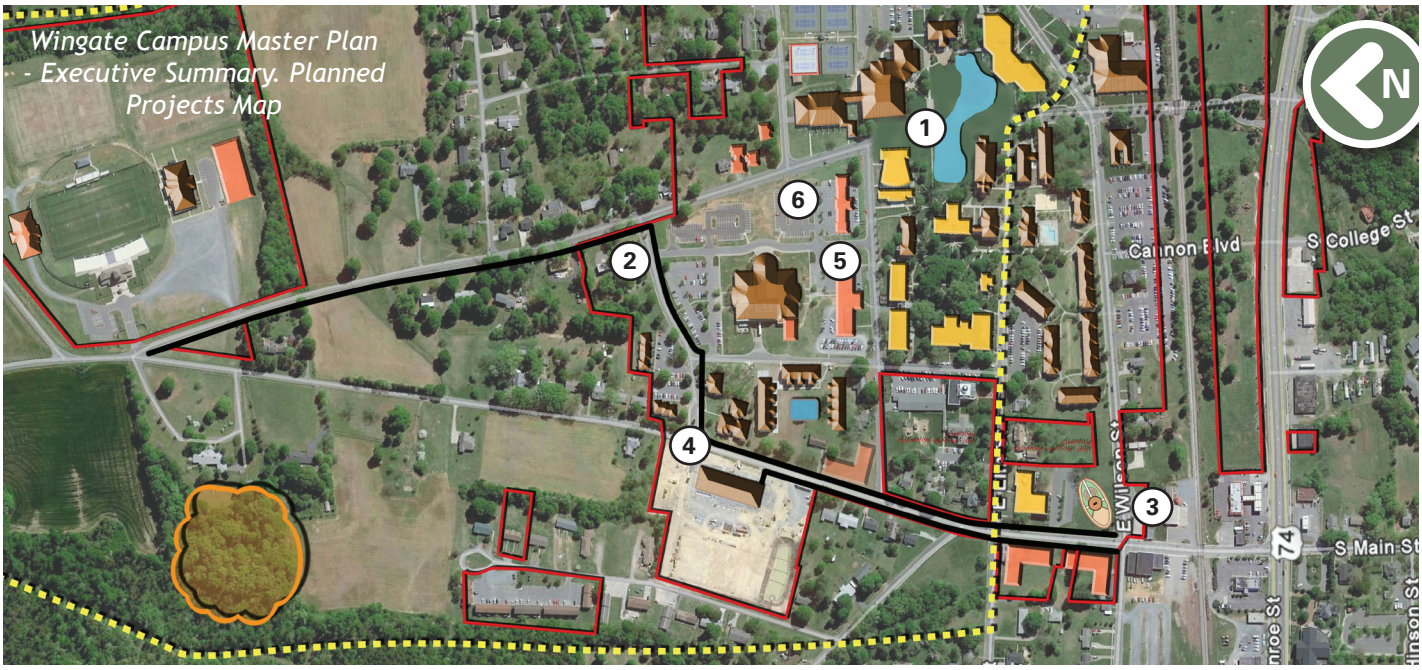
The campus master plan describes improvements in Wingate University's spaces and places as they relate to three key endeavors:

- Engaging learning environments
- Co-curricular environments for activity and opportunity
- ***Site and planning***

Site and Planning Projects

The following projects are identified by number in the map on the next page.

1. Demo the section of Camden Street between Wilson and Cedar to improve aesthetics and safety. (Completed in 2012)
2. Add sidewalks to key destinations.
3. Create a Town Square to connect new graduate housing/ retail, the town, and the campus.
4. Add new entry gates on the north corner of Oak



and Main.

5. New academic facilities should be constructed on or near the academic quad whenever possible. It serves as both a visual reminder of the academic focus of the institution, it is used for academic ceremonies, and it is a very effective, pedestrian scale organizer of the academic functions on campus.

6. Parking lots should be used as building sites and new parking built along the periphery of campus. Wingate has effectively removed parking from the campus core and should continue to do so to maintain the pedestrian friendly feel.

7. Use consistent site amenities to create University boundaries and identity, including lighting, signage, and outdoor furnishings.

Action Plan

The action plan prioritized the order in which the plan's projects will be completed. The site and planning projects fall under the 'one to three year projects'.

Wingate Greenway System Plan (2012)

This master plan presents Wingate with four separate greenway segments, which the Town can consider implementing to develop a greenway system.

Purpose of the Plan

- Provide a basic conceptual vision for the greenway network in Wingate
- Support future grant writing for projects funding
- Provide a planning cost estimate of the projects
- Provide an implementation plan for development of the greenway network

Vision

The future Wingate's greenway network will:

- Be easily accessible to residents in various sections of Wingate.
- Be multi-use purpose.
- Be designed foreseeing future connectivity to Monroe's and Union County greenway network, future residential and educational development, and to Wingate's sidewalk network.
- Connect local schools, parks, civic locations, and natural areas along local creeks and streams.

- Have the least impact on the local environment and local water quality.
- Offer potential science education opportunities to local schools.
- Provide fitness and exercise opportunities along greenway trails developed.

Route Planning

Wingate has established the following vision statement for its greenway system:

"Wingate envisions a multi-segmented, natural path greenway system developed to provide, off-road walking, hiking, and bicycling opportunities for local residents, which will also preserve and protect floodplain areas along Wingate's creeks and streams, as well as provide educational opportunities for local school systems."

The future greenway network will likely be planned along some of the waterways that traverse the Town. Creeks and streams in and around Wingate are located within the Richardson Creek Drainage Basin and are part of the Yadkin/Pee Dee River System. Four major stream systems provide Wingate with potential greenway corridors, including:

- Meadow Branch
- Spring Branch
- Flag Branch
- Ray's Fork branches

Potential destinations or connection points for a greenway system include the following:

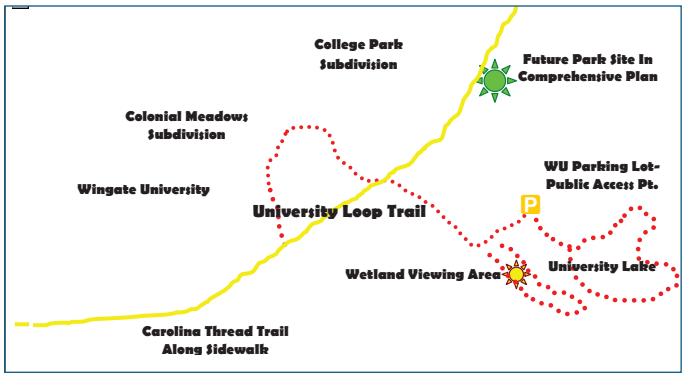
- Wingate Elementary School
- Wingate Community Park
- Potential new park sites
- Wingate University
- Residential Subdivisions
- Wingate's new planned Town Center
- Town Hall
- Public Library

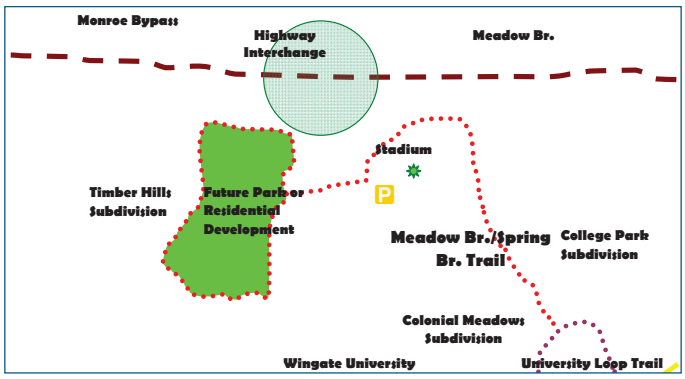
Existing constrains for route planning include:

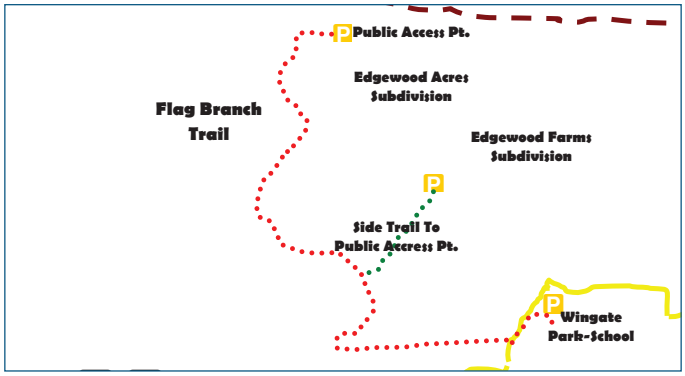
- Private property easement acquisitions along northern portions of Meadaw Branch.
- The tracks of CSX Railroad, and the four-lane corridor of US Highway 74 bisect the southern section of Wingate.
- The planned corridor for the Monroe Bypass could seriously impede greenway corridors developed along the northern sections Meadow Branch and Spring Brach.

Proposed Greenway Segments

The following maps and table on the next page illustrate the proposed greenways for Wingate:

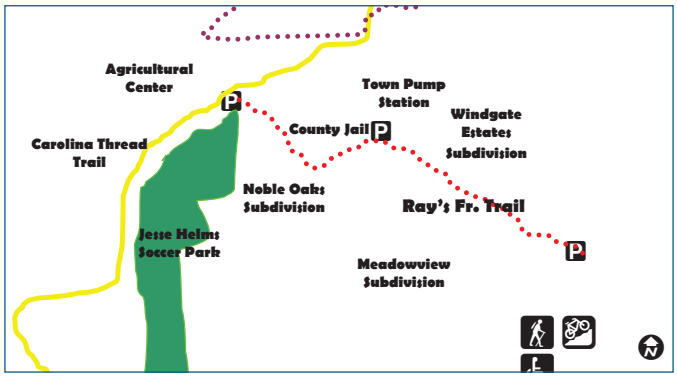






Wingate Greenway Plan-Proposed Greenways

Name	Location	Miles	Cost	Comments
University Loop Trail	Wingate University Lake	1.5 or 2.5	$104,150	The Town received a 2012 NC Clean Water Management Trust Fund Donation Mini-Grant for $25,000 for transaction costs associated with the acquisition of easement from Wingate University.
Medaow Branch/ Spring Branch Trail	From University Loop Trail to Future Development	2.0	$ 327,600	Presents land acquisition challenges and potential conflict with the Monroe's Bypass roadway alignment.
Flag Branch Trail	Extends along the eastern bank of Flag Branch	3.0	$549,600	Presents some land acquisition challenges, but no transportation impediments
Ray's Fork Trail	Extends along the northeastern and southwestern banks of Ray's Fork south of US Highway 74	1.5	$469,800	Land acquisition challenges of corridor easement across fourteen properties owned by twelve different owners.



Proposed Sidewalk Gaps Closures

The Greenway plan proposes the following sidewalk improvements to compensate for some of some of the lack of connectivity provided by the proposed greenway system:

- **Wingate Elementary School and Wingate Community Park/University Loop Trail Connection**: Complete sidewalk gaps along W. Elm St to connect to the entrances/exists at the park.
- **Pearl Ct./Meadow Branch/Spring Branch/ Segment Connection:** Sidewalk addition along Pearl Ct, to tie the connection between this trail and the University Loop Trail
- **Town Hall and New Town Center/University Loop Trail Connection**: Existing sidewalks along E. Wilson Rd, Camden St, north side of Highway 74, and to Main St, provide an alternative connection.

Wingate Comprehensive Park and Recreation Facilities Vision Plan (2012)

Purpose of Plan

- Obtain public input from Wingate's citizens about the parks and recreational facilities they desire.
- Provide the Town of Wingate with a strategic vision and implementation plan for the expansion and the improvement of its outdoor parks and recreational facilities and programs over the next several years.
- Enhance the Town's scoring potential on state and federal grants, which it may submit for funding to implement the plan's recommendations.

Existing Conditions

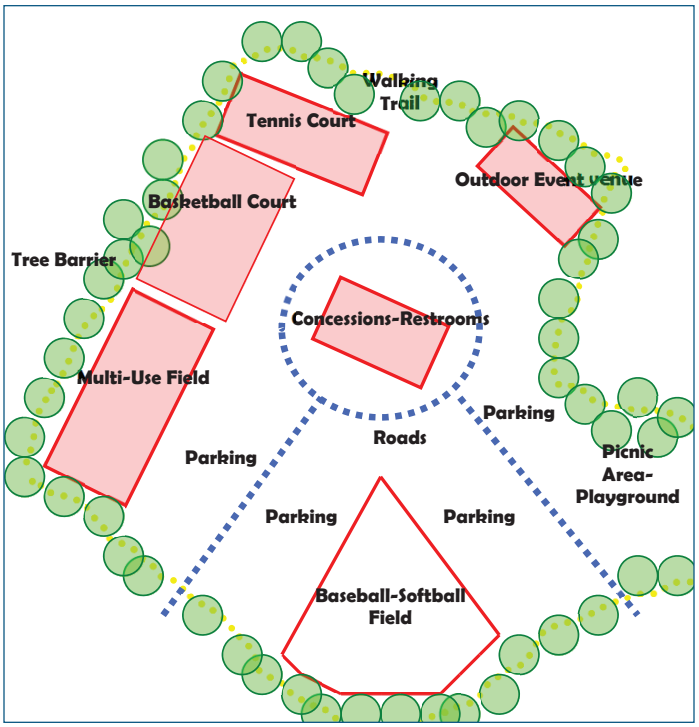
In Wingate, the management of park and recreation facilities and programs is split between The Town of Wingate and the non-profit Wingate Community Recreation Association (WCRA).

Existing parks and recreational facilities in Wingate include:

- Wingate Community Park
- Highland Park Playground
- Forrest Hill High School athletic facilities
- Jesse Helms Park Soccer Complex
- New Softball Complex
- Wingate University provides a variety of indoor and outdoor recreation facilities.

Proposed Recommendations

- The Wingate Parks, Recreation, and Greenway Advisory Committee, formed to guide the preparation of this plan and the *Wingate Greenway System Master Plan*, should be established as a permanent, standing citizen advisory committee, with a membership appointed by the Town's Board of Commissioners.
- Town provide financial assistance to assist Wingate Community Recreation Association Access Jesse Helm Park Facilities.
- Upgrade and expand the recreational facilities at the Community Park. (See map below)
- Build a new Town Park for addressing the limited availability of play fields.
- Build the first segment of the greenway system proposed in the Master Plan, along Meadow Branch



Proposed Community Park Expansion Site Plan

Carolina Thread Trail Master Plan for Union County and Participating Municipalities (2011)

Existing Conditions

There are 97 recreational facilities within Union County. The Town of Wingate has two parks, Wingate Community Park and Highland Park Playground. In addition, Wingate University is developing a two-mile nature walk through a wooded area of campus.

Project Timeline

The section of the Carolina Thread Trail under union county jurisdiction was adopted in 2011. The map on next page, depicts the proposed alignment for the CTT around the Town of Wingate.

Trail Routes

The conceptual CTT Union County route extends approximately 100 miles through the County and connects to other CTT sections in Mecklenburg County to the west, Anson County to the east, and Lancaster County to the south. The proposed route includes about 1.7 miles of existing greenways and 34.3 miles of trails planned by local governments of Union County. The remaining 64.6 miles of trail routes are new to the county and its municipalities. The proposed CTT crosses the town of Wingate from west to east for through Wingate Park and along Edgewood Drive, Elm Street, Bivens Street and Wilson Street.

Implementation Actions

- Step 1- Adopt the CTT Master Plan
- Step 2 – Encourage the county and local governments to incorporate this plan in local comprehensive planning and land use efforts
- Step 3- Build public support
- Step 4- Develop a minimum of 1.5 miles of greenways each year for the next 10 years and a minimum of 3 miles of greenway each year thereafter
- Step 5- Strategically pursue trail projects to maximize results and minimize costs
- Step 6- Ensure that the project list for the CTT Master Plan is current and relevant

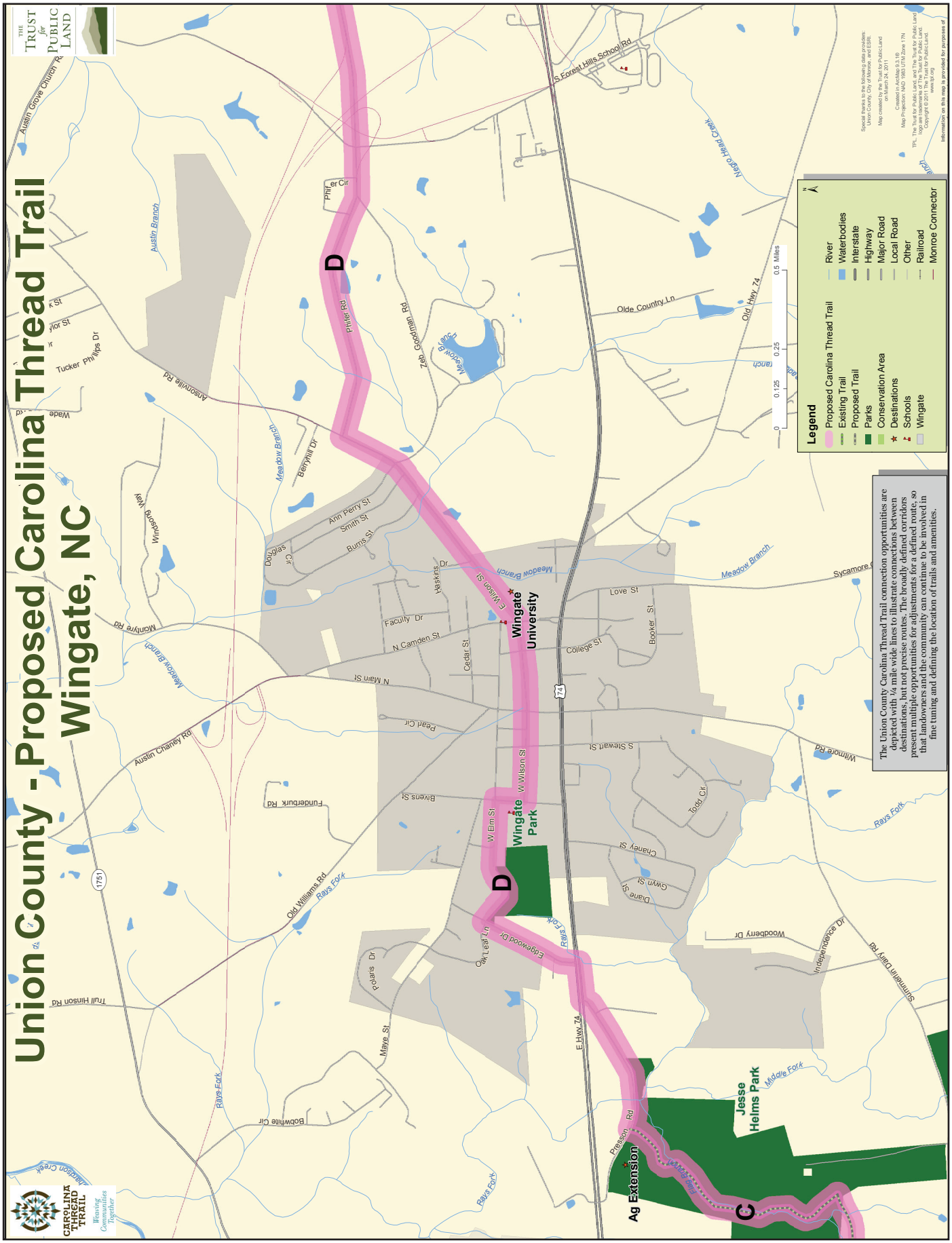
Union County Comprehensive Transportation Plan (2012)

Summary

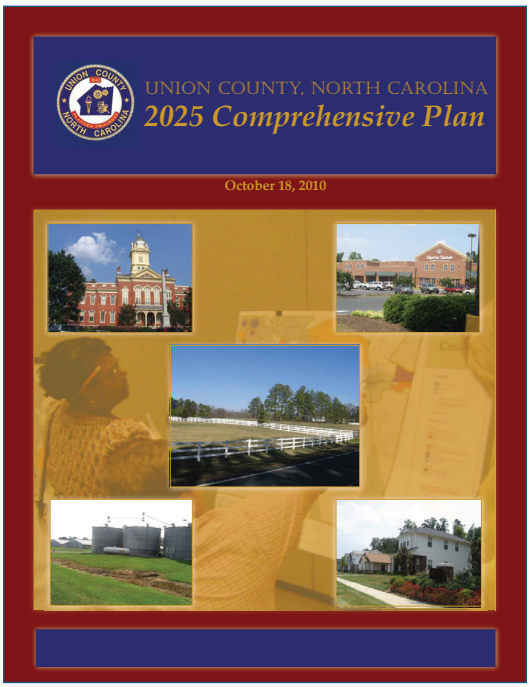
This is a long range multi-modal transportation plan that covers multi-modal transportation needs of Union County.

Recommendations

- Bicycle- The CTP incorporates the recommended Carolina Tread Trail bicycle routes for Union County adopted in July 2011.
- Pedestrian- The CTP incorporates the pedestrian recommendations from the 2010 Town of Marshville Pedestrian Plan.


Union County - Proposed Carolina Thread Trail
Wingate, NC
THE TRUST for PUBLIC LAND
CAROLINA THREAD TRAIL
Weaving Communities Together
Legend
Proposed Carolina Thread Trail
Existing Trail
Proposed Trail
Parks
Conservation Area
Destinations
Schools
Wingate
River
Waterbodies
Interstate
Highway
Major Road
Local Road
Other
Railroad
Monroe Connector
0 0.125 0.25 0.5 Miles
The Union County Carolina Thread Trail connection opportunities are depicted with ¼ mile wide lines to illustrate connections between destinations, but not precise routes. The broadly defined corridors present multiple opportunities for adjustments for a defined route, so that landowners and the community can continue to be involved in fine tuning and defining the location of trails and amenities.
D
D
C
Wingate University
Wingate Park
Jesse Helms Park
Ag Extension
Austin Grove Church Rd
Austin Branch
Tucker Phillips Dr
Ansonville Rd
Philter Rd
Philter Cir
Zeb Goodman Rd
Meadow Branch
Berryhill Dr
Ann Perry St
Smith St
Burns St
Douglas Cir
Leakins Dr
E Wilson St
Faculty Dr
N Camden St
Cedar St
N Main St
Monroe Rd
Austin Chaney Rd
Peak Cir
Funderburk Rd
Bivens St
W Elm St
W Wilson St
Old Williams Rd
Rays Fork
Truitt Hinson Rd
Maye St
Bobwhite Cir
Oak Leaf Ln
Edgewood Dr
E Hwy 74
Presson Rd
Middle Fork
S Forest Hills School Rd
Negro Head Creek
Olde Country Ln
Old Hwy 74
Sycamore
Love St
College St
Booker St
S Stewart St
Todd Cir
Chaney St
Gwyn St
Diane St
Woodberry Dr
Independence Dr
Wilmore Rd
Simmons Dairy Rd
Special thanks to the following data providers: Union County, City of Monroe, and ESRI.
Map created by the Trust for Public Land on March 24, 2011
Created in ArcMap 9.3.1®
Map Projection: NAD 1983 UTM Zone 17N
TPL, The Trust for Public Land, and The Trust for Public Land logo are trademarks of The Trust for Public Land.
www.tpl.org
Copyright © 2011 The Trust for Public Land.
Information on this map is provided for purposes of

UNION COUNTY 2025 COMPREHENSIVE PLAN (2010)



Goals, Polices, Strategies

G B-6: *Provide Convenient Recreational Opportunities through the County*

P B-6.1: Implement the Union County Parks and Recreation Master Plan. Policy implementation strategies include:

- Work with regional partners to develop plans for the Carolina Thread Trail with Union County
- Develop a plan to create an inter-connected recreational network of greenways and trails
- Considering requiring minimum open space, greenways and/or park facilities for new residential developments.

G F-2: *Strengthen and enhance existing neighborhoods through the provision of public services, improved access and compatible land use patterns*

P F-2.1: Use appropriate transitions between neighborhoods and non-residential areas to maintain the character of the land uses.

P F-2.2: Improve Neighborhood Connectivity. Policy implementation strategies include:

- Subdivisions should provide multiple points of entry, private sidewalks, and trails for cyclists and pedestrians.
- Provide pedestrian and bicycle linkages within developments and between residential and commercial areas.

Future Land Use

The future land use patterns proposed for the county that directly affect the town of Wingate are summarized below:

- Direct growth to urban and suburban areas along the edges of the towns to limit sprawl type development, to make wise use of development patterns in the towns, to maximize the use of existing transportation corridors, and lay the framework for future transit expansion.
- Focus denser residential land uses in areas where existing water and wastewater capacity is available or likely to be expanded in the future – east of Monroe and north of Wingate and Marshville in the Yadkin-Pee Dee River Basin.
- The Wingate-Marshville area is accessible to rail service, and is likely to be a major opportunity area once the new Monroe Connector/Bypass is in place. Medium density residential development is focused north of Wingate, in keeping with the town's land use objectives.

Implementation Action Plan

IA 2: *Amend the County's Zoning and Subdivision Ordinances*

- Consider requiring all new residential developments of a significant size to include open space, park, or greenways within the development. Provide incentives, such as density bonuses, to offset this new requirement.
- Require non-residential developments to include transitional features in areas adjacent to residential neighborhoods, such as landscape buffers, tree plantings, noise barriers, appropriate building orientation, building height, reduction in lighting features, etc.
- Amend the subdivision ordinance to require subdivisions to provide multiple points of entry, reasonable connectivity with adjacent areas and neighborhoods, and sidewalks and trails for cyclists and pedestrians.

IA 6: *Develop the Monroe Connector/Bypass Corridor Plan*

The County should undertake and lead development of a plan for this corridor and should coordinate the land use planning, infrastructure improvements, and design regulations for lands in the corridor.

Planning Initiatives

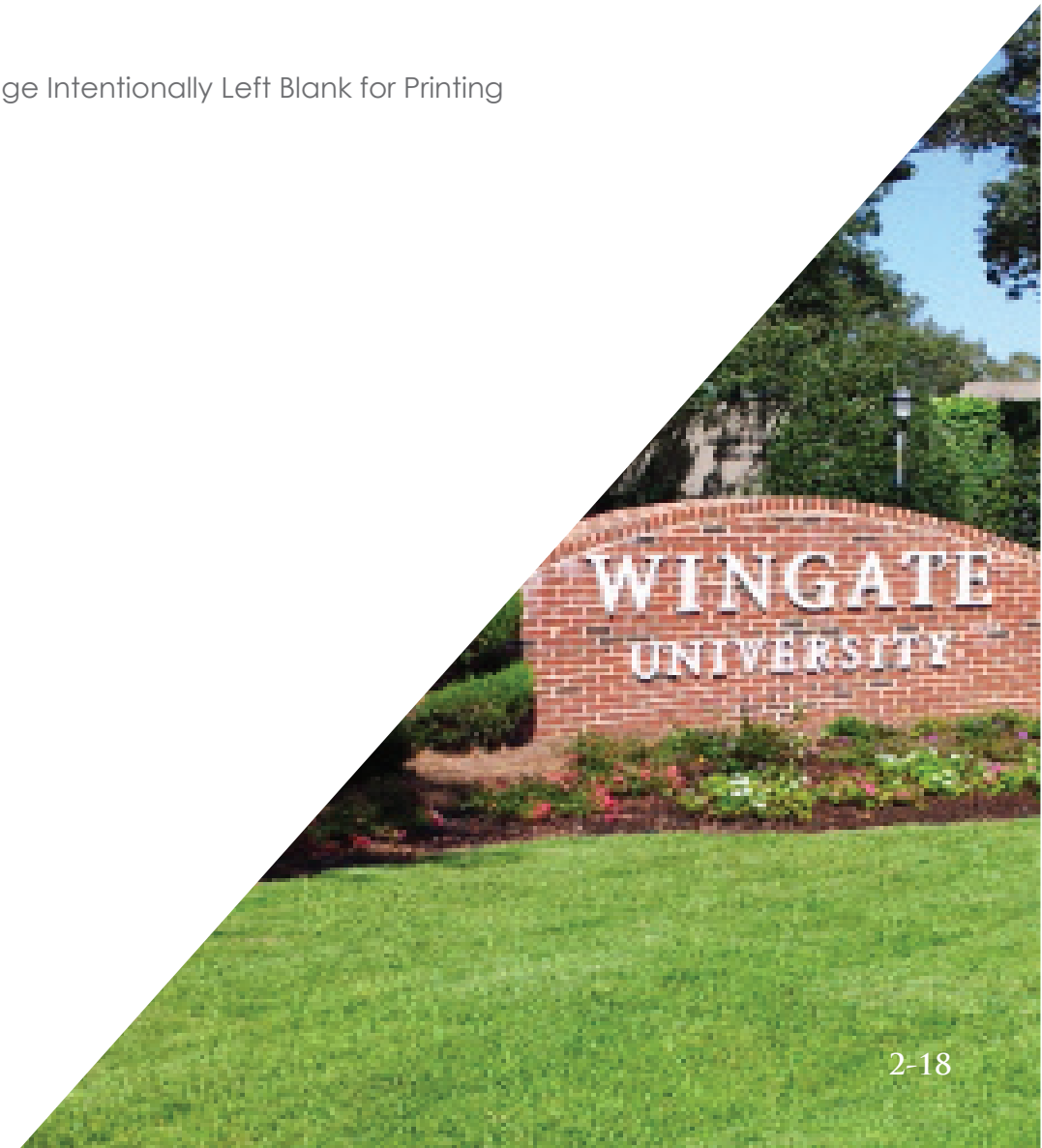
PI-5: *Develop a plan for a future rail corridor to extend into Union County. The plan should include specific strategies to reserve public right-of-way for the future corridor.*

PI-6: *Update the County's inventory (both in GIS and in text form) of all (public and private) parks, recreational facilities, trails, and greenways in Union County.*

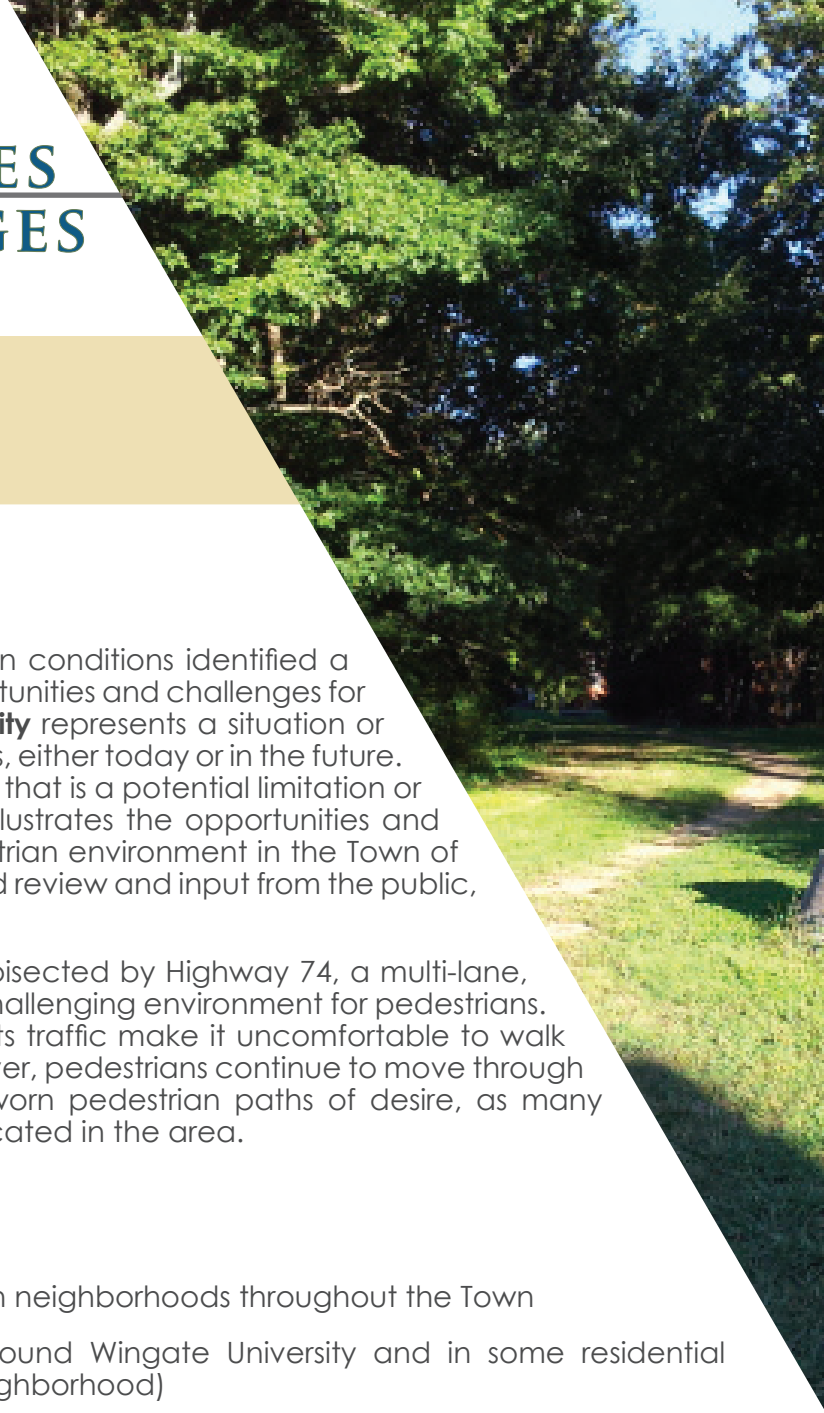
Footnotes from, "Chapter 2, Existing Conditions"

1. Town of Wingate History available at: http://www.wingate.govoffice.com/
2. Town of Wingate, North Carolina. Wingate 2020 Plan, Comprehensive Plan and Concept Plan. October, 2010.

This Page Intentionally Left Blank for Printing



3 Opportunities and Challenges



CHAPTER OUTLINE

Overview (3-1) | Key Opportunities (3-1) |
Key Challenges (3-1)

Overview

An analysis of the Town of Wingate pedestrian conditions identified a number of elements that are considered opportunities and challenges for creating a walkable community. An **opportunity** represents a situation or condition that is favorable to pedestrian access, either today or in the future. A **challenge** represents a situation or condition that is a potential limitation or restriction on pedestrian access. **Figure 3-1** illustrates the opportunities and challenges associated with the existing pedestrian environment in the Town of Wingate, as noted by the consultant teams field review and input from the public, staff, and key stakeholders.

One of the key challenges is that Wingate is bisected by Highway 74, a multi-lane, high vehicle speed roadway that presents a challenging environment for pedestrians. The width of the roadway and the speed of its traffic make it uncomfortable to walk along and challenging to cross on foot. However, pedestrians continue to move through the Town and this plan has noted multiple worn pedestrian paths of desire, as many pedestrian generators and destinations are located in the area.

Key Opportunities

- Local roadways with low traffic volumes in neighborhoods throughout the Town
- High numbers of pedestrians in and around Wingate University and in some residential neighborhoods (such as the Highland neighborhood)
- The compact nature of the Town, with pedestrians and destinations within walking distance
- On-going initiatives to improve Wingate's business district, to create a pedestrian-oriented district that acts as an amenity, and to draw more people to visit businesses and destinations.

Key Challenges

- Roadways that act as barriers to pedestrians, especially Highway 74
- Many intersections without ADA-accessible facilities
- Sidewalk gaps in key locations
- Existing sidewalks deteriorating and/or blocked by obstructions (vegetation, utilities)
- Lack of shade and pedestrian lighting along many roadways

This page intentionally left blank

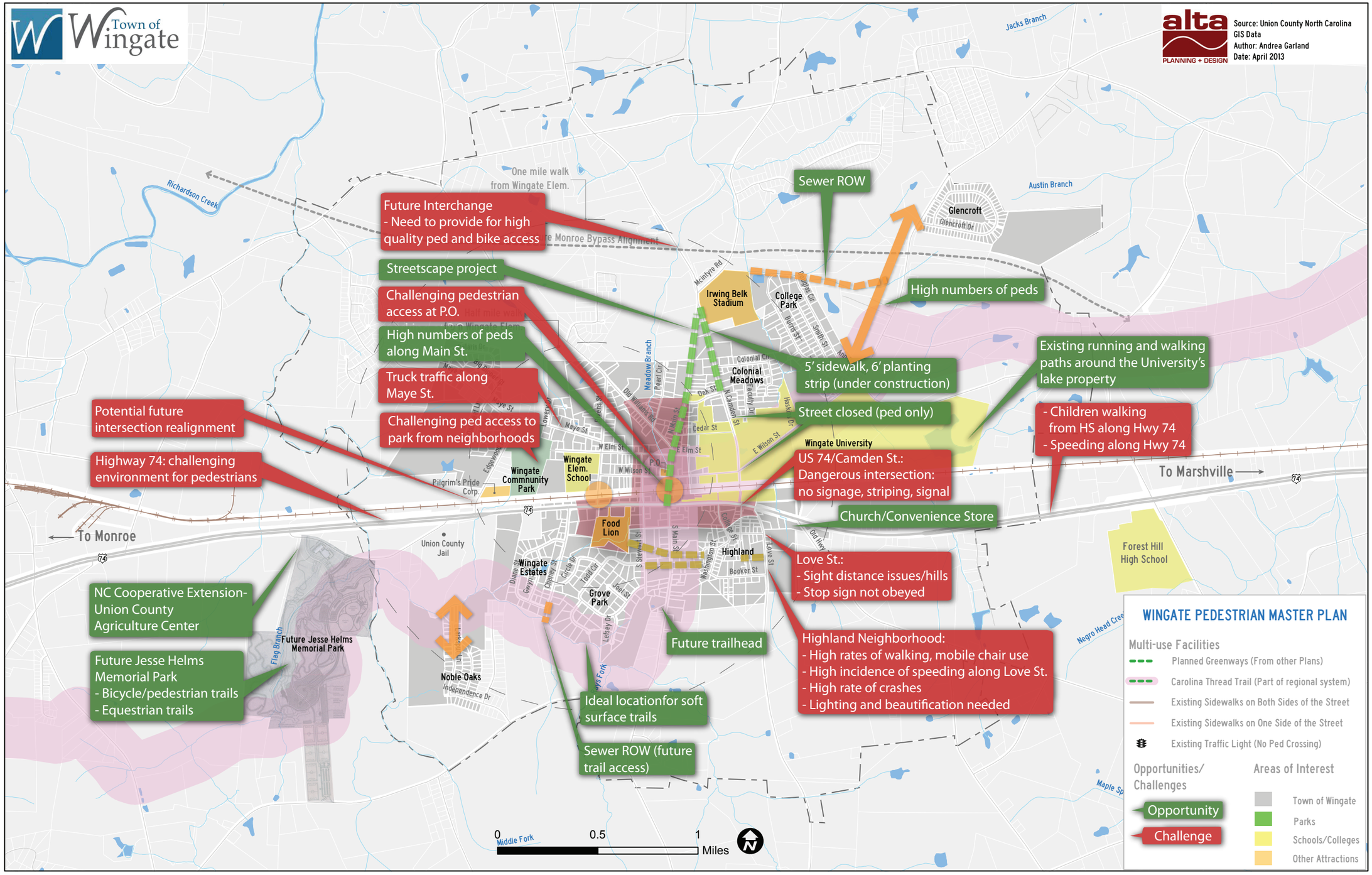
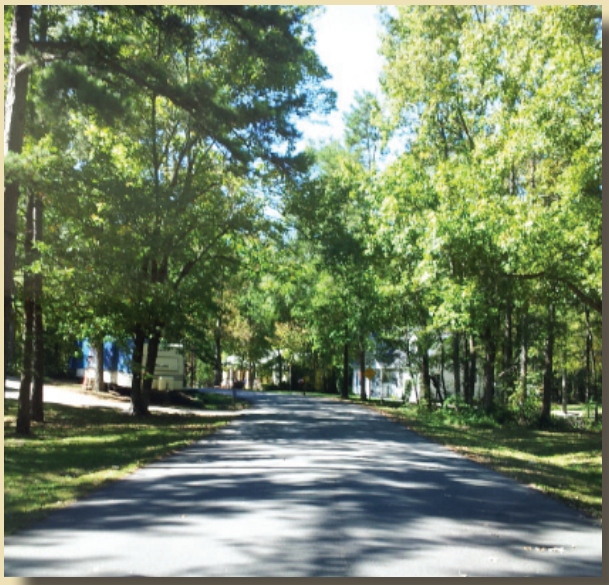


Figure 3-1: Town of Wingate Existing Opportunities and Challenges Map

This page intentionally left blank

Pedestrian Opportunities



With improvements, a low-volume neighborhood street can offer an ideal environment for walking.

Pedestrians in the Wingate University area enjoy dedicated pedestrian/bicycle paths and improved street crossings.

Wingate's compact nature means that most destinations are within walking distance of each other...

...However, many key destinations, such as the Food Lion shopping center, lack basic pedestrian infrastructure. A complete pedestrian network in Wingate can become an amenity, drawing more people to local businesses and enhancing economic development.

Physical Barriers to Walking

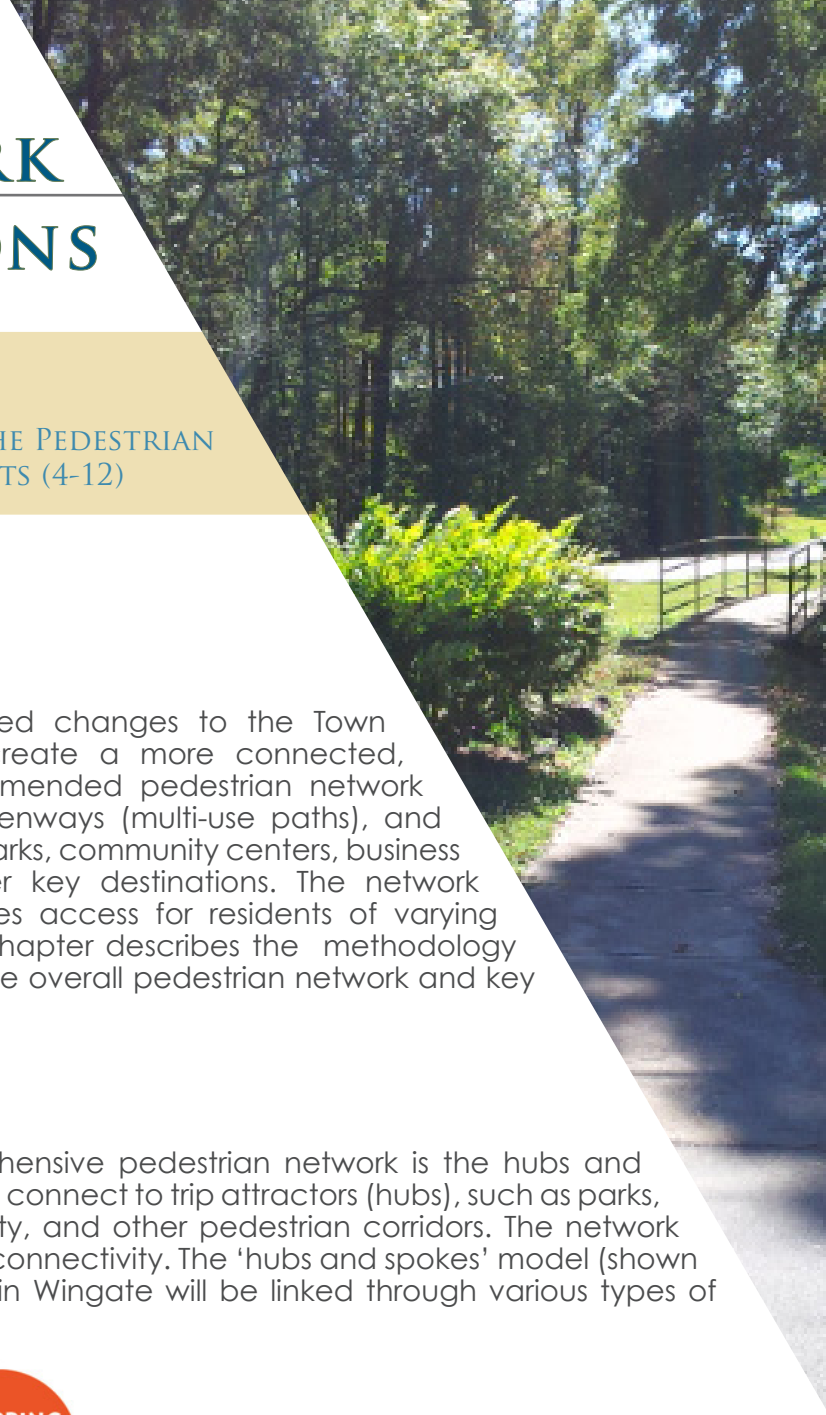
Multi-lane, high vehicle-speed Highway 74 is difficult to traverse on foot and unpleasant to walk along based on the location of the existing sidewalks..

Existing sidewalks are often blocked by overgrown vegetation, such as this sidewalk along Main Street.

Sidewalk gaps create a disjointed pedestrian network.

A faded crosswalk, broken sidewalk, non-ADA compliant curb ramps and a wide turning radius create an dangerous pedestrian environment at the intersection of Highway 74 and Main Street.

4 Network Recommendations



Chapter Outline

Overview (4-1) | Methodology (4-1) | The Pedestrian Network (4-2) | Project Cut Sheets (4-12)

Overview

This chapter contains a series of recommended changes to the Town of Wingate's physical environment that will create a more connected, comprehensive pedestrian network. The recommended pedestrian network provides a connected system of sidewalks, greenways (multi-use paths), and crossing improvements that connect to schools, parks, community centers, business corridors, libraries, shopping centers, and other key destinations. The network serves multiple users and interests, and improves access for residents of varying physical capabilities, ages, and skill levels. The chapter describes the methodology for developing the network recommendations, the overall pedestrian network and key project recommendations.

Methodology

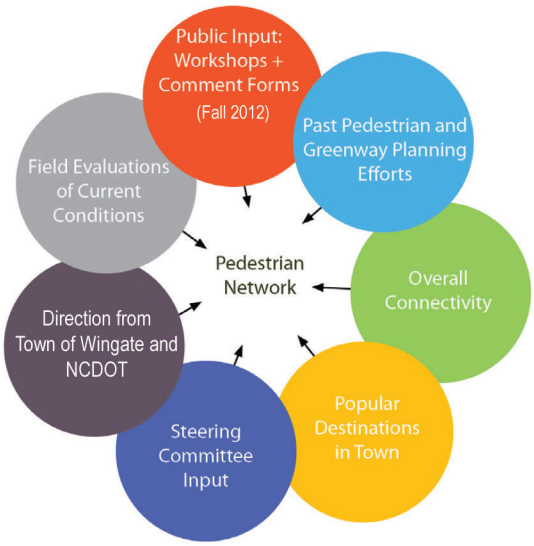
The guiding philosophy for devising the comprehensive pedestrian network is the hubs and spokes model. Pedestrian corridors (spokes) should connect to trip attractors (hubs), such as parks, schools, Downtown, shopping areas, the University, and other pedestrian corridors. The network then becomes a practical solution for pedestrian connectivity. The 'hubs and spokes' model (shown below) conceptually illustrates how destinations in Wingate will be linked through various types of pedestrian facilities.

A variety of resources were consulted during the development of the recommended pedestrian network, including:

- Previous plans and studies
- Maps developed from GIS data (demographic data, sidewalk gap analysis)
- Input from the Steering Committee
- Input obtained during public involvement events
- Fieldwork inventory and evaluation
- Identification of pedestrian trip attractors

The graphic below illustrates the approach that was taken during the planning process to obtain input from a variety of sources. As described in **Chapter 2**, fieldwork included an examination of conditions at all major intersections along primary corridors, and a consideration of sidewalk connectivity. Map review and analysis was conducted at Steering Committee meetings and public meetings to pinpoint specific areas in need of pedestrian improvements.

All recommendations are developed at a planning level and will need a more detailed project-level review preview to implementation.



The Pedestrian Network

The Proposed Pedestrian System Map (**Figures 4-1 A&B**), depicts existing and proposed pedestrian infrastructure improvements. Proposed improvements include sidewalks, greenways, crossing improvements, and traffic calming projects. Although the map does not depict sidewalks on every street, this Plan recommends that the Town develop a policy to ultimately require or provide sidewalks on both sides of all major roads and on at least one side of local streets where warranted by density and/or system connectivity (See **Chapter 5 for policy recommendations**).

The following pages describe and illustrate examples of the following pedestrian infrastructure recommendations:

- Sidewalks
- Intersection Improvements & Mid-Block Crossings
- Greenways
- Gateway Corridors
- Traffic Calming
- Safe Routes to School

Sidewalk Recommendations

The recommended sidewalks aim to expand upon the existing network of sidewalks to provide a continuos system that connects destinations along roadways. To complete the sidewalk network along existing streets, special emphasis should be given to completing sidewalk gaps and providing sidewalks on routes serving major pedestrian destinations (e.g. Wingate University, Wingate Elementary School and Food Lion, among others). In the near term, sidewalks on at least one side of collector and arterial streets within the developed areas of the ETJ should be the primary goal. In the longer term, sidewalks on both sides of all arterial and collector streets should be an objective. **Table 4-1** presents a list of the proposed sidewalks shown depicted on **Figures 4-1A & 4-1B**.

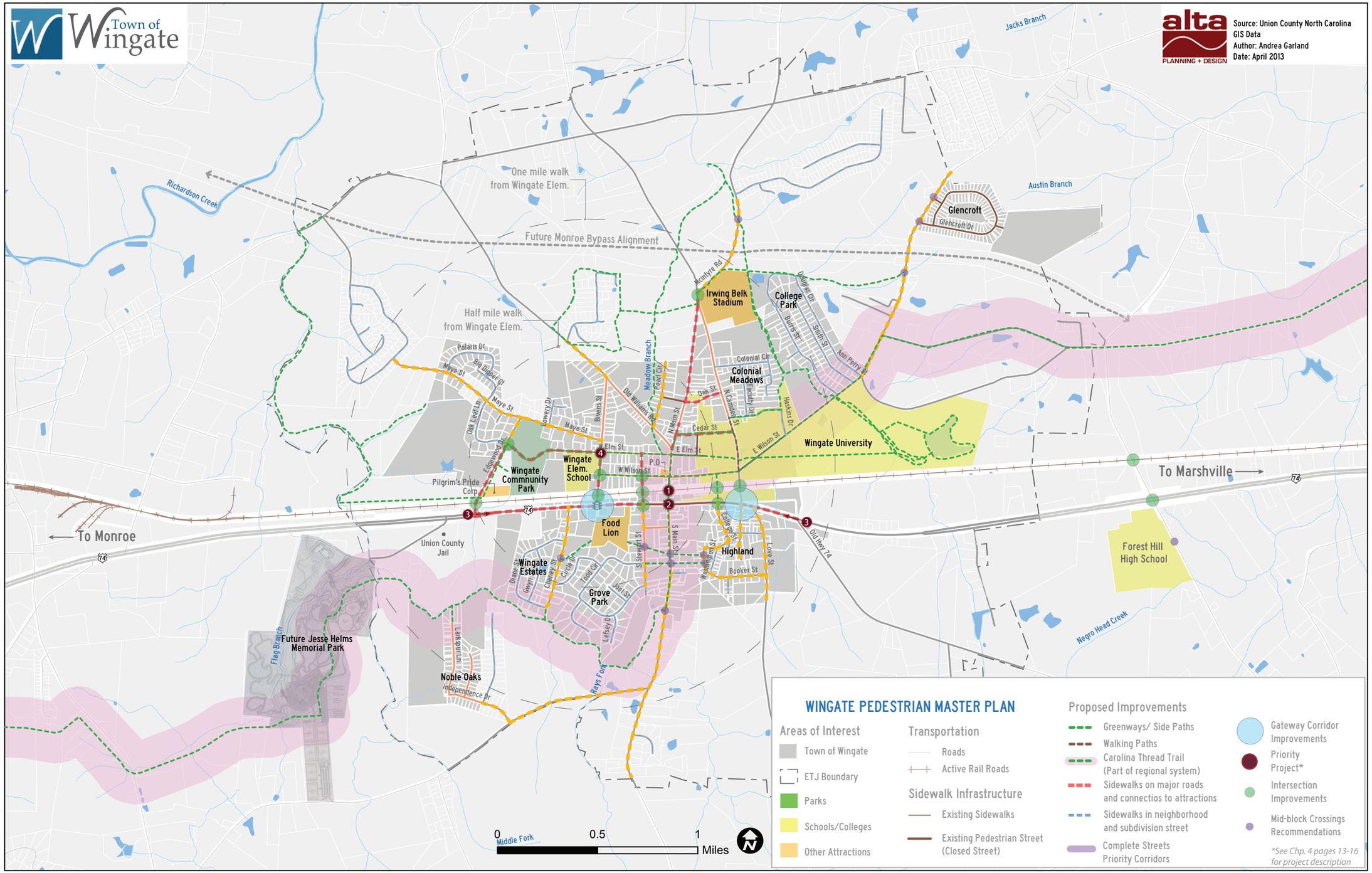


Figure 4-1A: Proposed Pedestrian System Map - Wingate ETJ Boundaries

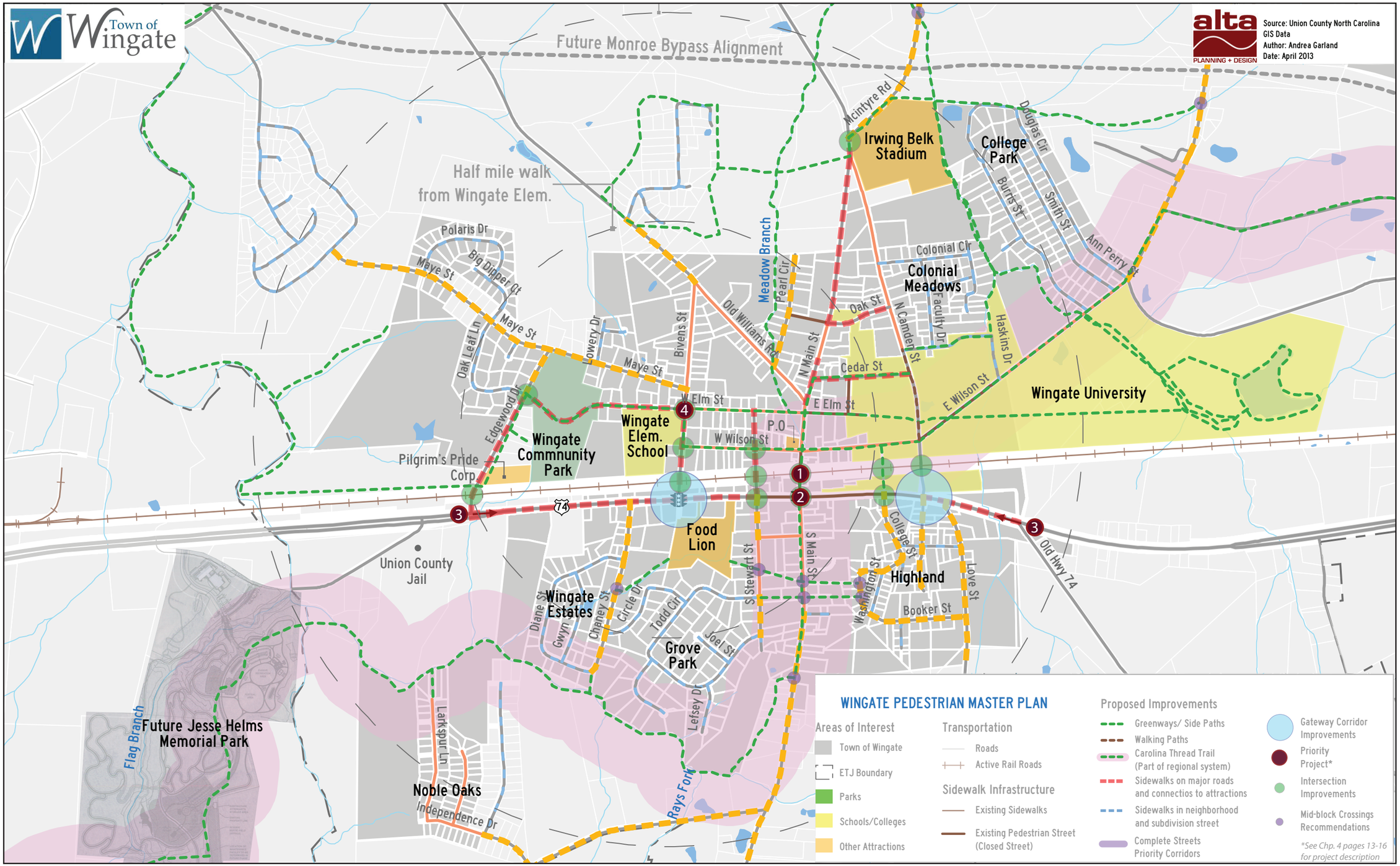


Figure 4-1B: Proposed Pedestrian System Map - Town of Wingate Boundaries

Table 4-1: Proposed Sidewalk Recommendations

Street Name	Facility Type	From	To	Apx Length Miles	Apx Length Feet
Bivens St	Sidewalk - Right Side	W Elm St	US Hwy 74	0.21	1083.09
Bivens St	Sidewalk - Right Side	US Hwy 74	End of Road	0.03	159.95
Bivens St	Sidewalk - Left Side	Old Williams Rd.	US Hwy 74	0.51	2675.60
Cedar St	Sidewalk - Right Side	N Main St	N Camden St	0.23	1192.67
Cedar St	Sidewalk - Left Side	N Main St	N Camden St	0.22	1178.29
Chaney St	Sidewalk - Right Side	Circle Dr.	US Hwy 74	0.31	1617.60
Chaney St	Sidewalk - Left Side	US Hwy 74	Diane St	0.40	2111.29
E. Wilson St	Sidewalk - Right Side	Bivens St	N Camden St	0.56	2966.14
E. Wilson St	Sidewalk - Right Side	Existing sidewalk	Ann Perry St	0.39	2074.73
Edgewood Dr.	Sidewalk - Left Side	Maye St	US Hwy 74	0.42	2209.51
Haskins Dr.	Sidewalk - Right Side	N Camden St	E. Wilson St	0.31	1642.43
Independence Dr.	Sidewalk - Right Side	Woodberry Dr.	Summerlin Dairy	0.13	701.38
Maye St	Sidewalk - Right Side	Bobwhite Circle	Bivens St	0.94	4948.73
Maye St	Sidewalk - Left Side	Bobwhite Circle	Bivens St	0.93	4895.72
Mcintyre Rd.	Sidewalk - Right Side	Austin Chaney Rd.	Windsong Way	0.47	2474.98
N Camden St	Sidewalk - Right Side	E. Wilson St	US Hwy 74	0.12	651.19
N Camden St	Sidewalk - Left Side	N Main St	Cedar St	0.52	2725.26
N Camden St	Sidewalk - Left Side	E. Wilson St	US Hwy 74	0.12	629.32
N Main St	Sidewalk - Right Side	N Camden St	E. Elm St	0.60	3168.64
N Main St	Sidewalk - Left Side	Existing sidewalk	Old Williams Rd.	0.09	493.31
N Main St	Sidewalk - Left Side	E. Elm St	E. Wilson St	0.08	448.21
N Stewart St	Sidewalk - Right Side	W Elm St	E. Hwy 74	0.19	1015.94
N Stewart St	Sidewalk - Left Side	E. Elm St	E. Hwy 74	0.19	1016.57
Oak St	Sidewalk - Right Side	N Main St	N Camden St	0.15	782.16
Oak St	Sidewalk - Left Side	N Main St	N Camden St	0.14	755.53
Old Williams Rd.	Sidewalk - Right Side	Funderburk Rd.	Bivens St	0.25	1344.01
Old Williams Rd.	Sidewalk - Left Side	Funderburk Rd.	N Main St	0.60	3187.89
S. Main St	Sidewalk - Right Side	Goodwill Lane	Witmore Rd.	0.19	1029.16
S. Main St	Sidewalk - Right Side	US Hwy 74	Goodwill Lane	0.27	1449.81
S. Stewart St	Sidewalk - Right Side	US Hwy 74	Hinson St	0.08	443.95
S. Stewart St	Sidewalk - Right Side	US Hwy 74	Dead End	0.17	912.40
S. Stewart St	Sidewalk - Left Side	US Hwy 74	Dead End	0.36	1904.24
Summerlin Dairy Rd.	Sidewalk - Left Side	Independence Dr.	Witmore Rd.	0.59	3095.03
US Hwy 74	Sidewalk - Right Side	Chaney St	S. Stewart St	0.29	1552.83
US Hwy 74	Sidewalk - Right Side	Chaney St	Town Limits	0.29	1517.49
US Hwy 74	Sidewalk - Left Side	Edgewood Dr.	Stewart St	0.69	3627.05
US Hwy 74	Sidewalk - Right Side	S. Camden St	Love St	0.05	252.79
US Hwy 74	Sidewalk - Left Side	Existing sidewalk	N Camden St	0.04	195.45
W Elm St	Sidewalk - Right Side	Community Park	Bivens St	0.18	955.78
W Wilson St	Sidewalk - Left Side	Existing Sidewalk	N Main St	0.05	263.40
Witmore Rd.	Sidewalk - Right Side	S. Main St	Town ETJ Boundary	0.49	2573.94

Table 4-1 Notes:

- Sidewalk - Right side: proposed sidewalk at east or south side of the street
- Sidewalk - Left side: proposed sidewalk at west or north side of the street
- Recommended sidewalks on neighborhood streets are not listed in this table, however they are recommended on at least one side of each street. The Public works department should investigate the feasibility of each side, and complete this portion of the sidewalk network as Town budget permits.

Intersection Improvements & Mid-Block Crossings

This Plan contains an overall strategy during field work, the consultant team evaluated pedestrian safety and accessibility at key intersections in Wingate. Intersections were assessed based on field work observations, community input, and feedback received from the Steering Committee during the project kick-off meeting. The intersections that were evaluated are listed in **Table 4-2** below.

Table 4-2: Priority Intersections

Intersections
US Highway 74 & Bivens St.
US Highway 74 & Main St.
US Highway 74 & Camden Rd.
US Highway 74 & Stewart St.
W. Elm St. & Bivens St.
W. Wilson St. & Bivens St.
N. Main St. & Wilson St.
Bivens St & Maye St.
Seabord RR Tracks & Bivens St.
Seabord RR Tracks & Main St.
Seabord RR Tracks & Camden Rd.
Seabord RR Tracks & Stewart St.
Seabord RR Tracks & Edgewood Dr.
North Main St. & N Camden Rd.
Edgewood Dr. & Elm St.

The majority of intersections that were evaluated are in need of new and/or retrofitted pedestrian crossing facilities , including new or enhanced pedestrian markings, signals, ADA ramps, and/or improved sidewalks. These intersections should be the focus of detailed study and recommendations in concert with NCDOT and the Seaboard Railroad owner. Intersection design recommendations are included in Chapter 4 and in Appendix A Design Guidelines to improve intersections and other pedestrian crossings citywide through a variety of treatments (outlined in ***Appendix A, Design Guidelines***). Many intersections throughout Wingate were targeted for enhancements during this study (to improve existing crossing facilities or create new crossing facilities at intersections and mid-blocks).

Seabord RR Tracks & Main St. Intersection: sidewalks and railroad pedestrian crossings are needed

W Elm St. & Bivens St. Intersection: sidewalks along Bivens and Elm Streets and high visibility crosswalks at each intersection leg are needed

Mid-Block Crossings

Four mid-block crossings were identified across Highway 74, (see **Figure 4-2**) with opportunities for pedestrian refuge islands. Mid-block crossings along primary streets and secondary streets are identified in the Proposed Pedestrian Recommendations map and listed in **Table 4-3.** Detailed graphic illustrations of a potential midblock crossing are presented in the **Project Cut Sheets** section of this chapter. The Town should coordinate with NCDOT on all intersection improvements on State-owned roadways. NCDOT can make ADA-compliant curb ramp improvements at intersections as part of resurfacing projects, for example.

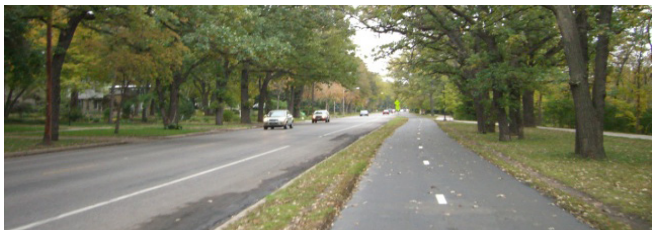
Table 4-3: Location of Proposed Mid-Block Improvements

Proposed Mid-Block Crossings
US Highway 74 between Bivens St & Stewart St
US Highway 74 between Stewart St & Main St
US Highway 74 between Main St & College St
US Highway 74 at intersection with Camden St
Chaney St between Circle Dr. & Diane St
S. Stewart St between Todd Cr. & Hinson St
S. Main St between Goodwill Ln. & US Highway 74
Booker St between Washington St
E. Wilson St between Ann Perry St & proposed Morose Hwy
E. Wilson St at Glencroft entrance

Local and Regional Greenways

Potential local and regional greenway opportunities were identified during the planning process. Greenways are proposed for Wingate to provide transportation and recreational alternatives for pedestrian travel, and to connect to the Carolina Thread Trail regional greenway network. The recommended greenways in this Plan aim to expand upon the comprehensive greenway system identified in the Wingate Greenway System Plan that utilizes stream corridors and easements to make connections throughout Wingate Town limits and the ETJ. **Table 4-4** lists the proposed greenways limits and lengths.

Example of a Pedestrian Refuge Island



Example of a multi-use path along a roadway

Table 4-4: Proposed Greenways

Location	Limits	Apx Length Miles	Apx Length Feet
Food Lion Connection	East side of Food Lion parking lot to S. Stewart St	0.07	376.83
Meadow Branch East	Town ETJ Limits North to Wingate University Lake	1.76	9302.22
Meadow Branch West	Meadow Branch East to W Elm Ave	1.27	6693.25
Rays Fork	Chaney St to Bivens St	0.28	1468.58
Seabord RR Trail	Wingate University Lake to Forest Hills Rd.	0.86	4529.40
Ansoville Rd.	Glencroft to Phifer Rd.	0.61	3199.93
Elm St	Wingate Community Park to Wingate University Lake	1.42	7512.47
Forest Hills School Rd.	Planned CTT to Forest Hill High School	1.03	5450.02
Future Monroe Bypass	Meadow Branch East to Ansonville Rd.	0.66	3470.41
Carolina Thread Trail - Union County	Within Town of Wingate ETJ Limits	4.95	28152.21

This Page Intentionally Left Blank for Printing

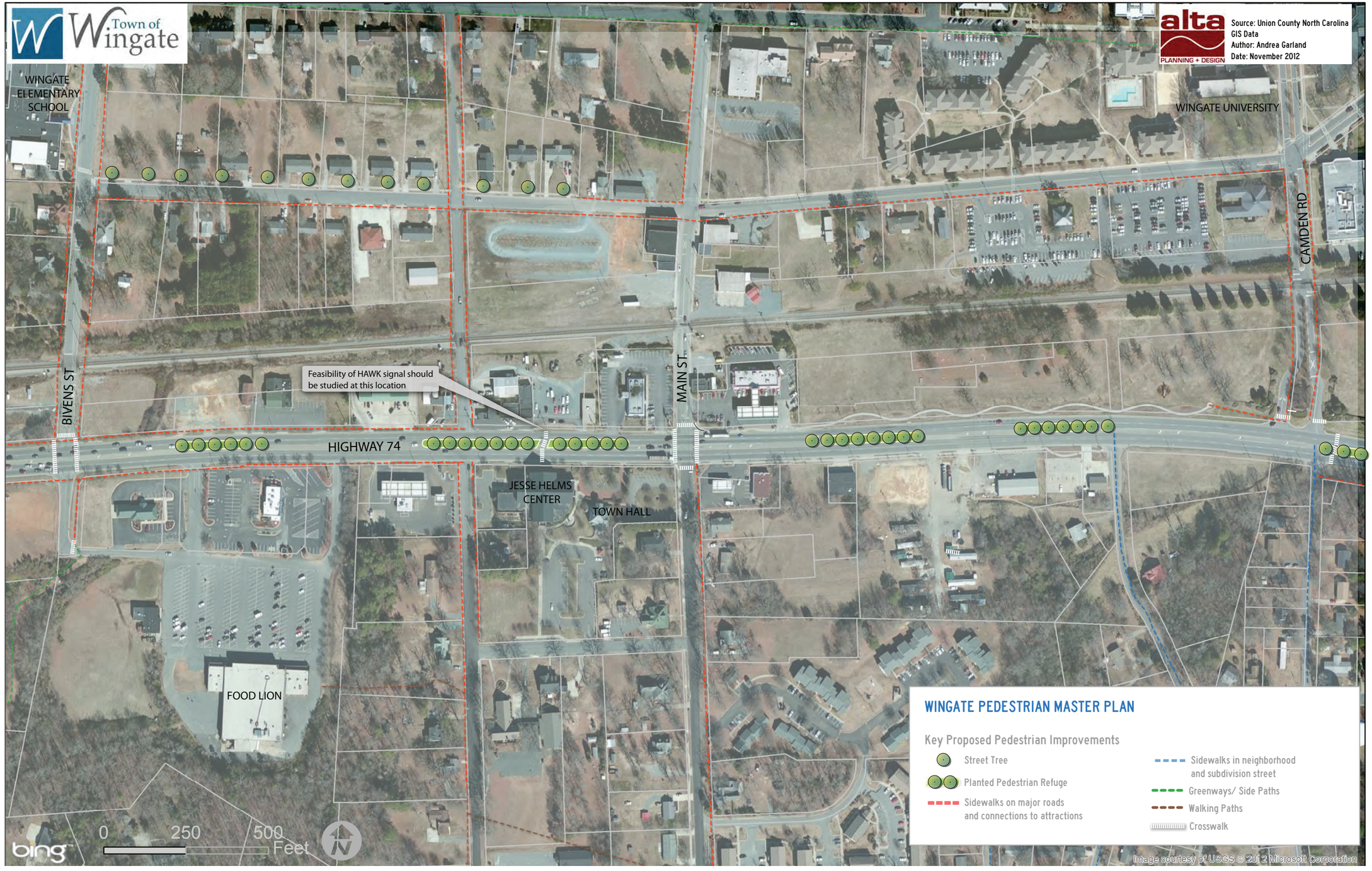


Figure 4-2: Potential Mid-block Crossings Along Highway 74

This page intentionally left blank

Gateway Corridors

A gateway corridor can serve as a welcoming entrance way into the Town. In many cases, a gateway corridor is the first impression residents and visitors have of the community and as such, should be inviting and attractive. The Town's Comprehensive Plan identifies the intersections along Highway 74 with Bivens Street and Camden Street as prominent gateways for Wingate. Wingate University has invested in making its entrance to the campus on Camden Street and Highway 74 aesthetically pleasant, however safe pedestrian access across the highway is needed. Potential gateway corridor recommendations could include sidewalks on both sides of the street, a "welcome" sign, street trees, landscaped center medians, landscaped sidewalk buffers, driveway access management policies, wayfinding signage, and pedestrian level lighting. The gateway corridor areas are shown on **Figures 4-1A & 4-1B**.

Traffic Calming Opportunities

Traffic calming is the name for road design strategies that can be implemented to reduce vehicular traffic speed and volume, create a more pedestrian-friendly environment, and allow residential and commercial streets to better balance their multiple uses. The type of projects can range from a few minor changes to major rebuilding of a street network.

Types of traffic calming techniques vary from community to community and state to state. Techniques that are typically utilized include (but are not limited to) speed limit reduction, speed alert and enforcement, warning signage, gateway signage, speed tables and raised crosswalks, planted center median islands, speed humps, rumble strips, traffic circles, pavement treatments such as cobblestones or bricks, bicycle lanes, curb extensions, road diets, and reducing lane widths as appropriate.

There are several areas in Wingate where traffic calming projects could be implemented. Before implementing any traffic calming projects, the Town's Public Works Department should analyze each corridor and evaluate the potential impacts of implementing a traffic calming technique. Maye Street was identified through public and stakeholder comments as a priority location for traffic calming and reducing truck traffic.

Through discussions with NCDOT Division 10 representative, the following strategies were identified for reducing truck traffic along this corridor:

- Pass a "no through truck" ordinance and work to enforce the ordinance
- NCDOT may be able to sign the route for "no trucks"
- NCDOT Div. 10 will investigate opportunities to facilitate movement on US 74 for eastbound trucks leaving from Edgewood Street, including a potential truck turn around through the median.
- The Town and NCDOT will need to directly engage owners of trucking companies and truck destinations, including the Pilgrim's Pride facility.

Wingate 2020 Plan-Downtown Goals

1. Tame Highway 74 – The plan envisions a Downtown where Highway 74 corridor between Bivens and Camden Streets is a primary doorway into Wingate. Recommendations to achieve this goal include:

   - Incorporate a planted median in place of the center two-way left turn;
   - Restripe travel lanes at 11 feet.
   - Establish textured turn lanes at critical intersections;
   - Provide textured or high-visibility crosswalks and pedestrian countdown clock at Main Street, Bivens Street, and any new proposed signalized intersections resulting from the Master Plan implementation.
   - Establish Town "gateways" at Bivens Street and Camden Street
   - Provide continuous sidewalks and shade trees in the parkway strip
   - Provide "rail with trail" along CSX facility to provide parallel bicycle facility through town.

Safe Routes to School

Safe Routes to School (SR2S) is a national and international movement that intends to create safe, convenient, and fun opportunities for children to bicycle and walk to and from schools. The goal of SR2S is to get more children bicycling and walking to schools safely on an everyday basis. By reversing the decline in children walking and bicycling to schools, SR2S can also play a critical role in reversing the nationwide trend toward childhood inactivity, obesity and disease. **Chapter 5: Program and Policies,** expands upon the Safe Routes to School program including a SR2S Tool Kit to provide guidance for the Town of Wingate about the program.

The most successful SR2S programs incorporate the "Five E's": evaluation, education, encouragement, engineering and enforcement. Improvements in the built environment in and around school properties, which addresses the engineering "E.", can encourage more students to walk or bicycle to school. The areas in and around Wingate Elementary School can be improved with Safe Routes to School as a goal. Concepts for pedestrian improvements around for Wingate Elementary School is provided in the **Project Cut Sheets section**.

Summary

Together these proposed Improvements should be developed to create a safe and connected pedestrian network throughout the Town of Wingate. All pedestrian facility projects undertaken should aim to meet the highest standards possible when topography and right-of-way allows. The design guidelines in **Appendix-A** provide detailed information regarding facility type and treatments.

All recommendations are developed at a planning level and will need a more detailed project implementation-level review.

The network should be completed in phases, however, individual projects within the network could be developed as opportunities arise, regardless of the order. Also, as mentioned in the policy section of this plan, new ordinances should make pedestrian accommodations a mandatory part of any commercial or residential development, especially as recommended in this Plan (as discussed in **Chapter 5**).

Project Cut Sheets

The following pages offer details for four priority project recommendations in Wingate. The purpose of these project sheets is to provide a clear picture of this Plan's recommendations. The photo rendering and plan view illustrations represent a typical treatment scenario of this Plan's recommendations and recommended implementation strategies.

Refer to recommendations map to see the location of the four priority projects.

1. Improvements along N. Main Street

Proposed Improvements

Sidewalk, streetscape, and railroad crossing improvements

Description

Main Street provides key connections to Wingate University and beyond

Priority Project #1 on Recommendations Map

Issues

Improvements along N. Main Street enhance safety, comfort, and ADA accessibility for pedestrians. Special attention is given to increasing pedestrian safety at the Seabord RR crossing. Improvements include rebuilt sidewalks with landscaped buffers, textured warning strips, a separate pedestrian gate in advance of the railroad crossing, and concrete pedestrian crossing panels at the railroad crossing.

Existing Conditions at Main Street and Seabord RR Tracks

Potential Sidewalk, Streetscape, and Railroad Crossing Improvements Along N. Main Street

2. Hwy 74 and Main St. Intersection

Proposed Improvements

Intersection improvements

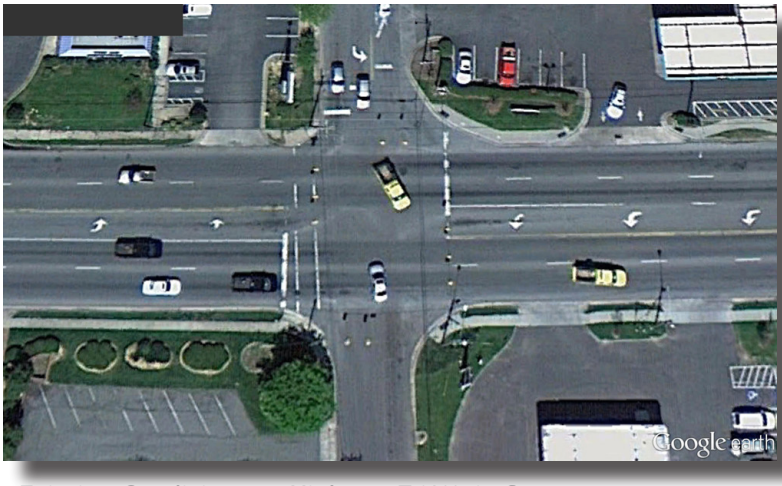
Description

The Highway 74 and Main Street intersection is a key crossing point for access to destinations throughout Wingate

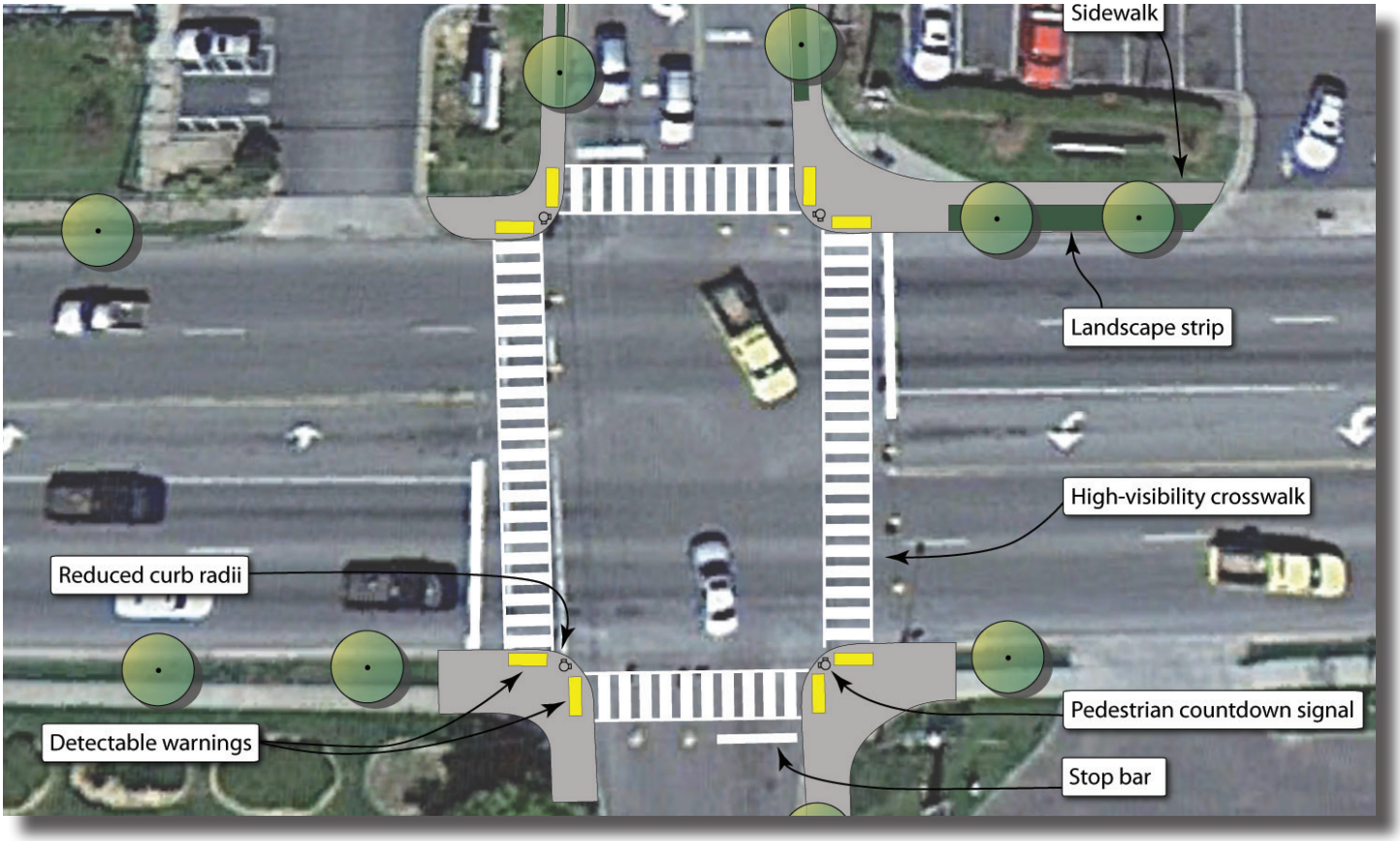
Priority Project #2 on Rec. Map

Issues

Highway 74 is a high-volume, high speed roadway. An improved crossing enhances safety for pedestrians crossing the road. Improvements include reduced curb radii to slow vehicle turning speeds; and high-visibility crosswalks, pedestrian countdown signals, and detectable warning strips to enhance safety and accessibility. Landscaped buffers provide additional comfort for pedestrians walking along sidewalks.



Existing Conditions at Highway 74/Main Street



Potential Intersection Improvements

3. Highway 74 Midblock Crossing

Proposed Improvements

Midblock crossing

Description

Highway 74 is a high-volume, high vehicle speed roadway with a number of key local destinations located along both sides of the roadway.

Priority Project #3 on Reccomendations Map

Issues

A landscaped median with midblock crossing enhances safety and comfort for pedestrians who cross the road to access destinations. A high-visibility crosswalk combined with a HAWK or Rectangular Rapid Flash Beacon (See Appendix A: Design Guidelines) pedestrian signal increases awareness of pedestrians for motorists. Some excess vehicle lane width can be redistributed to a bike lane or buffered bike lane, providing traffic calming and improved safety for bicyclists and reducing the prevalence of sidewalk riding (thus improving pedestrian safety along the sidewalk).

Existing Conditions Along Highway 74

Potential Midblock Crossing Concept

4. Wingate Elementary School

Proposed Improvements

Intersection improvements and midblock crossing

Description

Safe access to and from school property is an important issue at Wingate Elementary School

Priority Project #4 on Rec. Map

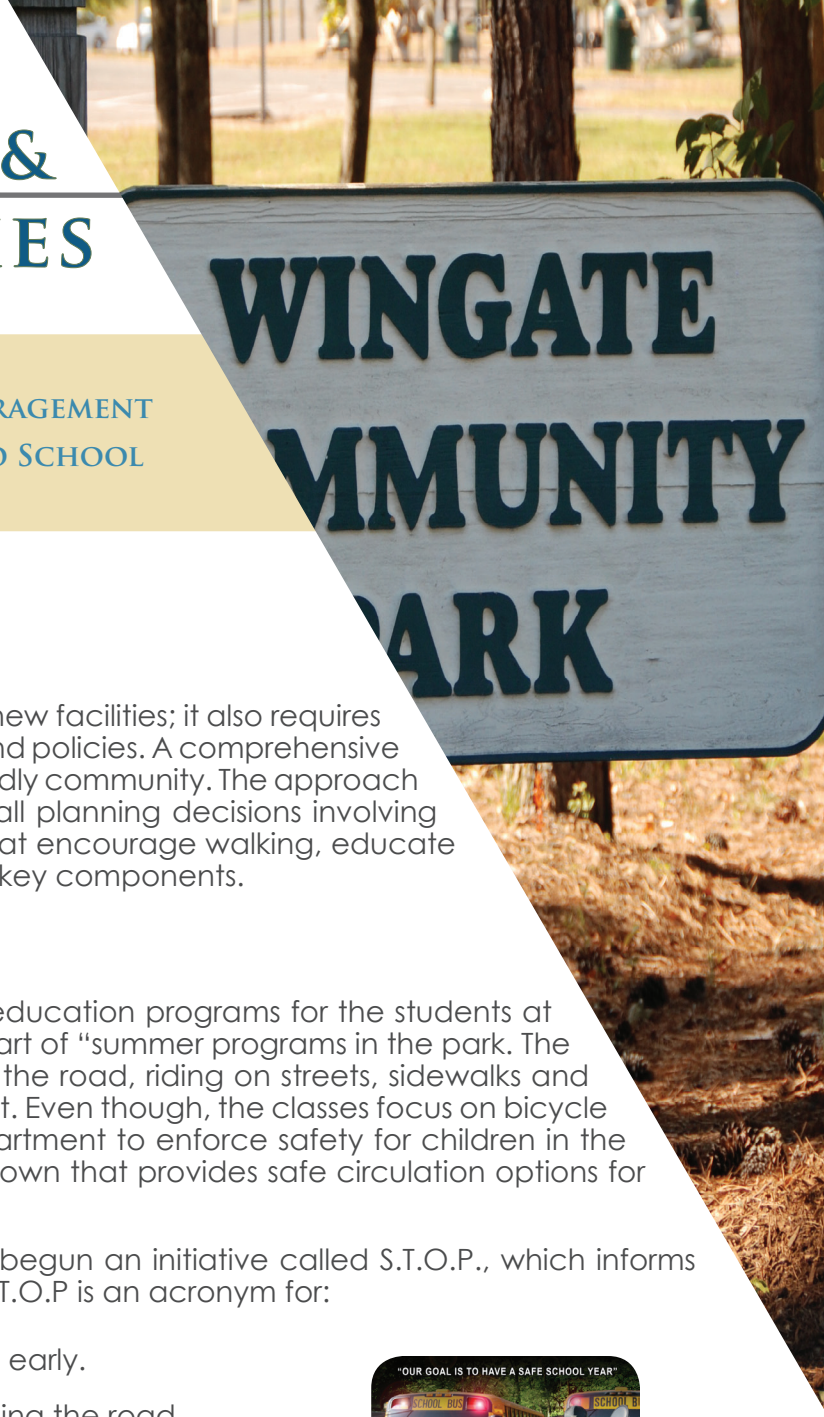
Issues

Safe Routes to School improvements include reduced curb radii to slow vehicle turning speeds, and high-visibility crosswalks and detectable warning strips to enhance safety and ADA accessibility. Landscaped buffers provide additional comfort for pedestrians walking along sidewalks. A raised midblock crossing improves safety and visibility for children crossing the road. Striping and signage alert motorists to the presence of pedestrians in the vicinity.

Existing Conditions at Wingate Elementary School

Potential Safe Routes to School Improvements

5 Programs & Policies



Chapter Outline

Overview (5-1) | Education (5-2) | Encouragement (5-5) | Enforcement (5-8) | Safe Routes to School Toolkit (5-9) | Pedestrian Policies (5-12)

Overview

Meeting the goals of this Plan will not only require new facilities; it also requires implementation of pedestrian-related programs and policies. A comprehensive approach is necessary to create a pedestrian-friendly community. The approach must focus on overall livability and walkability in all planning decisions involving land use, growth, and transportation. Programs that encourage walking, educate about safety, and enforce safe behavior are also key components.

Existing programs

The Wingate Police Department provides safety education programs for the students at Wingate Elementary, and during the summer as part of "summer programs in the park. The classes' topics include proper bike size, biking on the road, riding on streets, sidewalks and bike trails, and the importance of wearing a helmet. Even though, the classes focus on bicycle education, having the support of the Police Department to enforce safety for children in the Town is very important in shaping the future of a town that provides safe circulation options for all modes of transportation.

In addition, the Union County Public Schools has begun an initiative called S.T.O.P., which informs students of safe practices to follow at bus stops. S.T.O.P is an acronym for:

S-tand at your assigned stop at least 10 minutes early.

T-urn left and right. Look both ways before crossing the road.

O-bserve the stop sign and flashing red lights.

P-roceed only when all cars have stopped.

Program Recommendations and Resources

Pedestrian-related programs fall into three main categories: education, encouragement, and enforcement. The programs listed in this chapter are provided to demonstrate the variety of opportunities available for promoting walking and active lifestyles in Wingate. The Town should work closely with local volunteers and community organizations to implement events and activities, research new program ideas, and improve upon existing programs.

Education

Public Education and Educational Devices

Wingate could develop a variety of safety materials and distribute them throughout the community. Educational materials focus on safe behaviors, rules, and responsibilities. Information may include bulleted keys for safe pedestrian travel and habits, safe motor vehicle operation around pedestrians, and general facility rules and regulations. This safety information is often available for download from national pedestrian advocacy organizations, such as the Pedestrian and Bicycle Information Center website, www.walkinginfo.org. Furthermore, NCDOT is preparing a series of pedestrian education and enforcement materials which will be available for distribution to state jurisdictions in the fall of 2013.

The Information can be distributed through brochures, newsletters, newspapers, bumper stickers, and other print media that can be inserted into routine mailings. It can also be posted on municipal websites and shown on local cable access television.

Local programs such Walk to Work Day, walking school bus demonstrations, and summer camps can be organized by the Town and can be utilized to distribute information using a booth to display related print media.

Bicycle and Pedestrian Advocacy Committee

The Town of Wingate should support the creation of a local bicycle and pedestrian committee. The Plan's Steering Committee is a good starting point to establishing this group. Even though this is a pedestrian plan, the needs and objectives of bicycle and pedestrian advocates are closely related, and stand to benefit mutually from their combined efforts. Local advocacy groups are beneficial resources for promoting safety, providing feedback on opportunities and obstacles within the bicycle and pedestrian system, and coordinating events and outreach campaigns (such as the programs outlined throughout this section). Advocacy groups also play a critical role in encouraging and evaluating the progress of overall plan implementation.

Internal Education

'Internal' education refers to the training of people who are involved in the actual implementation of the Pedestrian Plan. Key Town staff, members of the local planning board, pedestrian plan Steering Committee, NCDOT Division staff, and Union County staff should all be included in training sessions whenever possible. This training could cover aspects of the transportation and development process, including planning, design, development review, construction, and maintenance. This type of 'inreach' can be in the form of brown bag lunches and attendance at special sessions or conferences. Even simple meetings to go over the Pedestrian Plan and communicate its strategies and objectives can prove useful for staff and newly elected officials that may not have otherwise learned about the plan. Guidance and materials for internal education methods is available from the *NCDOT Bicycle and Pedestrian Division and the Institute for Transportation Research and Education (ITRE)*.

Below are several training course examples:

www.michaelronkin.com/courses

www.pps.org/training/custom-tailored-training/

www.fhwa.dot.gov/context/trainingguide/ExistingClasses.htm

Coordinated Campaigns

Through cooperation with NCDOT, local municipalities and organizations should provide strong education, encouragement, and enforcement campaigns whenever a major bicycle and/or pedestrian improvement occurs. When a major improvement is made, the roadway environment changes and proper interaction between all users is critical for overall safety. This type of outreach could take place through the local media outlets, on-site, or at special events.

Adult Education

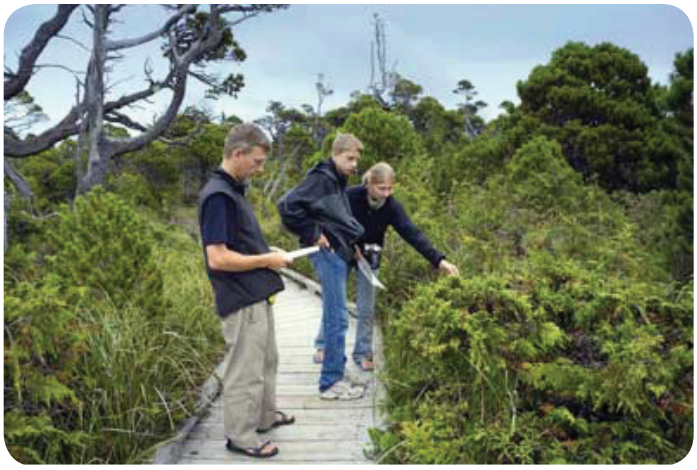
Education should span all age groups. Local community groups could partner and consider adding or expanding the following educational program/event offerings:

- Parent courses for Walking School Buses
- Walkability workshops
- Crossing guard programs
- Pedestrian ambassador programs
- Brown bag events and clinics
- Motorist education
- Educational devices (campaigns, billboards, postcards, local television)

Example of stickers and posters developed for the NCDOT Watch for Me Campaign targeting motorist education

Environmental and Historic Education / Interpretation

Educational programs and interpretative signage could be developed along future trails and pedestrian routes. Greenway trails provide opportunities for learning outside the classroom. Specific programs that focus on water quality and animal habitat are popular examples. Events such as learning walks about specific animals or insects, tree identification, wildflower walks, environmental issues, stewardship education, and sustainability could be led by area experts. Also, simple educational signage would offer interactive learning opportunities for people who use the trail.



Greenways and board walks provide opportunities for environmental education.

EDUCATION RESOURCES

America Walks is a national coalition of local advocacy groups dedicated to promoting walkable communities. Their mission is to foster the development of community-based pedestrian advocacy groups, to educate the public about the benefits of walking, and, when appropriate, to act as a collective voice for walking advocates. They provide a support network for local pedestrian advocacy groups.

http://americawalks.org

"One text or call, you can wreck it all" is a campaign of the U.S DOT to discourage texting and cellphone usage while driving, Downloadable materials, research and facts.

http://www.distraction.gov

Stepping Out is an online resource for mature adults to learn about ways to be healthy by walking more often, and walking safely.

www.nhtsa.dot.gov/people/injury/olddrive/SteppingOut/index.html

Pedestrian Safety is program of the NHTSA designed to improving the safety of pedestrian through educations, enforcement, and outreach programs. The website includes materials pertaining to school age children available for download.

http://www.nhtsa.gov/Pedestrians

Safe Kids Worldwide is a global network of organizations whose mission is to prevent accidental childhood injury, a leading killer of children 14 and under. More than 450 coalitions in 15 countries bring together health and safety experts, educators, corporations, foundations, governments and volunteers to educate and protect families. Visit their website to receive information about programs, involving media events, device distribution and hands-on educational activities for kids and their families.

http://www.safekids.org/

Speed Campaign Tool Kit. The intent of this National Highway Traffic Safety Administration (NHTSA) tool kit is to provide marketing materials, media tools, and marketing ideas for communities to distribute to fit local needs and objectives while at the same time partnering with other states, communities, and organizations all across the country on a speed management program. It includes messaging and templates you may choose from to support your speed management initiatives. Free TV and radio materials, posters, billboards, and other media materials can be downloaded here:

http://www.nhtsa.gov/Driving+Safety/Enforcement+&+Justice+Services

Pedestrian and Bicycle Safety: Pedestrian information related to children from the FHWA.

http://safety.fhwa.dot.gov/ped_bike/

Eat Smart, Move More is a statewide movement that promotes increased opportunities for healthy eating and physical activity wherever people live, learn, earn, play and pray.

http://www.eatsmartmovemorenc.com/

WEBLINKS & RESOURCES

The NCDOT Division of Bicycle and Pedestrian Transportation has an extensive selection of how-to manuals, informative guidebooks, and kits that provide comprehensive information on a variety of topics. These educational materials may be used by the general public, event organizers, teachers, or others. All are downloadable in PDF version. Manuals and guidebooks that are available in hard copy may be requested through the Safety Materials Order Form:

www.ncdot.gov/bikeped/safetyeducation/manuals/
www.ncdot.org/transit/bicycle/

For more information and program examples, visit the following websites:

- *www.pedbikeinfo.org (Pedestrian and Bicycle Information Center)*
- *www.bicyclinginfo.org (Pedestrian and Bicycle Information Center)*
- *www.bikewalk.org/workshops (National Center for Bicycling and Walking)*
- *www.saferoutesinfo.org (Safe Routes to School)*
- *www.active-living.org (Spartanburg, SC -*

Partners for Active Living).

- *http://www.campo-nc.us/bikepedestrian.html (Capital Area MPO)*
- *www.smartcommutechallenge.org (Triangle Area - Smart Commute Challenge)*
- *www.usa.safekids.org (Safe Kids Worldwide)*
- *www.eatsmartmovemorenc.com (Eat Smart, Move More)*
- *www.worldcarfree.net (Worldcarfree)*
- *www.nhtsa.dot.gov/people/injury/pedbimot/bike/resourceguide/index.html*
- *(National Highway Traffic Safety Administration: Resource Guide on Laws Related to Pedestrian and Bicycle Safety*

ENCOURAGEMENT

SCHOOL PROGRAMS

Many programs focus on developing safer pedestrian facilities around schools. Programs can be adopted by parents and schools to provide initiatives for walking.

Community leaders, parents and schools across the U.S. are using Safe Routes to School programs to encourage and enable more children to safely walk and bike to school. The National Center for Safe Routes to School aims to assist these communities in developing successful Safe Routes programs and strategies. The Center offers a centralized resource of information on how to start and sustain a Safe Routes to School program, case studies of successful programs as well as many other resources for training and technical assistance. For more information on Safe Routes to School, refer to the SRTS tool kit included in this chapter.

AWARENESS DAYS & EVENTS

A specific day of the year can be devoted to a theme to raise awareness and celebrate issues relating to that theme. A greenway and its amenities can serve as a venue for events that will put the greenway on display for the community. Popular town events serve as excellent opportunities to include pedestrian information distribution.

The town of Wingate hosts several events at the park that can serve as venues for launching new pedestrian and safety initiatives. These events include:

- Spring events at the park
- Movie night in the summer
- Summer fun festival at the University lake
- Christmas lighting festival at the park
- Game day at the park
- Health fair for seniors in August

The following are examples of other national events that can be used to increase use of pedestrian facilities:

WALK TO WORK DAY / INTERNATIONAL CAR FREE DAY

(September 22) Designate one day a year for people to walk to work to help advance programs, promote active living, and raise awareness for environmental issues. Walk to Work Day can be at the end of an entire week or month of pedestrian promotional activities, including fitness expos, walking and jogging group activities, running and bicycling races and rides, etc.

Strive Not to Drive Day

This event example, from the Town of Black Mountain, NC, is an annual event to celebrate and promote the Town's pedestrian achievements for the year throughout their region. Awards for pedestrian commuters, as well as booths, contests, and other events are organized through their local MPO Bicycle and Pedestrian Task Force and the Land-of-Sky Regional Council. A similar event could be held in Wingate as the Pedestrian Plan is implemented.

National Trails Day

This event is held every year in June. Other events, competitions, races, and tours can be held simultaneously to promote future greenways in Wingate.

Earth Day

Earth Day is April 22nd every year and offers an opportunity to focus on helping the environment. Efforts can be made to encourage people to help the environment by walking to destinations and staying out of their vehicles. This provides an excellent opportunity to educate people of all ages.

Use Facilities to Promote Other Causes

Pedestrian facilities, especially trails, could be used for events that promote other causes, such as health awareness. Not only does the event raise money/publicity for a specific cause, but it encourages and promotes healthy living and an active lifestyle, while raising awareness for pedestrian activities. Non-profit organizations such as the American Cancer Society, American Heart Association, and the Red Cross sponsor events such as Breast Cancer Walk, Diabetes Walk, etc.

Pedestrian Activities/Promotion within Local Organizations

The Town of Wingate has numerous organizations that could help to promote pedestrian activities (e.g. The Jesse Helms Center, Wingate University, Police Department, etc). Education, enforcement, and encouragement programs can be advertised and discussed in local organization newsletters, seminars, and meetings. Such organizations could even organize their own group walks, trail clean-ups, and other activities listed in this section.

Walking / Running Clubs

Neighborhoods, local groups, or businesses could promote walking or running clubs for local residents or employees to meet at a designated area and exercise on certain days before or after work, during lunch breaks, or anytime that works for the group. This informal group could be advertised on local bulletin or information boards. These clubs could be specialized to attract different interest groups. Examples include:

- Relay for Life (American Cancer Society support)
- Mother's Morning Club (mom's with strollers)
- Wingate Wednesdays Walk(weekly walk during lunch break or after work)
- Lunch Bunch (workers who run during their lunch hour)

Adopt - A - Trail

Local clubs and organizations provide great volunteer services for maintaining and patrolling trails. This idea could be extended to follow tour routes or specified streets/sidewalks. A sign to recognize the club or organization could be

posted as an incentive to sustain high quality volunteer service. The Boy Scouts of America serve as a good model for participation in this type of program.

Revenue Generating Events

Wingate should consider holding events that can help fund future facilities. Program and event ideas that could be used to generate revenue in Wingate, include:

- Races/triathlons (fees and/or donations)
- Educational walks/Nature walks/Historic walks (fees and/or donations)
- Fund-raisers including dinners/galas
- Concerts (fees and/or donations)
- Events coinciding with other local events such as fairs, festivals, historic/folk events, etc.

Hold and Open Streets Event

Usually held on a weekend day, open street events temporarily close streets to cars and open them up to people walking, bicycling, skating, playing sports, and so on. These events have been very successful in cities across North America.

For more information about open street events visit: http://openstreetsproject.org/

An open street event promotes health and community while celebrating bicycling and walking.

Encouragement Resources

National Walk our Children to School Day is usually held in October with the objective to encourage adults to teach children to practice safe pedestrian behavior, to identify safe routes to school, and to remind everyone of the health benefits of walking. To register walking events, go to the main webpage, and follow the International Walk to School links: *www.walktoschool-usa.org*

Walk a Child to School in North Carolina. A growing number of community groups throughout the nation, such as health professionals, 'Smart Growth' advocates, traffic safety groups, local PTAs, and elected officials, are promoting walking to school initiatives. In North Carolina, Walk a Child to School Programs have gained a foothold and are growing each year. To date more than 5,000 students in 12 communities in the state have participated.

http://www.walktoschool.org

'Preventing Pedestrian Crashes: Preschool/ Elementary School Children' provides information to parents on pedestrian risks for preschool and elementary school children. Information about the Safe and Sober Campaign is available on the NHTSA website.

http://www.nhtsa.gov/Driving+Safety/ Enforcement+&+Justice+Services

Kidswalk-to-School is a resource guide to help communities develop and implement a year-long walk-to-school initiative; sponsored by the Centers for Disease Control and Prevention. *http://www.cdc.gov/nccdphp/dnpa/kidswalk/*

Enforcement

Motorist Enforcement

Based on observed patterns of behavior, local police can use targeted enforcement to focus on key issues such as motorists speeding, not yielding to pedestrians in crosswalks, parking on sidewalks, etc. The goal is for pedestrians and motorists to recognize and respect each other's rights on the roadway.

The NCDOT Division of Bicycle and Pedestrian Transportation funded a study on pedestrian issues, including school zone safety, and decided to establish a consistent training program for law enforcement officers responsible for school crossing guards. According to the office of the North Carolina Attorney General, school crossing guards may be considered traffic control officers when proper training is provided as specified in G.S. 20-114.1.

Enforcement Actions

- Local police should use targeted enforcement to focus on key issues such as motorists speeding, not yielding to pedestrians in crosswalks, parking on sidewalks, etc.
- Establish a crossing guard program for peak school hours and for peak pedestrian activity
- Require crossing guards to complete an NCDOT Crossing Guard Training Program.

A dynamic and innovative campaign to enforce traffic safety around schools

Parking Pricing Policy

Wingate Univarsity staff have indicated that parking capacity is an emergent issue around campus. Wingate University could design an enforcement parking policy for students, faculty and staff. This type of program will encourage the use of sustainable transportation for trips to, from and around campus, and can generate revenue for transportation projects.

A parking pricing program in college campus is often implemented though a "parking pass", that drivers purchase and display for a leasing space. Spaces can be strategically marked and designated across campus for faculty, staff, students and visitors.

The cost of single-occupancy vehicle parking should discourage driving alone and parking on campus. Along with this discouragement should come an effort to increase awareness of other transportation options. Information can be disseminated as part of orientation packets, as flyers attached to cars in the parking lot, as part of a media campaign, and/or at the time of parking pass purchase.

The success of any parking pricing program relies on enforcement. If policies are not enforced, more and more campus users will eventually learn ways to avoid costs or penalties and adherence to regulations will deteriorate. Revenue collected from parking pricing can be used to improve sustainable transport options on campus, such as constructing nonmotorized facilities or implementing encouragement programs.

More information from the Victoria Transport Policy Institute: http://www.vtpi.org/tdm/tdm26.htm

Enforcement Resources

- NCDOT School Crossing Guard Program: *www.ncdot.org/transit/bicycle/safety/programs_ initiatives/crossing.html*
- NCDOT's A Guide to North Carolina Bicycle and Pedestrian Laws. For an online resource guide on laws related to pedestrian and bicycle safety (provided by the National Highway Traffic Safety Administration), visit *www.nhtsa.dot.gov/people/injury/pedbimot/bike/resourceguide/index.html*

Safe Routes to School Toolkit

Safe Routes to School (SR2S) is a program with a simple goal: helping more children get to school safely by walking and bicycling. Envision active kids using safe streets, helped by engaged adults (from teachers to parents to police officers), surrounded by responsible drivers.

Safe Routes to School programs use a variety of strategies to make it easy, fun and safe for children to walk and bike to school. These strategies are often called the "Five Es."

Education: programs designed to teach children about traffic safety, bicycle and pedestrian skills, and traffic decision-making.

Encouragement: programs that make it fun for kids to walk and bike. These programs may be challenges, incentive programs, regular events (e.g. "Walk and Bike Wednesdays") or classroom activities.

Engineering: physical projects that are built to improve walking and bicycling conditions.

Enforcement: law enforcement strategies to improve driver behavior near schools.

Evaluation: strategies to help understand program effectiveness, identify improvements, and ensure program sustainability.

This plan recommends that the Town of Wingate and Wingate Elementary School seek grants to participate in a SR2S program to help promote and encourage active transportation choices for children to go to and from school.

Students enjoy the walk to School

Who is This Toolkit For?

This Toolkit is for any adult who wants to improve traffic safety and air quality around schools, help children be more physically active and "ready to learn" and improve our neighborhoods.

Whether you are a parent, a teacher, a school administrator, a neighbor, a public health professional, city staff, or a city official, this Toolkit will provide you with facts and figures, as well as ideas, inspiration and proven techniques. This Toolkit covers the Why, Who and How of Safe Routes to School.

Benefits of Walking and Bicycling to School (Why)

Active kids are healthy kids, and walking or bicycling to school is an easy way to make sure that children get daily physical activity. Benefits to children include:

- Increased physical fitness and cardiovascular health
- Increased ability to focus on school
- A sense of independence and confidence

SR2S also benefits neighborhoods:

- Improved air quality as fewer children are driven to school
- Decreased crashes and congestion as fewer children are driven to school
- More community involvement as parents, teachers and neighbors get involved and put "eyes on the street"

Schools also benefit:

- Fewer discipline problems because children arrive "ready to learn"
- Fewer private cars arriving to drop off and pick up children

- Opportunities to integrate walking, bicycling and transportation topics into curriculum (e.g. "Walk & Bike Across America," mapping lessons, graphs and charts of distance walked or biked)

Local Resources (WHO)

Local Safe Routes to School programs are sustained by parents, community leaders, and citizens to improve the health and well-being of children by enabling and encouraging them to walk and bicycle to school. Recently, the state of North Carolina has started the NC Safe Routes to School Program based off of the national program. The state has funding for infrastructure improvements within two miles of schools. This funding can also be used towards the development of school related programs to improve safety and walkability initiatives. The state requires the completion of a competitive application to apply for funding and a workshop at the school to determine what improvements are needed. *www.saferoutesinfo.org*

The Five E's Tools (HOW)

Education

Safe Routes to School refers to a variety of multi-disciplinary programs aimed at increasing the number of students walking and bicycling to school. Education programs are an essential component of a Safe Routes to School program. Education programs generally include outreach to students, parents and guardians, and motorists. Students are taught bicycle, pedestrian and traffic safety skills. Parents and motorists receive information on transportation options and driving safely near schools. A menu of SR2S education programs include:

- Safety education classes
- Bicycle rodeos
- Classroom lessons and activities
- School zone traffic safety campaign
- Bus safety campaign

Students learn pedestrian safety lessons

Encouragement

Encouragement programs focus on bringing the fun back to walking and bicyling while increasing public awareness of the benefits of walking and biking to school. Events and activities help increase the number of students walking and biking to school. The activities often include a variety of special events and contests, outreach campaigns and presentations to school and community groups. Encouragement programs can be used to educate parents, school personnel, students and the community about the health and safety benefits of a successful Safe Routes to School program.

Encouragment programs do not need much funding, but their success depends on a school champion or group of volunteers for sustained support. Some examples include:

- Walk and bike to school day/week/month
- Suggested route to school maps
- Friendly walk and bike to school incentive programs
- Walking school busses
- Bike trains

Walk and Bike to School Day celebration

Engineering Tools

The environment near the school is often a determining factor when a parent or guardian decides whether or not to allow their child to walk or bicycle to school. There are a variety of engineering solutions available to enhance pedestrian and bicyclist safety and comfort near schools. Engineering improvements are implemented to slow cars, increase the visibility

of students walking and biking, and make it easier for students to cross the street. While some engineering efforts can be costly, many, such as posting signs and striping crosswalks or bike lanes, are relatively inexpensive. Some of the following examples of engineering improvements are described in detail in **Appendix A: Design Guidelines**

- High visibility school zone signage
- Sidewalks
- Trails and greenways
- High visibility crossing markings
- Pedestrian scale lighting
- Advance Stop Bars and Yield Lines at Mid-Block Crosswalks
- Pedestrian Countdown Signals
- Medians and Pedestrian Refuge Islands
- Curb Extensions/Bulb-outs
- Speed tables and speed humps

Example of a pedestrian refugee island

Enforcement Tools

Enforcement tools are aimed at ensuring compliance with traffic and parking laws in school zones. Enforcement activities help to reduce common poor driving behavior, such as speeding, failing to yield to pedestrians, turning illegally, parking illegally and other violations. Enforcement strategies, in conjunction with education efforts, are intended to clearly demonstrate what is expected of drivers of motor vehicles and to hold them accountable for the consequences of their actions. While most enforcement is the responsibility of police and other law enforcement, there are numerous complementary strategies that can be undertaken by school officials, crossing guards, parents and volunteers. Some examples include:

- School safety patrols and crossing guards
- Crosswalk enforcement
- School parking "citation"
- Neighborhood speed watch

Crossing guards help students navigate busy roads near schools

Evaluation

Evaluation of the Safe Routes to School program is important to understand the effectiveness of the program, identify improvements that are needed and ensure that the program can continue in the long-term. Evaluation can measure shifts in travel behavior, changes in attitudes toward biking and walking, awareness of the Safe Routes to School program, grant money received and projects completed. Evaluation tools include:

- Student and parents surveys before and after targeting programs
- School site audits

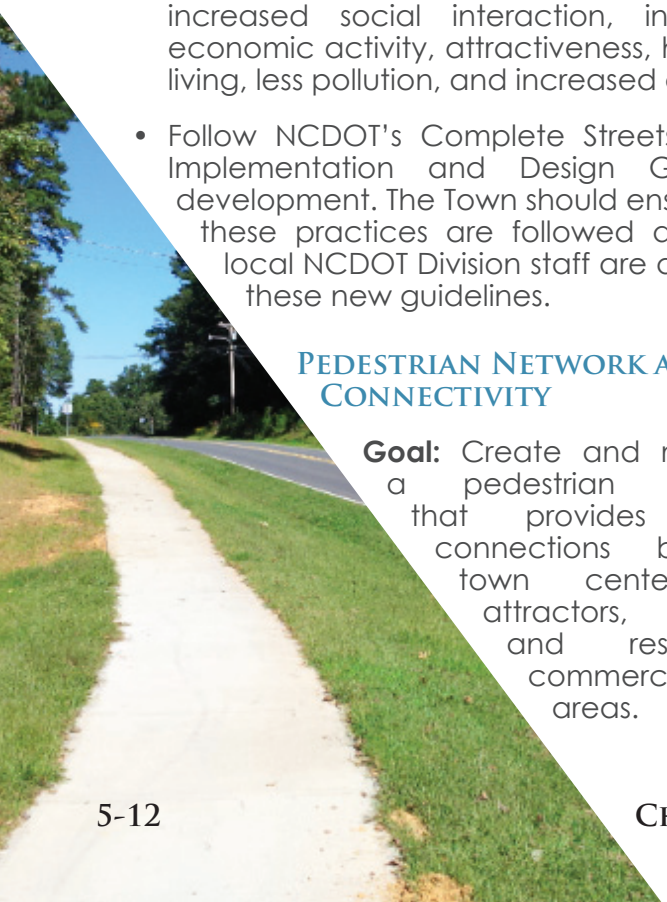
Pedestrian Policies

City planning staff should become familiar with (and, in many cases, continue to support) the following policies and regulations. Walkability should be an item considered with all future development and growth decisions. More people will walk when their proximity to key destinations is reasonable. For example, a mixed use development will engage more walking while the development of a school at the outskirts of town will promote less walking and more driving. Suggested policy statements and paragraphs by category are provided below.

Complete Streets

Goal: Adopt a "Complete Streets" approach and philosophy that all streets and development on streets be designed and operated to enable safe access for all users, ages, and abilities.

- Ensure that transportation agencies, planners, engineers, and developers design and operate the entire right of way to enable safe access for all users including transit users, drivers, pedestrians, bicyclists, as well as for older people, children, and people with disabilities.
- Educate leaders, business owners, residents, and all stakeholders of the benefits of Complete Streets including: livability, safety, increased social interaction, increased economic activity, attractiveness, healthier living, less pollution, and increased access.
- Follow NCDOT's Complete Streets Policy, Implementation and Design Guideline development. The Town should ensure that these practices are followed and that local NCDOT Division staff are aware of these new guidelines.



Pedestrian Network and Connectivity

Goal: Create and maintain a pedestrian network that provides direct connections between town center, trip attractors, schools, and residential/commercial areas.

- To the maximum extent possible, make walkways accessible to people with physical disabilities.
- Develop a system of informational and directional signage for pedestrian facilities and greenways.
- Provide sidewalks on all roads surrounding schools with safe crosswalks.
- Provide pedestrian access through cul-de-sacs and large parking lots, which are typical obstacles to pedestrian connectivity.
- Accommodate pedestrians and bicyclists on future roadway bridges, underpasses, and interchanges and on any other roadways that are impacted by a bridge, underpass, or interchange project (except on roadways where they are prohibited by law).

Safety

Goal: Strive to maintain a complete, safe sidewalk network free of broken or missing sidewalks, curb cuts, or curb ramps and that include safety features such as traffic calming, lighting, and sidewalk repairs.

- Provide raised medians or pedestrian refuge islands where practical, at crosswalks on streets with more than three lanes, especially on streets with high volumes of traffic. They should be six- to ten-feet wide.
- Monitor and identify pedestrian facilities that are not ADA-compliant including missing, damaged, or non-compliant curb ramps, stairs, or sidewalk segments of inadequate width and create a plan for improving them.
- Develop a traffic calming program to slow traffic through downtown and on major residential corridors, making them aware that they share the corridors with pedestrians.
- Make pedestrian crossings a priority and initiate improvements recommended in **Chapter 4**. Consider variations in pavement texture and clear delineation of crosswalks. Also, ensure that crosswalks are properly lit at night.
- Implement pedestrian-scale lighting at regular intervals in areas of high pedestrian activity to promote pedestrian safety and discourage criminal activity.

- Develop and expand the Town's maintenance program of sidewalk repairs, debris removal, and trimming of encroaching vegetation.
- Follow design guidelines in **Appendix A** to the maximum extent possible. For example, the buffer space between the sidewalk and the curb and gutter should be maximized within the available right-of-way.

Aesthetics Comfort and Enjoyment

Goal: Encourage the inclusion of art, historic, and nature elements along with street furniture and landscaping in pedestrian improvement projects.

- Require street trees and planting buffers between the sidewalk and the street along all new roadways and sidewalk construction. Keep all vegetation trimmed.
- Encourage and/or require private owners (of residences and businesses) to keep their area in and around the sidewalk free of debris and litter.
- Require benches, shelters, sheltered transit stops, trees, and other features to facilitate the convenience and comfort of pedestrians.
- Require pedestrian scale lighting along greenways and most traveled sidewalks across town, including running loops and sidewalks around campus.

Land Use and Development

Goal: Promote land uses and site designs that make walking convenient, safe, and enjoyable.

- Encourage a mix of uses through building, zoning, and development codes to connect entrances and exits to sidewalks, and eliminate "blank walls" to promote street level activity.
- Sidewalks should have a minimum width of five feet but should be wider where pedestrian traffic is higher, including near schools, senior centers, and commercial areas or where sidewalks connect or overlap with recommended on-road greenway connections.
- Require applicable buildings to build to the sidewalk. Also, prohibit parking lots from being developed in front of buildings where possible to develop pedestrian oriented areas.
- Promote parking and development policies that encourage multiple destinations within an area to be connected by pedestrian trips. Specifically, promote the connectivity of parking lots between businesses for increased safety and avoidance of roadway traffic.
- Disallow parked vehicles from blocking pedestrian walkways.
- Specifically, consider making the currently optional "smart growth" and "Traditional Neighborhood Development" standards (Article 12 in LDO) in the Land Use Ordinance basic standards for all new development in Wingate. These standards in the LDO include very pedestrian-oriented development requirements infrastructure and land use development, but are currently optional elements for developers.
- Include requirements for visitor and resident/employee bicycle parking for all non-residential, university-related, and multi-family development. See the City of Salisbury ordinance for example language.

GREENWAYS

Goal: Establish greenways as part of the Town of Wingate's public infrastructure.

Define 'Greenways' as part of the Town of Wingate's public infrastructure. Greenways are public infrastructure that provide important functions to not only offer transportation alternatives, but to protect public health safety and welfare. Within flood prone landscapes, greenways offer the highest and best use of floodplain land, mitigate the impacts from frequent flooding and offer public utility agencies access to floodplains for inspection, monitoring and management. Greenways filter pollutants from stormwater and provide an essential habitat for native vegetation that serves to cleanse water of sediment. Greenway trails provide viable routes of travel for cyclists and pedestrians and serve as alternative transportation corridors for urban and suburban commuters. Greenways serve the health and wellness needs of our community, providing close-to-home and close-to-work access to quality outdoor environments where residents can participate in doctor prescribed or self-initiated health and wellness programs. All of these functions make greenways a vital part of community infrastructure.

- Require subdividers to provide natural buffers along both sides of all perennial streams. Public greenway trails with limited disturbance along perennial and intermittent streams are excellent uses for these spaces and should be dedicated during the subdivision process.
- Encourage utility corridor development practices that allow for maximum compatibility with pedestrian and bikeway corridors. Land and easements purchased for the purpose of providing utilities (such as water and sewer) can serve a greater community benefit if developed to accommodate a multi-use trail.

6 Implementation Strategies

Chapter Outline

Overview (6-1) | Key Action Steps (6-1) | Key Partners In Implementation (6-4) | Performance Measures (6-7) | Facility Development Methods (6-9)

Overview

The three main ways to improve pedestrian conditions in Wingate are through facility construction, program implementation, and policy enforcement. This chapter outlines the implementation priorities, key partners in implementation, and facility development methods.

The following action steps are integral to achieving the goals and vision of this Plan. As guiding recommendations and the clearest representation of specific items to accomplish, they should be referred to often. Additional, Appendix B provide a variety of in-depth funding resources for assisting in carrying out these tasks.

Key Action Steps

Adopt This Plan

Before any other action takes place, the Town of Wingate should adopt this plan. This should be considered the first step in implementation. Through adoption of this plan and its accompanying maps as the Town's official pedestrian transportation plan, Wingate will be better able to shape transportation and development decisions so that they fit with the goals of this plan. Most importantly, having an adopted plan is extremely helpful in securing funding from state, federal, and private agencies. Adopting this plan does not commit the Town to dedicate or allocate funds, but rather indicates the intent of the Town to implement this plan over time, starting with these action steps.

Designate Staff

Designate staff to oversee the implementation of this plan and the proper maintenance of the facilities that are developed. It is recommended that a combination of existing Transportation Planning, Administration, Parks and Recreation, and Public Works staff oversee the day-to-day implementation of this Plan. In many municipalities, this task is covered by a full-time bicycle and pedestrian coordinator, but in Wingate, it will make more sense to fold these responsibilities into current staff responsibilities. In the long term, a full-time Bicycle and Pedestrian Coordinator position could be considered.

Create a Bicycle and Pedestrian Advisory Commission (BPAC)

The Steering Committee for this Comprehensive Pedestrian Plan should be invited to create and serve on a Bicycle and Pedestrian Advisory Commission (BPAC) to assist in the implementation of this Plan. The BPAC would be comprised of local pedestrian and bicycle champions and work to support the implementation of the recommendations of this Plan. The formation of a BPAC will also represent a significant step in becoming a Walk-Friendly Community. The BPAC's role would be to provide a

communications link between the residents of the community and Town government. The BPAC should meet periodically, be tasked with assisting the Town staff in community outreach, marketing and educational activities recommended by this Plan. Models for BPAC exist throughout the country, including many communities in North Carolina. These organizations, and others like them, traditionally focus on education, advocacy, partnerships, events and community service. Each BPAC member could represent one key functional area: planning, design, safety, maintenance, education, health, recreation, etc.

Begin Quarterly Meeting With Key Project Partners

Coordination between key project partners will establish a system of checks and balances, provide a level of accountability, and ensure that recommendations are implemented. This meeting should be organized by the designated Town Staff, and should include representatives from different Town departments. The purpose of the meeting should be to ensure that this Plan's recommendations are integrated with other transportation planning efforts in the region, as well as long-range and current land use planning, economic development planning, and environmental planning. Attendees should work together to identify and secure funding necessary to immediately begin the first year's work, and start working on a funding strategy that will allow the Town to incrementally complete each of the suggested physical improvements, policy changes and programs over a 5-10 year period. A brief progress benchmark report should be a product of these meetings, and goals for the year should be reconfirmed by participants. The meetings could also occasionally feature special training sessions on bicycle, pedestrian, and trail issues.

Seek Multiple Funding Sources and Facility Development Options

Multiple approaches should be taken to support pedestrian 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. A priority action is to immediately evaluate the recommendations against transportation projects that are currently programmed in the Transportation Improvement Program (TIP) to see where projects overlap, compliment, or conflict with each other. The Town should also evaluate which of the proposed projects could be added to future TIP updates.

Capital and local funds for pedestrian facilities and trail construction 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 or could be used to enhance NCDOT projects with bicycle or pedestrian features that may otherwise not be budgeted for by the state. A variety of local, state, and federal options and sources exist and should be pursued. These funding options are described in ***Appendix B: Funding***.

Improve Pedestrian Policies

Suggested policy updates included in ***Chapter 5*** are recommended to ensure future development provides pedestrian and bicycle facilities and improves bicycle/pedestrian friendliness.

Implement the Wingate Greenway System Plan (2012)

This Plan proposes the greenway segments for the Town of Wingate listed in Table 6-1.

Develop Sidewalk & Trail Construction Documents

Town and NCDOT engineers could prepare these using the design guidelines of this plan and the project cut-sheets and the overall network recommendations map as starting points. The public should have an opportunity to comment on the design of new facilities.

Table 6-1: Wingate Greenway Plan-Proposed Greenways

Name	Location	Miles	Cost	Comments
University Loop Trail	Wingate University Lake	1.5 or 2.5	$104,150	The Town received a 2012 NC Clean Water Management Trust Fund Donation Mini-Grant for $25,000 for transaction costs associated with the acquisition of easement from Wingate University.
Medaow Branch/ Spring Branch Trail	From University Loop Trail to Future Development	2.0	$ 327,600	Presents land acquisition challenges and potential conflict with the Monroe's Bypass roadway alignment.
Flag Branch Trail	Extends along the eastern bank of Flag Branch	3.0	$549,600	Presents some land acquisition challenges, but no transportation impediments
Ray's Fork Trail	Extends along the northeastern and southwestern banks of Ray's Fork south of US Highway 74	1.5	$469,800	Land acquisition challenges of corridor easement across fourteen properties owned by twelve different owners.

Launch Programs as New Projects are Built

Through cooperation with the Town of Wingate, the BPAC, and groups such as walking clubs, strong education, encouragement, and enforcement campaigns could occur as new facilities are built. When an improvement has been made, the roadway environment has changed and proper interaction between motorists and pedestrians is critical for the safety of all users. A campaign through local television, on-site enforcement, education events, and other methods will bring attention to the new facility, and educate, encourage, and enforce proper use and behavior. ***Chapter 5***, Programs and Policies provides program ideas for the Town and the BPAC to choose from.

Offer Training for Enforcement

Law enforcement officers have many important responsibilities, yet pedestrians and bicyclists remain the most vulnerable forms of traffic. The Wingate Police Department should be involved in implementation. In many cases, citizens (and even sometimes officers) are not fully aware of state and local laws related to bicyclists and pedestrians. Training on this topic can lead to additional education and enforcement programs that promote safety. Training for Wingate's officers could be done through free online resources available from the National Highway Traffic Safety Administration (NHTSA) (see links at *www.bicyclinginfo.org/enforcement/training.cfm*) and through webinars available through the Association of Pedestrian and Bicycle Professionals (APBP).

Become Designated as a Walk Friendly Community

One of the goals for this Pedestrian Plan is to transform Wingate into a "Walk-Friendly Community" (WFC). The Walk Friendly Community Campaign is an awards program that recognizes municipalities that actively support pedestrian activity and safety. A Walk Friendly Community provides safe accommodation for walking and encourages its residents to walk for transportation and recreation. The program is maintained by the UNC Highway Safety Research Center, with support from a variety of national partners.

The development and implementation of this Plan is an essential first step in eventually becoming a Walk Friendly Community. With ongoing efforts and the short term work program recommended here, the Town should be in a position to apply for and receive WFC status within two years. An introduction to Walk Friendly Communities can be found at: *www.walkfriendly.org/webinar.cfm.*

Key Partners In Implementation

Role of the Board of Commissioners

The Board of Commissioners will be responsible for adopting this Plan. Through adoption, the town's leadership is further recognizing the value of pedestrian transportation and is putting forth a well-thought out set of recommendations for improving public safety and overall quality of life (see the 'Benefits of a Walkable Community' son ***Chapter 1***). By adopting this Plan, the Board is also signifying that they are prepared to support the efforts of other key partners in the plan's implementation, including the work of town departments and the local NCDOT, Division 10.

Adoption of this Plan is in line with public support. Wingate's online survey (which yielded over 50 responses) showed strong support for improving pedestrian conditions. Though not a statistical survey, the survey results do represent the opinions of local residents. The survey asked, "How important to you is improving walking conditions in Wingate?" Over 82% responded "important" or "very important".

See ***Appendix C*** for more information on public involvement and the results of the pubic survey.

Role Of The Town of Wingate Planning Board

The Town of Wingate Planning Board serves as an advisory board to the Council on matters of planning and zoning. The Planning Board should be prepared to:

- Become familiar with the recommendations of this Plan, and support its implementation.
- Learn about pedestrian-related policies, as described in detail in ***Chapter 5***.
- Ensure that recommendations of this plan are supported by Planning Board decisions.

Role of the Mecklenburg-Union Metropolitan Planning Organization (MUMPO)

MUMPO is the regional transportation planning agency serving western Union County and it's communities. Local governments are represented by an elected official on the Transportation Advisory Committee (TAC) and staff members, NCDOT, and FHWA staff comprise the Technical Coordinating Committee (TCC). MUMPO should be prepared to:

- Become familiar with the recommendations of this Plan, and support its implementation.
- Serve as representative and advisor for a newly formed BPAC and for quarterly meetings with project partners.
- Ensure recommendations from this Pedestrian Plan are integrated into the MPO's regional planning and project implementation. Specifically, during the development of regional transportation projects, MUMPO should review the recommendations of this Pedestrian Plan to ensure consistency and regional connectivity.
- Produce updates to the Long Range Transportation Plan (LRTP) that incorporate recommendations from this Pedestrian Plan.
- Ensure that TIP projects are updated with recommendations from this Plan.
- Follow upcoming roadway reconstruction and resurfacing projects and work early in the design process with The Town and NCDOT to ensure pedestrian facilities are incorporated into the design.
- Keep up-to-date on current and changing funding sources and opportunities such as Safe Routes to School and other Federal and State funding options.

Role of the Town of Wingate Public Works Department

The Public Works Department handles the responsibility for the construction and maintenance of pedestrian facilities on Town-owned and maintained roadways, as well as on NCDOT roadways, where encroachment agreements are secured. The department should be prepared to:

- Communicate and coordinate with other

Town departments and the BPAC on priority pedestrian projects.

- Become familiar with the standards set forth in Appendix A of this Plan, as well as state and national standards for pedestrian facility design.
- Secure encroachment agreements for work on NCDOT-owned and maintained roadways.
- Construct and maintain pedestrian facilities.
- Communicate and coordinate with NCDOT Division 10 on this Plan's recommendations for NCDOT-owned and maintained roadways. Provide comment and reminders about this Plan's recommendations no later than the design phase.
- Work with Division 10 to ensure that when NCDOT-owned and maintained roadways in Wingate are resurfaced or reconstructed, that this Plan's adopted recommendations for pedestrian facilities are included on those streets. If a compromise to the original recommendation is needed, then contact NCDOT Division of Bicycle and Pedestrian Transportation for guidance on appropriate alternatives.

Role of the Town of Wingate Parks & Recreation Department

The Town of Wingate Parks and Recreation Department operates the recreation, athletic, and special event programs for the residents of Wingate. They also lead implementation and maintain a variety of community, neighborhood, greenway, and natural park areas. The Parks and Recreation Department should be prepared to:

- Meet with the BPAC; provide progress updates for plan implementation and gather input regarding pedestrian and trail-related issues.
- Pursue grants for funding priority projects and priority programs.
- Select and carry out walking-related programs; Work with locale advocacy groups and the BPAC to assist in organizing walking/running events, educational activities, and enforcement programs.
- Communicate and coordinate with Union County and neighboring municipalities and counties on regional trail facilities such as the CTT; partner for joint-funding opportunities.
- Identify safety concerns and work with residents to improve trail safety and the perception of safety.

Role of the Bicycle and Pedestrian Advisory Committee

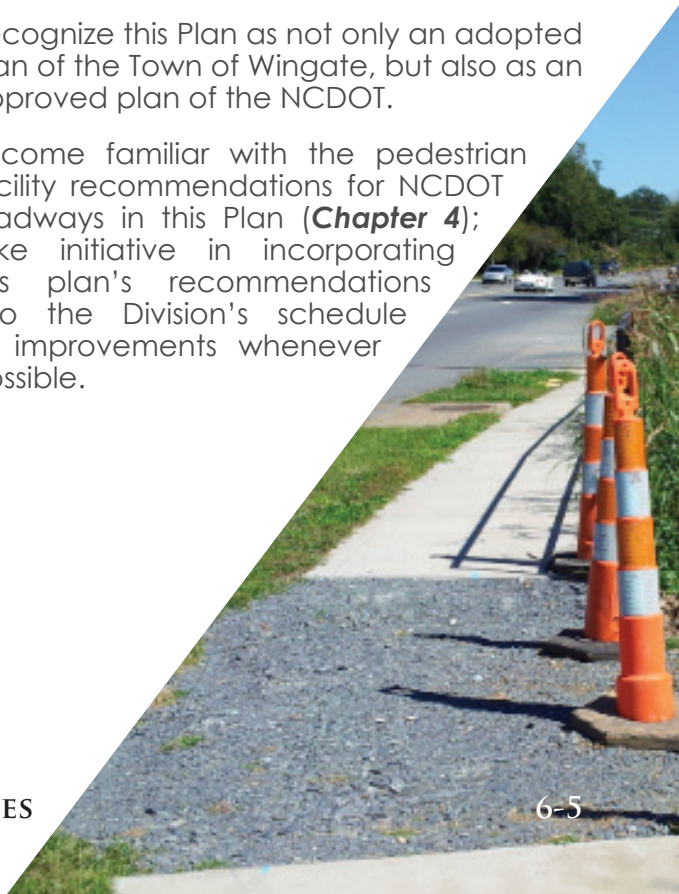
The Committee should be prepared to:

- Meet with staff from the MPO, Engineering, Parks and Recreation, Planning, and the Public Works Department; evaluate progress of the plan's implementation and offer input regarding pedestrian and trail-related issues.
- Assist Town Staff in applying for grants and organizing pedestrian-related events and educational activities.
- Build upon current levels of local support for pedestrian issues and advocate for local project funding.

Role of the Local NCDOT, Division 10

Division 10 of the NCDOT is responsible for the construction and maintenance of pedestrian facilities on NCDOT-owned and maintained roadways in the Town of Wingate, OR is expected to allow for the Town to do so with encroachment agreements. Division 10 should be prepared to:

- Recognize this Plan as not only an adopted plan of the Town of Wingate, but also as an approved plan of the NCDOT.
- Become familiar with the pedestrian facility recommendations for NCDOT roadways in this Plan (***Chapter 4***); take initiative in incorporating this plan's recommendations into the Division's schedule of improvements whenever possible.



- Become familiar with the standards set forth in Appendix A of this Plan, as well as state and national standards for pedestrian facility design; construct and maintain pedestrian facilities using the highest standards allowed by the State (including the use of innovative treatments on a trial-basis).
- Notify the Union County, Engineering, and Public Works Departments of all upcoming roadway reconstruction or resurfacing/ restriping projects in Wingate, no later than the design phase; Provide sufficient time for comments from the planning staff.
- If needed, seek guidance and direction from the NCDOT Division of Bicycle and Pedestrian Transportation on issues related to this Plan and its implementation.

Role of the Town of Wingate Police Department

The Police Department is responsible for providing the community the highest quality law enforcement service and protection to ensure the safety of the residents and visitors to the Town of Wingate. The Police Department should be prepared to:

- Become experts on pedestrian-related laws in North Carolina (see: *www.ncdot.gov/bikeped/lawspolicies/laws/*)
- Continue to enforce not only pedestrian-related laws, but also motorist laws that affect walking, such as speeding, running red lights, aggressive driving, etc.
- Participate in pedestrian-related education programs.
- Review safety considerations with the Public Works Department before projects are implemented.

Role of Developers

Developers in Wingate can play an important role in facility development whenever a project requires the enhancement of transportation facilities or the dedication and development of sidewalks, trails or crossing facilities. Developers should be prepared to:

- Become familiar with the benefits, both financial and otherwise, of providing amenities for walking and biking (including trails) in residential and commercial developments.
- Become familiar with the standards set forth in ***Appendix A*** of this Plan, as well as state and national standards for pedestrian facility design.
- Be prepared to account for bicycle and pedestrian circulation and connectivity in future developments.

Role of Local & Regional Stakeholders

Stakeholders for pedestrian facility development and related programs, such as Union County, Wingate Public Schools, CMCU, Wingate University, and local economic development organizations play important roles in the implementation of this plan. Local and regional stakeholders should be prepared to:

- Become familiar with the recommendations of this Plan, and communicate & coordinate with the Town for implementation, specifically in relation to funding opportunities, such as grant writing and developing local matches for facility construction.
- The local school system and school leaders should assist in carrying out SRTS workshops, programs, and walkability audits, and also assist in SRTS grant applications.

Role of Local Residents, Civic Clubs and Advocacy Groups

Local residents, clubs and advocacy groups play a critical role in the success of this plan. They should be prepared to:

- Continue offering input regarding pedestrian issues in Wingate.
- Assist Town Staff and BPAC by volunteering for pedestrian-related events and educational activities and/or participate in such activities.
- Assist Town staff and BPAC by speaking at Town meetings and advocating for local pedestrian project and program funding.
- Civic organizations, non-profit groups, and advocates can help to raise funds for local improvements recommended by this plan.

Role of Volunteers

Services from volunteers, student labor, and senior assistance, or donations of material and equipment may be provided in-kind, to offset construction and maintenance costs. Formalized maintenance agreements, such as adopt-a-trail/greenway or adopt-a-highway can be used to provide a regulated service agreement with volunteers. Other efforts and projects can be coordinated as needed with senior class projects, scout projects, interested organizations, clubs or a neighborhood's community service to provide for many of the program ideas outlined in ***Chapter 5*** of this Plan. Advantages of utilizing volunteers include reduced or donated planning and construction costs, community pride and personal connections to the Town of Wingate pedestrian networks.

Performance Measures

The Town of Wingate should establish performance measures to benchmark progress towards fulfilling the recommendations of this Plan. These performance measures should be stated in an official report within two years after the Plan is adopted. The purpose for evaluation is to determine the Town's success and failures in implementing this Plan and making Wingate more walkable. Performance measures should address the following aspects of pedestrian transportation and recreation in Wingate. **Table 6-2** expands on the metrics of these performance measurements:

- Facilities. Measures of how many pedestrian facilities have been funded and constructed since the Plan's adoption.
- Safety. Measures of pedestrian crashes and injuries or speeding in Town.
- Maintenance. Measures of existing sidewalk/crosswalk deficiency or maintenance needs
- Counts. Measures of pedestrian traffic at specific locations throughout Town including schools.

Table 6-2: Performance Measures Metrics

Target	Performance Measures	Indicator of progress
Pedestrian Facilities	Output	
	Miles of sidewalk	Increase in number of sidewalks in the Town
	Miles of shared-use paths and greenways	Increase in number of shared-use paths
	Number of signalized pedestrian crossings	Increase in number of safe pedestrian crossings
	Outcome	
	Gaps in the pedestrian network filled	Ratio of length of gap to increase in network connectivity. For example, a ½ mile of sidewalk connects two existing sidewalks, establishing 5 miles of connectivity.
	Use of new or experimental facility types	N/A
	Pedestrian mode share	Increase in pedestrian mode share by type of trip (e.g., commuter, shopping, school, etc.)
Safety	Output	
	Number of schools and students participating in pedestrian or bicycle safety education programs or events. (e.g., Safe Routes to School)	Increase in the number of schools and students participating
	Number residents that receive safety materials provided by the Town	Increase in number of residents receiving safety campaign materials
	Outcome	
	Total number of pedestrian and bicycle crashes	Reduction in number of pedestrian and bicycle crashes
	Pedestrian and bicycle crash and fatality rates (police-reported pedestrian and bicycle crashes per unit)	Reduction in number of crash and fatality rates
	Pedestrian and bicycle crashes in areas with low vehicle ownership and low average household income	Reduction in number of pedestrian and bicycle crashes
	Vehicle speeds on identified corridors	Lower vehicle speeds on identified corridors
Maintenance	Output	
	Number of roadway maintenance or improvement projects planned for the town annually	Number of pedestrian maintenance improvements in one year
	Planned Complete Street Projects	Number of approved projects to retrofit streets with CS projects
	Number of ADA improved sidewalks, and curb ramps	Increase in accessibility for all residents and reduction of compliance complaints to the Town administration
	Number of pedestrian amenities such as lighting and benches along trails and sidewalks	Increase of number of pedestrian using these facilities daily
	Outcome	
	Number (or %) of resurfacing or other maintenance projects that result in additional pedestrian facilities (both along and across the roadway)	Increase in number of complete street retrofitting projects in Wingate
Counts	Output	
	Number of count locations	Need to increase the number of counts location each year due to additional demand (more people walking)
	Outcome	
	Number of pedestrians and bicyclists per location	Increase in pedestrian activity

Facility Development Methods

This section describes different construction methods for the proposed pedestrian network outlined in ***Chapter 4***. Note that many types of transportation facility construction and maintenance projects can be used to create new pedestrian facilities. It is much more cost-effective to provide pedestrian facilities during roadway construction and re-construction projects than to initiate the improvements later as "retrofit" projects.

To take advantage of upcoming opportunities and to incorporate pedestrian facilities into routine transportation and utility projects, the Town should keep track of NCDOT's projects and any other local transportation improvements. While doing this, the City should be aware of the different procedures for local and state roads.

NCDOT Transportation Improvement Program

The Transportation Improvement Program (TIP) is an ongoing program at NCDOT which includes a process asking localities to present their transportation needs to state government. Pedestrian facility and safety needs are an important part of this process. Every other year, a series of TIP meetings are scheduled around the state. Following the conclusion of these meetings, all requests are evaluated. Pedestrian improvement requests, which meet project selection criteria, are then scheduled into a four-year program as part of the state's long-term transportation program.

There are two types of projects in the TIP:

Incidental and independent. Incidental projects are those that can be incorporated into a scheduled roadway improvement project such as the Monroe Bypass. Independent are those that can stand alone such as a trail project, not related to a particular roadway.

The Town of Wingate, guided by the priority projects within this Plan, should present pedestrian projects along state roads to MUMPO and NCDOT. Local requests for small pedestrian projects, such as crosswalks and smaller segments of sidewalk, can be directed to MUMPO or the local NCDOT Division 10 office. Further information, including the criteria evaluated can be found at: *http://www.ncdot.org/transit/bicycle/funding/funding_TIP.html*

Local Roadway Construction or Reconstruction

Pedestrians should be accommodated any time a new road is constructed or an existing road is reconstructed. All new roads with moderate to heavy motor vehicle traffic should have sidewalks and safe intersections. The Town of Wingate should take advantage of any upcoming construction projects, including roadway projects outlined in local comprehensive and transportation plans. Also, case law surrounding the ADA has found that roadway resurfacing constitutes an alteration, which requires the addition of curb ramps at intersections where they do not yet exist.

Residential and Commercial Development

The construction of sidewalks and safe crosswalks should be required during development. Construction of pedestrian facilities that corresponds with site construction is more cost-effective than retro-fitting. In commercial development, emphasis should also be focused on safe pedestrian access into, within, and through large parking lots.

This ensures the future growth of the pedestrian network and the development of safe communities.

Retroftit Roadways with New Pedestrian Facilities

For priority pedestrian projects, it may be necessary to add new facilities before a roadway is scheduled to be reconstructed. In some places, it may be relatively easy to add sidewalk segments to fill gaps, but other segments may require working with homeowners, removing trees, relocating landscaping or fences, re-grading ditches or cut and fill sections.

Signage and Wayfinding Projects

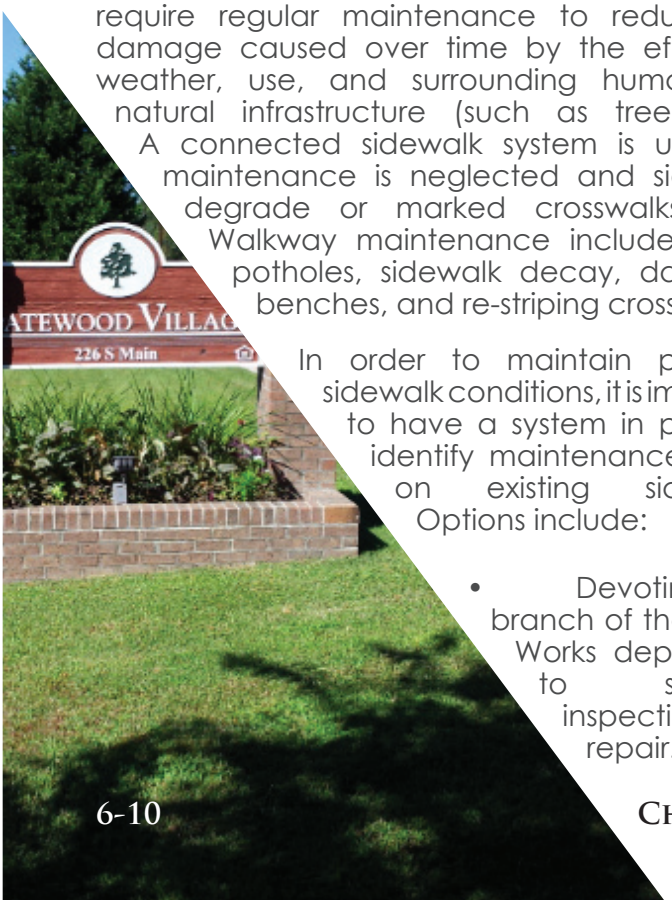
As more pedestrian facilities are constructed, the Town should consider developing and adopting a signage style policy and procedure, to be applied throughout the entire community, to make it easier for people to find destinations. Mile markers or signs for the City's trails are one example of these wayfinding signs, and they can be installed along routes as a part of a comprehensive wayfinding improvement project. For a step-by-step guide to help non-professionals participate in the process of developing and designing a signage system, as well as information on the range of signage types, visit the Project for Public Places website: *www.pps.org/info/amenities_bb/signage_guide*

Existing City and Other Utility Easements

The town may have several existing easements offering an opportunity for greenway facilities. 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 utilizes the Town's existing resources. The Town should work to allow public access and bicycle/pedestrian movement along Town-owned and other public easements.

Maintenance

All facilities, including sidewalks and crosswalks require regular maintenance to reduce the damage caused over time by the effects of weather, use, and surrounding human and natural infrastructure (such as tree roots). A connected sidewalk system is useless if maintenance is neglected and sidewalks degrade or marked crosswalks fade. Walkway maintenance includes: fixing potholes, sidewalk decay, damaged benches, and re-striping crosswalks.



In order to maintain passable sidewalk conditions, it is important to have a system in place to identify maintenance needs on existing sidewalks. Options include:

- Devoting a branch of the Public Works department to sidewalk inspection and repair.
- Developing a public reporting system where pedestrians can report maintenance issues.
- Establishing maintenance of existing sidewalks and crosswalks as part of the overall pedestrian facility component of the capital improvement program.

Typical pedestrian facility maintenance problems include:

- Step separation (vertical displacement at any point in the walkway that could cause pedestrians to trip or prevent wheelchair or stroller wheels from rolling smoothly)
- Badly cracked concrete/asphalt
- Settled areas that trap water (depressions in sidewalk or curb ramp that hold water)
- Tree root damage
- Vegetation overgrowth
- Obstacles in sidewalk
- Pedestrian countdown signal malfunction
- Faded, invisible marked crosswalk
- Damaged ancillary facilities such as benches, garbage cans, and pedestrian-scale lighting

It is recommended that the Town of Wingate take a three-step approach to pedestrian facility maintenance. First, the Town should provide a hotline and/or maintenance request form to accept residents complaints for improvement and repair. Residents complaints should be given first consideration for improvement or repair if the reporting involves a safety or access issue. Secondly, the Town should devote some of its Public Works staff to conducting routine sidewalk and crosswalk inspection. Public Works staff will need to work closely with NCDOT staff to ensure sidewalk and crosswalk maintenance on all roads in Wingate as part of regular practice. Third, the Town should make it the responsibility of individual property owners to maintain clear sidewalks, free of debris and vegetation.

A Design Guidelines

Chapter Outline

Overview (A-1) | Design Needs of Pedestrians (A -2) | Sidewalks (A-3) | Pedestrians at Intersections (A-7) | Greenways (A-17) | Greenway Crossings (A-24)

Overview

The sections that follow serve as an inventory of pedestrian design treatments and provide guidelines for their development. These treatments and design guidelines are important because they represent the tools for creating a pedestrian-friendly, safe, 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.

American Association of State Highway and Transportation Officials (AASHTO) ***Guide for the Planning, Design and Operation of Pedestrian Facilities,*** provides guidance on dimensions, use, and layout of specific pedestrian facilities, including sidewalks and street crossings.

Meeting the requirements of the Americans with Disabilities Act (ADA) is an important part of any 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.

Should the national standards be revised in the future and result in discrepancies with this chapter, the national 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 and Bicycle Information Center

The NCDOT Complete Streets Planning and Design Guidelines, Pedestrian and Bicycle Information Center, AASHTO, the MUTCD, nationally recognized bikeway standards, and other sources have all informed the content of this chapter.

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

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.

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 the 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 Widths

Sidewalk Obstructions and Driveway Ramps

Pedestrian Amenities

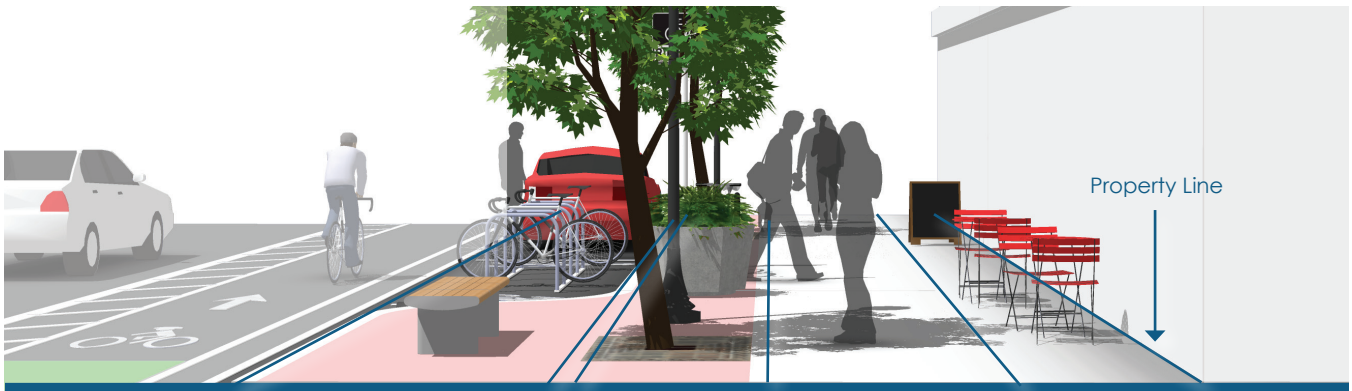
Sidewalk Widths

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.

Discussion

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	6 - 12 feet	2 - 8 feet	14- 28 feet
Arterials and Collectors	8 - 10 feet	6 - 8 feet	4 - 12 feet	2 - 4 feet	12 -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

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.

Additional References and Guidelines

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.

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.

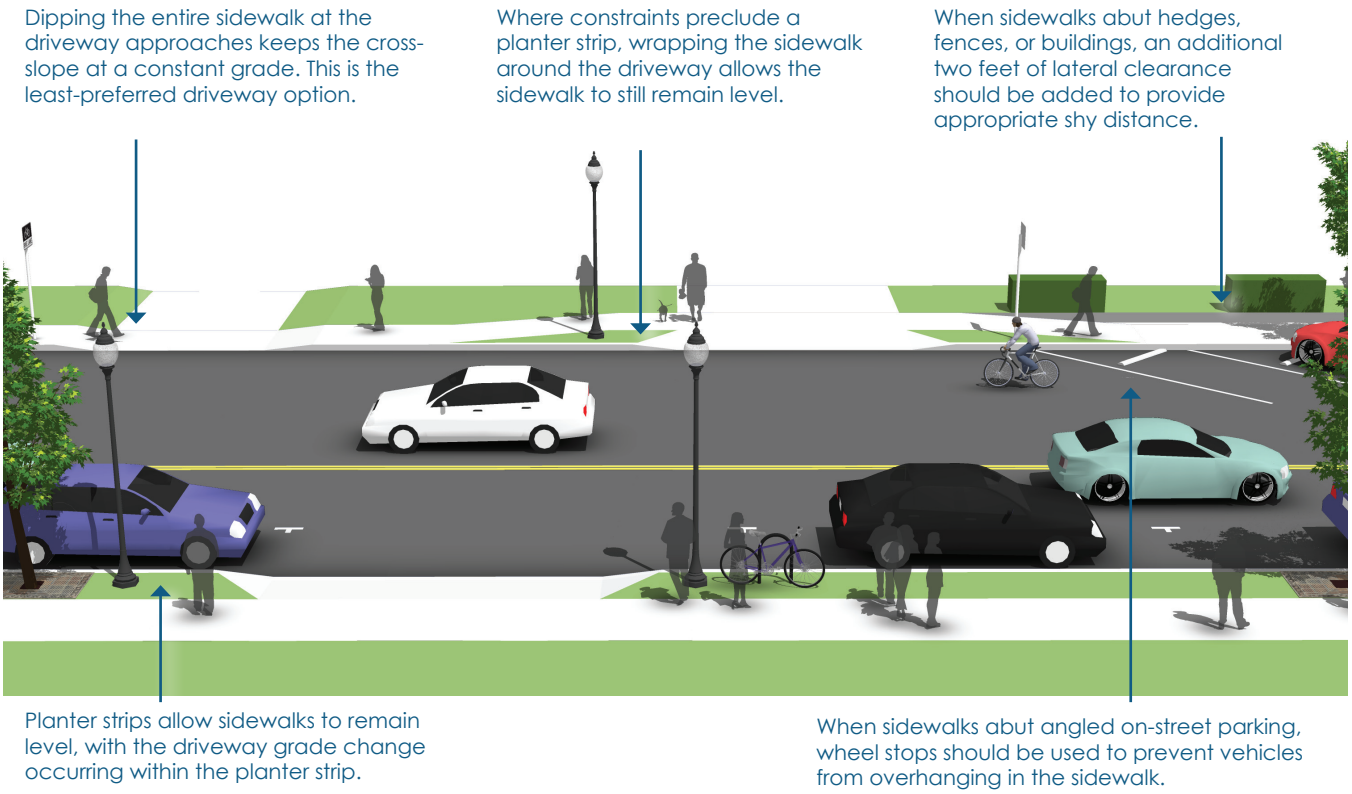
Sidewalk Obstructions and Driveway Ramps

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.



Discussion

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.

Additional References and Guidelines

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.

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 space. Surfaces must be firm, stable, and slip resistant.

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, 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

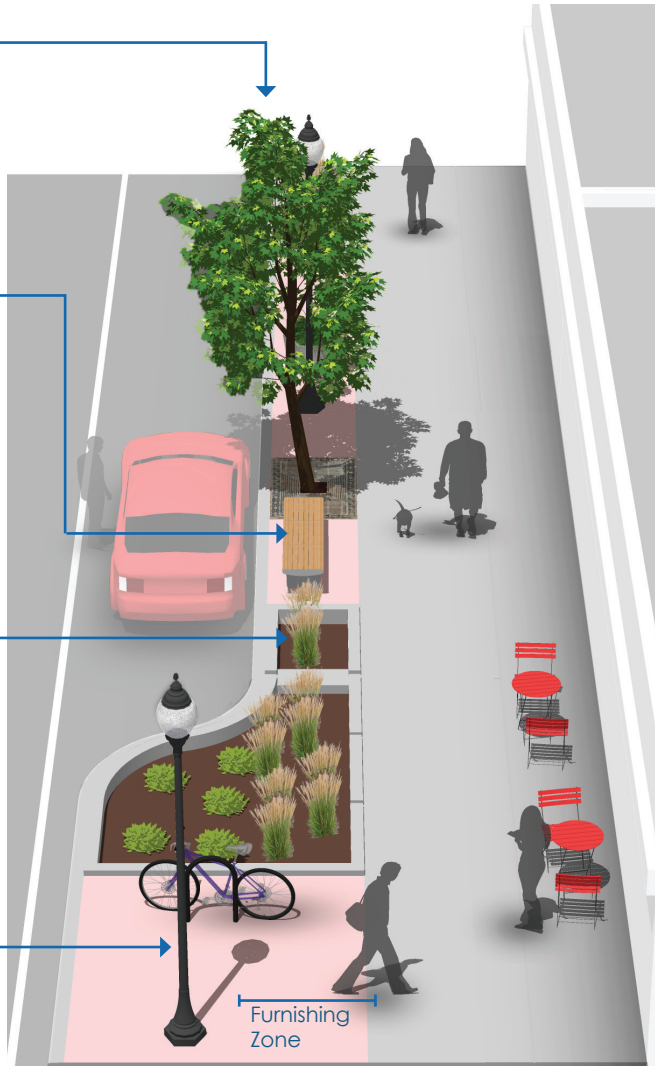
Providing benches at key rest areas and viewpoints encourages people of all ages to use the walkways by ensuring that they have a place to rest along the way. Benches should be 20" tall to accommodate elderly pedestrians comfortably. Benches can be simple (e.g., wood slats) or more ornate (e.g., stone, 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.



Additional References and Guidelines

United States Access Board. (2007). Public Rights-of-Way Accessibility Guidelines (PROWAG).
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

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.

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 Crosswalks

Raised Crosswalks

Median Refuge Islands

Minimizing Curb Radii

Curb Extensions

ADA Compliant Curb Ramps

Marked Crosswalks

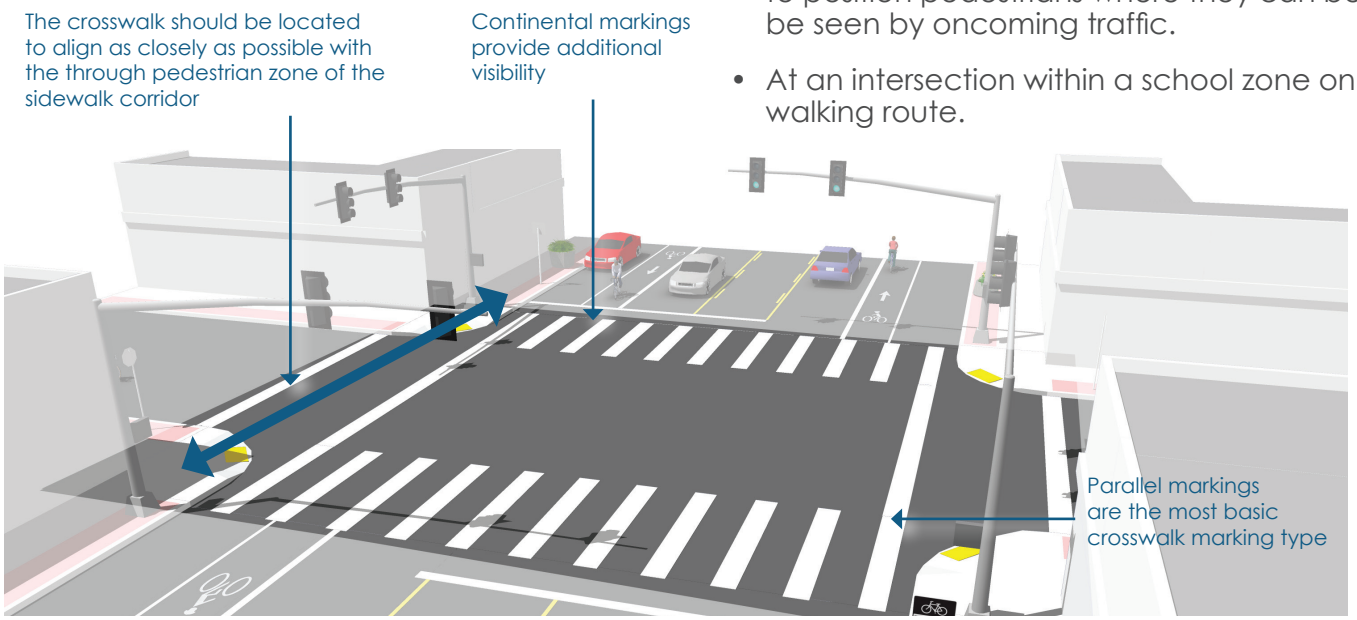
Description

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.



Discussion

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.

Additional References and Guidelines

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.
FHWA. (2010). Crosswalk Marking Field Visibility Study.

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 than conventional paint.

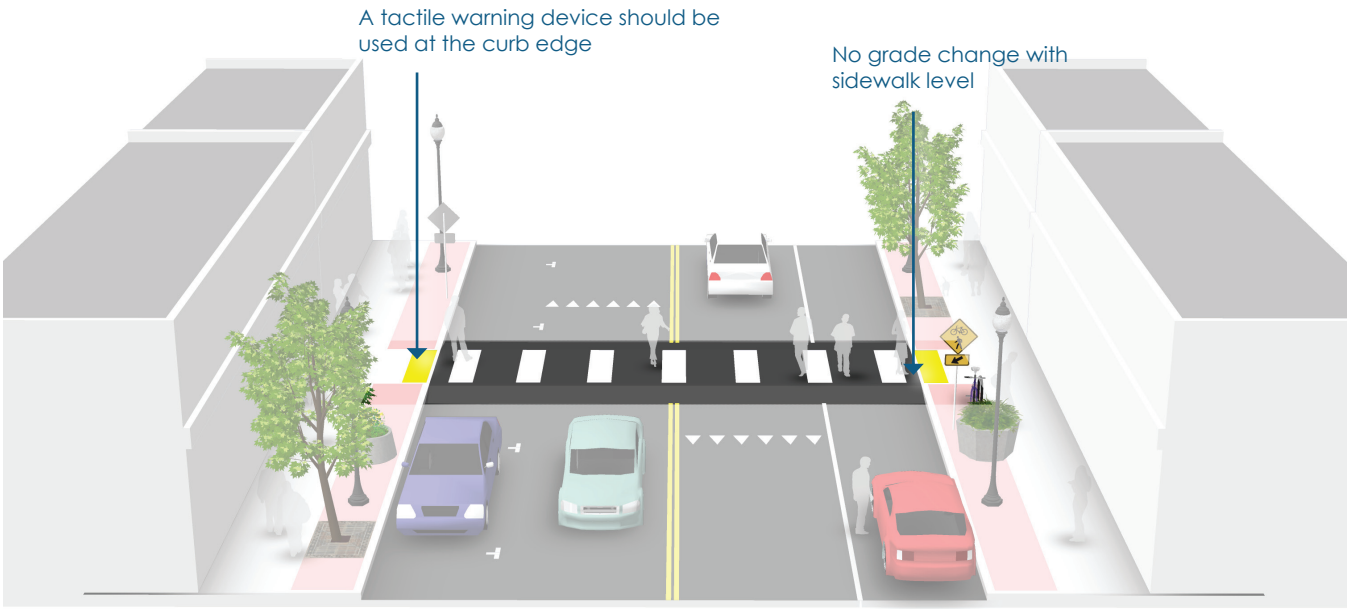
Raised Crosswalks

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; review 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.



Discussion

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

Additional References and Guidelines

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.

Materials and Maintenance

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

Median Refuge Islands

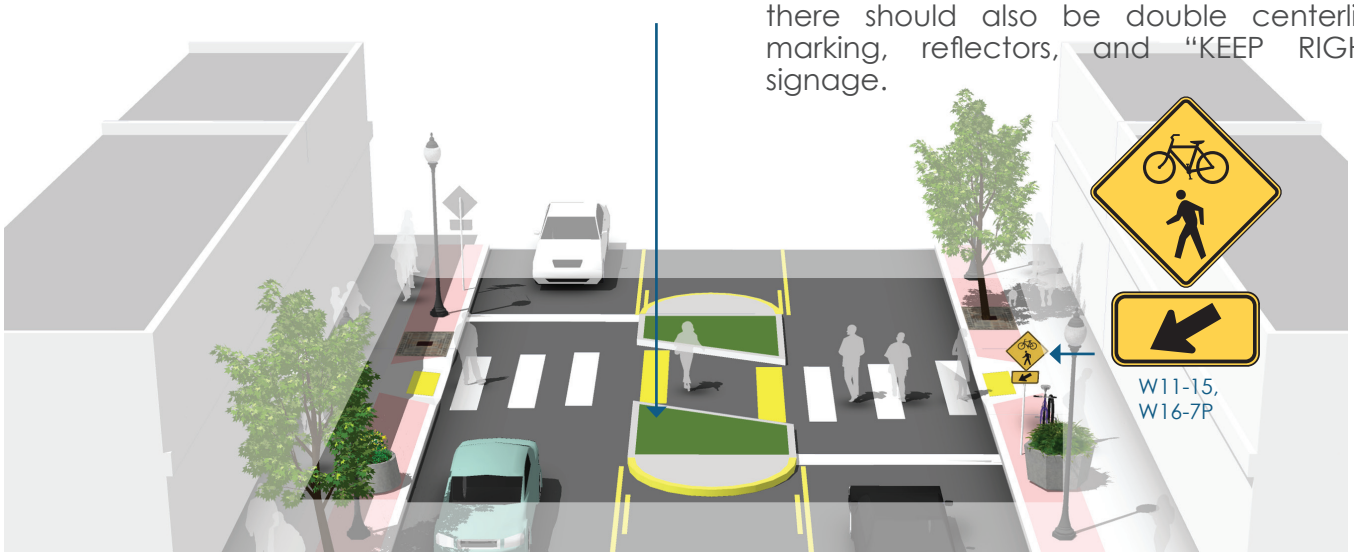
Description

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.



Discussion

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.

Additional References and Guidelines

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.

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.

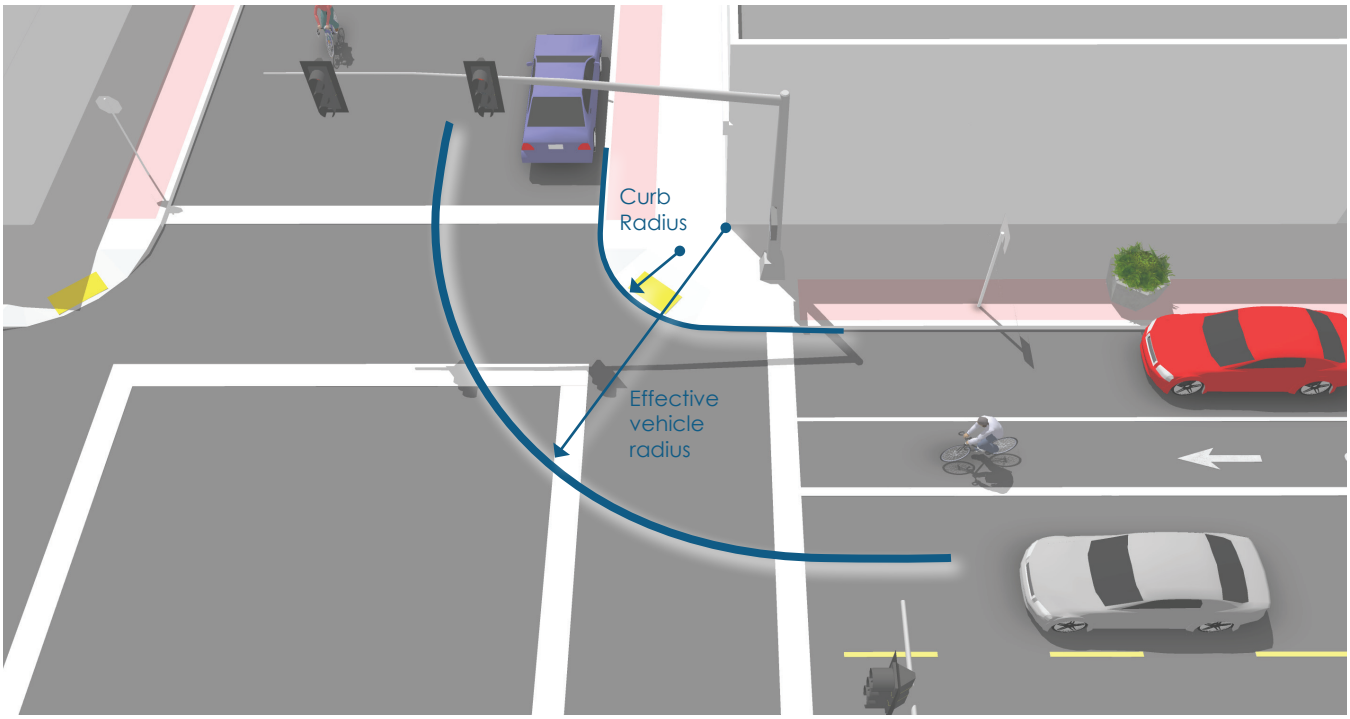
Minimizing Curb Radii

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.



Discussion

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.

Additional References and Guidelines

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.

Materials and Maintenance

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

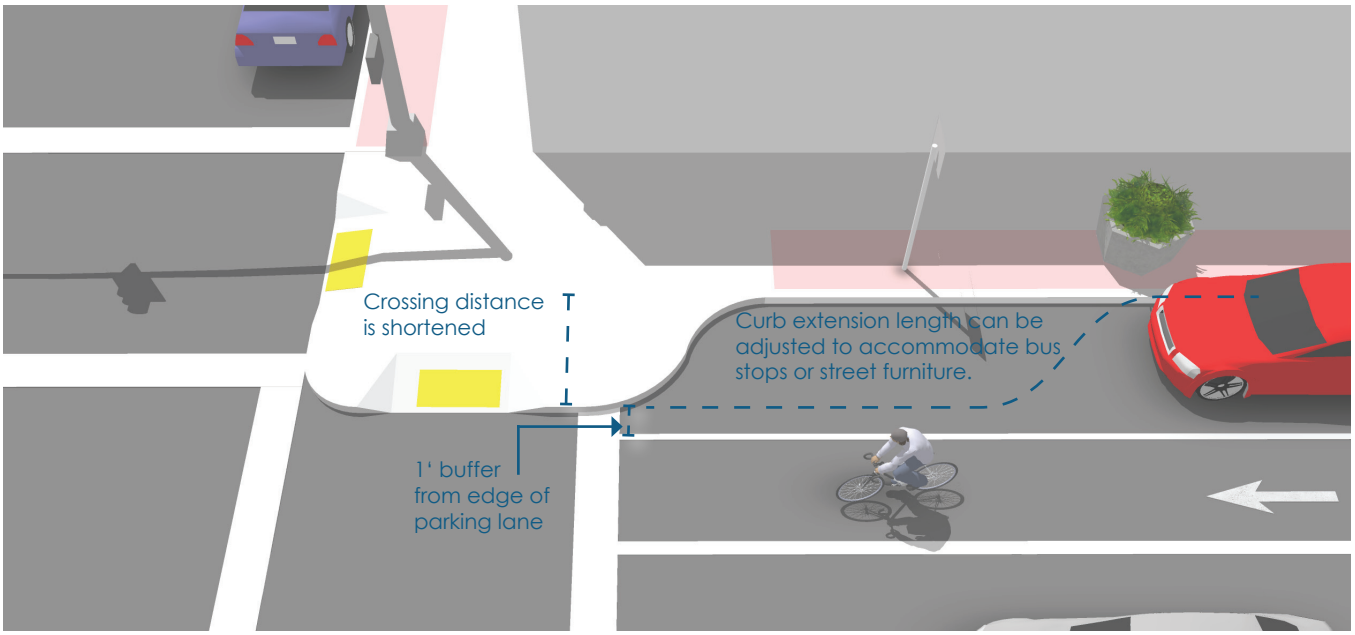
Curb Extensions

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.



Discussion

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

Additional References and Guidelines

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.

Materials and Maintenance

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

ADA Compliant Curb Ramps

Description

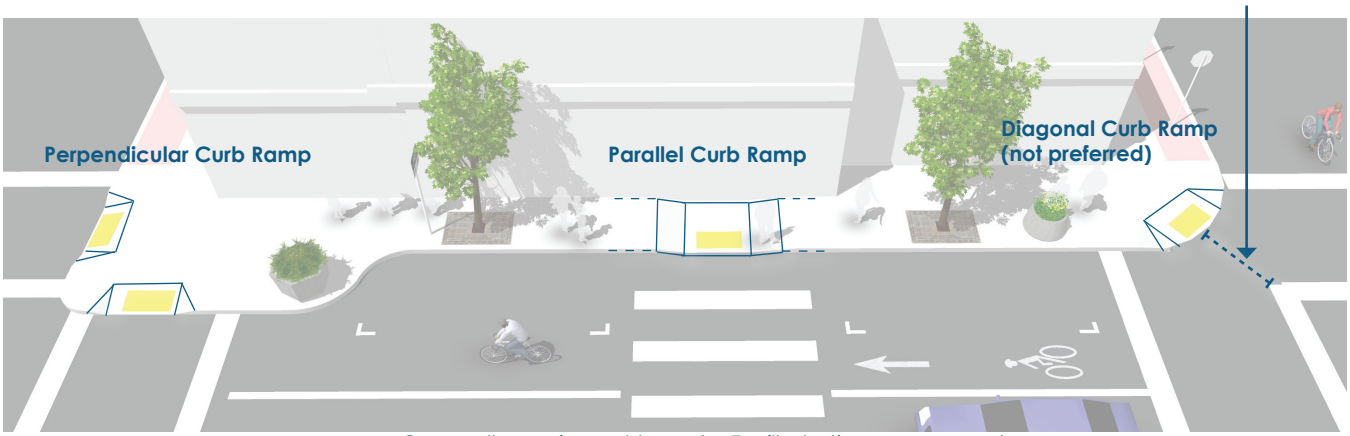
Curb ramps are the design elements that allow all users to make the transition from the street to the sidewalk. There are a number of factors to be considered in the design and placement of curb ramps at corners. Properly designed curb ramps ensure that the sidewalk is accessible from the roadway. A 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.

Diagonal ramps shall include a clear space of at least 48" within the crosswalk for user maneuverability



Crosswalk spacing not to scale. For illustration purposes only.

Discussion

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.

Additional References and Guidelines

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.

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.

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.

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.

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 a crossing users, and discourage illegal and unsafe crossing maneuvers.

Pedestrians at Signalized Crossings

Pedestrian Hybrid Beacon

Pedestrians at Signalized Crossings

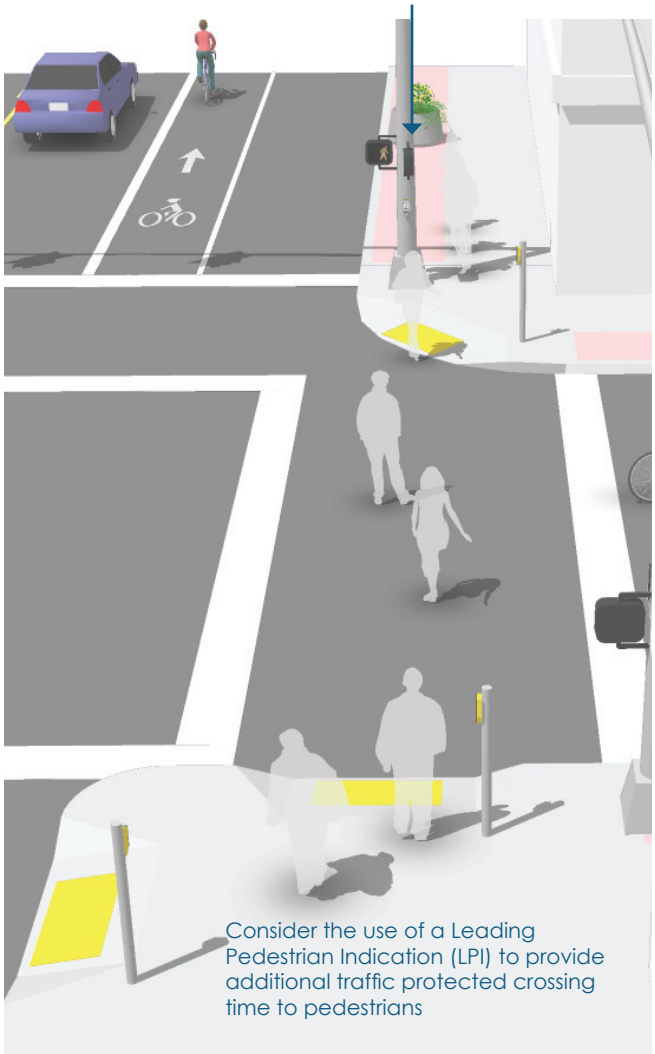
Description

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 4' 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.



Discussion

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.

Additional References and Guidelines

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.

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.

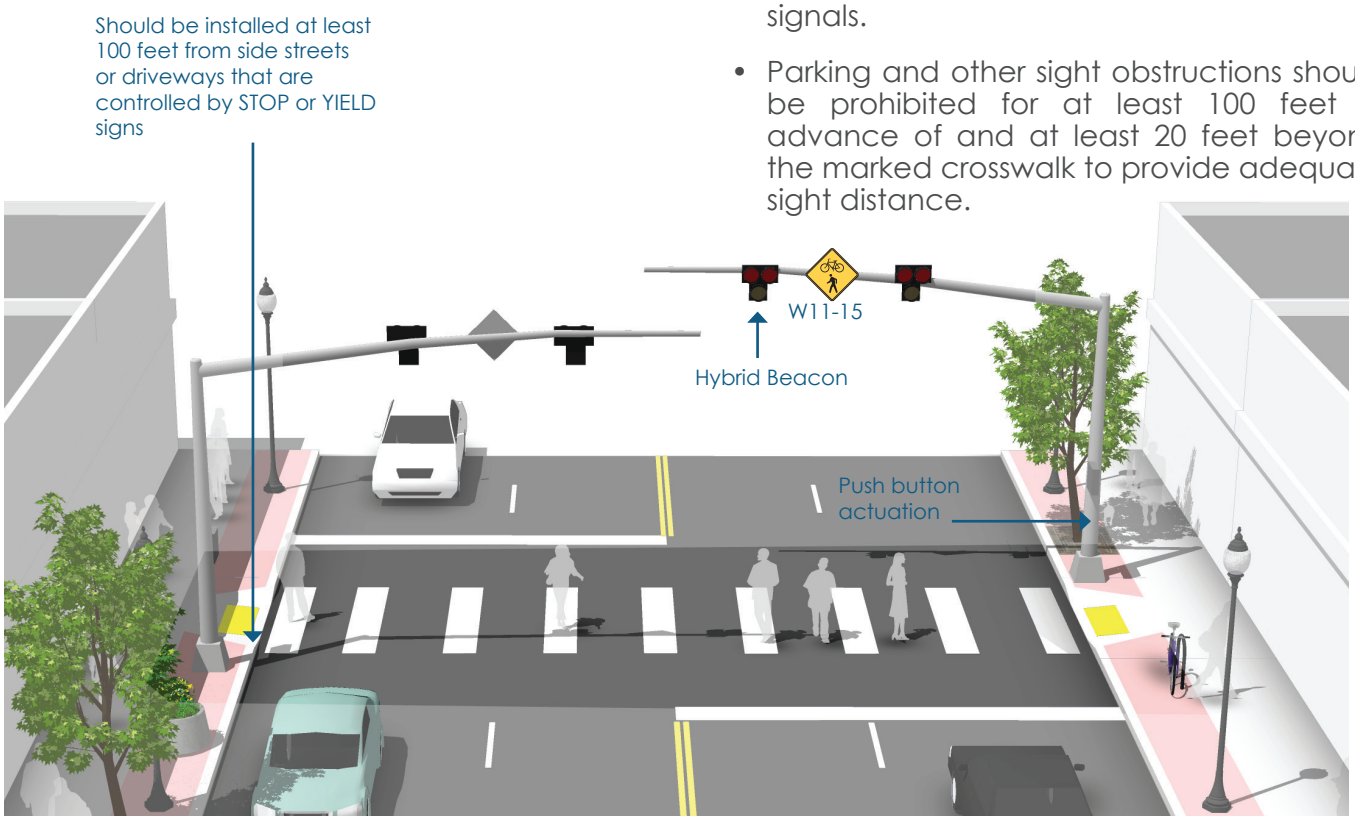
Pedestrian Hybrid Beacon

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.



Discussion

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.

Additional References and Guidelines

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

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.

Greenways

A greenway (also known as a shared-use path) allows for two-way use by pedestrians, skaters, bicyclists, 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. Path facilities can also include amenities such as lighting, signage, and fencing (where appropriate).

Key features of greenways include:

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

Neighborhood Greenways

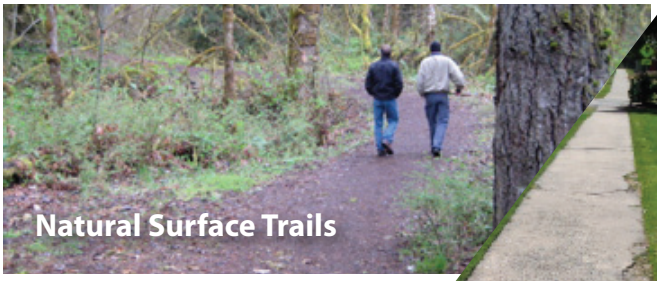
Also included in this section is a facility called a Neighborhood Greenway. Unlike conventional greenways, this facility is not a separate path, but is rather a calm street designed for a broad spectrum of users. Traffic calming treatments for neighborhood greenways are selected as necessary to create appropriate automobile volumes and speeds, and to provide safe crossing opportunities of busy streets.

General Design Practices

Trails in River and Utility Corridors

Trails in Active Rail Corridors

Local Neighborhood Accessways


Natural Surface Trails

Neighborhood Greenways

General Design Practices

Description

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

Guidance

Width

- 8 feet is the minimum allowed for a two-way greenway path 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 path 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.

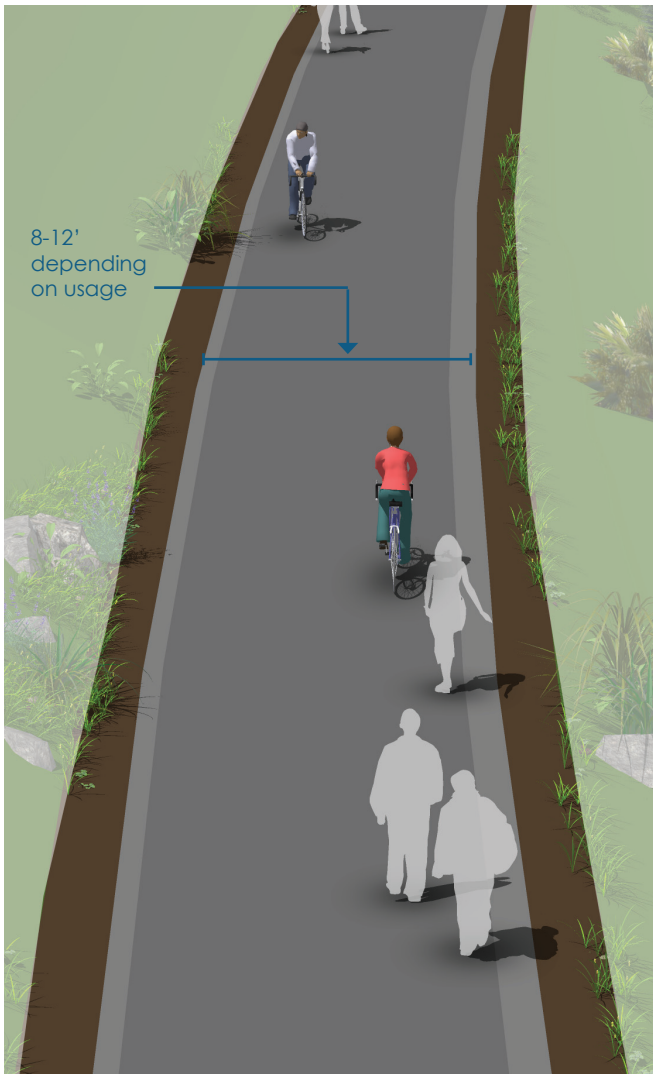
Overhead Clearance

- 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.

Terminate the path 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.



Additional References and Guidelines

AASHTO. (2012). Guide for the Development of Bicycle Facilities.
FHWA. (2009). Manual on Uniform Traffic Control Devices.
Flink, C. (1993). Greenways: A Guide To Planning Design And Development.
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

Materials and Maintenance

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

Greenways in River and Utility Corridors

Description

Commonly referred to as Rails-to-Trails or Rail-Trails, these projects convert vacated rail corridors into greenway paths. Rail corridors offer several advantages, including relatively direct routes between major destinations and generally flat terrain.

In some cases, rail owners may rail-bank their corridors as an alternative to a complete abandonment of the line, thus preserving the rail corridor for possible future use.

The railroad may form an agreement with any person, public or private, who would like to use the banked rail line as a trail or linear park until it is again needed for rail use. Municipalities should acquire abandoned rail rights-of-way whenever possible to preserve the opportunity for greenway development.

Guidance

- Greenways in abandoned rail corridors should meet or exceed general design practices. If additional width allows, wider paths, and landscaping are desirable.
- In full conversions of abandoned rail corridors, the sub-base, superstructure, drainage, bridges, and crossings are already established. Design becomes a matter of working with the existing infrastructure to meet the needs of a rail-trail.
- If converting a rail bed adjacent to an active rail line, see Greenways in Active Rail Corridors

Discussion

It is often impractical and costly to add material to existing railroad bed fill slopes. This results in trails that meet minimum path widths, but often lack preferred shoulder and lateral clearance widths.

Rail-to-trails can involve many challenges including the acquisition of the right of way, cleanup and removal of toxic substances, and rehabilitation of tunnels, trestles and culverts. A structural engineer should evaluate existing railroad bridges for structural integrity to ensure they are capable of carrying the appropriate design loads.

Additional References and Guidelines

AASHTO. (2012). Guide for the Development of Bicycle
Flink, C. (1993). Greenways: A Guide To Planning Design And Development.
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

Materials and Maintenance

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

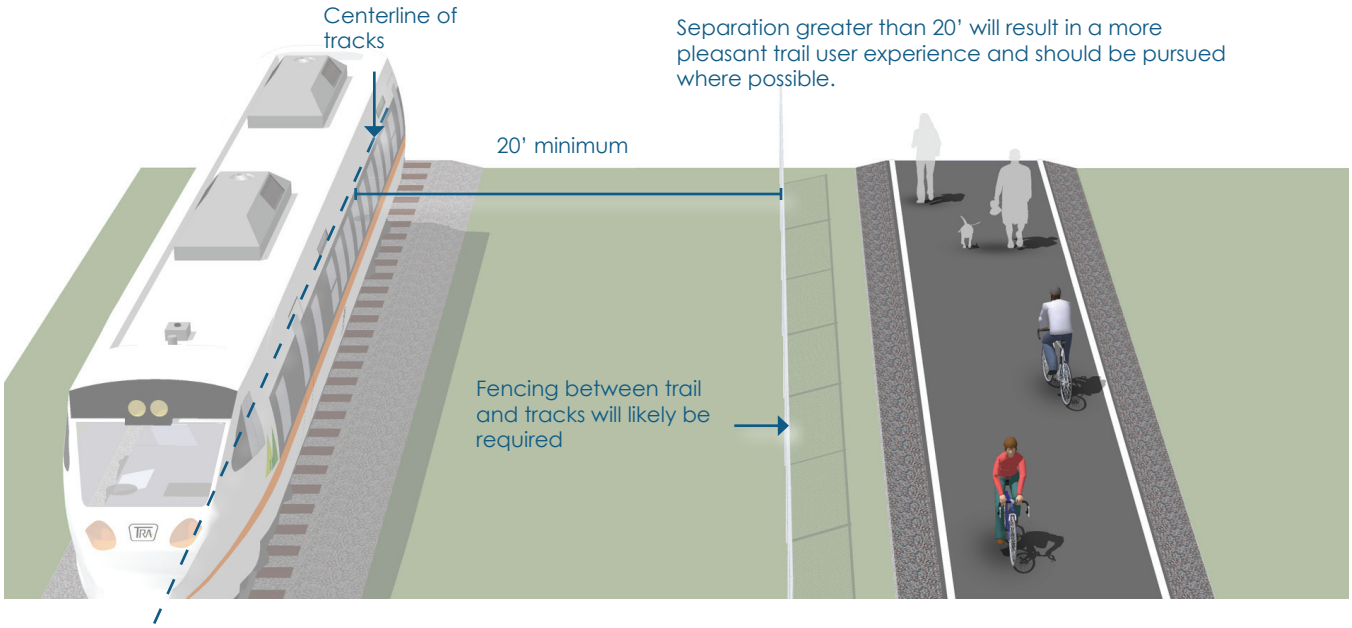
Greenways in Active Rail Corridors

Description

Rails-with-Trails projects typically consist of paths adjacent to active railroads. It should be noted that some constraints could impact the feasibility of rail-with-trail projects. In some cases, space needs to be preserved for future planned freight, transit or commuter rail service. In other cases, limited right-of-way width, inadequate setbacks, concerns about safety/trespassing, and numerous mid-block crossings may affect a project's feasibility.

Guidance

- Greenways in active rail corridors should meet or exceed general design standards. If additional width allows, wider paths, and landscaping are desirable.
- If required, fencing should be a minimum of 5 feet in height with higher fencing than usual next to sensitive areas such as switching yards. Setbacks from the active rail line will vary depending on the speed and frequency of trains, and available right-of-way.



Discussion

Railroads typically require fencing with all rail-with-trail projects. Concerns with trespassing and security can vary with the amount of train traffic on the adjacent rail line and the setting of the greenway, i.e. whether the section of track is in an urban or rural setting.

Additional References and Guidelines

AASHTO. (2012). Guide for the Development of Bicycle Facilities.
FHWA. (2009). Manual on Uniform Traffic Control Devices.
FHWA. (2002). Rails-with-Trails: Lessons Learned.

Materials and Maintenance

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

Local Neighborhood Accessways

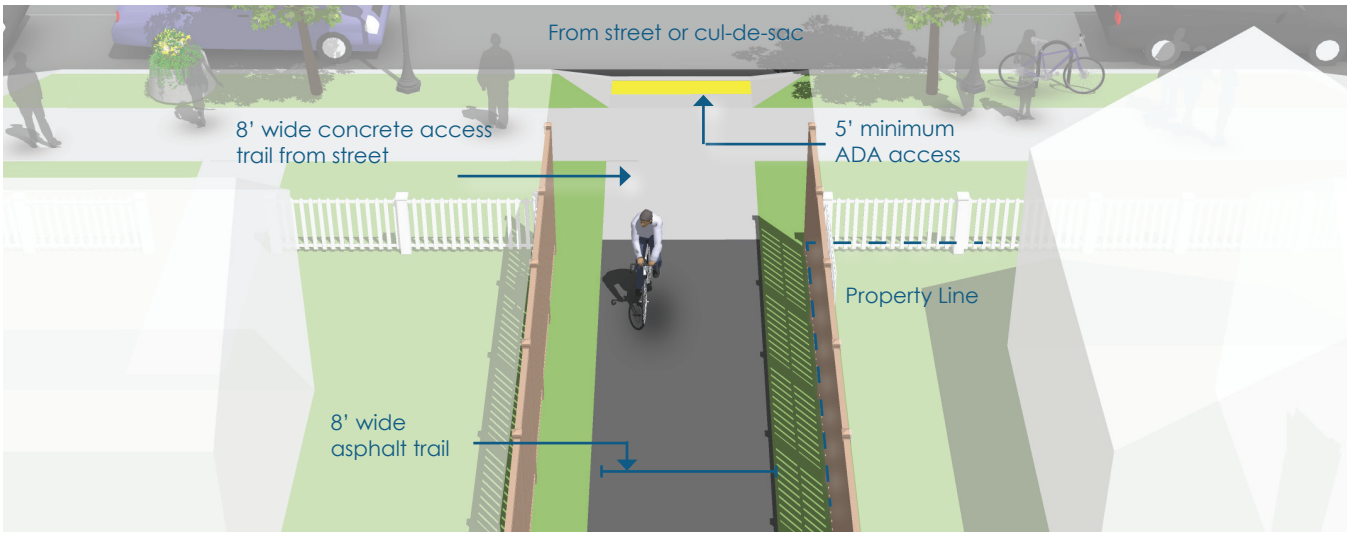
Description

Neighborhood accessways provide residential areas with direct pedestrian access to parks, trails, greenspaces, and other recreational areas. They most often serve as small trail connections to and from the larger trail network, typically having their own rights-of-way and easements.

Additionally, these smaller trails can be used to provide pedestrian connections between dead-end streets, cul-de-sacs, and access to nearby destinations not provided by the street network.

Guidance

- Neighborhood accessways should remain open to the public.
- Trail pavement shall be at least 8' wide to accommodate emergency and maintenance vehicles, meet ADA requirements and be considered suitable for multi-use.
- Trail widths should be designed to be less than 8' wide only when necessary to protect large mature native trees over 18" in caliper, wetlands or other ecologically sensitive areas.
- Access trails should slightly meander whenever possible.



Discussion

Neighborhood accessways should be designed into new subdivisions at every opportunity and should be required by City/County subdivision regulations.

For existing subdivisions, Neighborhood and homeowner association groups are encouraged to identify locations where such connects would be desirable. Nearby residents and adjacent property owners should be invited to provide landscape design input.

Additional References and Guidelines

AASHTO. (2012). Guide for the Development of Bicycle Facilities.
FHWA. (2009). Manual on Uniform Traffic Control Devices.
FHWA. (2006). Federal Highway Administration University Course on Bicycle and Pedestrian Transportation. Lesson 19: Greenways and Shared Use Paths.

Materials and Maintenance

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

Natural Surface Greenways

Description

Sometimes referred to as footpaths or hiking trails, the natural surface 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 presented in this section does not include considerations for bicycle users. Natural surface trails designed for bicycle users are typically known as single track trails.

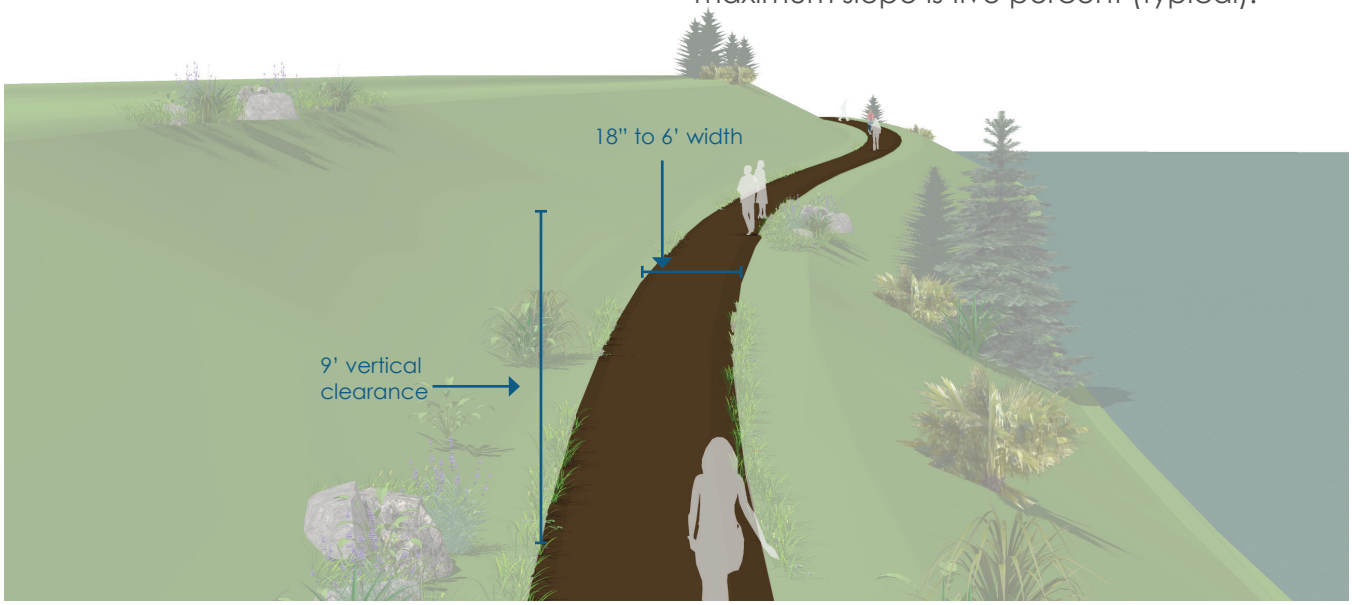
Guidance

Trails can vary in width from 18 inches to 6 feet or greater; vertical clearance should be maintained at nine-feet above grade.

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.

Additional References and Guidelines

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

Materials and Maintenance

Consider implications for accessibility when weighing options for surface treatments.

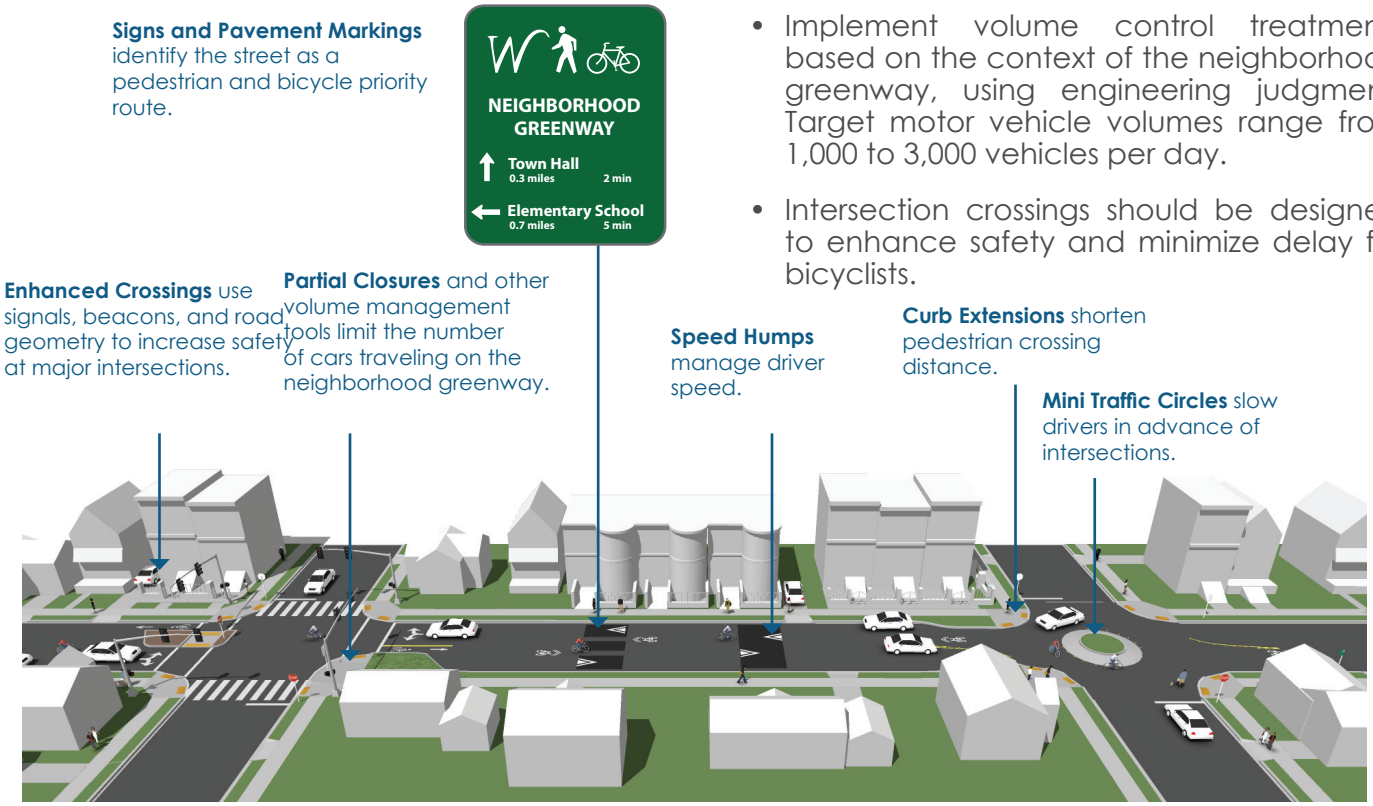
Neighborhood Greenways

Description

Neighborhood greenways are low-volume, low-speed streets modified to enhance bicyclist comfort by using treatments such as signage, pavement markings, traffic calming and/or traffic reduction, and intersection modifications. These treatments allow through movements of bicyclists while discouraging similar through-trips by non-local motorized traffic.

Guidance

- Signs and pavement markings are the minimum treatments necessary to designate a street as a neighborhood greenway.
- Neighborhood greenways should have a maximum posted speed of 25 mph. Use traffic calming to maintain an 85th percentile speed below 22 mph.
- Implement volume control treatments based on the context of the neighborhood greenway, using engineering judgment. Target motor vehicle volumes range from 1,000 to 3,000 vehicles per day.
- Intersection crossings should be designed to enhance safety and minimize delay for bicyclists.



Discussion

Neighborhood greenway retrofits to local streets are typically located on streets without existing signalized accommodation at crossings of collector and arterial roadways. Without treatments to assist pedestrian crossing, these intersections can become major barriers along the neighborhood greenway and compromise safety.

Traffic calming can deter motorists from driving on a street. Anticipate and monitor vehicle volumes on adjacent streets to determine whether traffic calming results in inappropriate volumes.

Additional References and Guidelines

Alta Planning + Design and IBPI. (2009). Bicycle Boulevard Planning and Design Handbook.
BikeSafe. (No Date). Bicycle countermeasure selection system.
Ewing, Reid. (1999). Traffic Calming: State of the Practice.
Ewing, Reid and Brown, Steven. (2009). U.S. Traffic Calming Manual.

Materials and Maintenance

Vegetation should be regularly trimmed to maintain visibility and attractiveness.

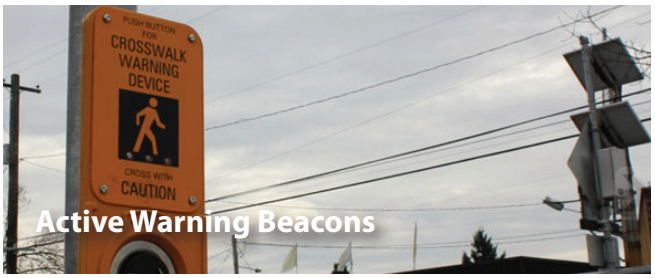
Greenway Crossings

At-grade roadway crossings can create potential conflicts between path users and motorists, however, well-designed crossings can mitigate many operational issues and provide a higher degree of safety and comfort for path users. This is evidenced by the thousands of successful facilities around the United States with at-grade crossings. In most cases, at-grade path crossings can be properly designed to provide a reasonable degree of safety and can meet existing traffic and safety standards. Path facilities that cater to bicyclists can require additional considerations due to the higher travel speed of bicyclists versus pedestrians.

Consideration must be given to adequate warning distance based on vehicle speeds and line of sight, with the visibility of any signs absolutely critical. Directing the active attention of motorists to roadway signs may require additional alerting devices such as a flashing beacon, roadway striping or changes in pavement texture. Signing for path users may include a standard "STOP" or "YIELD" sign and pavement markings, possibly combined with other features such as bollards or a bend in the pathway to slow bicyclists. Care must be taken not to place too many signs at crossings lest they begin to lose their visual impact.

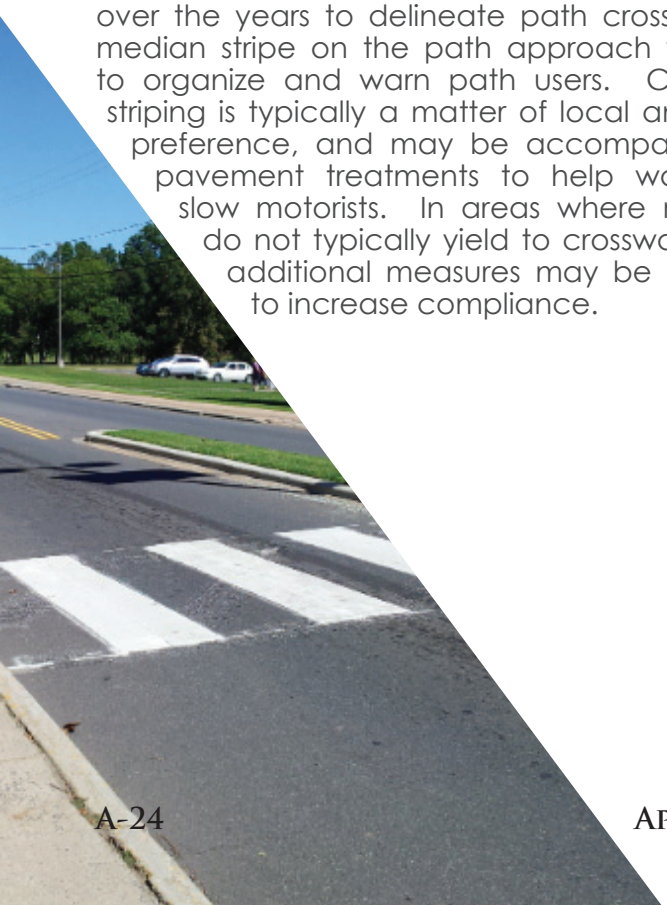
A number of striping patterns have emerged over the years to delineate path crossings. A median stripe on the path approach will help to organize and warn path users. Crosswalk striping is typically a matter of local and State preference, and may be accompanied by pavement treatments to help warn and slow motorists. In areas where motorists do not typically yield to crosswalk users, additional measures may be required to increase compliance.

Marked/Unsignalized Crossings



Active Warning Beacons

Route Users to Existing Signals



Unsignalized Marked Crossings

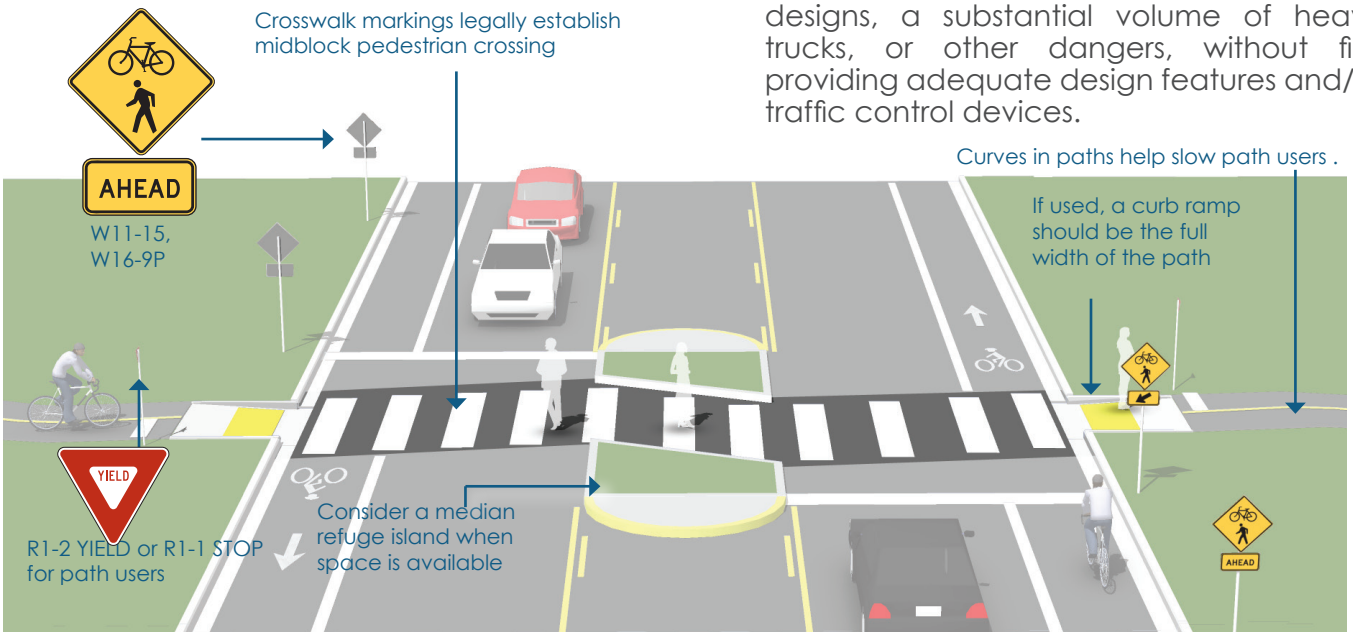
Description

An unsignalized marked crossing typically consists of a marked crossing area, signage and other markings to slow or stop traffic. The approach to designing crossings at mid-block locations depends on an evaluation of vehicular traffic, line of sight, pathway traffic, use patterns, vehicle speed, road type, road width, and other safety issues such as proximity to major attractions.

When space is available, using a median refuge island can improve user safety by providing pedestrians and bicyclists space to perform the safe crossing of one side of the street at a time.

Guidance

- Refer to the FHWA report, "Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations" for specific volume and speed ranges where a marked crosswalk alone may be sufficient.
- Where the speed limit exceeds 40 miles per hour, marked crosswalks alone should not be used at unsignalized locations.
- Crosswalks should not be installed at locations that could present an increased risk to pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices.



Discussion

Marked crosswalks alone will not make crossings safer, nor will marked crosswalks necessarily result in more vehicles stopping for pedestrians. Whether or not marked crosswalks are installed, it is important to consider other pedestrian facility enhancements (e.g. raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions, etc.) as needed to improve the safety of the crossing. These are general recommendations; good engineering judgment should be used in individual cases for deciding which treatment to use.

Additional References and Guidelines

AASHTO. (2012). Guide for the Development of Bicycle Facilities.
FHWA. (2009). Manual on Uniform Traffic Control Devices.
NCDOT. (2012). Complete Streets Planning and Design Guidelines.

Materials and Maintenance

Locate markings out of wheel tread when possible to minimize wear and maintenance costs.

Active Warning Beacons

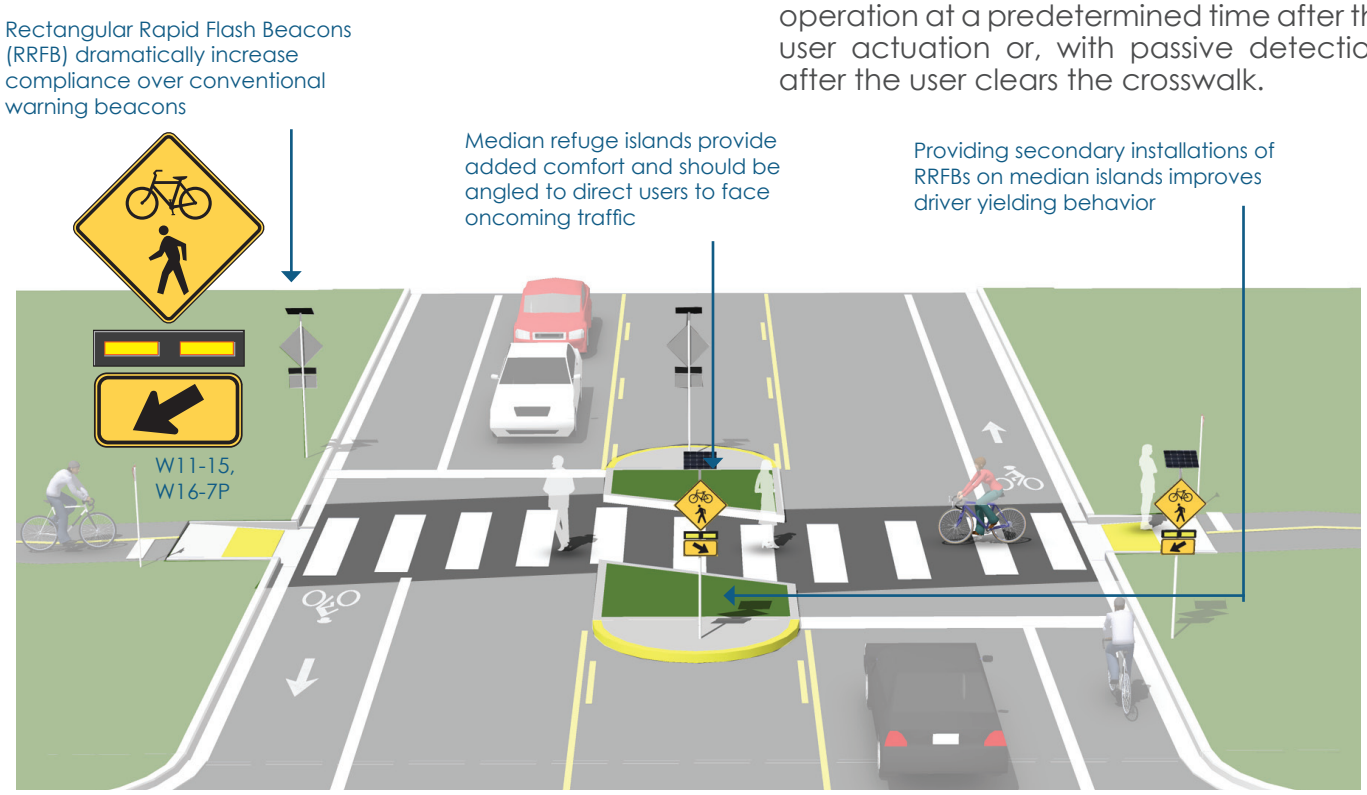
Description

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 pathway user or sensor actuated warning beacons, Rectangular Rapid Flash Beacons (RRFB) shown below, or in-roadway warning lights.

Guidance

- Guidance for Unsignalized Marked 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

Rectangular rapid flash beacons show the most increased compliance of all the warning beacon enhancement options.

A study 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 References and Guidelines

NACTO. (2012). Urban Bikeway Design Guide.
FHWA. (2009). Manual on Uniform Traffic Control Devices.
FHWA. (2008). MUTCD - Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons (IA-11) NCDOT. (2012). Complete Streets Planning and Design Guidelines.

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.

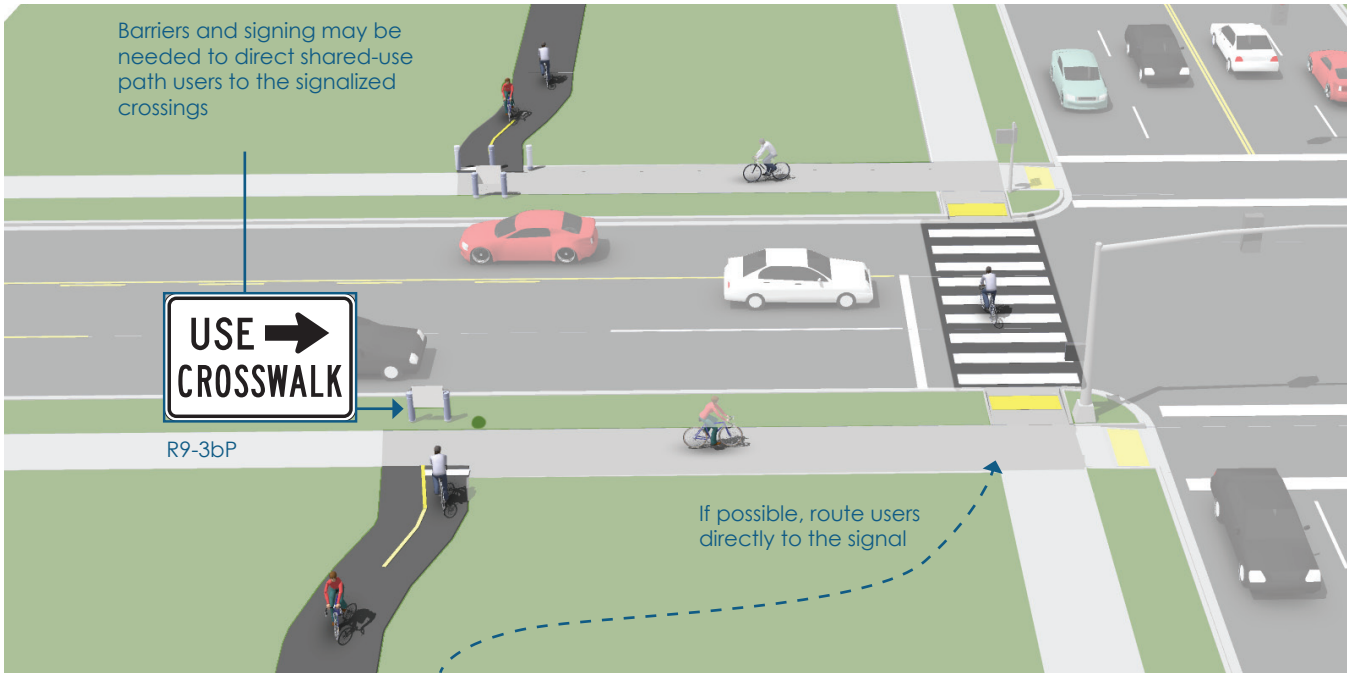
Route Users to Signalized Crossings

Description

Path 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 path users to the signalized crossing. If no pedestrian crossing exists at the signal, modifications should be made.

Guidance

- Path crossings should not be provided within approximately 400 feet of an existing signalized intersection. If possible, route path 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.

Additional References and Guidelines

AASHTO. (2012). Guide for the Development of Bicycle Facilities.
AASHTO. (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities.

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.

This Page Intentionally Left Blank for Printing

B Funding Strategies

Appendix Outline

Overview | State & Federal | Local Government
Private & Non-Profit Sectors

Overview

When considering possible funding sources for the Town of Wingate's pedestrian projects, it is important to remember that not all construction activities or programs will be accomplished with a single funding source. It will be necessary to consider several sources of funding, that when combined, would support full project completion. This appendix outlines the most likely sources of funding for the projects at the federal, state, local government level and from the private sector.

State and Federal

Federal funding is typically directed through State agencies to local governments either in the form of grants or direct appropriations. State budget shortfalls may make it extremely difficult to accurately forecast available funding for future project development. The following is a list of possible Federal and State funding sources that could be used to support construction of the many pedestrian projects. Federal funding sometimes requires a 20% local match, however the recent stimulus money does not require a match. Since these funding categories are difficult to forecast, it is recommended that the Town continue to work with the Centralina Council of Governments and MUMPO on submitting pedestrian projects to NCDOT for inclusion in the STIP (State Transportation Improvement Program), as discussed below.

US Department of Energy (DOE)

The Department of Energy's Energy Efficiency and Conservation Block Grants (EECBG) grants may be used to reduce energy use and fossil fuel emissions and for improvements in energy efficiency. Section 7 of the funding announcement states that these grants provide opportunities for the development and implementation of transportation programs to conserve energy used in transportation including development of infrastructure such as bicycle lanes and pathways and pedestrian walkways. Although this grant period has passed, more opportunities may arise.

More information can be found at http://www.eecbg.energy.gov/.

Moving Ahead for Progress in the Twenty-First Century (MAP-21)

The largest source of federal funding for bicycle and pedestrian is the US DOT's Federal-Aid Highway Program, which Congress has reauthorized roughly every six years since the passage of the Federal-Aid Road Act of 1916. The latest act, Moving Ahead for Progress in the Twenty-First Century (MAP-21) was enacted in July 2012 as Public Law 112-141. The Act replaces the Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU), which was valid from August 2005 - June 2012.

MAP-21 authorizes funding for federal surface transportation programs including highways and transit for the 27 month period between July 2012 and September 2014. It is not possible to guarantee the continued availability of any listed MAP-21 programs, or to predict their future funding levels or policy guidance. Nevertheless, many of these programs have been included in some form since the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, and thus may continue to provide capital for active transportation projects and programs.

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 oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system.

There are a number of programs identified within MAP-21 that are applicable to bicycle and pedestrian projects. These programs are discussed below.

More information: http://www.fhwa.dot.gov/map21/summaryinfo.cfm

NC Department of Environment – Recreational Trails and Adopt-A-Trail Grants

The State Trails Program is a section of the N.C. Division of Parks and Recreation. The program originated in 1973 with the North Carolina Trails System Act and is dedicated to 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. The Recreation Trails Program awards grants up to $75,000 per project. The Adopt-A-Trail Program awards grants up to $5,000 per project.

Powell Bill Funds

Annually, State street-aid (Powell Bill) allocations are made to incorporated municipalities which establish their eligibility and qualify as provided 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 or for planning, construction, and maintenance of bikeways or sidewalks along public streets and highways.

Community Development Block Grant Funds

Community Development Block Grant (CDBG) funds are available to local municipal or county governments that qualify for projects to enhance the viability of communities by providing 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. Two categories might be of support to bicycle and pedestrian projects in 'entitlement communities': infrastructure and community revitalization.

Land and Water Conservation Trust Fund

The Land and Water Conservation Fund (LWCF) has historically been a primary funding source of the US Department of the Interior for outdoor recreation development and land acquisition by local governments and state agencies. In North Carolina, the program is administered by the Department of Environment and Natural Resources (DENR).

N.C. Parks and Recreation Trust Fund (PARTF)

The Parks and Recreation Trust Fund (PARTF) provide 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% of the total cost of the project, and may contribute more than 50%. 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.

More information: http://www.ncparks.gov/About/grants/partf_main.php

Safe Routes to School Program (managed by NCDOT, DBPT)

The NCDOT Safe Routes to School Program is a federally funded program that was initiated by the passing of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, which establishes a national SRTS program to distribute funding and institutional support to implement SRTS programs in states and communities across the country. SRTS programs facilitate 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. The Division of Bicycle and Pedestrian Transportation at NCDOT is charged with disseminating SRTS funding.

The state of North Carolina was allocated $15 million in Safe Routes to School funding for fiscal years 2005 through 2009 for infrastructure or non-infrastructure projects. In 2009, more than $3.6 million went to 22 municipalities and local agencies for infrastructure and non-infrastructure projects. All proposed projects must relate to increasing walking or biking to and from an elementary or middle school. An example of a non-infrastructure project is an education or encouragement program to improve rates of walking and biking to school. An example of an infrastructure project is construction of sidewalks around a school. Infrastructure improvements under this program must be made within 2 miles of an elementary or middle school. The state requires the completion of a competitive application to apply for funding.

For more information, visit www.ncdot.org/programs/safeRoutes/ or contact DBPT/NCDOT, (919) 807-0774.

Rivers, Trails and Conservation Assistance Program

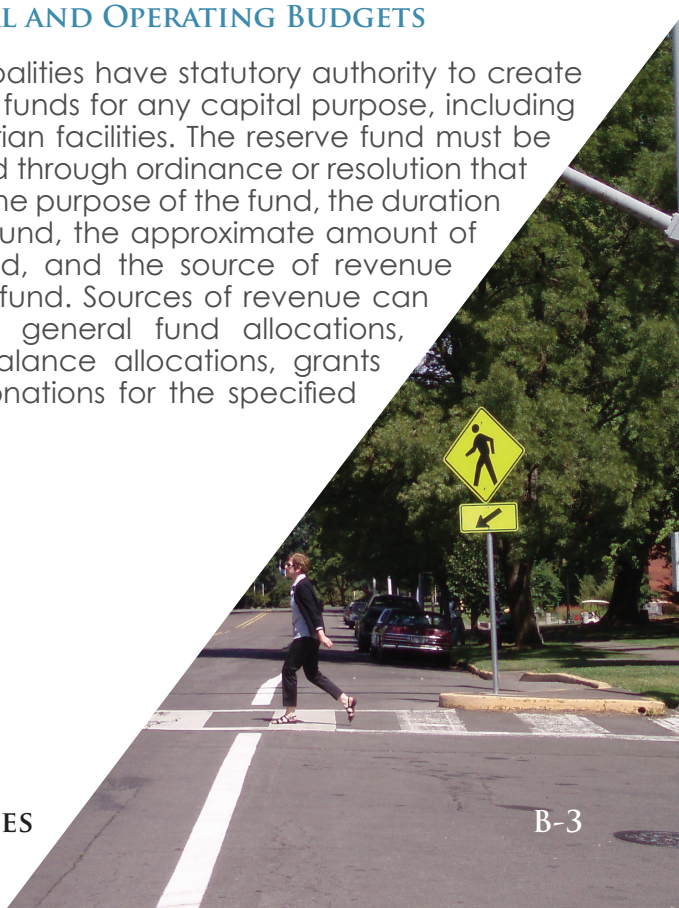
The Rivers, Trails and Conservation Assistance Program (RTCA) is a National Park Service program which provides technical assistance via direct staff involvement, to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there are no implementation funds available. Projects are prioritized for assistance based on criteria that include 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.

Local Government

Local funding sources that would support bicycle and pedestrian facility project construction will most likely be limited but should be explored.

Capital and Operating Budgets

Municipalities have statutory authority to create capital 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

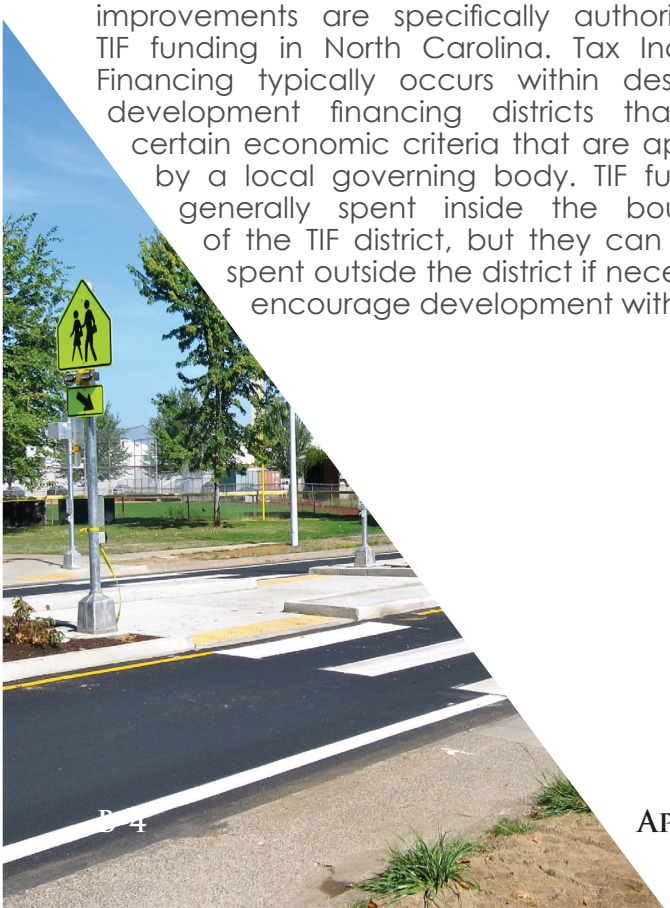
Municipalities can pass Capital Project Ordinances that are project specific. The ordinance identifies and makes appropriations for the project.

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.



Other local funding options

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

Private and Non-Profit Sectors

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

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 is asking the North Carolina General Assembly to support issuance of a bond for $200 million a year for five years to preserve and protect its special land and water resources. Land for Tomorrow will 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; historic downtowns and neighborhoods; and more, will be there to enhance the quality of life for generations to come.

Website: http://www.landfortomorrow.org/

The Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation was established as a national philanthropy in 1972 and today it is the largest U.S. foundation devoted to improving the health and health care of all Americans. Grant making is concentrated in four areas:

- To assure that all Americans have access to basic health care at a reasonable cost
- To improve care and support for people with chronic health conditions
- To promote healthy communities and lifestyles
- To reduce the personal, social and economic harm caused by substance abuse: tobacco, alcohol, and illicit drugs
- For more specific information about what types of projects are funded and how to apply, visit www.rwjf.org/applications/.

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 nonprofit organizations and institutions throughout the state. Based in Raleigh, North Carolina, 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.

Web site: http://nccommunityfoundation.org/

Z. Smith Reynolds Foundation

This Winston-Salem-based Foundation has been assisting the environmental projects of local governments and non-profits in North Carolina for many years. They have two grant cycles per year and generally do not fund land acquisition. However, they may be able to offer support in other areas of open space and greenways development.

More information is available at www.zsr.org.

Bank of America Charitable Foundation, Inc.

The Bank of America Charitable Foundation is one of the largest in the nation. The primary grants program is called Neighborhood Excellence, which seeks to identify critical issues in local communities. Another program that applies to greenways is the Community Development Programs, and specifically the Program Related Investments. This program targets low and moderate income communities and serves to encourage entrepreneurial business development.

Visit the web site for more information: www.bankofamerica.com/foundation.

Duke Energy Foundation

Funded by Duke Energy shareholders, this non-profit organization makes charitable grants to selected non-profits or governmental subdivisions. Each annual grant must have:

- An internal Duke Energy business "sponsor"
- A clear business reason for making the contribution

The grant program has three focus areas: Environment and Energy Efficiency, Economic Development, and Community Vitality. Related to this project, the Foundation would support programs that support conservation, training and research around environmental and energy efficiency initiatives.

Web site: http://www.duke-energy.com/community/foundation.asp.

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 ($250 to $2,000) 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, and building trails. Grants cannot be used for academic research, institutional support, lobbying or political activities.

For more information visit The Conservation Fund's website at: www.conservationfund.org.

National Trails Fund

American Hiking Society created the National Trails Fund in 1998, the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting and maintaining foot trails in America. 73 million people enjoy foot trails annually, yet many of our favorite trails need major repairs due to a $200 million backlog of badly needed maintenance. 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 $240,000 to 56 different trail projects across the U.S. for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from $500 to $10,000 per project.

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.

Web site: www.americanhiking.org/alliance/fund.html.

The Conservation Alliance

The Conservation Alliance is a non-profit organization of outdoor businesses whose collective annual membership dues support grassroots citizen-action groups and their efforts to protect wild and natural areas. One hundred percent of its member companies' dues go directly to diverse, local community groups across the nation - groups like Southern Utah Wilderness Alliance, Alliance for the Wild Rockies, The Greater Yellowstone Coalition, the South Yuba River Citizens' League, RESTORE: The North Woods and the Sinkyone Wilderness Council (a Native American-owned/operated wilderness park). For these groups, who seek to protect the last great wild lands and waterways from resource extraction and commercial development, the Alliance's grants are substantial in size (about $35,000 each), and have often made the difference between success and defeat. Since its inception in 1989, The Conservation Alliance has contributed $4,775,059 to grassroots environmental groups across the nation, and its member companies are proud of the results: To date the groups funded have saved over 34 million acres of wild lands and 14 dams have been either prevented or removed- all through grassroots community efforts.

The Conservation Alliance is a unique funding source for grassroots environmental groups. It is the only environmental grant maker whose funds come from a potent yet largely untapped constituency for protection of ecosystems - the non-motorized outdoor recreation industry and its customers. This industry has great incentive to protect the places in which people use the clothing, hiking boots, tents and backpacks it sells. The industry is also uniquely positioned to educate outdoor enthusiasts about threats to wild places, and engage them to take action. Finally, when it comes to decision-makers - especially those in the Forest Service, National Park Service, and Bureau of Land Management, this industry has clout - an important tool that small advocacy groups can wield.

The Conservation Alliance Funding Criteria: The Project should be focused primarily on direct citizen action to protect and enhance our natural resources for recreation. We're not looking 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 (one to two years). Funding emphasis may not be on general operating expenses or staff payroll.

Web site: www.conservationalliance.com/index

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 awards matching grants under its Keystone Initiatives to achieve measurable outcomes in the conservation of fish, wildlife, plants and the habitats on which they depend. Awards are made on a competitive basis to eligible grant recipients, including federal, tribal, state, and local governments, educational institutions, and non-profit conservation organizations. Project proposals are received on a year-round, revolving basis with two decision cycles per year. Grants generally range from $50,000-$300,000 and typically require a minimum 2:1 non-federal match.

Funding priorities include bird, fish, marine/coastal, and wildlife and habitat conservation. Other projects that are considered include controlling invasive species, enhancing delivery of ecosystem services in agricultural systems, minimizing the impact on wildlife of emerging energy sources, and developing future conservation leaders and professionals.

Website: http://www.nfwf.org/AM/Template.cfm?Section=Grants where additional grant programs are described.

The Trust for Public Land

Land conservation is central to the mission of the Trust for Public Land (TPL). Founded in 1972, the Trust for Public Land is the only national nonprofit working exclusively to protect land for human enjoyment and well being. TPL helps conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities. TPL's legal and real estate specialists work with landowners, government agencies, and community groups to:

- Create urban parks, gardens, greenways, and riverways.
- Build livable communities by setting aside open space in the path of growth.

Conserve land for watershed protection, scenic beauty, and close-to home recreation safeguard the character of communities by preserving historic landmarks and landscapes.

The following are TPL's Conservation Services:

Conservation Vision: TPL helps agencies and communities define conservation priorities, identify lands to be protected, and plan networks of conserved land that meet public need.

Conservation Finance: TPL helps agencies and communities identify and raise funds for conservation from federal, state, local, and philanthropic sources.

Conservation Transactions: TPL helps structure, negotiate, and complete land transactions that create parks, playgrounds, and protected natural areas.

Research and Education: TPL acquires and shares knowledge of conservation issues and techniques to improve the practice of conservation and promote its public benefits.

Since 1972, TPL has worked with willing landowners, community groups, and national, state, and local agencies to complete more than 3,000 land conservation projects in 46 states, protecting more than 2 million acres. Since 1994, TPL has helped states and communities craft and pass over 330 ballot measures, generating almost $25 billion in new conservation-related funding.

For more information, visit *www.tpl.org/*.

BlueCross BlueShield of North Carolina Foundation (BCBS)

Blue Cross Blue Shield (BCBS) focuses on programs that use an outcome approach to improve the health and well-being of residents. The Health of Vulnerable Populations grants program focuses on improving health outcomes for at-risk populations. The Healthy Active Communities grant concentrates on increased physical activity and healthy eating habits. Eligible grant applicants must be located in North Carolina, be able to provide recent tax forms and, depending on the size of the nonprofit, provide an audit.

http://www.bcbsncfoundation.org/

Alliance for Biking & Walking: Advocacy Advance Grants

Bicycle and pedestrian advocacy organizations play the most important role in improving and increasing biking and walking in local communities, states, and provinces. Advocacy Advance Grants enable state and local bicycle and pedestrian advocacy organizations to develop, transform, and provide innovative strategies in their communities. Thanks to remarkable support from SRAM, Planet Bike, and Bikes Belong, the Alliance for Biking & Walking has awarded more than $500,000 in direct grants, technical assistance and scholarships to advocacy organizations across North America since the Advocacy Advance Grant program's inception. In 2009 and 2010, these one-year grants were awarded twice annually to startup organizations and innovative campaigns to dramatically increase biking and walking. Through the Advocacy Advance Partnership with the League of American Bicyclists, the Alliance also provided necessary technical assistance, coaching, and training to supplement the grants.

For more information, visit www.peoplepoweredmovement.org

Health and Wellness Trust Fund: Fit Community Program

To address the growing obesity epidemic, commissioners of the Health and Wellness Trust Fund created a comprehensive program that would promote and help implement proven and innovative interventions to increase people's physical activity and improve nutrition choices.

HWTF partnered with Blue Cross and Blue Shield of North Carolina to launch Fit Together in 2004, a statewide campaign designed to raise awareness around the dangers of unhealthy weight and to equip individuals and communities with the tools they need to address this serious health concern.

In 2005, Fit Together unveiled Fit Community, a program to recognize and reward municipality and county-wide efforts to promote physical activity, healthy eating and tobacco-free programs, policies, environments and lifestyles. The Fit Community application process is a thorough evaluation that can and will benefit your community in numerous unexpected ways. For 2011, all applications due for designation had to have been submitted to Active Living by Design by 5:00 p.m. on March 18, 2011.

For more information, visit www.fitcommunitync.com

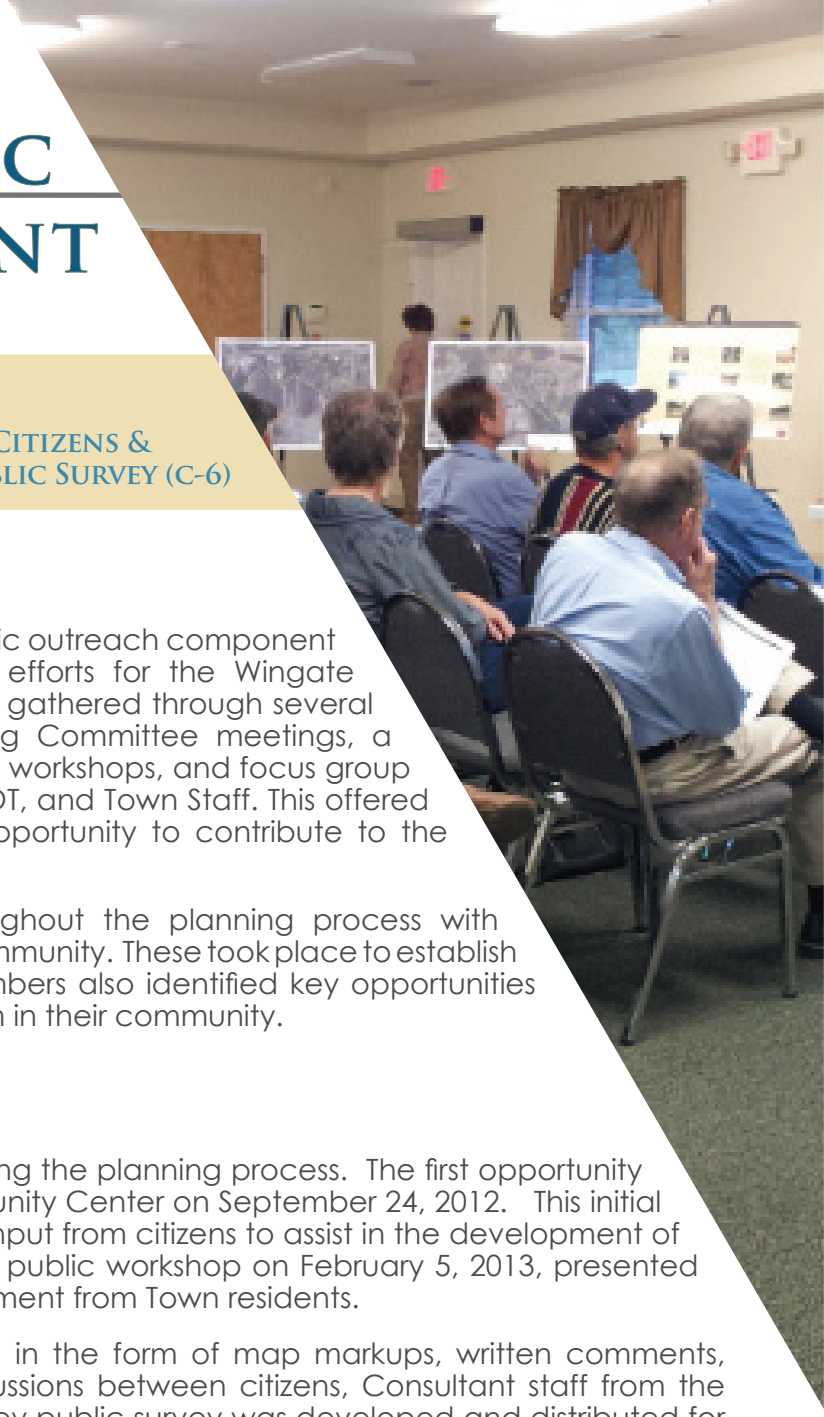
Local Trail Sponsors

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.

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.

C Public Involvement



Appendix Outline

Overview (C-1) | Public Workshops (C-1)| Citizens & State-Based Steering Committee (C-1) | Public Survey (C-6)

Overview

In order to gain local knowledge and input, a public outreach component was included as an integral part of planning efforts for the Wingate Comprehensive Pedestrian Plan. Public input was gathered through several different means including the following: Steering Committee meetings, a project website, an online survey form, two public workshops, and focus group meetings with Wingate University Students, NCDOT, and Town Staff. This offered the representatives and residents of Wingate opportunity to contribute to the Plan's development.

Steering Committee meetings were held throughout the planning process with representatives from Wingate, NCDOT, and the community. These took place to establish visions and goals for this effort. Committee members also identified key opportunities and strategies for improving the pedestrian system in their community.

Public Workshops

Two public input workshops were conducted during the planning process. The first opportunity was a public, open house at the Wingate Community Center on September 24, 2012. This initial public input session sought to gather preliminary input from citizens to assist in the development of draft recommendations for the plan. The second public workshop on February 5, 2013, presented draft recommendations and solicited public comment from Town residents.

At the workshop session, public input was taken in the form of map markups, written comments, question and answer sessions, and through discussions between citizens, Consultant staff from the Consultant and Town staff. In addition, a hardcopy public survey was developed and distributed for hand written responses at the meeting.

Citizen & Staff-based Steering Committee

This Committee, composed of residents, Town staff, NCDOT staff, and other representatives met four times during the planning process. The group established visions and goals for the Plan, identified areas of need in the Wingate area, and reviewed the Plan. Members of the Committee marked up maps and identified pedestrian problem areas and possible solutions. The goals are listed in **Chapter 1** and input from the Committee is reflected throughout the recommendations of this planning document. The Steering Committee also provided comments on the Draft Plan. These comments led to revisions made by the Consultant in the development of the Final Plan. A summary of the Steering Committee meetings is provided in the following pages.

Wingate Comprehensive Pedestrian Plan – 1st Steering Committee Meeting

Meeting Minutes

Date: 09/24/12

Attendees:

John Lee Bates –Dentist in Wingate

Jennifer Huntley – President of Wingate Athletics

Ella T. Hargett – Community resident

Jerry Earnhardt – Retired State Trooper

Arthur Henderson – Cowboys Design Landscaping

Sandra Thomas – Town of Wingate

Brad Sellers – Town of Wingate

Barry Glass – Town of Wingate Police Department

Karen Nash – Wingate Elementary

Linda Stedje-Larsen - Wingate University

Helen Chaney – Division of Bicycle and Pedestrian Transportation

Maya Argawal – Alta Planning + Design

John Cock – Alta Planning + Design

Meeting Summary

The first steering committee meeting for the project was held at the Wingate Community Center on Monday September 24th, 2012. The consultant Alta Planning, conducted a presentation on the project's planning process and scope. A working session was conducted after the presentation to discuss the project's vision and goals, as well as main pedestrian issues to be addressed in the Plan.

Vision, Goals, Objectives of Wingate Pedestrian Plan

- What is your vision of the state of walking in Wingate in 5/10 years?
    - Sidewalks in all neighborhoods; College Park has no sidewalks.
    - No connected sidewalks;
    - Need sidewalk access for economic development (if students could walk to Sun Trust, maybe it wouldn't be closing)

Town's pedestrian needs

- Highway 74 issues
  - People in Highland Park are "stuck" in terms of access to services and access across 74
  - People can't get to Food Lion or Burger King (25 min wait to cross the highway)
  - Need median, and pedestrian crossings
  - Speeding is a problem
  - Improve aesthetics
  - Crossing at N. Main is a priority project with Town and NCDOT
- Connectivity
  - Connect existing pathways (wouldn't be as hard as in some communities)
  - Sidewalk on North Main street is priority; 40% more traffic on N. Main after closing of Camden
- Maye Street:
  - Need sidewalks, this street is popular for walkers and joggers;
  - It is a cut through for heavy vehicles, and it is not wide enough for such purpose
  - Speed problem; needs to reduce speed limit below 35mph in some places; (state road);
  - Trucks using Maye St. because of difficult access to 74 at Edgewood (trucks dropping grain)
- Other needs
  - Need pedestrian lighting
  - More students walking than ever; university plan to provide external parking lots
  - Need access to services: food lion, restaurants (Ginos)
  - Bike lanes and bike racks needed
  - Need benches for resting
  - Concord greenway: good example of shade and benches

Wingate Comprehensive Pedestrian Plan – 2nd Steering Committee Meeting

Meeting Minutes

Date: 11/05/12

Attendees:

John Lee Bates –Dentist in Wingate

Jennifer Huntley – President of Wingate Athletics

Ella T. Hargett – Community resident

Jerry Earnhardt – Retired State Trooper

Arthur Henderson – Cowboys Design Landscaping

Sandra Thomas – Town of Wingate

Brad Sellers – Town of Wingate

Barry Glass – Town of Wingate Police Department

Karen Nash – Wingate Elementary

Linda Stedje-Larsen - Wingate University

Helen Chaney – Division of Bicycle and Pedestrian Transportation

Andrea Garland – Alta Planning + Design

John Cock – Alta Planning + Design

Meeting Summary

A second steering committee meeting for the project was held at the Jesse Helms Center on Monday November 5th, 2012. The consultant Alta Planning, conducted a presentation on the project's vision and goals, existing conditions and preliminary proposed recommendations for pedestrian improvements in the Town of Wingate. The members of the steering committee had the following comments about pedestrian issues and desired improvements for the Town of Wingate:

Infrastructure Needs

- Trucks that detour on Maye Street to access the traffic light at Bivens Street to turn left on US 74 Hwy is a safety concern not only for pedestrians crossing the street to access the Elementary School, but also for drivers because the street is too narrow to accommodate the trucks and automobiles, especially at the intersections when trucks are turning.

- It was noted that Elm Street is one way for 45 minutes daily for school drop off and pick up times
- Walking to school is not encouraged due to the lack of sidewalks
- Wingate University doesn't have walking programs
- The new resident hall at the university will offer outdoor bike parking to encourage students to ride bicycles instead of driving around town
- More bike racks at key destinations could encourage more people to bike
- Pedestrian improvements on Maye street such as sidewalks and safe crossings are very important
- Post office intersection at Wilson St and Main St should be a priority for pedestrian improvements
- Other key intersections in the Town include:
    - North Main Street & Cedar Street
    - North Main Street & Elm Street

Program Needs

The steering committee discussed the subject of pedestrian programs that will encourage town residents to become more active and choose walking as an alternative to driving around town. The key points discussed are summarized as follows:

- The sidewalk network needs to be completed in order to encourage people to walk
- The town confirms that bike riding is not permitted on the community park's trail. The consultant suggested making an exception for young children on bikes.
- Wingate Community Recreation Association has plans for leading track running and walking programs as planned greenways are developed
- Host a fun event that gets people out to call their attention and inform them about new initiatives for walking and safety programs
- Lighting in the park is needed for encouraging people to use the facilities in the evenings
- The town hosts several events at the park that can serve as venues for launching new pedestrian and safety initiatives. These events include:
    - Spring events at the park
    - Movie night in the summer
    - Summer fun festival at the University lake
    - Christmas lighting festival at the park
    - Game day at the park
    - Health fair for seniors in August
- Host a "Wingate Walkers on Wednesdays", identify walking loops around town and organize walking tours for the community
- Local community groups that could provide volunteer time and/or other resources to promote and encourage walking programs include the Methodist church, the CMC, girls and boys scouts groups, the BETA club at Forest Hill high school, and Wingate University.

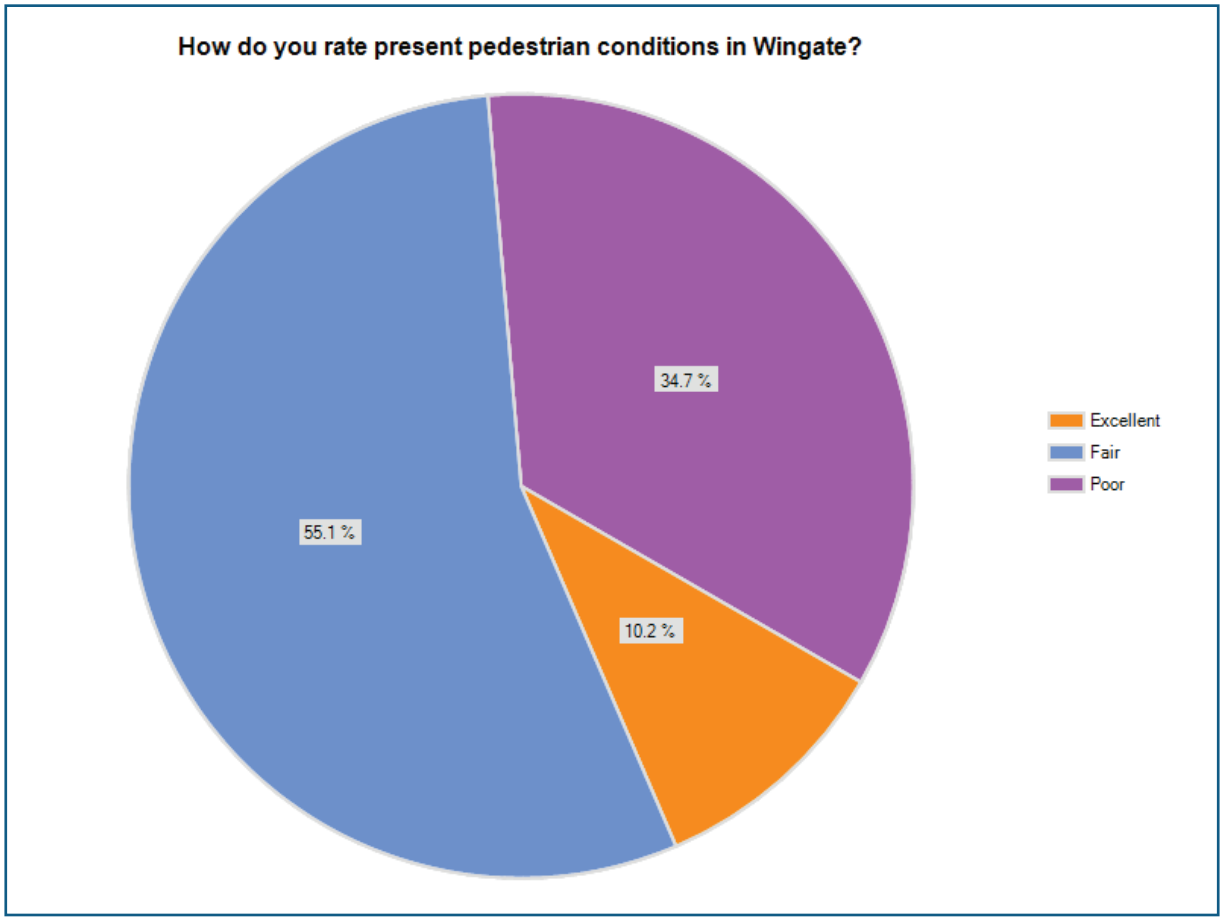
For more information about the project please visit the project's website http://wingatepedplan.weebly.com. Please complete the online survey and share the link with your neighbors and peers. The survey can be access at this link: https://www.surveymonkey.com/s/wingatepedestrianplan

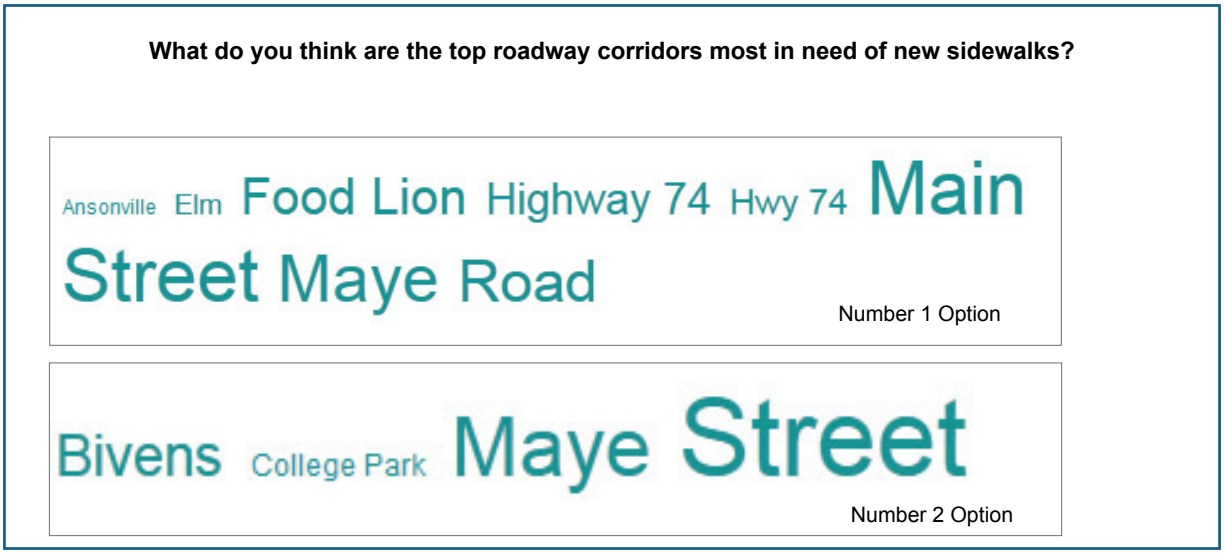
Thank you for contributing to the development of the Comprehensive Pedestrian Plan.

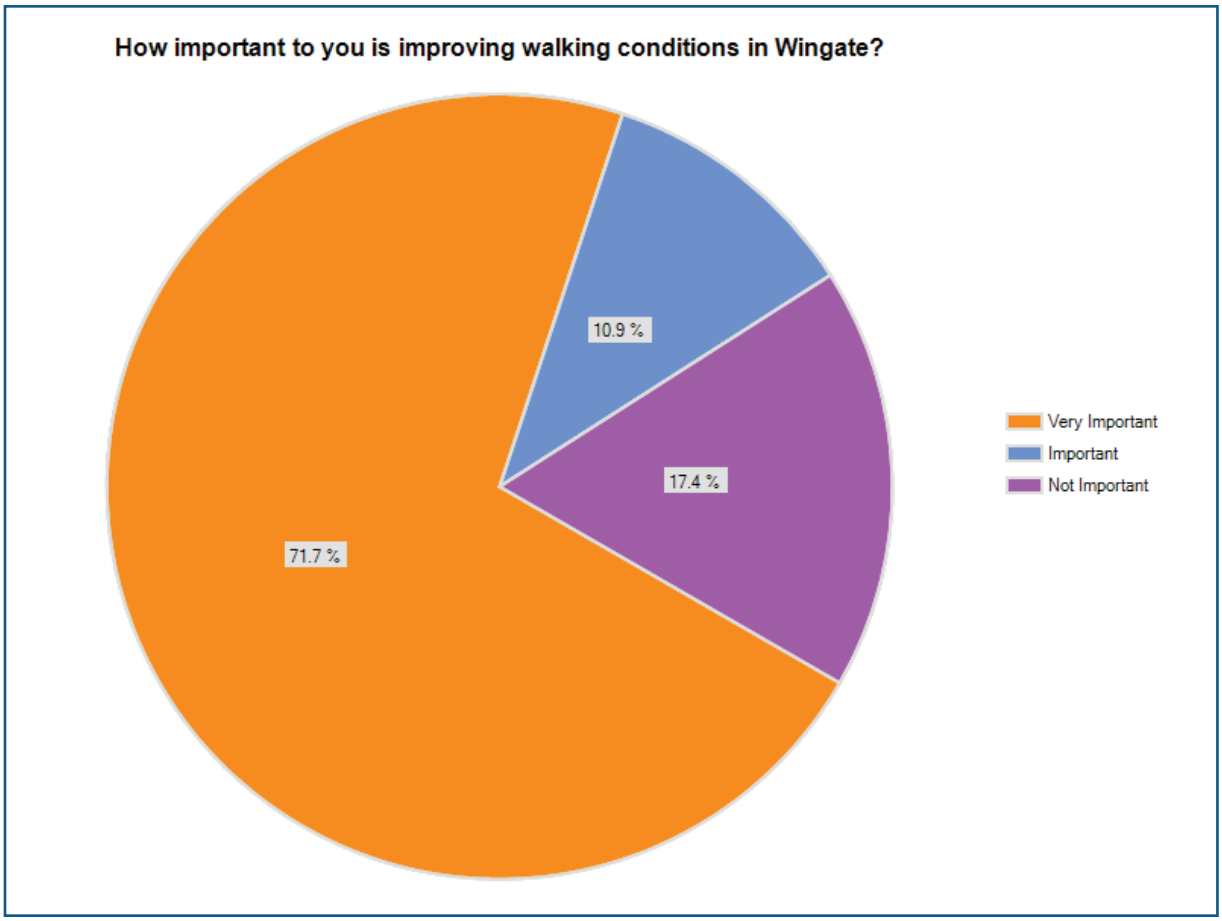
Public Survey

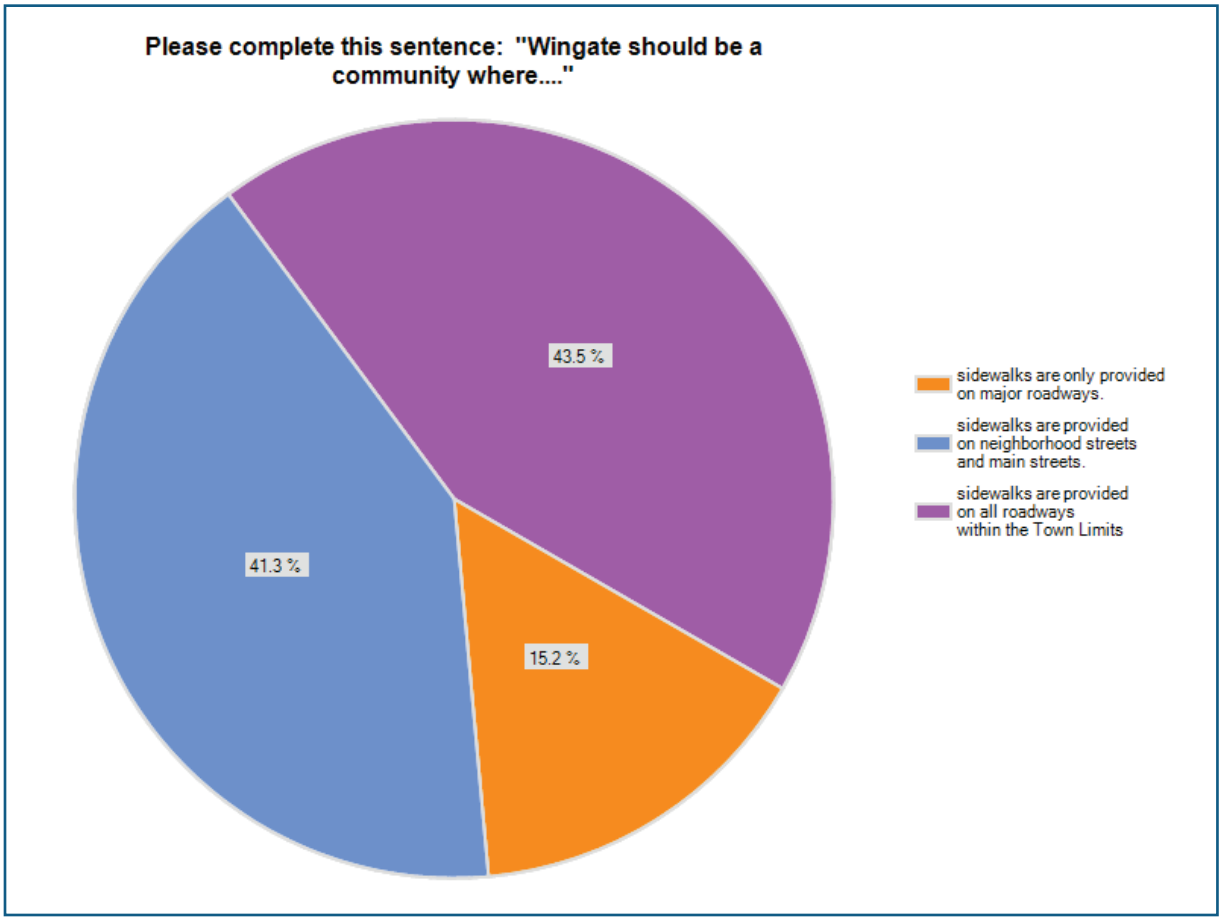
A public survey was developed for Wingate during this process and made available in both hardcopy and online form. The survey will be available online throughout the duration of the project. To maximize the responses to the survey, the web address was distributed at the public meeting, to local interest groups, in newsletters. A total of 52 responses were collected.

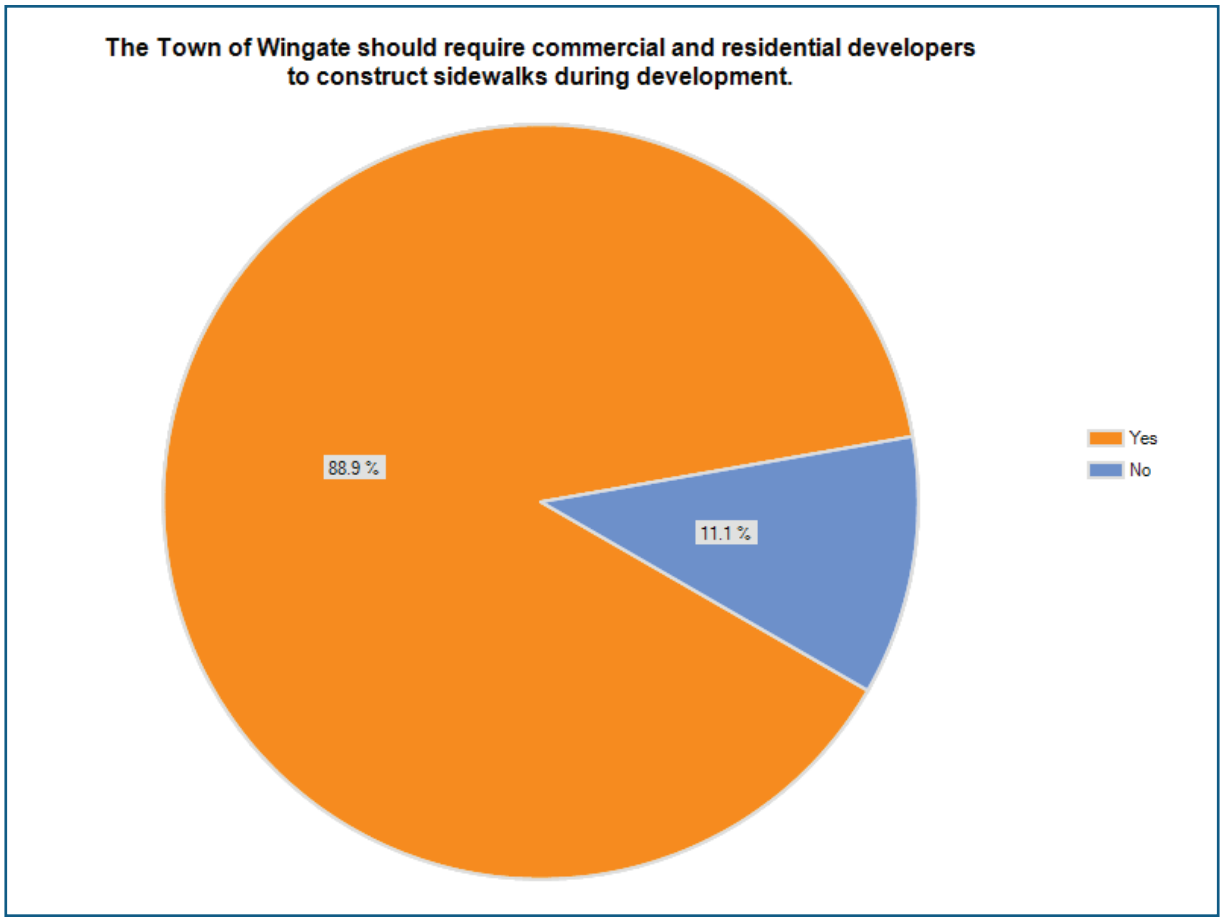
The survey results shown on the following pages have been tabulated by the Consultant to provide insight into local residents' opinions and values. Feedback received through the survey served as guide in the development of the recommendations included in this Plan.

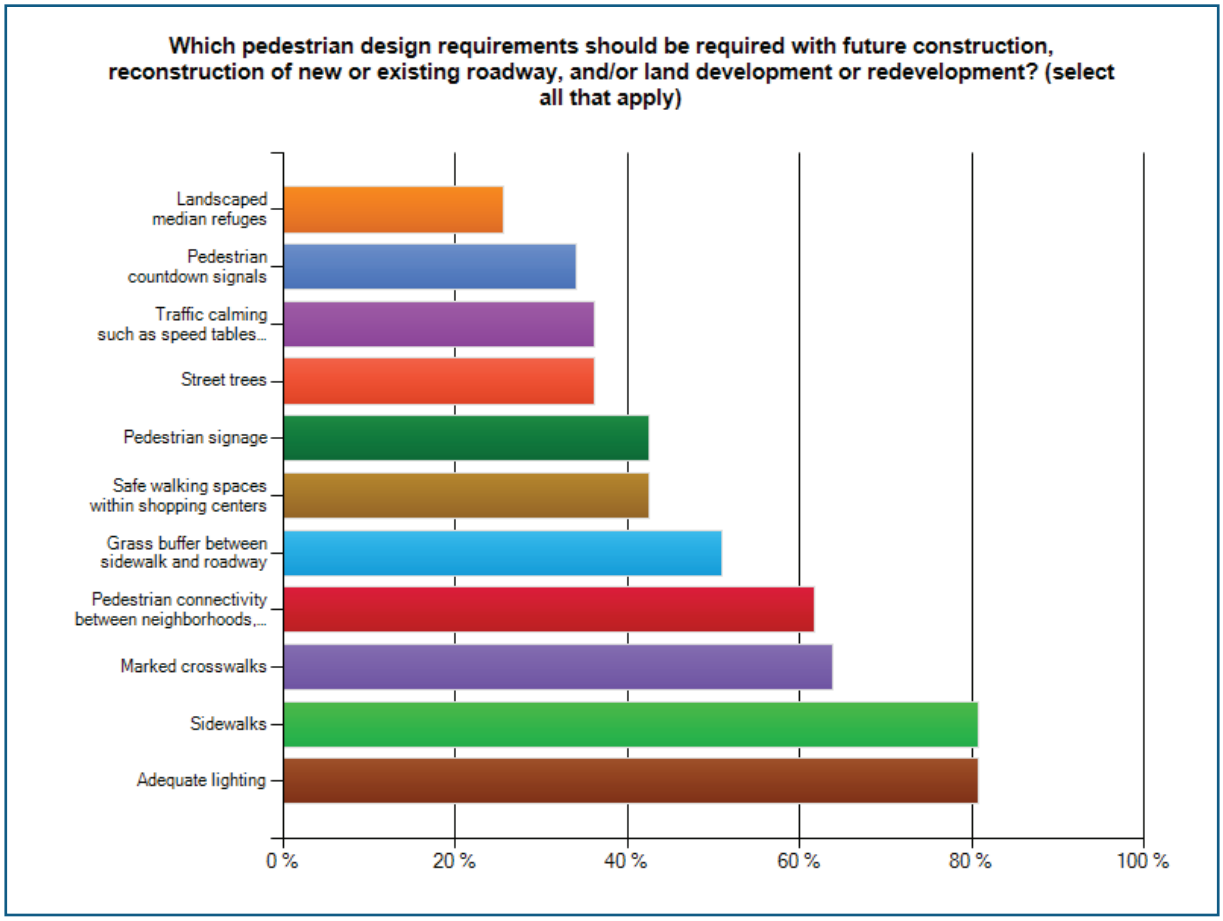


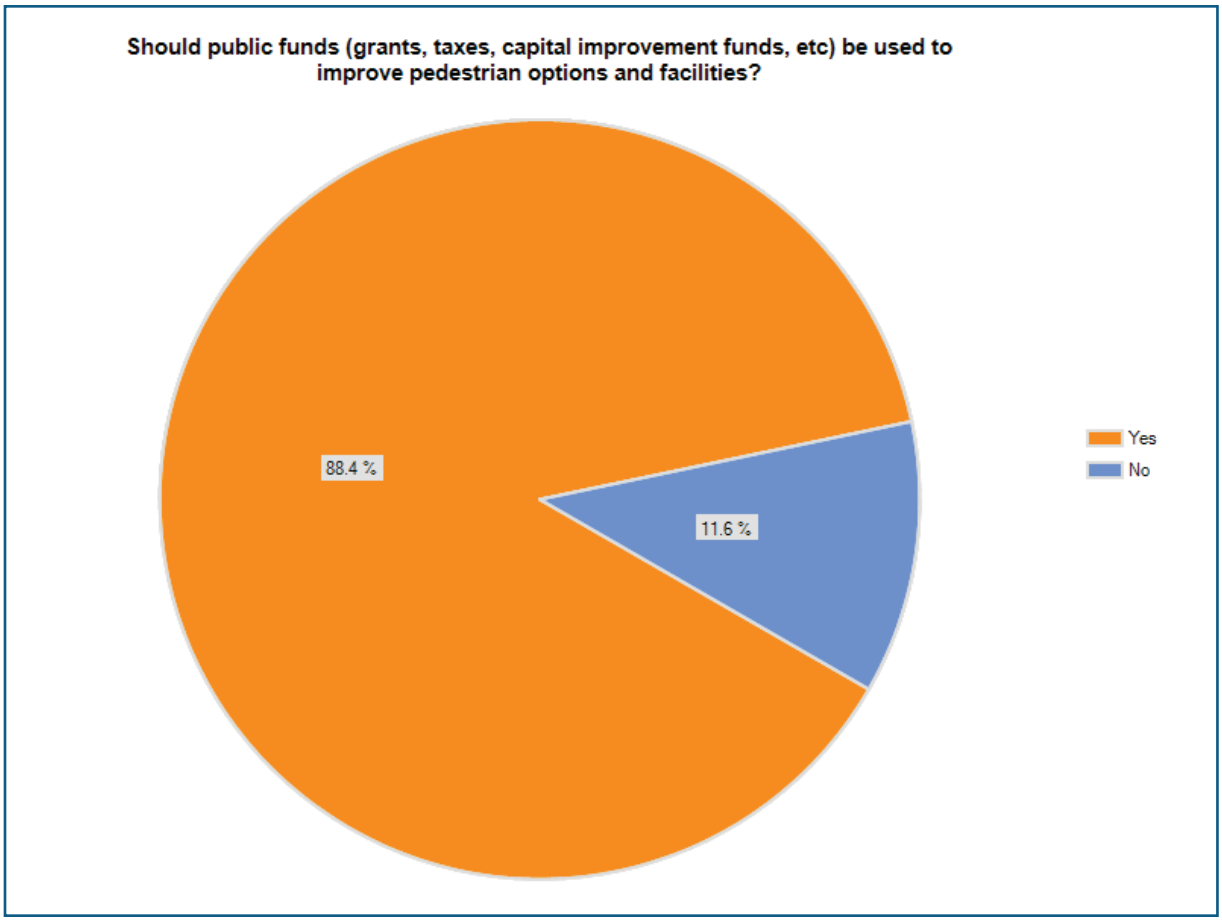


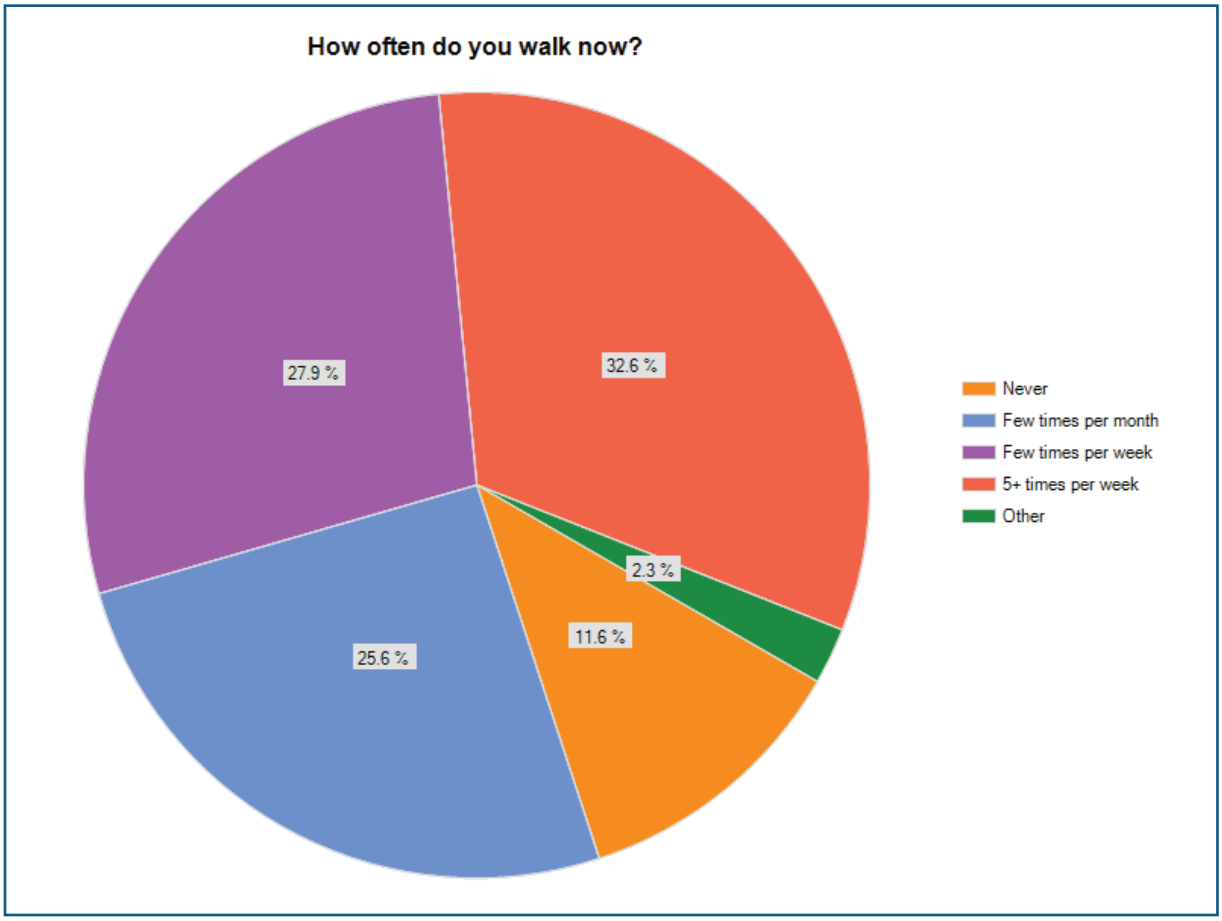

How important to you is improving walking conditions in Wingate?
10.9 %
17.4 %
71.7 %
Very Important
Important
Not Important

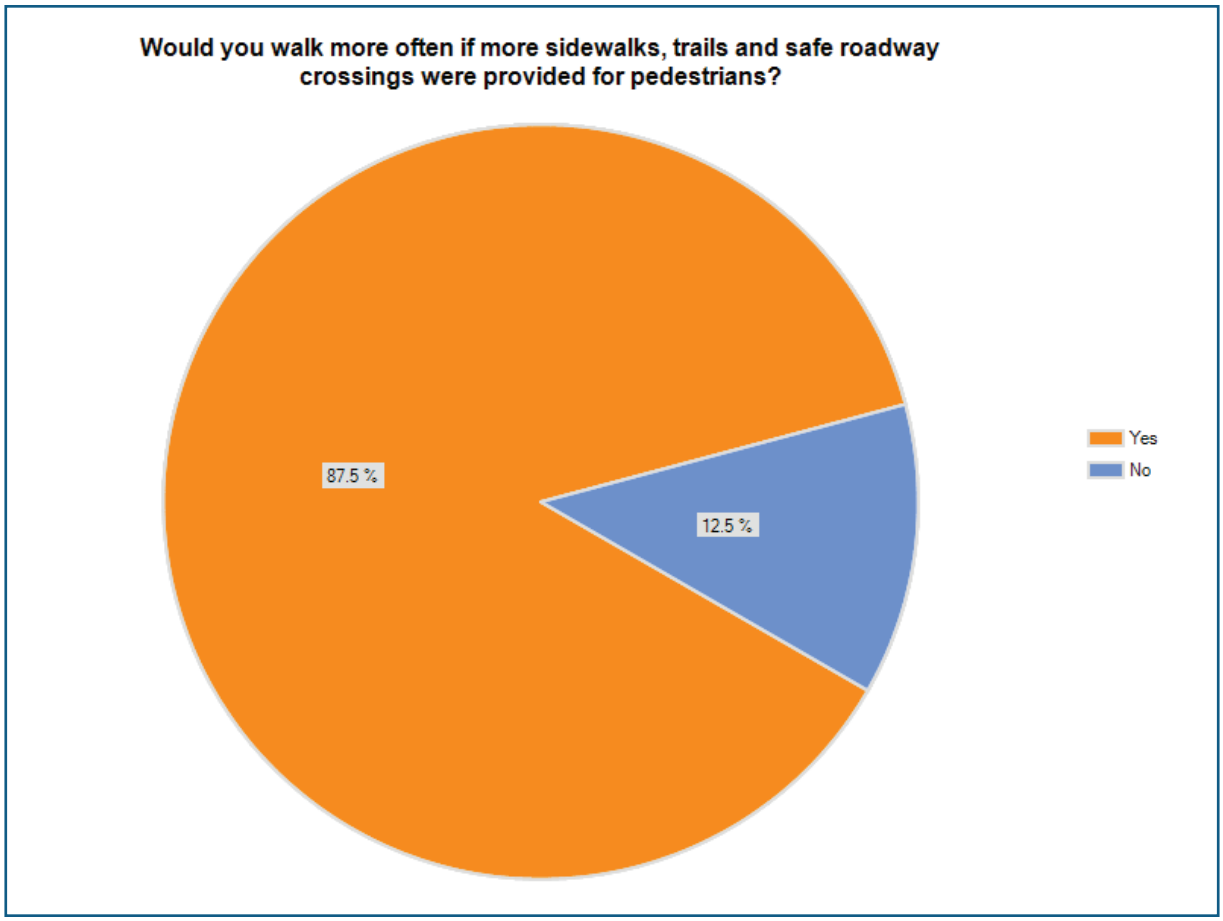

Please complete this sentence: "Wingate should be a community where...."
43.5 %
41.3 %
15.2 %
sidewalks are only provided on major roadways.
sidewalks are provided on neighborhood streets and main streets.
sidewalks are provided on all roadways within the Town Limits

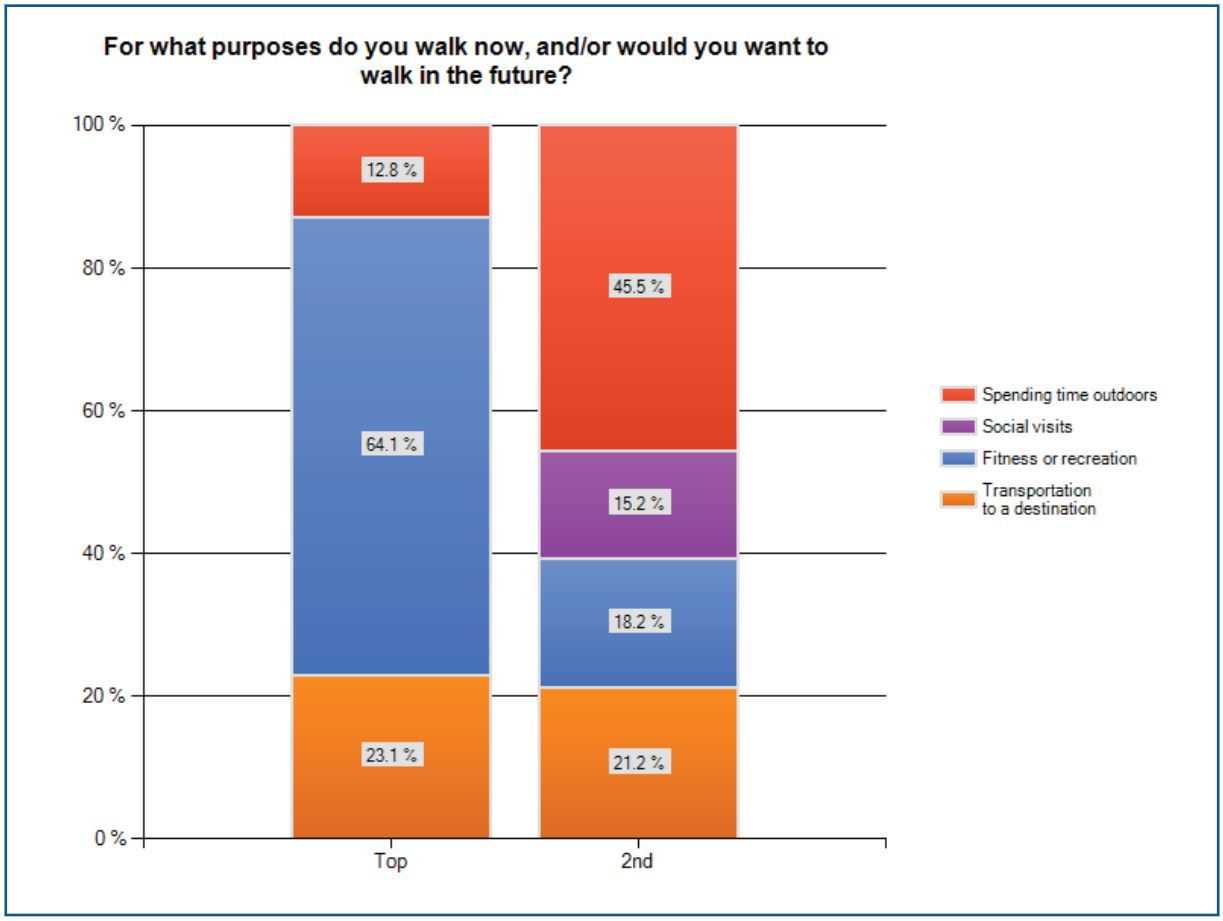

The Town of Wingate should require commercial and residential developers to construct sidewalks during development.
88.9 %
11.1 %
Yes
No

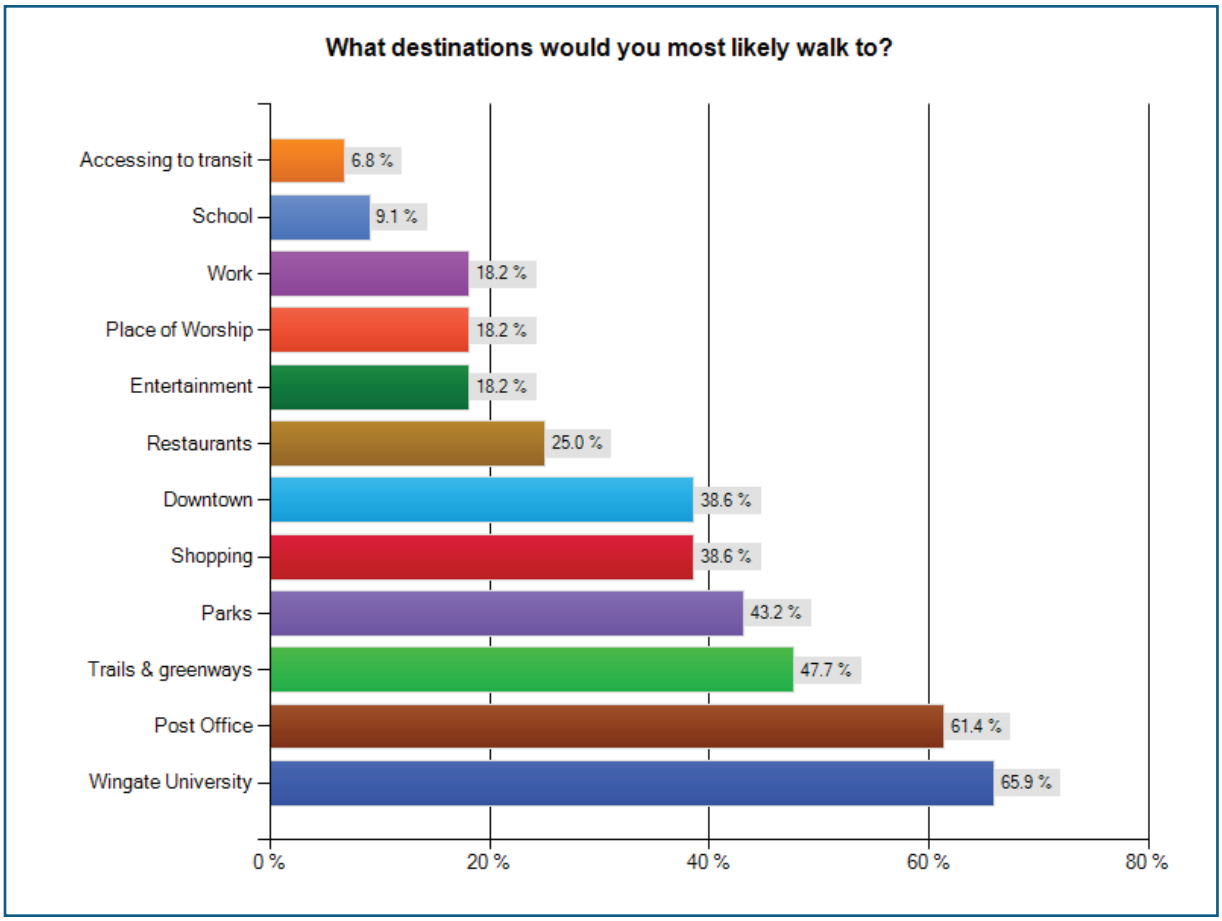

Which pedestrian design requirements should be required with future construction, reconstruction of new or existing roadway, and/or land development or redevelopment? (select all that apply)
Landscaped median refuges
Pedestrian countdown signals
Traffic calming such as speed tables...
Street trees
Pedestrian signage
Safe walking spaces within shopping centers
Grass buffer between sidewalk and roadway
Pedestrian connectivity between neighborhoods,...
Marked crosswalks
Sidewalks
Adequate lighting
0 %
20 %
40 %
60 %
80 %
100 %

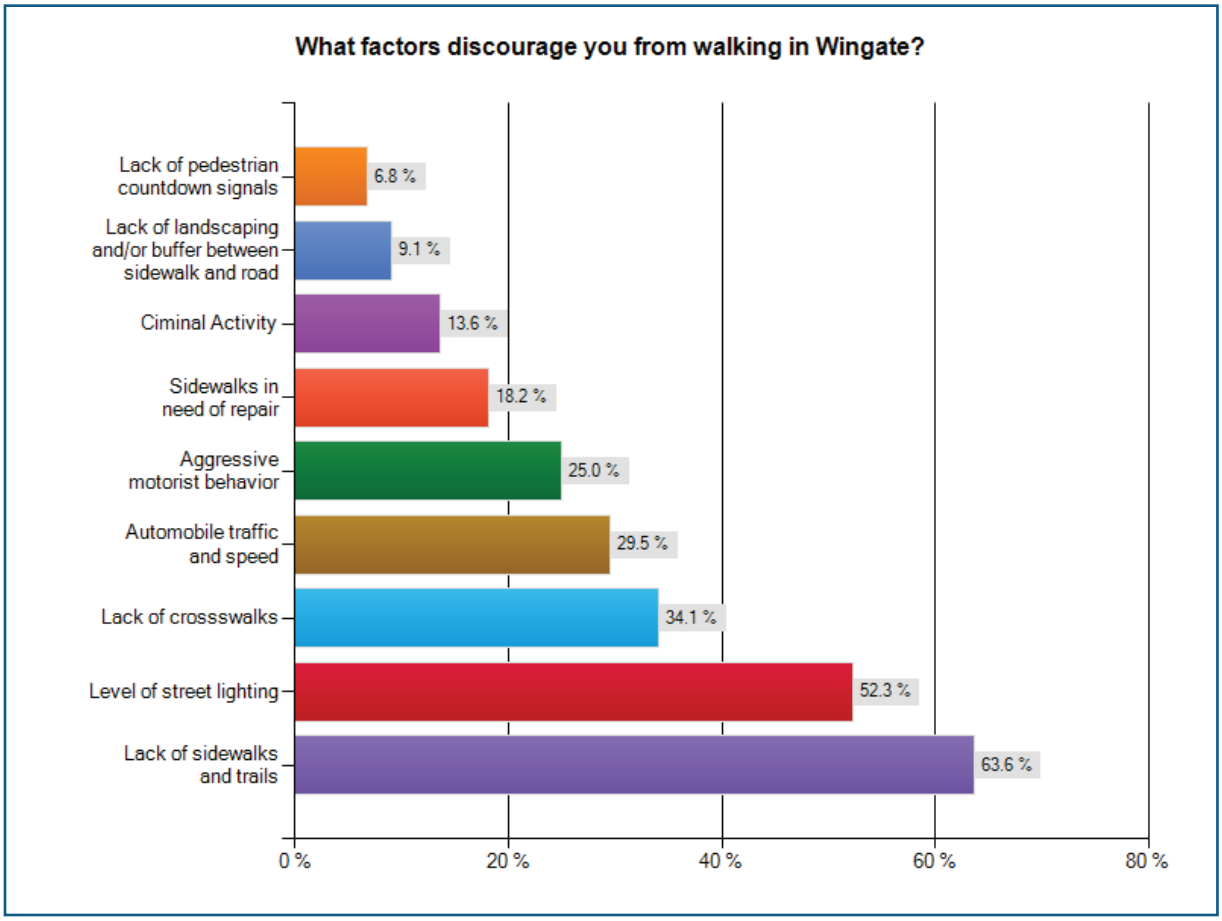

Should public funds (grants, taxes, capital improvement funds, etc) be used to improve pedestrian options and facilities?
88.4 %
11.6 %
Yes
No

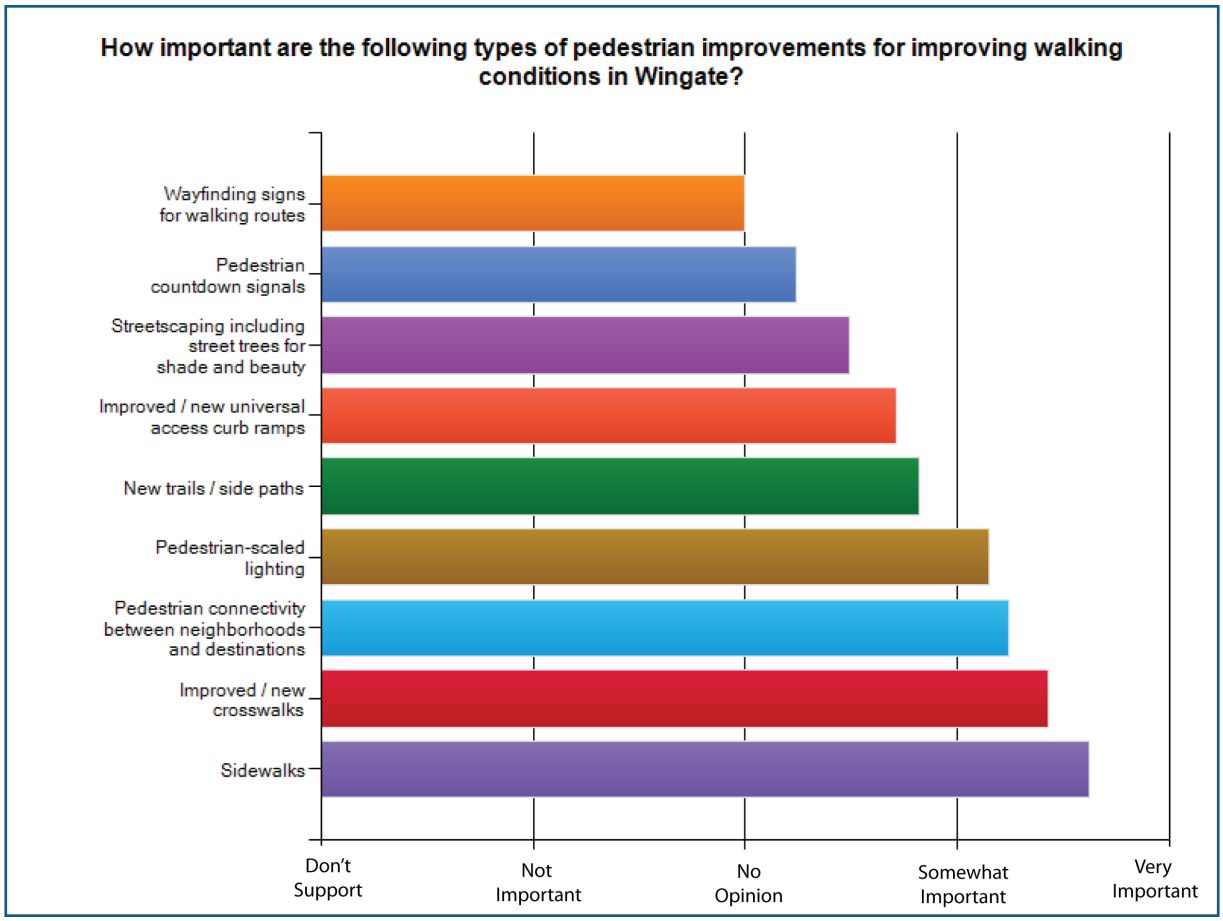

How often do you walk now?
27.9 %
32.6 %
2.3 %
11.6 %
25.6 %
Never
Few times per month
Few times per week
5+ times per week
Other

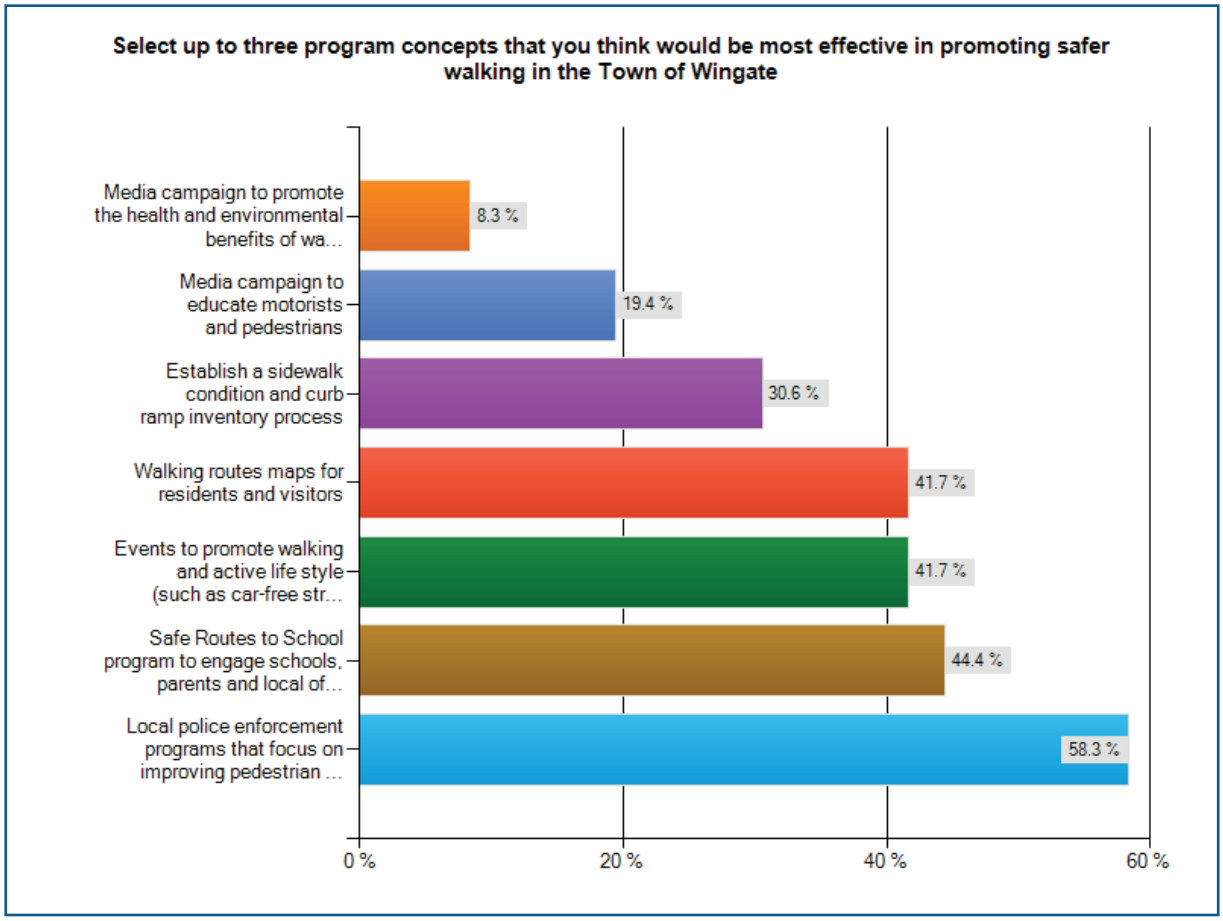

Would you walk more often if more sidewalks, trails and safe roadway crossings were provided for pedestrians?
87.5 %
12.5 %
Yes
No


For what purposes do you walk now, and/or would you want to walk in the future?
100 %
80 %
60 %
40 %
20 %
0 %
12.8 %
64.1 %
23.1 %
45.5 %
15.2 %
18.2 %
21.2 %
Top
2nd
Spending time outdoors
Social visits
Fitness or recreation
Transportation to a destination


What destinations would you most likely walk to?
Accessing to transit
6.8 %
School
9.1 %
Work
18.2 %
Place of Worship
18.2 %
Entertainment
18.2 %
Restaurants
25.0 %
Downtown
38.6 %
Shopping
38.6 %
Parks
43.2 %
Trails & greenways
47.7 %
Post Office
61.4 %
Wingate University
65.9 %
0 %
20 %
40 %
60 %
80 %


What factors discourage you from walking in Wingate?
Lack of pedestrian countdown signals
6.8 %
Lack of landscaping and/or buffer between sidewalk and road
9.1 %
Ciminal Activity
13.6 %
Sidewalks in need of repair
18.2 %
Aggressive motorist behavior
25.0 %
Automobile traffic and speed
29.5 %
Lack of crossswalks
34.1 %
Level of street lighting
52.3 %
Lack of sidewalks and trails
63.6 %
0 %
20 %
40 %
60 %
80 %


How important are the following types of pedestrian improvements for improving walking conditions in Wingate?
Wayfinding signs for walking routes
Pedestrian countdown signals
Streetscaping including street trees for shade and beauty
Improved / new universal access curb ramps
New trails / side paths
Pedestrian-scaled lighting
Pedestrian connectivity between neighborhoods and destinations
Improved / new crosswalks
Sidewalks
Don't Support
Not Important
No Opinion
Somewhat Important
Very Important


Select up to three program concepts that you think would be most effective in promoting safer walking in the Town of Wingate
Media campaign to promote the health and environmental benefits of wa...
8.3 %
Media campaign to educate motorists and pedestrians
19.4 %
Establish a sidewalk condition and curb ramp inventory process
30.6 %
Walking routes maps for residents and visitors
41.7 %
Events to promote walking and active life style (such as car-free str...
41.7 %
Safe Routes to School program to engage schools, parents and local of...
44.4 %
Local police enforcement programs that focus on improving pedestrian ...
58.3 %
0 %
20 %
40 %
60 %