

February 2014



TRENT WOODS COMPREHENSIVE PEDESTRIAN PLAN





“Trent Woods is the most beautiful small town in the world.”

-Steering Committee Member

Steering Committee Members

Rhonda Bernthal
Dr. John Duffy
Andrea Duffy
Stan Ezzell
Mac Flythe
Linda Froelich
Duffy Gibbs
Lisa Haidt
Mark Hartman
Chris Hoveland
Billy Joiner, Trent Woods Commissioner
Michelle Lee, Principal of Bangert Elementary
Tony Lee, Trent Woods Police Chief
Richard Leissner
Bob Mattocks
Melissa Rankin, Steering Committee Chair
Colleen Roberts
Wendy Stallings
John Taylor
Shane Turney, Mayor Pro Tem
Charles “Chuck” Tyson, Mayor of Trent Woods

**NCDOT Department of Bicycle and Pedestrian
Transportation**

Robert F. Mosher, ASLA, AICP

URS Corporation – North Carolina

Cindy Camacho, AICP, Project Manager
Adam Migliore Meyer, Deputy Project Manager
Mark Pierce, PE, Project Engineer

Plan Adoption

The Trent Woods Comprehensive Pedestrian Plan was
adopted by the Board of Commissioners on
February 6, 2014.



Acknowledgments

Thank you to the **Trent Woods Board of Commissioners** for making pedestrian safety and mobility a priority for the Town, the **Steering Committee** for guiding the development of the Pedestrian Plan, the **Trent Woods Police Department** for providing crash and count data, as well as to the **NCDOT Division of Bicycle and Pedestrian Transportation** for guidance and a planning grant.

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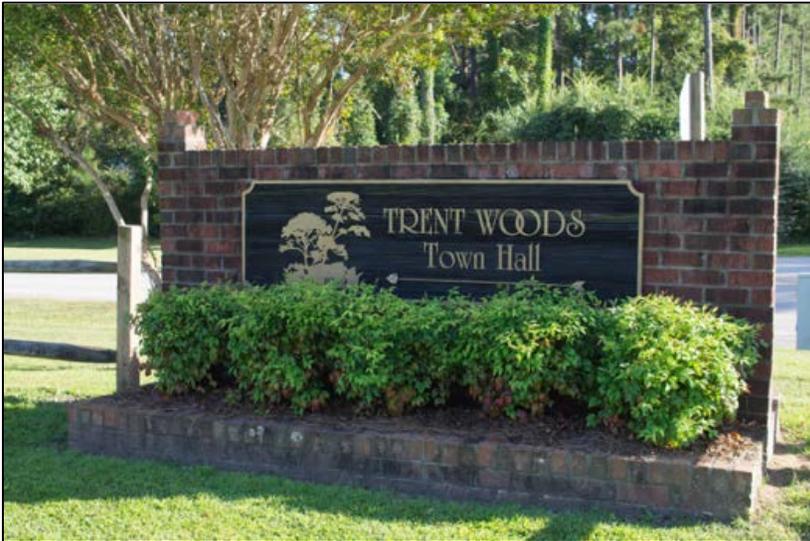
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1 | Executive Summary

1.1 Introduction



The Trent Woods Comprehensive Pedestrian Plan is a culmination of a multi-year planning process to improve pedestrian safety, encourage physical activity, and add pedestrian connectivity to destinations in the Town of Trent Woods and surrounding communities.

There is a strong sense of community and pride in the town of 4,000 people on the Trent River in Craven County, North Carolina (U.S. Census Bureau, 2010). The Town was incorporated in 1971 and is bordered by the City of New Bern on three sides and the river on the fourth. New Bern is the county seat and has a population of about 30,000 people (U.S. Census Bureau, 2010). Trent Woods is almost entirely

residential with single-family homes and a few small businesses. Bangert Elementary School is the only school in Town. There are several churches, a golf and country club, police and fire department.

Pedestrian safety is a high priority for Trent Woods, which currently does not have any sidewalks or paths within its municipal limits. It also lacks pedestrian connections to businesses and destinations in neighboring New Bern. Roads are narrow with little to no shoulders. It is a very active community with avid runners and cyclists as well as recreational walkers and students walking to and from school.

1.2 History of Planning Efforts

Recognizing that pedestrian safety and mobility is a key issue in Trent Woods, a group of residents led by Melissa Rankin initiated the Citizens for Sidewalks Committee (<http://citizens4sidewalks.com/>). In 2011, the Committee was formally recognized by the Town Board of Commissioners. This group secured a funding grant from the North Carolina Department of Transportation (NCDOT) Division of Bicycle and Pedestrian Transportation as well as matching funds from the Town for the development of a comprehensive pedestrian plan.

The Trent Woods Comprehensive Pedestrian Plan kicked off in April 2013 and was guided by a Steering Committee comprised of Town staff, elected officials, residents and local stakeholders. The Steering Committee was led by Melissa Rankin who had also started the Citizens for Sidewalks Committee. The development of the Plan

involved coordination with NCDOT Division 2 to ensure that recommended projects are consistent with NCDOT standards and policies.

1.3 Purpose of the Plan

The purpose of creating a Pedestrian Plan for Trent Woods is to develop a framework for improving pedestrian safety and connectivity through a two-pronged approach: **infrastructure**—linear facilities and spot improvements and **programs** such as Safe Routes to School. The Plan provides a comprehensive approach to recognizing pedestrian needs and opportunities, assessing improvements, prioritizing projects, and identifying implementation strategies with viable funding sources. The Plan also examines existing conditions, identifies community needs, potential design elements, and develops an implementation plan.

As a town that currently lacks any pedestrian infrastructure such as sidewalks or crosswalks, the Steering Committee and public envision Trent Woods as a community that is safe for residents of all ages to walk to school, exercise, and travel about the Town on foot. From Steering Committee meetings and public workshops, the Town’s suburban character, neighborhoods, and family-friendly community are also key aspects of the vision.

1.4 Goals and Objectives

This Plan seeks to meet the following goals and objectives that the Steering Committee identified:

- Encourage physical activity and wellbeing
- Promote partnerships with neighboring communities, businesses, and organizations
- Educate the community as to the benefits of pedestrian activity and applicable rules and regulations
- Enhance pedestrian safety particularly on roads with heavy vehicular and pedestrian traffic
- Improve the safety of students walking to and from school and of pedestrians walking throughout the Town
- Provide pedestrian connectivity to destinations within the community
- Connect new pedestrian facilities to neighboring systems to increase pedestrian connectivity
- All new transportation projects in the Town should include provisions for pedestrians
- Seek pedestrian funding, especially through the New Bern Area Metropolitan Planning Organization

Section 8 of the Plan describes how these goals will be measured as quantifiable objectives to help ensure that this Plan is effective in making Trent Woods a safe place to walk and exercise for residents of all ages.

1.5 Key Findings and Recommendations

According to input from the Steering Committee, the two public workshops, and comments received, the Plan confirmed that pedestrian safety and connectivity is very important to the community and that there is wide support for implementing infrastructure projects as well as policies, ordinances, and programs.

Infrastructure Projects

Linear Facilities

Sidewalks, wide-paved shoulders, off-road connections, and multi-use paths were evaluated for the Town. They are defined in Section 5. Multi-use paths were not recommended due to cost and right-of-way required, but may be considered in the future. Instead, a sidewalk/wide-paved shoulder hybrid option is recommended that would accommodate pedestrians and cyclists at a lower cost than multi-use paths. This option would also require less right-of-way.

A total of 18 sidewalk, wide-paved shoulder, sidewalk/wide-paved shoulder, and off-road connections are recommended in this Plan. The list of projects can be found in Table 6-1 and are mapped on Figure 6-2.

These projects were prioritized according to ten factors related to safety, activity, feasibility, and connectivity. They were grouped into three groups: high priority, medium priority, and low priority. The prioritized list of projects is shown in Table 6-3 and displayed on Figure 6-4.

Spot Improvements

In addition to linear facility projects, spot improvements are also recommended at intersections and crossings to improve safety. Recommendations include: improved signage, high visibility crosswalks, signalized crossings, and pedestrian refuges. These 17 projects were prioritized according to four criteria also related to: safety, activity, feasibility, and connectivity. Table 6-2 and Table 6-4 list the recommended spot improvements and priorities. Figure 6-3 and Figure 6-5 show the locations of these improvements.

Together, the 35 linear facility and spot improvement projects are estimated to cost approximately \$3.9 million.

Policies, Ordinances, and Programs

Critical to a successful pedestrian plan are policies, ordinances, and programs to complement infrastructure projects. Not only is pedestrian safety dependent upon sidewalks, paths, and crossings, it is also dependent upon reducing speed limits, enforcement of laws, ordinances to encourage pedestrian-friendly development, and education. Section 7 of this Plan makes several programmatic recommendations to improve safety and encourage physical activity. Whereas infrastructure projects can be expensive to construct, programs are comparatively inexpensive to implement and can provide a tremendous benefit to the community.

1.6 Implementation

The success of this Plan depends on its implementation. A **Bicycle and Pedestrian Advisory Committee** should be formed to continue in the efforts for improving pedestrian and bicycle safety and connectivity in Trent Woods. Bicycle planning is included due to its strong relationship to pedestrian planning.

This Committee would meet regularly and report to the Board of Commissioners. It could be comprised of members from the Comprehensive Plan Steering Committee as well as additional residents who reflect the demographics of Trent Woods in terms of age, race, and socioeconomic status.

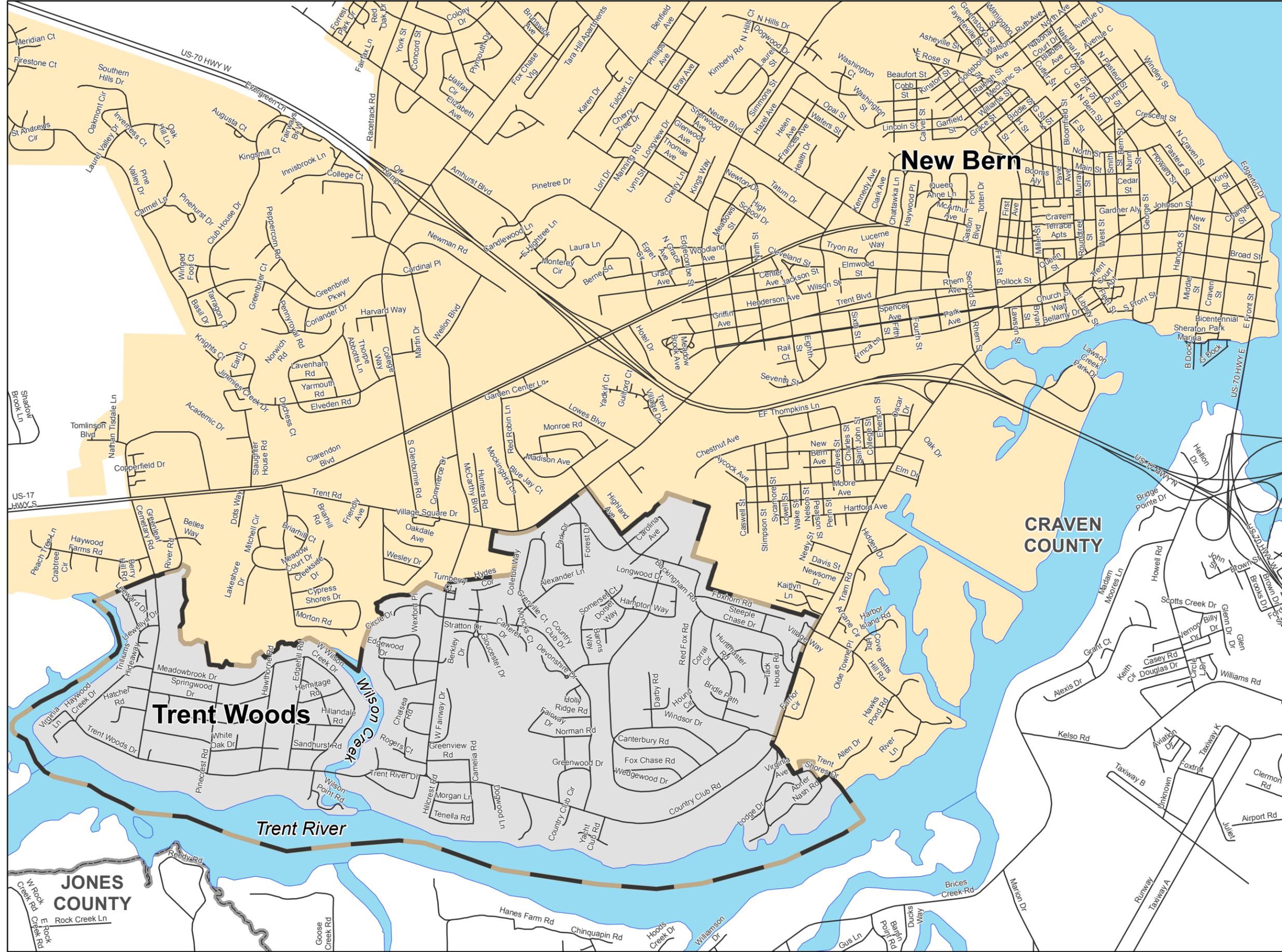
A primary responsibility of the committee would be to prepare an annual report provided to the Town Commissioners detailing the progress made on implementing the Plan as well as the committee's goals and objectives for the coming year. Performance and evaluation measures for assessing the progress of the Plan are discussed in Section 8.6.

The following steps are recommended in order to implement the Comprehensive Pedestrian Plan:

1. Adopt the Trent Woods Comprehensive Pedestrian Plan.
2. Establish a Bicycle and Pedestrian Advisory Committee.
3. Form partnerships with the City of New Bern, New Bern Area Metropolitan Planning Organization, schools, local businesses, and community organizations.
4. Implement the policies, ordinances, and programs outlined in Section 7 of this Plan.
5. Secure funding and construct infrastructure projects as discussed in Section 6 of this Plan.

TRENT WOODS PEDESTRIAN PLAN

**FIGURE 1-1
OVERVIEW MAP OF
TRENT WOODS
AND VICINITY**



- LEGEND**
- Town of Trent Woods
 - City of New Bern
 - Craven County

N

1 inch = 0.39 miles

0 750 1,500
Feet

0 0.25 0.5
Miles

Sources: Craven County, NCDOT, and URS
This map is intended as a planning document and information is subject to revisions.



February 2014

2 | Existing Conditions

2.1 Welcome to Trent Woods

The Town of Trent Woods is a quiet, tight-knit community of approximately 4,000 located outside of New Bern in Craven County, North Carolina (U.S. Census Bureau, 2010). The Town encompasses 3.4 square miles and is bordered by New Bern on three sides and by the Trent River on the fourth. Given that the Town is already developed and surrounded on all sides, population is not expected to grow significantly. New Bern is the county seat with a population of approximately 30,000 (U.S. Census Bureau, 2010).

The North Carolina General Assembly granted a charter to incorporate the Town in 1959. Trent Woods was formally incorporated in 1971. It is almost entirely residential with several churches and an elementary school. Neighborhoods are suburban in character with single-family homes. The average parcel size is 0.66 acres (Craven County GIS, 2013). All streets in the Town are two lanes with speed limits between 25 and 35 mph. There are currently no sidewalks or pedestrian paths within the Town. Among Trent Wood's most cherished assets are its suburban wooded neighborhoods, the Trent River, and preservation of natural areas.



Gateway into Trent Woods from Chelsea Road



Fountain at Greenleaf Cemetery on River Road

2.2 Community Features

As a residential and family-oriented town, Trent Woods has several community features that enrich the quality of life for residents. As characterized by the Steering Committee, these community features were identified as pedestrian origins and destinations.

There is one public school within the town limits: Albert H. Bangert Elementary School, which serves neighborhoods east of Chelsea Road. Many students walk to and from school. Just west of the town limits is Ben D. Quinn Elementary School, which serves students west of Chelsea Road. These two schools are part of the Craven County School System. Private schools that serve families in Trent Woods are located just outside town limits and include St. Paul Catholic School on Country Club Road and the Epiphany School of Global Studies on Trent Road. There are also several churches in the Town: Graber United Methodist Church, The Church of Jesus Christ of Latter-day Saints, Highland Park Christian Church, and the Grace Anglican Church. St. Paul's Catholic Church is located just east of the Town.



Albert H. Bangert Elementary School in Trent Woods



Ben D. Quinn Elementary School in New Bern

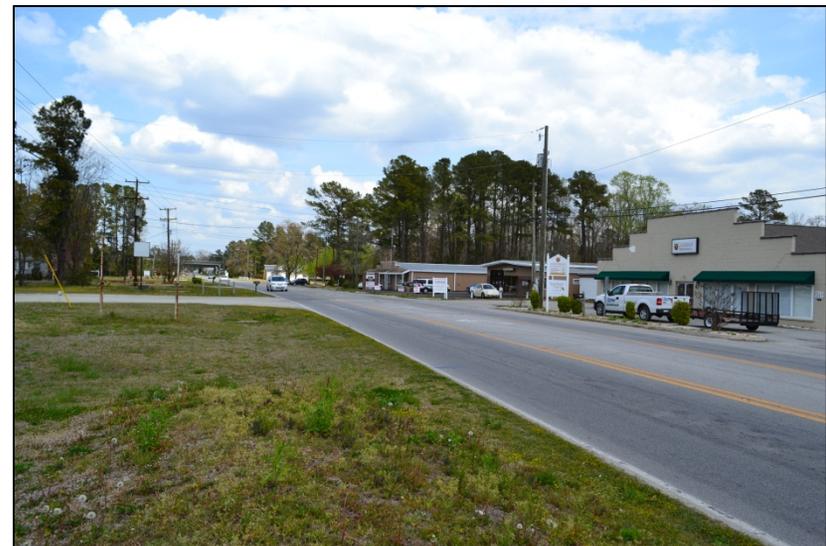


Meadows Family Park in Trent Woods

Trent Woods is a green community with tree-lined streets, water features, and a park. Meadows Park is an important community asset with a playground and pond located at Country Club Drive and Devonshire Drive, currently serving as the Town's only park. Meadows Park attracts citizens from all over the community and is also located close to Bangert Elementary School. Despite Meadows Park being the only official park in Town, there are other open spaces as well. Greenleaf Cemetery on River Road functions as a park, where citizens from both in and outside of Trent Woods walk the paved loop and enjoy the gazebo overlooking a pond. The cemetery is one of the only places to walk in the Town where pedestrians and vehicles are separated. An additional recreation spot is the boat launch on Wilson Creek located adjacent to the bridge on Trent Woods Drive.

Natural, private, spaces include the New Bern Golf & Country Club located in the heart of the Town and serves as a community asset. The golf course provides pedestrians with an unofficial shortcut between Chelsea Road and Country Club Road. The Eastern Carolina Yacht Club is on the Trent River just south of the golf course.

Given that Trent Woods is nearly all residential, there are minimal commercial uses outside of a few small offices within the Town. Just outside of the Town on Trent Road there is a movie theater, bike shop, and restaurants. Few residents reported walking to these destinations as roads leading out of Trent Woods are busy and lack pedestrian accommodations.

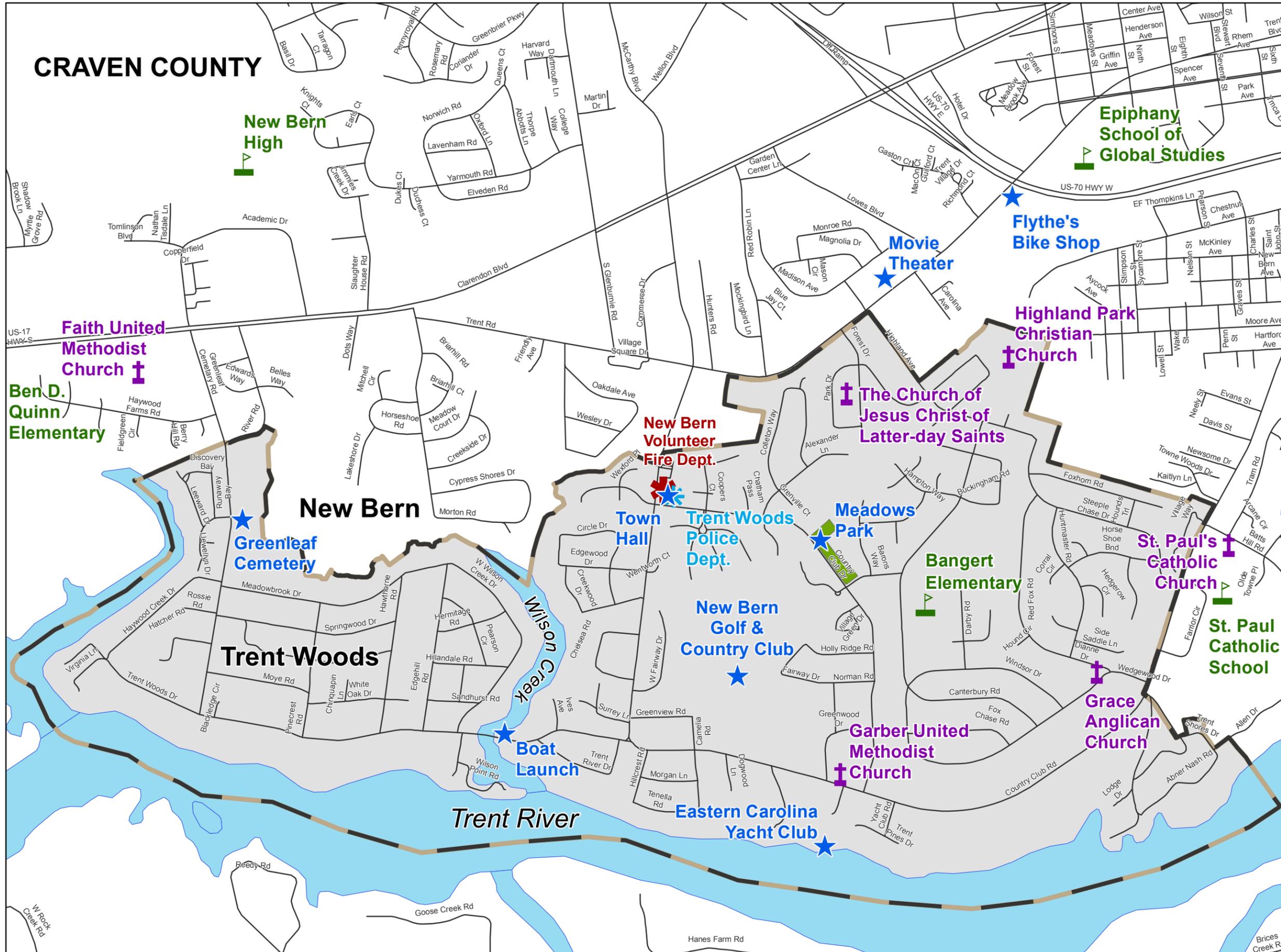


Commercial uses on Trent Road outside of Trent Woods

CRAVEN COUNTY

TRENT WOODS PEDESTRIAN PLAN

**FIGURE 2-1
COMMUNITY FEATURES**



LEGEND

- Municipal Boundary
- Destination
- Church
- Fire Station
- Park
- Police Station
- School

N

1 inch = 1,400 feet

0 700 1,400 Feet

0 0.25 0.5 Miles

Sources: Craven County, NCDOT, and URS
 This map is intended as a planning document and information is subject to revisions.



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2.3 Infrastructure

Road Network

The road network of Trent Woods reflects its suburban character. Roads are two lanes with 10 to 12 foot travel lanes and 1 to 2 foot paved shoulders. They do not have curb and gutter sections. Currently no roads in the Town have pedestrian accommodations such as wide-paved shoulders, sidewalks, or multi-use paths. Right-of-ways range from 30 feet at the Wilson Creek Bridge to 60 feet on Chelsea and Country Club roads. Most right-of-ways are between 50 and 60 feet. Outside of the town limits, Trent Road and portions of Country Club Road have 100 foot right-of-ways. All roads have either 25 or 35 mph speed limits. Out of the 118 road segments in Trent Woods, 19 are private, 31 are maintained by the State and 68 are maintained by the Town (Trent Woods Street List, 2011). Appendix E lists the roads with their speed limits and ownership.

The network itself is typical of suburban communities. Roads are curvilinear and many neighborhood streets end in cul-de-sacs. There are several main arteries that provide connections within Trent Woods and from the Town into neighboring New Bern to the north and east. Country Club Road is a gateway into Trent Woods from the northeast. It connects Trent Woods to New Bern and provides access to US 17 (Clarendon Boulevard) and US 70. These two main highways border the Town to the north and provide east-west connectivity, serving as principal routes into New Bern. Chelsea Road is the Town's main north-south road. It connects the Town to New Bern in the north and provides

access to commercial uses along Trent Road. An important internal artery of the Town is Country Club Drive. This road runs between Chelsea Road and Country Club Road. Trent Woods Drive continues from Country Club Road where it intersects with Chelsea Road. Trent Woods Drive runs east-west and is the single connector between the portions of Town east and west of Wilson Creek. The last major artery is River Road located in the western portion of the Town. It is similar to Chelsea Road in that it is a main north-south route linking the Town to New Bern. Figure 2-1 shows these main roads as well as the community features located along them.



Typical road in Trent Woods with narrow shoulders

Drainage

As a coastal community, drainage is critical for Trent Woods. At 13 feet above sea level, the Town must have adequate drainage to avoid flooding. Roads within Trent Woods do not have curb and gutters. Instead, grassy drainage swales flanking the sides of roads handle runoff from impervious surfaces. There are several water bodies that accommodate this runoff: Wilson Creek, the pond at Meadows Park, and wetlands throughout the Town. These water bodies drain to the Trent River, which joins the Neuse River in New Bern. Adding pedestrian facilities such as sidewalks or multi-use paths will increase impervious surfaces so drainage and runoff should be considered.



View of the Trent River from Trent Woods

Public Transportation

Public transportation depends on a pedestrian network in order for transit riders to safely access bus or rail stops. Furthermore, a pedestrian network links transit stops to community destinations, residences, and businesses. In Trent Woods, the Craven County School System provides school bus transportation to students, which is a form of transit. In addition to the school system, the County operates the Craven Area Rural Transit System (CARTS). It consists of scheduled routes and demand/response service for the elderly and persons with disabilities. There is currently no scheduled route service located within or near Trent Woods. However, transit service in or near the Town may be considered in the future and a pedestrian network would be essential to its success.

2.4 Demographics

A demographic analysis of Trent Woods was completed to provide an overview of the community residing in Trent Woods, and paints a picture of the people, community, and the pedestrian issues and needs. This analysis looked at population growth, age, race, income, access to vehicles, and commuting modes. This analysis was based on data provided by the 2000 and 2010 Decennial Census as well as the American Community Survey 2007-2011 estimates.

Population

While Craven County's population increased 13.2% between the 2000 and 2010 Decennial Census, the population of Trent Woods stayed about the same: 4,192 residents in 2000 and 4,155 in 2010. This trend speaks to how the Town is already developed with little potential for further development. Development trends are discussed in Section 2.5.

Age

According to the 2010 Decennial Census, the median age in Trent Woods is 50 years old. Approximately 20.6% of the population is under 18 years old, 44.3% between 35 and 64 years old, and 24.1% are 65 or older. In comparison, the median age in Craven County is 36 and the age distribution is as follows: 23.4% under 18 years old, 36.2% between 35 and 64 years old, and 15.3% are 65 or older. The Trent Woods population is older on average than the Craven County population.

Race

Trent Woods is predominately white (98.3%) and African-Americans and Native Hawaiian or Other Pacific Islanders make up the remaining 1.7% of the population. This differs from Craven County where 70.0% is white, 22.3% African American, and 7.7% Other races.

Income

The median income in Trent Woods is \$40,440 and in Craven County \$23,965. Less than 1% of the Trent Woods population lives below the poverty level, as defined by the U.S. Census Bureau, while 16.2% live below the poverty level in Craven County.

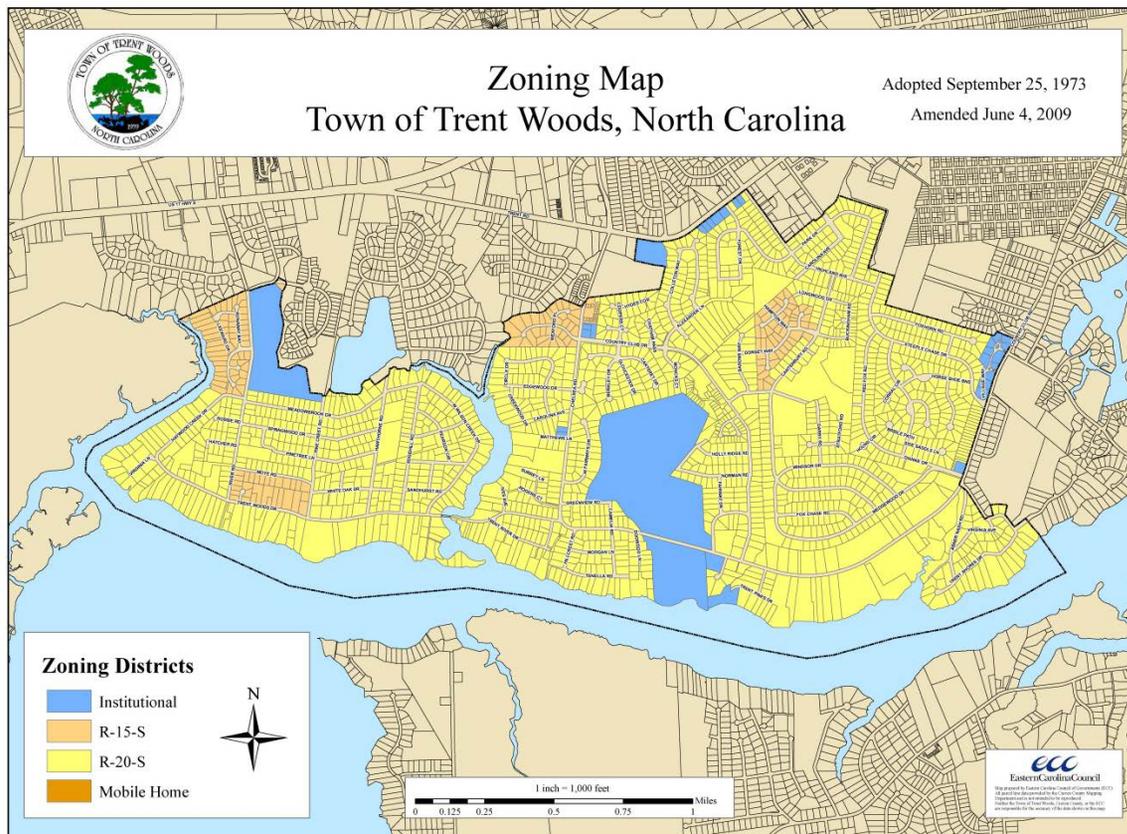
Vehicle Access and Commuting Modes

The American Community Survey (ACS) estimated that of the 1,742 households within Trent Woods, 55 (3%) were without access to a vehicle. According to the 2007-2011 ACS Data, no one in Trent Woods commuted to work by walking or biking. This analysis is consistent with interviews with residents who reported that they primarily walk for the purposes of exercise within the community, not transportation. However, this statistic does not include students who walk to and from school. As detailed in Section 3, many students do walk to and from Bangert and Ben Quinn elementary schools.

2.5 Development Trends

Parcels within the town limits are zoned as either office and institutional or residential (Figure 2-2). Residential zoning allows for either one dwelling on a minimum 15,000 square foot lot (R-15S) or one dwelling on a minimum 20,000 square foot lot (R-20S). Current office and institutional uses include professional and medical offices and the New Bern Golf and Country Club. Trent Woods is nearly all developed with few remaining vacant parcels. Development activity is minimal, where most activity is residential or is focused on rezoning activities. For example, a parcel zoned for a mobile home was rezoned for office and institutional use in 2009.

Figure 2-2. Zoning Map for Trent Woods



2.6 Traffic Counts and Crash Data

Pedestrian and Bicycle Traffic Counts

Two pedestrian and bicyclist traffic counts were conducted by the Trent Woods Police Department on various roads and times of day on April 17 and 27, 2013. In total, 101 pedestrians and 32 bicyclists were counted (Trent Woods Counts, 2013). Pedestrian activity was present throughout the Town; however specific streets were found to have more activity than others. Although this is a pedestrian plan, bicyclist counts are included as they may suggest where wide-paved shoulders in addition to sidewalks would be appropriate. The following table (Table 2-1) lists the counts for the five streets with the greatest pedestrian activity. The complete pedestrian and bicyclist counts are included in Appendix E.

Table 2-1. Pedestrian and Bicyclist Counts for the Top 5 Streets

STREET	PEDESTRIANS	BICYCLISTS	TOTAL
Country Club Rd.	8	12	20
Trent Woods Dr.	11	8	19
Country Club Dr.	13	1	14
Canterbury Rd.	12	2	14
Chelsea Rd.	11	2	13



Pedestrians on Canterbury Road in Trent Woods

Vehicular Traffic Counts

The NCDOT prepares Annual Average Daily Traffic (AADT) maps for state roads. As discussed in Section 2.3 most roads are maintained by the Town and therefore AADT data is not available. However, some of Trent Woods’ main roads are state-owned and AADT data confirms heavy traffic on them as reported by the community at Steering Committee meetings and public workshops. In 2012, there was an average of 4,100 vehicles per day on Country Club Road north of the intersection with Wedgewood Drive. In comparison there were 380 vehicles per day on Red Fox Road, which unlike Country Club, is a minor residential street (NCDOT AADT, 2012). Table 2-2 lists the available AADT counts in Trent Woods.

Table 2-2. Annual Average Daily Traffic (AADT) counts on Trent Woods streets

STREET	LOCATION	AADT (2012)
Country Club Rd.	North of Wedgewood Dr. intersection	4,100
Country Club Rd.	Near intersection with Chelsea Dr.	3,200
Wedgewood Dr.	Near the intersection with Country Club Rd.	1,100
Red Fox Rd.	Near the intersection with Steeplechase Dr.	380
Edgehill Rd.	Near the intersection with Trent Woods Dr.	340

Crashes

NCDOT Pedestrian and Bicycle Crash Tool (PBCAT)

According to the North Carolina Pedestrian and Bicycle Crash Tool in Trent Woods there have been a total of 6 crashes involving pedestrians between 1997 and 2010 (PBCAT, 2013). These crashes have occurred at speeds between 0 and 35 mph and have involved pedestrians and motorists of all ages. See Appendix E for additional information.

Trent Woods Traffic Statistics

The Trent Woods Police Department has maintained traffic statistics since 2000 to better understand pedestrian safety. Between 2000 and 2013 there have been 195 crashes, but just one *reported* crash involving a pedestrian and motor vehicle (Trent Woods Traffic Statistics, 2013). There have been four reported crashes involving bicyclists and motor vehicles. Fortunately there have not been any pedestrian or bicycle-related fatalities. Although the number of crashes has been low, pedestrian safety is still a concern for the community as Trent Woods currently does not have sidewalks or pedestrian/bicycle paths. Citizens currently walk on roads with limited or no shoulders and poor visibility. The potential for accidents involving pedestrians remains high as reflected in workshop comments and interviews with the police chief.

Many of the vehicular crashes have occurred on the Town’s roads with the greatest pedestrian activity. They are listed in Table 2-3. On Country Club Road there have been 21 crashes, on Chelsea Road 15 crashes, and on Country Club

Drive 10 crashes. These three roads form a loop that is used by pedestrians for exercise and one that connects many of the Town’s destinations such as Town Hall, Meadows Park, and the New Bern Golf and Country Club. There have also been 13 crashes on Trent Woods Drive, which is the only connection between the portions of Town east and west of Wilson Creek. Trent Woods Drive has few shoulders and poor visibility due to sun glare from the east-west orientation. Four crashes have been on Canterbury Road, the road where Bangert Elementary School is located. Many students walk to and from school using Canterbury Road. Two crashes occurred on Highland Avenue.

As the community reported at public workshops (Section 3), speeding is a concern for pedestrian safety in the Town. Out of the nearly 6,000 traffic citations issued about 2,000 have been for speeding, which is the largest share of any citation type. The second largest share was stop sign violations.

Table 2-3. Vehicular Crashes in Trent Woods

STREET	NUMBER OF CRASHES
Country Club Rd.	21
Chelsea Rd.	15
Trent Woods Dr.	13
Country Club Dr.	10
Canterbury Rd.	4
Highland Ave.	2

3 | Public Input and Data Collection

3.1 Steering Committee



Steering Committee pictured in Trent Woods Hall at a committee meeting

The pedestrian planning effort was led by a Steering Committee appointed by the Mayor and Board by Commissioners. The Steering Committee guided the Plan by identifying goals and objectives; identifying pedestrian constraints and opportunities; and prioritizing proposed projects. Members also facilitated the First Public Workshop whose purpose was to solicit feedback and ideas from the entire community.

The committee met four times throughout the duration of the project:

- April 8, 2013
- May 14, 2013
- August 22, 2013
- January 13, 2014

The committee members, agendas, and meeting minutes are included in Appendix A: Public Involvement.

3.2 Public Workshops

Public involvement was essential for crafting a plan that would reflect the true pedestrian needs of the community and work to address them. To that end, the public was asked for input on critical steps of the Plan from data collection to prioritizing recommended pedestrian projects. Citizens had several opportunities to provide their input and comments. Two public workshops were held during the project.

The First Public Workshop

was on June 20, 2013 at Bangert Elementary School during the data collection phase of the planning effort. Approximately 50 people attended and engaged in an exercise to identify: community assets, pedestrian activity, constraints, and opportunities. The public's input and comments are detailed in Section 3.3 and formed the basis for recommended projects (See Section 6: Proposed Projects).





The **Second Public Workshop** was held on September 26, 2013 at Bangert Elementary School. Its purpose was to present the recommended and prioritized projects to the community and solicit feedback. These projects are

listed in Section 6. Approximately 25 citizens attended the workshop where they had the opportunity to view the projects and priorities and comment on them. The projects and priorities were received well with minimal comments. A couple residents were concerned about the cost of implementing the projects and resulting impact on the Town's budget. Of the comments received, most were supportive of the project and reinforced the need to improve pedestrian safety and at key places such as the Wilson Creek Bridge and Country Club Road. There were several suggestions to tweak the prioritized projects and spot improvements, which were revised in response to these comments.

In addition to the public workshops, citizens also received information and provided input through the Town's website (www.trentwoodsnc.org). A webpage dedicated to the Pedestrian Plan was created that included a background of the project, workshop announcements, and materials from the workshops. Citizens unable to attend the meetings were able to stay informed through this webpage. Online surveys gave citizens the opportunity to provide input and comments without having to attend in person. The survey reflected the exercises conducted the workshops.



Steering Committee Chair Melissa Rankin facilitating a group exercise at the First Public Workshop



Mayor Pro Tem Shane Turney kicking off the Second Public Workshop

3.3 Data Collection from Steering Committee and Public Input

During the data collection phase of the project, the Steering Committee and public were asked to engage in a four-part exercise that identified: community assets, pedestrian activity, constraints, and opportunities. Working in small groups at the First Public Workshop, participants were asked to draw and write on plotted maps of Trent Woods that showed existing community assets, roads, and natural features. Each group had a facilitator and recorder to guide the process. The Steering Committee conducted the exercise at their first meeting on April 8, 2013. The public participated in the same exercise at the First Public Workshop on June 20, 2013. The public could also comment on pedestrian issues and needs via an online comment form posted on the Town's website or by directly contacting members of the Steering Committee or project consultants.

The information gathered from the exercise, comment form, and direct communication is essential in understanding pedestrian needs and issues as well as the recommendations to address them. The findings are summarized below. See Appendix A: Public Involvement for a more detailed explanation on the public involvement efforts and a full list of findings.

Pedestrian Activity

Trent Woods is a very active community. Many citizens walk, run, and bike on roads within the Town according to information gleaned at public meetings and through direct observation. From public meetings and surveys, the primary reason for pedestrian activity is exercise. There are several active running and walking groups in Town. In addition to exercise, another generator for pedestrian activity is students walking to and from school. The principal of Bangert Elementary School estimated that 30% of students walk or ride their bike to school (Appendix A). Walking as a means of transportation is uncommon given that Trent Woods has very few retail and work destinations and lacks pedestrian connections to New Bern. It is important to note that although there are specific destinations and roads that are more frequently used by pedestrians, pedestrian activity occurs throughout all of Trent Woods.



Crosswalk in front of Bangert Elementary School on Canterbury Road

The Steering Committee and public identified specific places and routes that are most popular for pedestrians. The Greenleaf Cemetery on River Road is a popular destination not only for pedestrians living in Trent Woods, but for people outside of the Town. The cemetery seems to function as a park as well. Visitors walk the paved loop in the cemetery and enjoy the pond and gazebo. It is one of the only places in Town where pedestrians can walk without vehicular traffic.

Similarly, pedestrians walk on the golf cart path at the New Bern Golf and Country Club, particularly as a shortcut between Chelsea Road and Country Club Road. However, this can lead to conflicts between pedestrians and golf carts. Other important pedestrian destinations include: Bangert Elementary School, Ben Quinn Elementary School (in New Bern), Garber United Methodist Church, Meadows Park, St. Pauls Catholic Church (in New Bern), and Town Hall.



Greenleaf Cemetery in Trent Woods



Golf cart path crossing Country Club Road at the New Bern Golf and Country Club is also used by pedestrians

In addition to pedestrian destinations, there are several roads in the Town with heavy pedestrian activity. They include Chelsea Road, Canterbury Road, Country Club Drive, Country Club Road, River Road, and Trent Woods Drive. These roads form loops that are popular for pedestrians, especially the loop formed by Chelsea Road, Country Club Drive, and Country Club Road in the center of Town. This loop is approximately 2.7 miles and is popular among walkers and runners. It is also the route of the Town's Christmas parade. Several community assets are located on or near this loop: Bangert Elementary School, Meadows Park, New Bern Golf and Country Club, Town Hall, Police and Fire Departments, and the Eastern Carolina Yacht Club. Another loop consists of Canterbury Road, Steeplechase Drive, Highland Avenue, and Wedgewood Drive. This loop is also located near Bangert Elementary School. The third identified loop is located west of Wilson Creek and is

formed by River Road, Haywood Creek Drive, Meadowbrook Drive, West Wilson Creek Drive and Trent Woods Drive.

Constraints: Pedestrian Needs and Issues

Currently there are no sidewalks or pedestrian paths within the town limits, which is a formidable constraint for pedestrians that use roads with little or no shoulders. Many of the roads mentioned above that are frequently used by pedestrians were also identified as constraints because of the lack of sidewalks, shoulders, and crosswalks. The following roads were identified as problematic:

- Canterbury Road in front of Bangert Elementary School
- Country Club Drive
- Country Club Road
- Devonshire Drive
- Highland Avenue
- River Road
- Trent Road (in New Bern)

Several intersections were also found to be constraints due to poor visibility, heavy traffic, and lack of accommodation for pedestrian crossings:

- Chelsea Road & Country Club Road
- Chelsea Road & Trent Road
- Devonshire Drive & Canterbury Road
- Highland Avenue & Steeplechase Drive
- River Road & Haywood Creek Drive
- River Road & Trent Woods Drive
- Trent Woods Drive & Ives Avenue
- Wedgewood Drive & Dianne Drive
- Wedgewood Drive & Country Club Road



Intersection of Highland Avenue and Steeplechase Drive

The one bridge in Trent Woods, Trent Woods Drive over Wilson Creek, is a constraint due to how narrow it is and heavy vehicular traffic. It is 24 feet wide and does not have sidewalks (NCDOT Bridge Report, 2013). Wilson Creek divides Trent Woods into an eastern and western portion. The Wilson Creek Bridge is the only connection between the two sides. Therefore a citizen living west of the creek must use this bridge if s/he wants to walk or bike to Town Hall, Meadows Park, or the New Bern Golf and Country Club.



Cyclist heading east on Wilson Creek Bridge. The bridge serves as the only connection between Trent Woods, east of the creek and west of the creek.

Constraints also included lack of education for motorists and pedestrians, streetlights, and signage. Pedestrian safety is also related to the time of day. Visibility in the mornings and evening can be poor because of the rising and setting sun. This is especially true for roads oriented east-west such as

Country Club Road and Trent Woods Drive. Morning and afternoon rush hours, particularly around the elementary schools, also make it less safe for pedestrians.

Opportunities

Despite the pedestrian challenges facing Trent Woods, there are a number of opportunities identified by the Steering Committee and public that may address these issues. Opportunities include infrastructure improvements such as adding pedestrian facilities, particularly as these do not currently exist. It is important to consider other types of opportunities in addition to infrastructure. These opportunities include education campaigns to: encourage motorists to be mindful of pedestrians and students and remind pedestrians of applicable traffic laws. The Trent Woods Police Department has been active in education campaigns by reminding pedestrians to walk opposing traffic and reminding motorists to slow down. Signage and lighting could also be added to make the Town safer. Recommended policies and programs are explained in Section 7.

Specific infrastructure improvements cited at Steering Committee meetings, the public workshop, and in comments include:

- Connection to Ben Quinn Elementary from Haywood Farms Road
- Pedestrian improvements on Trent Road to provide connection to businesses, Epiphany School of Global Studies, and YMCA in New Bern from Trent Woods

- Pedestrian improvements on River Road to address busy intersections and connection to New Bern
- Sidewalk or multi-use path along Country Club Road to connect with New Bern
- Sidewalk connections to Bangert Elementary School on Canterbury Road
- Sidewalk or multi-use path on the loop formed by Chelsea Road, Country Club Road, and Country Club Drive

Suggested improvements also include off-road facilities. Currently, Trent Woods does not have dedicated paths for pedestrians or access to the Trent River. Suggested locations for paths that would provide a recreational use and/or alternative to walking on a road are:

- Path from Carolina Avenue to Meadows Park using power line easement
- Path from Carolina Avenue to Trent Road as an alternative to the existing intersection
- Path from the Fox Hollow neighborhood to Bangert Elementary School
- Pedestrian bridge across Wilson Creek between West Wilson Creek Drive and Creekwood Drive

General improvements were to add mile markers on pedestrian paths and routes, signage, and lighting. These suggestions are addressed in Section 6.5: Complementary Amenities. The community also expressed interest in identifying undeveloped parcels that could serve community uses such as a park since Meadows Park is currently the only park in Town. Pedestrian access to the Trent River and improved access to Wilson Creek was also suggested.

An important observation made by the community is that if walking in Trent Woods was made safer through implementing these opportunities, more citizens would walk.

The opportunities suggested by the Steering Committee and public were evaluated and prioritized based on several factors related to safety, activity, feasibility, and connectivity that included cost, right-of-way, and benefit to the community. See Section 6: Proposed Projects for a list and description of recommendations, which were informed by the opportunities discussed in this section.

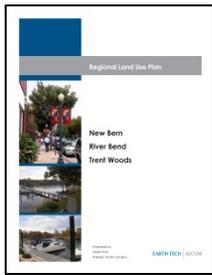
4 | Existing Plans, Programs and Policies

4.1 Review of Relevant Plans, Ordinances and Policies

This section reviews current planning documents and policies currently in effect in Trent Woods that can shape the physical environment, and opportunities to walk and recreate in the Town. The Town does not have any pedestrian, bicycle, greenway or Park and Recreation plans in place.

The current land use plan and several ordinances are listed below, followed by specific policies and ordinance sections that pertain to pedestrian accommodations. Comments or suggestions for modifications to these policies or ordinances may be specifically addressed in Section 6, Recommended Policies and Ordinances.

New Bern, River Bend, and Trent Woods Regional Land Use Plan (2010)



This is the current adopted land use plan prepared under the CAMA regulations which was adopted by the Trent Woods Board on October 7, 2010.

Policies that address land use, transportation and pedestrian accommodations include the following:

Policy DG 2: The municipalities will support a regional multimodal system that provides linkages to neighborhoods, schools, and other community facilities and uses.

Action Item DG 2a: The municipalities will seek opportunities for assistance in expanding and linking walking bicycle paths and sidewalks throughout the region. The municipalities will seek to increase alternatives to automobiles by promoting a linked system of trails and sidewalks for pedestrians and cyclists.

Policy LD 1: Preserving community character and ensuring sustainability are critical to the region's future as development continues.

Action Item LD 1a: Innovative and sensitive development approaches will be encouraged to help ensure a successful future for the region. Approaches such as open space subdivisions, clustering, planned unit developments ('PUDs'), greenways and trails, Low Impact Development, complete streets/multimodal design, traffic calming, buffering, design standards, etc. can help meet development challenges.

Action Item LD 1b: The municipalities will strive to improve/enhance the region's visual quality and attractiveness by scrutinizing the standards in their respective Land Development Code/Zoning Ordinances to

address signage, façade materials (metal buildings), landscaping, parking lot connections and other factors to preserve and enhance the appearance and functions of specified transportation corridors.

Policy T 2: Transportation planning shall be employed to promote a hierarchical, functional transportation system and promote the appropriate use of land patterns by the location and use of streets, highways, sidewalks, trails, and other transportation modes.

Action Item T 2a: The municipalities support the development of a Regional Comprehensive Transportation Plan that addresses the relationship between land use and transportation.

Policy T 6: Bicycle and pedestrian facilities should be encouraged in both public and private developments to promote healthy and energy efficient alternatives to the use of cars.

Action Item T 6a: The municipalities should actively pursue grants, and other funding sources for the installation of bike lanes, bike paths, sidewalks, and multi-use paths. New Bern will implement the Capital Improvements Master list of water projects, including Sidewalk Spot Improvements (\$1,250,000), Sidewalk Corridor Projects (\$2,400,000), and Bike Path Improvements (\$650,000).

Policy T 7: All future road construction and improvements shall consider opportunities to include bike lanes/or multi-use lanes, as appropriate within the project. Priority should be given to bikeway facility needs submitted for inclusion in the State Transportation Improvement Program.

Policy S 2: Site planning for traffic management, bicycle and pedestrian safety near public schools shall be a priority.

Action Item S 2a: The municipalities will apply for funding from the Safe Routes to Schools programs to implement bicycle and pedestrian facilities near schools.

Policy WQ 7: The environmental benefits of properly designed, vegetated roadside drainage swales shall be recognized.

Trent Woods Zoning Ordinance, 1973, and subsequent updates through 2007. The zoning ordinance is the primary means of regulating land use. It establishes four zoning districts, and an overlay district for wetlands. Various sections below address off street parking and side walk requirements.

Section 7.1 Off-Street Parking Requirements

At the time of erection of any building, or at the time any building is enlarged or increased in capacity or owner of the building or is leased to the lessee of the converted from one type of use to another, there shall be provided permanent off street parking conforming to the provision of this Article. Off-street parking spaces shall be properly graded or paved, shall be no smaller than nine (9) feet by eighteen (18) feet in size and shall be located on the same lot as the building for which provided or, provided that such separate lot is owned by the building for a period at least as great as the lease for the building, on a separate lot within 300 feet of any entrance to the building.

Except as herein provided, no part of any off-street parking area required for any building or use shall be included in a part of any other off-street parking area required for another building or use; provided, however, that the off-street parking areas for two or more uses on the same property may be combined and used jointly so long as the total off-street parking requirements for all such uses are met; and provided, further, that the off-street parking areas for two or more buildings or units in a/or Special Development approved in accordance with the Subdivision Ordinance of the Town of Trent Woods may be provided, in whole or in part, on a common area or areas owned by persons other than the owner or lessee of the building or buildings for which same is required provided that there is a recorded non-terminable license or easement subjecting such areas to such use by the owner or lessee of the building or buildings. All parking areas shall be designed so as not to necessitate vehicular backing onto any street right-of-way and so that no part of any vehicle when parked will extend onto any street right-of-way.

Subdivision Ordinance, 1989. Subdivision regulations address the platting of lots into building sites. These regulations establish standards for the provision of streets, and platting of lots.

405.4 Other Requirements

a) Sidewalks

Sidewalks may be required by the Board of Commissioners on one or both sides of the street in areas likely to be subject to heavy pedestrian traffic such as near schools and shopping areas. Such sidewalks shall be constructed to a

minimum width of four (4) feet and shall consist of a minimum thickness of four (4) inches of concrete. All sidewalks shall be placed in the right-of-way unless the development is platted as a Special Development as herein provided. Sidewalks shall consist of a minimum thickness of six (6) inches of concrete at driveway crossings.

Flood Damage Prevention Ordinance, 1987. This provides development and construction criteria that are designed to mitigate and prevent potential flood losses. Provisions of this ordinance meet or exceed current FEMA standards. Provisions of the ordinance address alteration of flood plains, and require mitigation for uses and facilities vulnerable to flooding.

Building Code Regulations. Craven County has an active building inspections program that enforces the N.C. State Building Code. A building inspection program is performed to ensure all structures comply with the Building Code.

New Bern Comprehensive Bicycle Plan (2007)



The New Bern Comprehensive Bicycle Plan was adopted in 2007 and includes specific recommendations for facilities within Trent Woods in order to establish a regional system. These projects will not necessarily become recommendations in the Trent Woods Pedestrian Plan, but serve as important considerations.

The plan proposes improvements to many of the same roads in Trent Woods that have been identified as having heavy pedestrian traffic and/or pedestrian constraints (Summarized in Table 4-1). Adding wide-paved shoulders (4 foot) and bike lanes are proposed on Country Club Road and Chelsea Road. A wide outside lane is recommended for Trent Woods Drive including the Wilson Creek Bridge. Specifically, the plan seeks to address pedestrian constraints on the bridge by adding signage, reducing the speed limit to 20 mph, and adding 5 foot shoulders and sidewalks when the bridge is replaced (New Bern Bicycle Plan, Page 2-9). A paved shoulder is recommended for River Road, a connection to New Bern High School.

All of these improvements mentioned above are packaged into the proposed Trent Woods Loop, which is 16 miles in total length. The New Bern Plan states that demand for facilities is high in Trent Woods and that this loop received the highest level of public support at outreach meetings. This loop is a long-term priority and expected to cost \$2.5 million (New Bern Bicycle Plan, Page 4-4).

Figure 4-1. New Bern Bicycle Plan: Facilities Proposed within Trent Woods

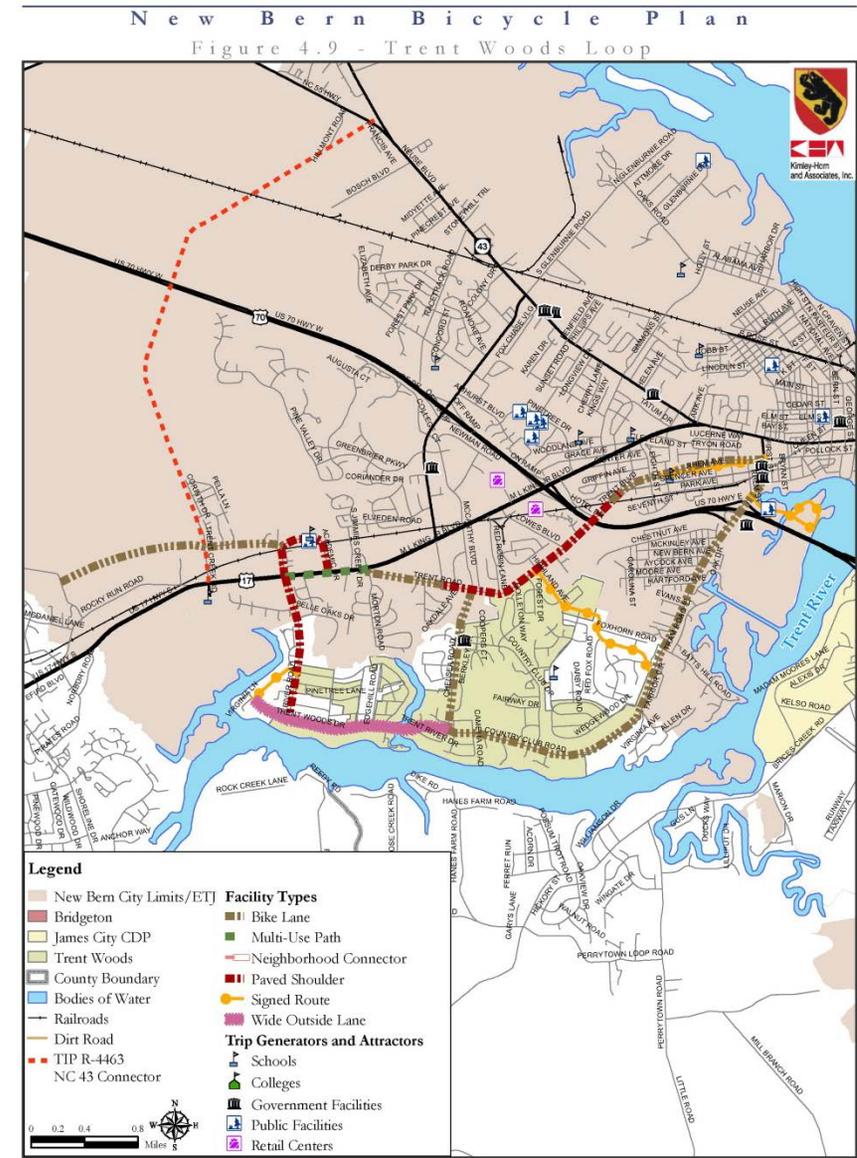


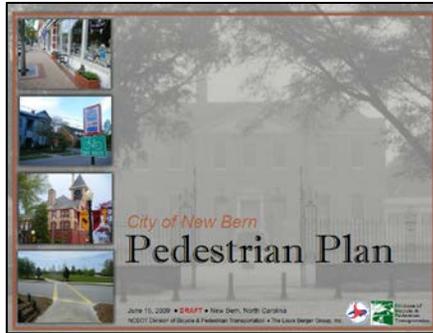
Table 4-1. New Bern Bicycle Plan: Proposed Projects in and around Trent Woods*

FACILITY NAME	FACILITY TYPE**	FROM	TO
Chelsea Rd.	Wide-Paved Shoulder + Bike Lane	Country Club Rd.	Trent Rd.
Country Club Rd.	Wide-Paved Shoulder + Bike Lane	Pollock St.	Chelsea Rd.
Haywood Creek Dr.	Signed Bike Route	Trent Woods Dr.	River Rd.
Highland Ave.	Signed Bike Route	Steeplechase Dr.	Trent Rd.
MLK Jr. Blvd.	Multi-Use Path	Trent Rd.	River Rd.
River Rd.	Wide-Paved Shoulder	Trent Woods Dr.	Trent Rd.
Steeplechase Dr.	Signed Bike Route	Country Club Rd.	Highland Ave.
Trent Rd.	Wide-Paved Shoulder + Bike Lane	MLK Jr. Blvd.	First St.
Trent Woods Dr.	Wide Outside Lane	Chelsea Rd.	Haywood Creek Dr.

* New Bern Bicycle Plan (2007), Chapter 4 – Recommendations: Trent Woods Loop

**See Section 6.7 and Table 6-11 for a comparison of proposed New Bern Bicycle Plan facilities with proposed Trent Woods Pedestrian Plan facilities.

New Bern Pedestrian Plan (2009)



The New Bern Pedestrian Plan was adopted in 2009 and is relevant to this Plan in that it includes sidewalk connections to Trent Woods as well as proposed projects within Trent Woods' limits.

These projects will not necessarily become recommendations in the Trent Woods Pedestrian Plan, but serve as important considerations.

The Plan proposes sidewalks on Trent Road from MLK Jr. Boulevard on the west to First Street on the east. This project is divided into two phases, the first phase from US 70 to First Street. This first phase is considered as a short-term project. The second phase is a long-term project and extends from MLK Jr. Boulevard to US 70. This second phase would include sidewalks at the intersection of Chelsea Road and Trent Road—a major intersection just outside of the Trent Woods' boundaries. The citizens of Trent Woods and the Steering Committee identified Trent Road as an important pedestrian connection to New Bern and the Epiphany School of Global Studies. This proposed sidewalk project would address the pedestrian safety concerns and provide these connections for the residents of Trent Woods.

Country Club Road is another main road connecting Trent Woods with New Bern. Sidewalks are proposed from north of US 17/US 70 in New Bern to the intersection of Wedgewood Drive and Country Club Road. This project

would provide yet another connection between the two municipalities and would address pedestrian safety on this heavily used road. It would also add pedestrian accommodations over the US17/US70 Bridge, which is currently a barrier to pedestrian connectivity. These sidewalks projects are listed in Table 4-2 and shown on Figure 4-2 and Figure 4-3.

For roads that are no more than three blocks in length, the New Bern Plan recommended spot improvements to help close gaps in the existing sidewalk networks or connect to larger proposed projects. Among the spot improvements listed are Tram Road and Batts Hill Road. These roads connect to Country Club Road, which is planned to be a part of a large sidewalk project in the future. These improvements would extend sidewalks into residential neighborhoods that are adjacent to the Trent River. It is possible that these improvements could provide public access to the water. However, both of these improvement projects are ranked low in comparison to the other spot improvement projects. Furthermore, access to the water would have to be negotiated with private landowners or a North Carolina Division of Coastal Management coastal access grant could be assessed. Other sidewalk projects proposed near Trent Woods include: South Glenburnie Road, McCarthy Boulevard, and Lowes Boulevard.

The plan also identified sidewalk and multi-use path projects within Trent Woods (Table 4-3 and Table 4-4). Many of these proposed facilities address specific streets that the Steering Committee and citizens of Trent Woods identified as being particularly dangerous for pedestrians.

New Bern's proposed projects within the Trent Woods municipal limits are not ranked.

In addition to these proposed sidewalks, the New Bern Plan also proposes a multi-use path on the south side of Country Club Road/Trent Woods Drive from the edge of Trent Woods on the east side to Haywood Creek Drive on the west side. This facility would be asphalt, separated from the road, and connect to proposed sidewalks in New Bern.

It is important to consider New Bern's proposed projects in terms of recommended projects for Trent Woods, as discussed later in Section 6, because one of the objectives of this Plan is to enhance pedestrian connectivity between the two municipalities. The Trent Woods Pedestrian Plan remains independent from New Bern's plan. Some of New Bern's proposed projects discussed in this section may be carried forward in the Trent Woods Pedestrian Plan if they meet the criteria established by the Steering Committee, including public support by residents of Trent Woods.



The RiverWalk Trail – a major pedestrian attraction in New Bern



Union Point Park, a destination along the RiverWalk Trail in New Bern

Table 4-2. New Bern Pedestrian Plan: Proposed Sidewalks in the Vicinity of Trent Woods*

PROPOSED SIDEWALK	FROM	TO
Trent Rd.	Martin Luther King Jr. Blvd	First St.
Country Club Rd.	Chestnut Ave.	Wedgewood Dr.

* New Bern Pedestrian Plan (2009), Section 5: Project Recommendations, Table 5-2: Proposed Sidewalk Corridor Projects in Priority Order

Table 4-3. New Bern Pedestrian Plan: Proposed Sidewalks within Trent Woods*

PROPOSED SIDEWALK**	FROM	TO
Canterbury Rd.	Wedgewood Dr.	Highland Ave.
Chelsea Rd.	Country Club Rd.	McCarthy Blvd.
Highland Ave.	Canterbury Rd.	Trent Blvd.
River Rd. / Greenleaf Cemetery Rd.	Trent Woods Dr.	MLK Jr. Blvd.
Wedgewood Dr.	Country Club Rd.	Canterbury Rd.

*New Bern Pedestrian Plan (2009), Section 5: Project Recommendations, Table 5-3: Proposed Sidewalk Corridor Projects Outside of New Bern City Limits

**See Section 6.7 and Table 6-12 for a comparison of proposed New Bern Pedestrian Plan facilities with proposed Trent Woods Pedestrian Plan facilities.

Table 4-4. New Bern Pedestrian Plan: Proposed Multi-Use Path within Trent Woods*

PROPOSED MULTI-USE PATH**	FROM	TO
Country Club Rd. and Trent Woods Dr.	Trent Woods eastern limits	Haywood Creek Dr.

*New Bern Pedestrian Plan (2009), Section 5: Project Recommendations, Table 5-4: Proposed Greenway Trails Outside of New Bern City Limits

**See Section 6.7 and Table 6-12 for a comparison of proposed New Bern Pedestrian Plan facilities with proposed Trent Woods Pedestrian Plan facilities.

Figure 4-2. New Bern Pedestrian Plan: Map of Proposed Sidewalk Projects

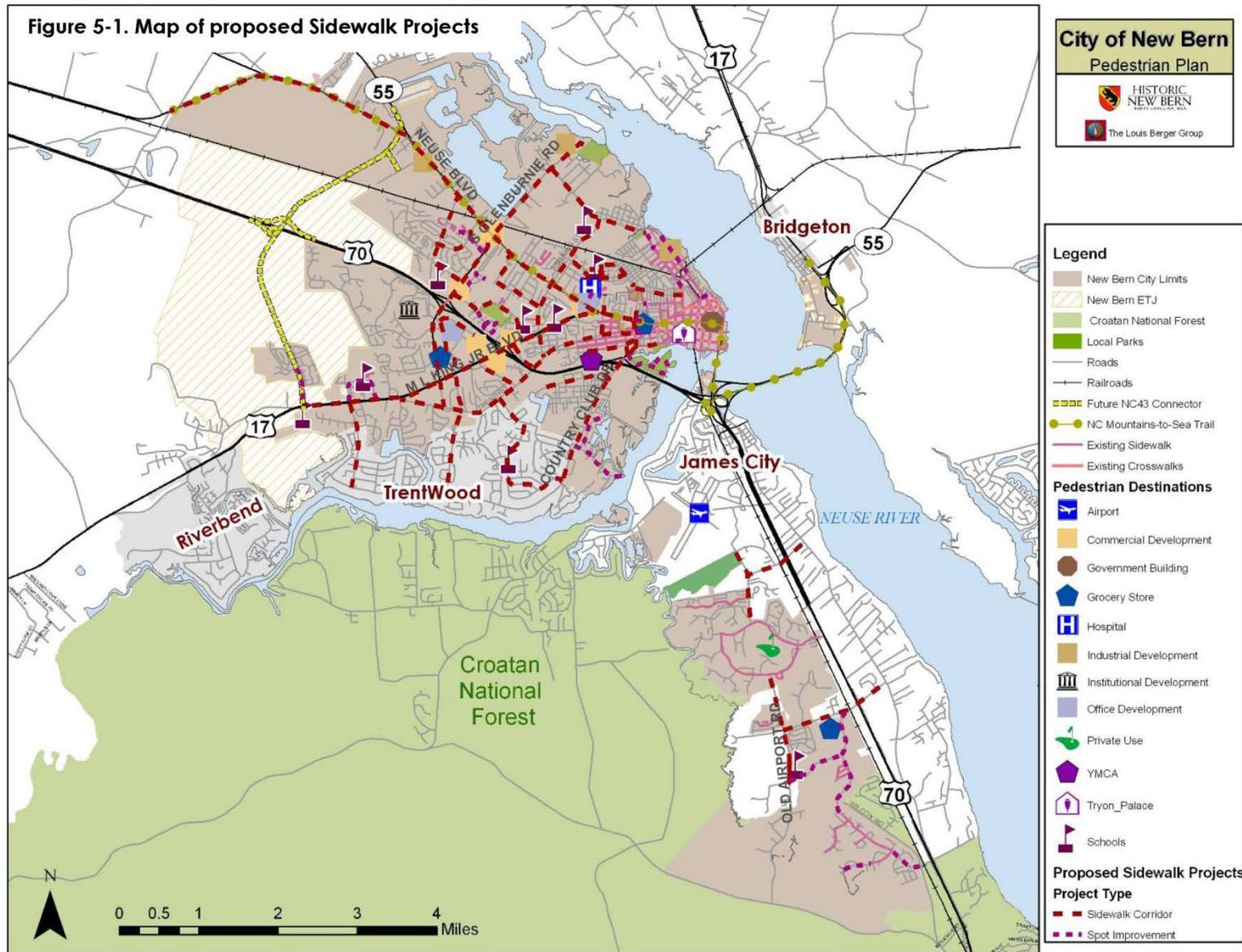
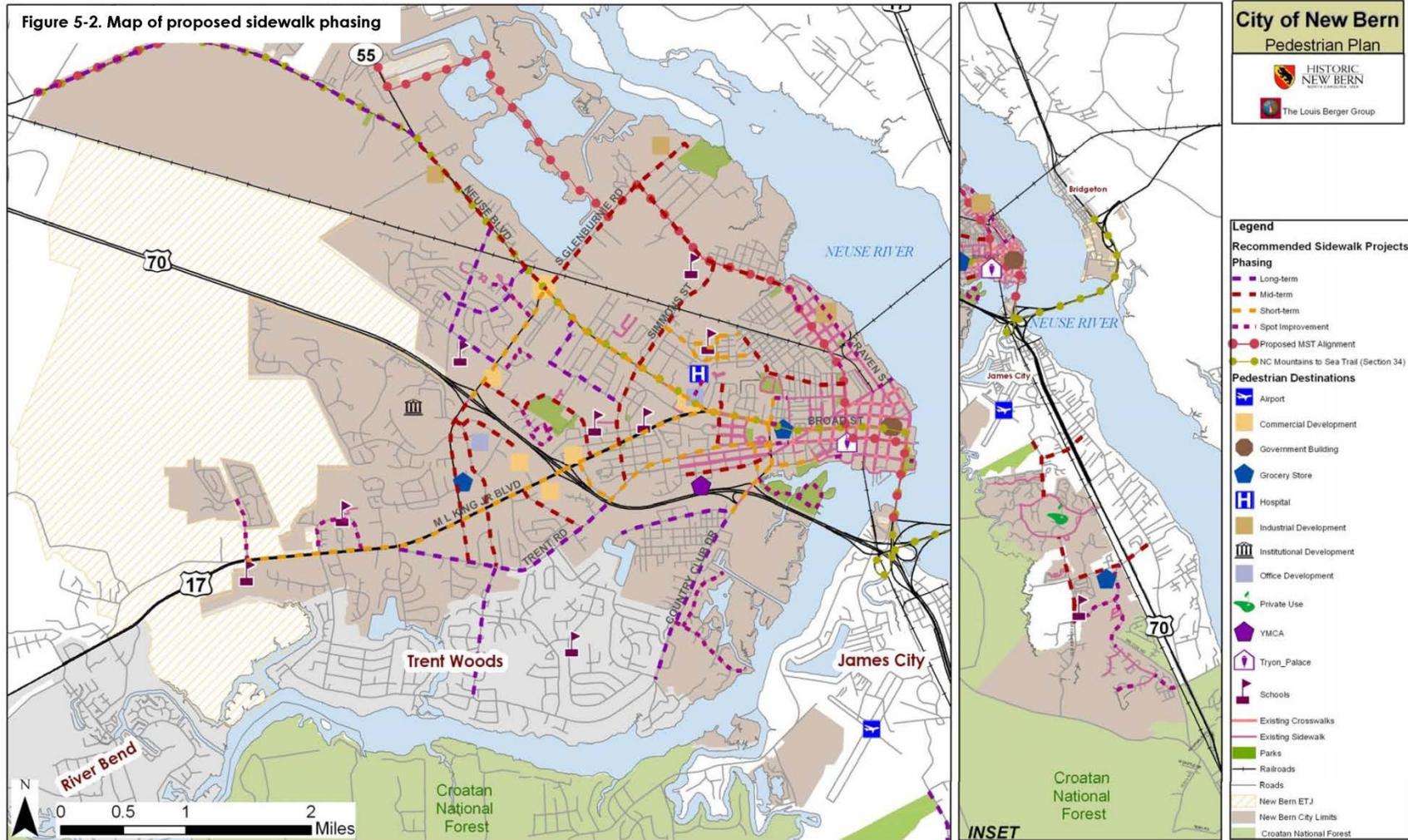


Figure 4-3. New Bern Pedestrian Plan: Map of Proposed Sidewalk Phasing



WalkBikeNC (2013)



WalkBikeNC, North Carolina's statewide pedestrian and bicycle plan, was developed under NCDOT to provide improved walking and bicycling opportunities across the state of North Carolina. Current conditions were reviewed and found that walking and cycling infrastructures are both underfunded and incomplete. Strategies for improvement and methods of implementation recommend actions to develop a safe and efficient walk-bike plan for the State. Based on public participation of citizens, the Plan proposes measures that include: expanding walking and bicycling networks, improving safety, promoting health, stimulating economic development, and encouraging environmental stewardship. These five pillars are used as guidelines for the public and private sectors to implement WalkBikeNC.

Mobility

As a way to increase the quality of transportation amenities, better connectivity across local, regional, and state bicycle facilities can be achieved through improved investment opportunities and Complete Streets projects. Grant programs, access policies, and coordinated land use planning are recommended approaches for issues of transportation equity and accessibility. Traffic congestion and streamlining programs/technologies aim to use grant programs, evaluation procedures, and partnerships with educational institutions to expand walking and bicycling opportunities.

Safety

Ensuring public safety is a primary goal of the WalkBikeNC plan and aims to address this through developing facility improvements, policies for accident prevention, safety enforcement efforts, and education opportunities (rights of road). Utilizing existing programs/systems such as Safe Routes to School or FHWA Crash Modification Factors are important components of improving law abidance and preventative measures for accidents.

Health

Improving and providing more infrastructures for walking and bicycling are essential to improving public health and active living. The plan recommends programs and individuals/organizations involved in health policy (such as partnerships with health departments/providers and insurance companies) to contribute expertise and encourage healthy lifestyles. Public Right-of-Way Accessibility Guidelines and Health Impact Assessments (HIAs) are also suggested as strategies to ensure safe and healthy walking and bicycling.

Economics

Robust walking and bicycling facilities have been shown to provide upfront construction stimulus, economic and job growth through tourism, property gains, reduction in healthcare expenses, savings on commuting costs, and ensure use-related values. These efforts can be achieved through expansion of Main Street Program and Complete

Streets initiatives. Partnerships with NCDOT, Department of Commerce, visitor centers, local governments, and private and community groups along with diversified funding opportunities are looked at to increase recognition and attractiveness for walk and bike-friendly cities and regions.

Stewardship

Stimulating a reduction in vehicular use and dedication to preserving and promoting natural resources are targeted through improving greenway networks across the state. This is achieved through linking centers of activity, such as cultural, natural, and economic sites. Developing a Greenprint for North Carolina, using the Conservation Planning Tool, and coordinating trail design guidelines are recommended to further expand transportation networks.

Economic Benefits

Providing infrastructure and promoting walking and biking have the extra incentive of offering economic competitiveness for a town or region. Job growth can be created through the construction and maintaining of pedestrian infrastructure. As an important industry in the state of North Carolina, the construction sector also supports a diverse range of local businesses. As an example of this type of development, the annual return on bicycle infrastructure in the Outer Banks yielded nine times the original investment (WalkBikeNC Summary, Page 13). This in combination with boosting the attractiveness of the area for tourism has the ability to further increase revenue by more than \$18 billion brought in annually from tourism alone. Promoting the quality of life here in North Carolina through walking and bicycling opportunities, an already

strong aspect of the recreational industry, has the projection of boosting revenues to more than \$168 million annually in the tourism sector (WalkBikeNC Summary, Page 26). The WalkBike NC Plan, if implemented statewide, could support 1,600 new jobs and more than \$1 million in tax revenues. By increasing the number of cyclists alone to the state could have a serious, positive, impact on the economy. This is further bolstered by the savings in healthcare-related costs that can be reduced through encouraging healthier lifestyles of residents. Spending on direct health care, chronic illness, worker's compensation claims, and administrative costs could be reduced through investing in walking and bicycling opportunities, projected to save \$76 million annually (WalkBikeNC Summary, Page 13). Residents can also see a direct relationship to personal savings on commuting costs, mainly in reduced gasoline expenditures. The WalkBike NC Plan found that during times of economic hardship, bicycle purchase and use increased, where 46% of bicycle commuters rode bikes to save money on gasoline (WalkBikeNC Report, Page 2-40). If pedestrian infrastructure is improved and expanded, residents will not only be more inclined to cycle, but 4.9 million fewer car miles will be driven resulting in \$800,000 reduction in gasoline expenditures (WalkBikeNC Summary, Page 15).

Dedicating funds toward pedestrian infrastructure through North Carolina Department of Commerce's Main Street Program has the important aim of making improvements to the downtown areas of our many small towns. Improvements such as pedestrian signage and route markers, installing dedicated bike lanes, establishing identifiable paths and networks, and street-scale design enhancements make a

downtown more attractive for business. These enrichments, in combination with other Main Street Program initiatives, have the ability to increase property values for business and residents while encouraging consumer interest in the area.

4.2 Programs and Policies

Maintenance and Repaving Programs

Approximately 68 roads are maintained by the Town, 31 by the State, and 19 are privately maintained (Trent Woods Street List, 2011). Figure 4-4 on the following page shows a map of the Town and state-maintained roads in Trent Woods. The Town of Trent Woods routinely maintains and repaves Town roads within its municipal limits on an as-needed basis. NCDOT Division 2 maintains and repaves state roads in Trent Woods. It is critical that Trent Woods and NCDOT Division 2 coordinate their repaving programs so that pedestrian accommodations such as wide-paved shoulders may be implemented. The pedestrian projects detailed in Section 6 should be reviewed and considered during the repaving projects.

2012-2020 State Transportation Improvement Program (STIP)

The North Carolina State Transportation Improvement Program (STIP) is a plan for a two-year cycle of major transportation projects within the State. The TIP covers projects in each of the 14 Division offices across the State. Trent Woods falls within Division 2, and has worked with the region's Down East Rural Planning Organization (RPO). The New Bern Area MPO is being formed to address regional

transportation planning in Craven County and regional municipalities. This MPO will develop a long-range transportation plan and develop transportation projects for inclusion in the TIP based on local and regional priorities. The 2012-2020 TIP includes one pedestrian project near Trent Woods:

EB-5501: Construct bike lanes, paved shoulders, and wide outside lanes at various locations on Glenburnie Road, Trent Road, Simmons Street, and Oaks Road. This project involves roads outside of Trent Woods, but relates to pedestrian connections in and out of the Town. This project is currently unfunded in the STIP.

Figure 4-4. Town and State-Maintained Roads in Trent Woods*



*Map approved in 2006. Since 2006, W. Wilson Creek Drive and Edgehill Road are now maintained by the Town of Trent Woods. Legend scaled for the purposes of printing.

5 | Facility Design Standards and Guidelines

5.1 General Pedestrian Facility Guidelines

Guidelines for the placement and design of pedestrian facilities should be flexible so that context-sensitive design solutions can be implemented, but should adhere to standards established by the American Association of State Highway and Transportation Officials (AASHTO), the Manual on Uniform Traffic Control Devices (MUTCD), and the NCDOT. The standards should give consideration to local needs and requirements of NCDOT Division 2, in which Trent Woods is located. Several overall guidelines for facility development are highlighted below.

- Give transportation priority to the completion of pedestrian routes to schools, neighborhood shopping areas, parks, and any future transit stops
- Incorporate the natural and community features of the Town into pedestrian projects
- Ensure that the safety and convenience of pedestrians are not compromised by transportation improvements aimed at motor vehicle traffic
- Ensure that the pedestrian circulation system is safe and accessible to children, seniors, and citizens with disabilities
- Street furniture, water fountains, bicycle racks, lighting, and other pedestrian amenities should be encouraged, but also be placed out of the immediate pedestrian travel area
- Establish links between sidewalks, trails, parks, and the rest of the community
- Retain public pedestrian access when considering private right-of-way requests
- Support changes to existing policies that would enhance pedestrian travel
- The pedestrian system should connect to residential, commercial, civic, educational, and recreational areas
- Off-site street improvements or enhanced bicycle and pedestrian facilities may be required as a condition of approval for land divisions or other development permits
- Aesthetics and landscaping shall be a part of the transportation system
- Coordinate transportation planning and efforts with New Bern and neighboring municipalities

A number of specific pedestrian improvement projects are proposed in this Plan. These projects will play an important role in helping to improve the walkability of the Town; as well as ensure appropriate pedestrian accommodations are made alongside future development. It is useful for the Town to consider a set of guiding design principles that cater to the needs of pedestrians and the general means by which these needs are to be met. Some basic principles for incorporating pedestrian accommodations in a transportation system include the following:

- It should be accessible
- It should connect to the places where people want to go
- It should be easy to use and convenient
- It should provide a sense of place and make an effort to be appealing to the senses
- It should be well maintained
- External factors such as noise, crime potential, exposure to the elements, and hazardous objects should be minimized
- It should be used for multiple purposes such as recreation, travel to school, churches and special events so long as it does not contradict any of these principles

5.2 Specific Facility Design Recommendations



Example of specific facility design recommendation on Canterbury Road in front of Bangert Elementary School

Several types of linear pedestrian facilities are recommended for Trent Woods:

- **Sidewalks**
- **Wide-Paved Shoulders**
- **Sidewalks/Wide-Paved Shoulder Hybrid**
- **Off-Road Connections**

Multi-use paths, which are wider than sidewalks, were considered but ultimately not included in this Plan due to cost and additional right-of-way acquisition likely required.

In addition this section also discusses design considerations for intersections, crosswalks, lighting, landscaping, and signage, all of which are integral to an all-encompassing pedestrian network. These design considerations are not intended to serve as “standards,” since the most appropriate design will vary from project to project. However, suggested minimums and guidelines are addressed for the following types of facilities:

- Sidewalks and planting strips or buffers/furniture zones
- Intersections and crosswalks
- Off-road connections
- Lighting, Landscaping, and Signage

This section speaks generally to the considerations for these facilities and presents typical sections and visualizations of them. It is organized by the four types of linear pedestrian facilities (pictured to the right) followed by considerations for spot improvements that include crossings and intersections.

Sidewalks



Wide-Paved Shoulders



Sidewalks/Wide-Paved Shoulder Hybrid



Off-Road Connections



Photos courtesy of the Pedestrian Bicycle Information Center/Dan Burden.

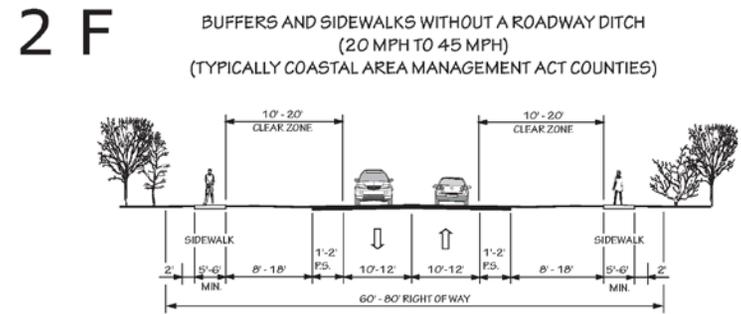
SIDEWALKS

SIDEWALK CHARACTERISTICS	
Typical Right-of-Way Required:	60 to 80 feet
Width:	Sidewalk is 5 to 6 feet wide with 10 to 20 feet separation from the outside lane.
Benefits:	<ul style="list-style-type: none"> • Separates pedestrians and vehicular traffic, improving safety • Allows room for additional amenities such as benches and landscaping, improving aesthetics

Pedestrian networks are not complete without sidewalks. Even if no pedestrian travel exists, studies show that walking can be expected to increase when the facilities are provided, and walking levels are highest when the pedestrian routes are complete and continuous.

It is relatively easy to design a policy that requires new development to include sidewalks in their construction, but it can be difficult to retrofit new sidewalks into existing communities. The American Association of State Highway and Transportation Officials (AASHTO) recommends the construction of sidewalks on all Town streets, including those in rural areas. The Institute of Transportation Engineers (ITE) recommends sidewalk installation on both sides of the street whenever possible for new urban and suburban streets, especially in commercial areas, residential areas with four or more units per acre, or residential areas on major arterials and collectors. If sidewalks on both sides of the road are not possible, due to

Figure 5-1. Sidewalk Typical Section



*URS has revised NCDOT Typical Section 2F - Buffers and Sidewalks without a Roadway Ditch - to reflect existing right-of-way and road sections in Trent Woods.

Revised: February 2014

See Appendix C for a larger reproduction of this typical section.

Figure 5-2. Visualization of a Sidewalk on Country Club Drive



Sidewalk visualization on Country Club Drive across from Meadows Park

constraints such as limited public right-of-way or lower density, rural residential areas might adequately serve its pedestrians with a sidewalk on only one side and/or wide-paved shoulders.

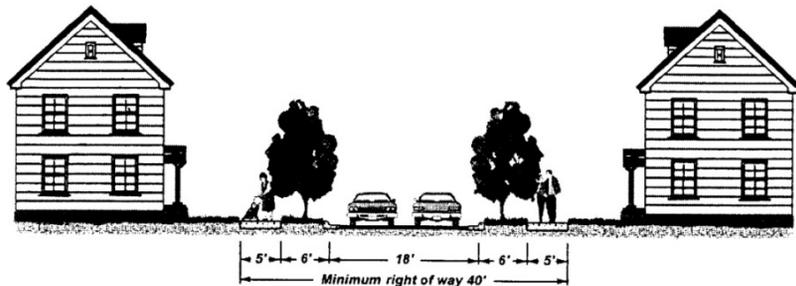
Although separate pedestrian and automobile corridors are necessary on any roadway other than a low-speed street, sidewalks are the most useful along roadways with a fair amount of traffic volume and with speeds higher than 25 mph. The higher the speed of traffic, the more the need may exist to route the pedestrian away from that road. Store frontage walkways or multi-use paths that provide the pedestrian with multiple options are sometimes preferred. Sidewalks should never be intentionally built directly adjacent to a roadway if the space exists for a buffer such as a planting strip, on-street parking, a furniture zone, or bicycle lanes. Because of frequent intersections, dips, and narrow widths, sidewalks are not meant for bicycles. One of the most common reasons for bicycle/car collisions are attributed to the cyclist being on the sidewalk and the driver not being aware of the cyclist.

ITE Recommendations for Sidewalks:

- Residential areas should have 5 foot-wide sidewalks with a minimum of 2 foot-wide planting strips or buffers
- Commercial areas: 7 feet wide if no planting strip is possible, or 5 feet wide with a 2 to 8 foot-wide planting strip (wider planting strips or buffers accommodate greater buffers from traffic and the opportunity to plant large shade trees)
- 4 to 8 foot-wide planting strips or furniture zones are preferred along all sidewalks to provide separation from vehicles. This space is useful for landscaping, lighting, poles, trash receptacles, signage, water fountains, benches, weather debris, bike racks, and curb ramps. Six foot-wide minimum buffer strips between the sidewalk and the curb are required for the correct slope needed to accommodate ADA requirements for curb ramps while maintaining the sidewalks' 2% maximum cross slope (see section 5.5). Eight foot-wide buffers are recommended for the planting of any shade tree
- Sidewalks should be clear of obstructions such as utility poles, sign posts, fire hydrants, bike racks, newspaper stands, etc. These objects must remain in the furniture zone or planting buffer strip
- Vertical clearance should be at least 7 feet from ground level to the bottoms of signs or the lowest tree branches
- Increasing sidewalk widths by 2 to 3 feet would accommodate shoulder-high intrusions like building walls, bridge railings, and fences
- Maximum cross-slope of 1:50 (2%) is considered to be level. Limit running slope to 5% (1:20), or no greater than 8.33% (1:12) where topography requires it. Ramps with level upper and lower landings are necessary for ADA requirements

General Sidewalk Recommendations:

The recommendations of this Plan are to require sidewalks in neighborhoods and on arterial roads to be a minimum of 5 feet wide. Five feet widths are necessary to accommodate two people walking side by side, for two wheelchairs to pass one another, or for a wheelchair to turn around. Planting strips or buffers of 6 to 8 feet should be required whenever possible. Six feet is required to maintain the necessary cross slope for ADA standards, and 8 feet is the minimum recommended width for medium and large shade tree growing space.



A typical neighborhood cross-section street from NCDOT's TND Street Design Guidelines

There are many reasons to include a planting strip between the sidewalk and the curb:



Planting strip or buffer between sidewalk and street. Photo courtesy of the Pedestrian Bicycle Information Center / Dan Burden.

Buffer from traffic allows safety and comfort for the walker:

- A wider buffer from the street creates a stronger comfort level for the walkers, thus inviting more people to use the sidewalk
- Safety zone - children, dogs, elderly, people with disabilities, novice bicyclists, etc. have more space to wander or accidentally travel before being in danger of falling off the curb and into the roadway

- Safety from objects that may extend or be knocked from passing vehicles such as tools, mirrors, or water spray from puddles
- The planting strip allows trees for shade, and shade provides comfort
- A planting strip can serve as a more comfortable "fall zone" for bicyclists in training on the roadway or on the sidewalk.

Utilities, landscaping, and furniture:

- Utility services like poles, meters, underground access, storm drains recessed from roadway, fire hydrants, lighting, etc.
- Trees and landscaping (8 foot-wide planting strip minimum requirement for most shade trees, 6 foot-wide strips are adequate for low landscaping)
- Street furniture such as garbage cans, benches, water fountains, newspaper stands, bike racks, signs, post office or resident mailboxes, etc.

Temporary Storage:

- Trash and recycle bins
- Storm debris
- Leaves in fall or other debris
- Other temporary maintenance instruments or debris

ADA Accommodations:

- 6 foot-wide minimum planting strip to accommodate ADA requirements for appropriate slope on curb ramps
- Planting strip allows constant cross slope of less than 2% - no or inadequate planting strips or buffers would create dips at each driveway/intersection

Traffic:

- Planting strips or buffers with sidewalks have been shown to slow traffic because of the illusion of a narrower roadway (sidewalks at the curb make the illusion of a wider roadway and thus creates the urge to drive faster)
- Vehicles have a space at intersections to view oncoming traffic that does not completely impede walkers in the intersection
- Planting strips or buffers on the curb rather than walkways have been shown to discourage parking beyond the curb (and thus on the sidewalks)
- The landscaped or grass space between the walkway and the roadway will guide walkers to the best crossing points by encouraging them to follow the pavement

- Vehicles can more clearly view driveways when sidewalks are not on the curb, allowing a better flow to traffic and less sudden stops

Property/quality of life values:

- Neighborhoods with sidewalks and planting strips have higher home property values
- Planting strips or buffers add to the aesthetics of a roadway compared to a sidewalk without a planting strip
- The social gains from sidewalks are more apparent due to more usability.

Environmental:

- Drainage for water runoff
- The Town sees more of the benefits realized from trees such as shade in the summer, wind abatement in the winter, and aesthetics
- The pedestrian can avoid breathing the majority of motor vehicle exhaust fumes if they are walking several feet away from their source

In general, an 8 foot-wide planting strip is preferred on these corridors to provide all of the benefits of this zone. Having a 6 foot-wide planting strip would provide most of these benefits, particularly the ADA requirement, but would not accommodate most shade trees species. Providing a 2 to 3 foot-wide planting strip is the minimum that should be

allowed to provide only the most basic of these benefits, but should only be considered under special circumstances. These narrow buffer strips might not be acceptable for typical landscaping, but may be a candidate for fill that requires little maintenance such as screening, gravel, stone, mulch or low maintenance groundcover vegetation.

The sidewalk recommendations discussed so far are specific for residential neighborhoods and arterial roads, which is the makeup of Trent Woods. The Town is nearly entirely residential with few commercial uses—a cherished characteristic of the community. If more commercial uses were to exist in the Town, especially storefronts or restaurants at the road edge, wider sidewalks would be recommended in order to accommodate heavier pedestrian traffic and space for benches and tables. Sidewalks in such areas should be 10 to 15 feet in main traffic areas with overlapping 8 to 10 foot zones for street furniture such as benches, trash receptacles, dining, lighting, bike racks, water fountains, or informational boards.



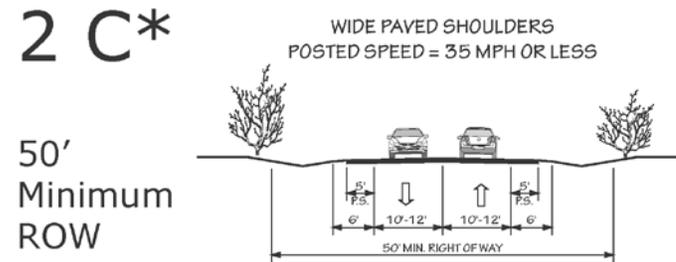
Wider sidewalk in a commercial area with ample room for benches, trees, and street furniture. Photo courtesy of the Pedestrian Bicycle Information Center / Dan Burden.

WIDE-PAVED SHOULDERS

WIDE-PAVED SHOULDER CHARACTERISTICS	
Typical Right-of-Way Required:	50 feet
Width:	Wide-paved shoulder is 5 feet on each side of the road
Benefits:	<ul style="list-style-type: none"> Easier to implement in areas where available right-of-way is minimal Can be less expensive to implement than sidewalks and multi-use paths

In some instances where there is insufficient right-of-way to accommodate a sidewalk or multi-use path (as discussed in the next part), wide-paved shoulders may provide a feasible alternative. They would also be appropriate in areas where there is heavy bicycle traffic. Currently most paved shoulders in Trent Woods are 1 to 2 feet wide. Wide-paved shoulders would extend them to 5 feet wide thereby making it safer for pedestrians and bicyclists on the Town’s roads. Five foot-wide paved shoulders are preferred. These wider shoulders would be created by adding pavement on each side of the road during a repaving project. According to NCDOT Division 2 coordination meetings, travel lanes are preferred to be 12 feet wide when accommodating 5 foot-wide paved shoulders. However, travel lanes may be narrower than 12 feet given limited right-of-way. This type of facility would be an improvement over the existing conditions, but it is not as ideal as a sidewalk or multi-use path because pedestrians are not physically separated from traffic.

Figure 5-3. Wide-Paved Shoulders Typical Section



*URS has revised NCDOT Typical Section 2C - Wide Paved Shoulders to reflect existing right-of-way and road sections in Trent Woods.

Revised: February 2014

See Appendix C for a larger reproduction of this typical section.

Figure 5-4. Visualization of Wide-Paved Shoulders on Chelsea Road.



Wide-paved shoulder visualization on Chelsea Road looking south

Use of Wide-Paved Shoulders

Wide-paved shoulders are designed for cyclists, although on low speed, low volume streets and roads, pedestrians are allowed to use these facilities. North Carolina Bicycle and Pedestrian Laws require cyclists to ride on the right side, with traffic. When sidewalks are not provided, pedestrians walking along the roadway should walk on the extreme left of the roadway/shoulder, facing oncoming traffic, and must yield to traffic.



Photograph of a wide-paved shoulder . Photo courtesy of the Pedestrian Bicycle Information Center / Dan Burden.



Adding a wide-paved shoulder to an existing two-lane road in Chapel Hill, NC. Photo courtesy of the Pedestrian Bicycle Information Center / Dan Burden.

MULTI-USE PATHS

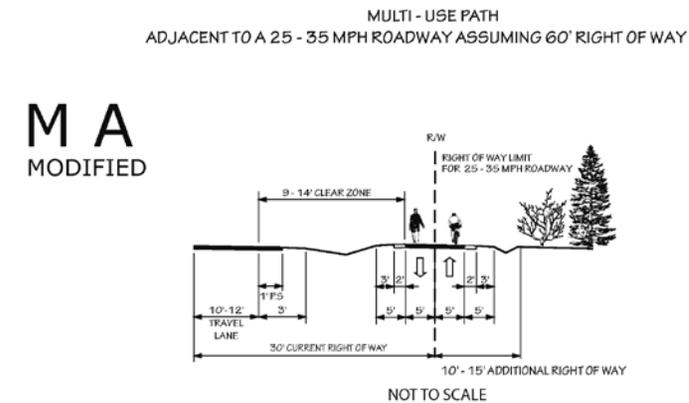
MULTI-USE PATH CHARACTERISTICS	
Typical Right-of-Way Required:	75 feet
Width:	Path is at least 8 feet wide and located on one side of the road
Benefits:	<ul style="list-style-type: none"> Accommodates pedestrians and cyclists Provides high visibility

Multi-use paths also referred to as greenways or side paths, serve pedestrians and cyclists. They are typically separated from the road and are 8 or more feet wide. These paths can be within the road right-of-way or outside of it when traversing through areas without roads. They are often constructed from asphalt, but may also be concrete. Multi-use paths are particularly appropriate in areas of heavy pedestrian and bicycle traffic and offer several benefits over sidewalks:

- Wider than sidewalks
- Increased separation from the vehicular traffic
- High visibility for pedestrians and cyclists
- Opportunities for more amenities such as benches, water fountains, and vegetative buffers
- Accommodate a variety of users

Multi-use paths also have several disadvantages that should be considered as well. Given that they are significantly wider than sidewalks, multi-use paths require at least 75 feet of additional right-of-way, whereas sidewalks require a

Figure 5-5. Multi-Use Path Typical Section



URS has revised NCDOT Typical Section MA - Multi-Use Path to reflect existing right-of-way and road sections in Trent Woods.

Revised: February 2014

See Appendix C for a larger reproduction of this typical section.

Figure 5-6. Multi-Use Path Example



A multi-use path along a sewer easement in Charlotte, NC.

minimum of 60 feet. They are also more expensive to construct. Estimates vary between \$500,000 and \$700,000 per mile whereas sidewalks are estimated at \$250,000 a mile for one side of the road.

For these reasons multi-use paths were evaluated for Trent Woods but ultimately not carried forward. Given that most right-of-ways in the Town are on average 60 feet wide, additional right-of-way acquisition would be necessary, increasing costs. Instead, a sidewalk/wide-paved shoulder hybrid option is suggested that will accomplish many of the same benefits as multi-use paths as discussed in the following section.

If the Town does decide to pursue multi-use paths in the future, Chelsea Road and Country Club Road would be good candidates for multi-use paths given their higher traffic volumes, popularity, and connections to New Bern. The Comprehensive Pedestrian Plan for New Bern proposes a multi-use path on Country Club Road.



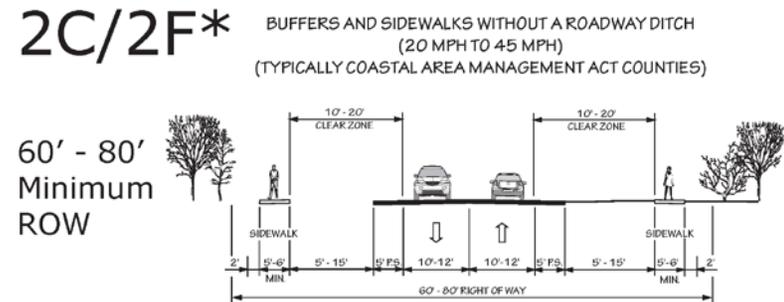
A multi-use path in Raleigh, NC.

SIDEWALK/WIDE-PAVED SHOULDERS HYBRID

SIDEWALK/WIDE-PAVED SHOULDER HYBRID CHARACTERISTICS	
Typical Right-of-Way Required:	60 to 80 feet
Width:	Wide-paved shoulder is 5 feet adjacent to both sides of the road. Sidewalk is 5 to 6 feet wide and may be on one side or both sides of the road separated by about 5 to 15 feet.
Benefits:	<ul style="list-style-type: none"> Accommodates pedestrians and cyclists at less of an expense and less right-of-way than Multi-Use Paths

Since multi-use paths were determined to be less feasible for Trent Woods given costs and right-of-way acquisition, a hybrid option was developed in coordination with NCDOT Division 2 to achieve many of the same benefits of multi-use paths at a lower cost and less required right-of-way. The estimated right-of-way required for this option is a minimum of 60 feet whereas a minimum of 75 feet is needed for multi-use paths. This would minimize or avoid additional right-of-way acquisition in Trent Woods. It would likely be \$50,000 to \$100,000 cheaper to construct per mile than a multi-use path would be (See Section 6.3). This hybrid option would involve 5 foot-wide paved shoulders on both sides of the road, adjacent to travel lanes. Separated by about 5 to 15 feet on one or both sides of the road would then be a 5 to 6 foot-wide sidewalk. Sidewalks serve pedestrians while wide-paved shoulders are intended for cyclists.

Figure 5-7. Sidewalk/Wide-Paved Shoulder Hybrid Typical Section



*URS has revised NCDOT Typical Sections 2C and 2F to serve as the Sidewalk + Wide Paved Shoulder typical section. It reflects existing right-of-way and road sections in Trent Woods.

Revised: February 2014

See Appendix C for a larger reproduction of this typical section.

A Staged Approach

This option could be implemented in stages. If funding is not available for constructing sidewalks and wide-paved shoulders at the same time, wide-paved shoulders would likely be constructed first during a Town or NCDOT repaving project. When funds do become available for sidewalk construction, they would be built at that time.

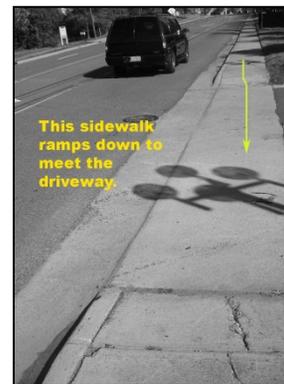
OFF-ROAD CONNECTIONS

OFF-ROAD CONNECTION CHARACTERISTICS	
Typical Right-of-Way Required:	10 to 20 feet
Width:	An off-road connection path would likely be narrower than a multi-use path, varying between 5 and 10 feet
Benefits:	<ul style="list-style-type: none"> • A shorter connection between destinations in absence of roads • Most separation between vehicular traffic and pedestrians • Often provides pedestrians with a path through scenic and natural areas

Opportunities may exist for creating footpaths off-road to connect pedestrian destinations and provide pedestrian access where there are no roads for sidewalks or wide-paved shoulders. Footpaths would differ from multi-use paths in that they would be narrower and constructed out of crushed stone or dirt instead of pavement. They would be less expensive to implement and have a smaller impact on the environment. Footpaths can accommodate pedestrians, but not bicyclists. A good example of a potential footpath in Trent Woods would be from Bangert Elementary to Red Fox Road since there is no road connection between them. This path would cut through a currently undeveloped parcel. Even though the distance between the two is only a quarter mile, students must currently walk 1.2 miles on roads without any pedestrian accommodations.

DRIVEWAYS

Sidewalks that ramp down to driveways give the false impression to the pedestrian and to the driver that this section of the sidewalk or path is the drivers' territory; it also makes conditions difficult for people with disabilities and for walkers and runners. Sidewalk and driveway standards that require new and maintained driveways to ramp up to greet a level sidewalk or path makes the driver more aware that they are crossing into the pedestrians' territory, and makes the sidewalk or path more agreeable to the user.

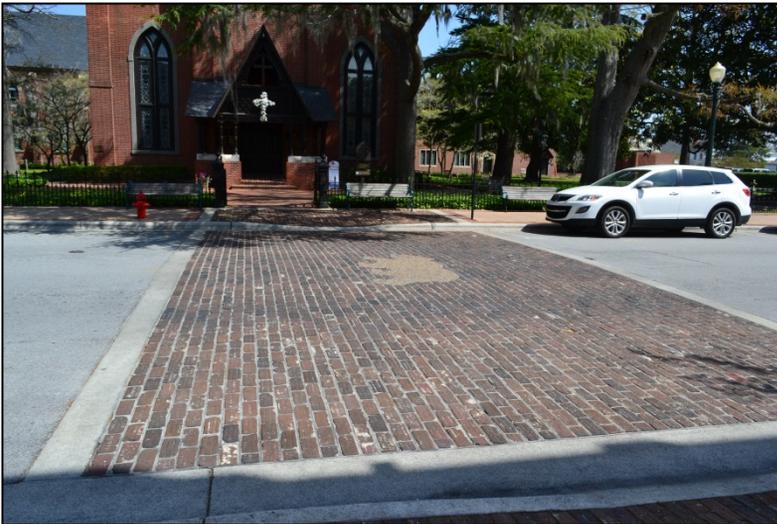


CROSSINGS

The following sections give design guidelines and recommendations for types of crossings such as crosswalks and pedestrian refuge islands. Regardless of the type of crossing, maintaining landscaping is critical for safety. Landscaping at crossings should be low to the ground to avoid obstructing visibility. Grasses and shrubs should be trimmed and maintained regularly.

CROSSWALKS

Every effort must be made to ensure the safety of locations where pedestrians and vehicles will cross paths, and visibility is vital. Every intersection (even small neighborhood crossings) should receive some visual clue to automobile drivers that pedestrians may be crossing, whether it is a sign, pavement markings, flashing warnings, or all of the above.



A decorative crosswalk in New Bern, NC.

Eight to ten foot-wide crosswalks are recommended, with 6 feet being the absolute minimum (likely in neighborhoods). Wider crosswalks could be used in locations with higher pedestrian volumes or where the crosswalk needs to be more conspicuous such as at schools including Bangert Elementary. Crosswalk lines of 10 to 12 inches of width are the recommended minimum for the standard double

horizontal bar crosswalk, but may differ for the thicker-lined *Piano* style crosswalk illustrated in Figure 5-8 and Figure 5-9. Crosswalks must line up with curb cuts. Other recommendations include the following:

- The shorter the crosswalk the better. Minimize intersection widths decreased lane widths or implement pedestrian refuge islands
- Pedestrian refuge islands are important safety considerations for any crossing point. These should be included in every intersection or mid-block crossing on two-lane arterial roads that have a significant vehicle or pedestrian volume
- A continuous travel path from sidewalk or sidewalk on to crosswalk is necessary
- All sidewalks and paths must have ramps, landing areas, and detectable warning plates (See Section 5.5). These curb cuts must align with crosswalks and pedestrian refuge islands
- Provide clear, consistent white markings (Zebra, Ladder, or Piano bars are recommended). Textured crosswalks such as brick are not recommended because they may cause difficulties for the people with disabilities and are less visible to the motor vehicle driver than the crosswalks recommended here. See Figure 5-8 for examples of crosswalk types
- Bring the road to meet the sidewalk rather than the sidewalk to meet the road at driveways wherever

possible. This reduces travel problems for the people with disabilities and alerts drivers that they are crossing a pedestrian zone

- ADA ramps should be a minimum of 8 feet wide
- Combining safe, high visibility crosswalks with traffic calming devices (explained in more detail in Section 5.3) such as raised crosswalks and curb extensions are useful in commercial, residential, or mixed use areas with high amounts of vehicular and pedestrian traffic



Even many small neighborhood roads should have crosswalks



A raised crosswalk connecting a parking lot to a storefront, but lacking paint markings that would increase visibility



Although this crosswalk includes positive features such as a countdown signal, a pedestrian refuge island, and detectable warnings, it fails to line up with the curb cuts.

Figure 5-8. Crosswalk Types

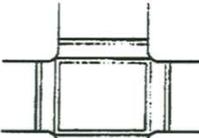
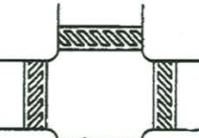
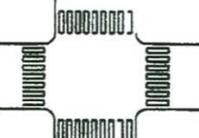
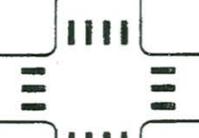
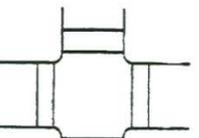
MARKING PATTERNS	ADVANTAGES	DISADVANTAGES
 <p>HORIZONTAL BARS</p>	Common practice at stop-controlled intersections, less expensive, easy to install and maintain.	Not as visible as some other marking types; bars tend to wear faster than other types; not appropriate for mid-block locations.
 <p>ZEBRA</p>	Highly visible.	More maintenance required since wheel friction rubs off diagonal stripes; surface can be slippery.
 <p>LADDER BAR</p>	Highly visible.	Wider stripes rub off with wheel friction, but can be placed to minimize this effect; surface can be slippery.
 <p>PIANO</p>	Highly visible and becoming more commonly used; easy to maintain since stripes can be placed outside the wheel friction areas.	
 <p>DASHED <i>(European)</i></p>	Captures attention because it is not a commonly used pattern.	May not define space as well as some other choices.
 <p>SOLID</p>	Visible (but may not be as eye-catching as other patterns); not commonly used.	Expensive; more difficult to install and maintain; surface can become slippery.

Figure 5-9. High Visibility Crosswalk



High visibility mid-block crosswalk in Asheville, NC. Photo courtesy of the Pedestrian Bicycle Information Center / Lyubov Zuyeva.

MID-BLOCK CROSSINGS



A mid-block crosswalk in Charlotte, NC that has piano-style markings and a pedestrian refuge island

- Install only on roads with a speed limit of less than 45 mph
 - Do not install within 300 feet from another signalized crossing point
 - Base installation of a mid-block crossing on an engineering study or pedestrian route
 - These crossings are recommended near schools, pedestrian routes, retail areas, recreation, residential areas, and community places such as Town Hall
- Require advance warning signs and good visibility for both the driver and the pedestrian. Placing a stop bar with signage a few car lengths before the crosswalk will ensure better visibility for the vehicles and the pedestrian
 - Providing a safe crossing point is necessary since pedestrians will not walk far for a signalized intersection
 - Provide an audible tone at signalized crosswalks
 - Include a pedestrian refuge island on wide streets where:
 - There are fast vehicle speeds or large vehicle or pedestrian traffic volumes
 - There is more than one travel lane in any direction
 - Children, people with disabilities, or elderly people would cross
 - There are complex vehicle movements
 - There is insufficient time to cross the entire road because of traffic demands

PEDESTRIAN REFUGE ISLANDS



Center turn lanes offer safety island opportunities

These 4 to 6 foot-wide and 8 to 12 foot-long refuges are physically separated from motorized traffic and can be in the center of two directions of traffic as the one pictured here, or can offer pedestrians a safer place in between right turning vehicles and through traffic. Some benefits to these refuge islands are that they:

- Enable pedestrians to focus on crossing each direction of traffic separately and provide a safe place in the middle of the street to wait
- Offer shorter crossings and improve safety at heavy right-turn traffic intersections
- Place pedestrians in a better position to see oncoming and turning traffic, and allow drivers to more clearly see pedestrians

SIGNALIZED MID-BLOCK CROSSINGS



A HAWK signal in Tucson, Arizona

The in-pavement flashing light crosswalk is a mid-block crosswalk that is better visible to motorists than crosswalk markings alone. The HAWK signal is a mid-block crosswalk that is used on roads where the pedestrian would require help crossing with a signal. This system uses traditional traffic and pedestrian signal heads but in a different configuration. The HAWK signal is activated by a pedestrian push button. The overhead signal begins flashing yellow and then solid yellow, advising drivers to prepare to stop. The signal then displays a solid red and shows the pedestrian a “Walk” indication. Finally, an alternating flashing red signal indicates that motorists may proceed when safe, after coming to a full stop. The pedestrian is shown a flashing “Don’t Walk” with a countdown indicating the time left to cross

LIGHTING, LANDSCAPING, AND SIGNAGE

LIGHTING

- Use lighting that is appropriate for the pedestrian scale, not the automobile scale. When lighting is not feasible or desirable (such as on suburban or rural sidewalks or greenways,) reflective materials on signs or paint striping on pavement can be used to guide pedestrians
- Well used pedestrian areas such as Commercial Districts, Neighborhood Business Districts, and parks should have appropriate lighting
- Determine a need for lighting before installing it. In many cases, lights can make visibility poorer in areas beyond an off-road path, which causes some uneasiness for pedestrians. Lighting should be standard where pedestrians cross under a structure, or when the sidewalk or path has obstacles such as curbs, steps, roadway crossings, or abrupt directional changes
- Some tree species have more damaging root systems than others and should not be planted in tight planting strips or without root barriers
- Planting strips should be wide enough to accommodate the vegetation planted. Large canopy trees need 5 to 8 feet, with 8 feet being preferred
- Space large canopy trees evenly to provide adequate shade (25 to 50 feet apart). Small canopy trees might be spaced 20 to 25 feet apart
- Utilize smaller canopy trees when conflicting overhead utilities are present
- Recent studies suggest that the cover that trees provide sidewalks actually increase their lifespans. It may not be appropriate to use sidewalk cracking issues as a reason not to include trees in a pedestrian plan

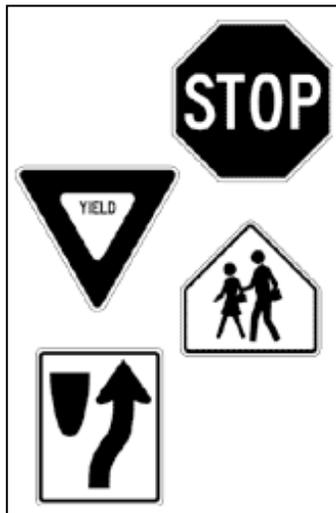
LANDSCAPING

- Native vegetation should be used to minimize maintenance and long-term costs
- Use low height shrubs near crossings
- The limbs of large canopy trees should not encroach within the walking area
- Consider trees that are low maintenance. Evergreen or tardily deciduous trees that continually drop too many leaves or acorns throughout the year would need constant attention. Deciduous trees that only drop leaves once in the year are easier to maintain

SIGNAGE

- Signage is typically used for warning, regulatory or way-finding purposes
- Signage should be minimal
- Signage should be aesthetically appealing
- Signage should be maintained to be readable

Signing is governed by the Manual on Uniform Traffic Control Devices (MUTCD), which provides specifications on the design and placement of traffic control signs installed within public rights-of-way. The MUTCD encourages a conservative use of signs (Sections 2A-1, 2A-6, 2B-1, and 2C-1). Figure 5-10, Figure 5-13, Figure 5-14, and Figure 5-15 show examples of these signs. Signs should only be installed when they fulfill a need based on an engineering study or engineering judgment. In general, signs are often ineffective in modifying driver behavior, and overuse of signs breeds disrespect. Used judiciously and located with consistency, signs and markings can be effective.



Planners have a variety of regulatory and warning signs that can be used to increase pedestrian safety

Signs should only be installed when they fulfill a need based on an engineering study or engineering judgment. In general, signs are often ineffective in modifying driver behavior, and overuse of signs breeds disrespect. Used judiciously and located with consistency, signs and markings can be effective.



This crosswalk in Mooresville, NC uses a Pedestrian Crossing street sign, an in-street warning sign and pavement markers



Signs may be placed on pavement, furniture, or other locations such as the sign on the pavement above reminding pedestrians to look both ways before crossing

The MUTCD outlines guidelines governing signs and pavement markings but it does not prohibit any creative design. Colors for signs and markings should conform to the color schedule recommended by the MUTCD to promote uniformity and understanding from jurisdiction to jurisdiction. For the background color of signs, use:

YELLOW & FLUORESCENT YELLOW/GREEN - General warning
RED - Stop or prohibition
BLUE - Service guidance
GREEN - Indicates movements permitted, directional guidance
BROWN - Public recreation and scenic guidance
ORANGE - Construction and maintenance warning
BLACK - Regulation
WHITE - Regulation

Warning signs are used to inform unfamiliar motorists and pedestrians of unusual or unexpected conditions. Advance pedestrian warning signs should be used where pedestrian crossings may not be expected by motorists, especially if there are many motorists who are unfamiliar with the area. A new fluorescent yellow/green color is approved for pedestrian, bicycle, and school warning signs (Section 2A.11 of the MUTCD). When used, warning should be placed in a way that allows adequate response times. Warning signs are generally diamond-shaped with black

letters or drawings on a yellow background and shall be reflectorized or illuminated.

Regulatory signs, such as STOP, YIELD, or turn restrictions require certain driver actions and can be enforced. Warning signs can provide helpful information, especially to motorists and pedestrians unfamiliar with an area. Some examples of signs that affect pedestrians include pedestrian warning signs, motorist warning signs, NO TURN ON RED signs, and guide signs.

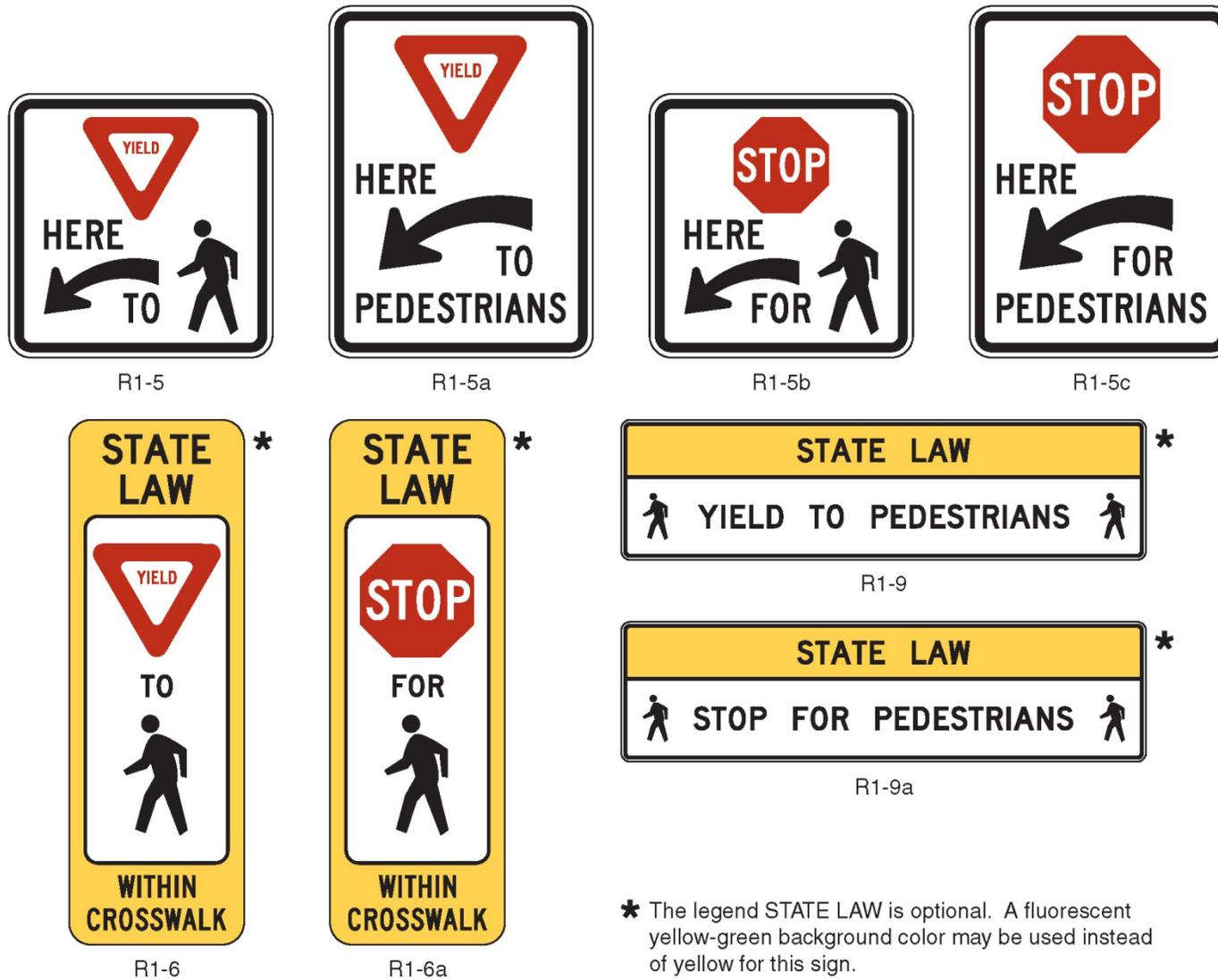
North Carolina General Statute § 20-173 states that vehicles must yield to pedestrians in any marked crosswalk or within any unmarked crosswalk at or near an intersection. Each intersection should be marked with the proper crosswalk and some intersections may benefit from signs reminding drivers of this law.

Wayfinding signs guide pedestrians towards destinations in the community and promote walking as another means of transportation. They are often color-coded and incorporate symbols. Figure 5-15 provides examples of these signs. When designing and placing wayfinding signs, care must be taken not to confuse vehicular traffic as pedestrian routes often differ from vehicular routes. To avoid confusion, wayfinding signs should be located away from vehicular traffic signs and should face the sidewalk instead of the street.

Figures on the following pages show examples of signs for pedestrian and bicycle facilities from the 2009 MUTCD, the most recent version available at the writing of this Plan.

Figure 5-10. Examples of Unsignalized Pedestrian Crosswalk Signs

Figure 2B-2. Unsignalized Pedestrian Crosswalk Signs



Examples of unsignalized pedestrian crosswalk signs from the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.

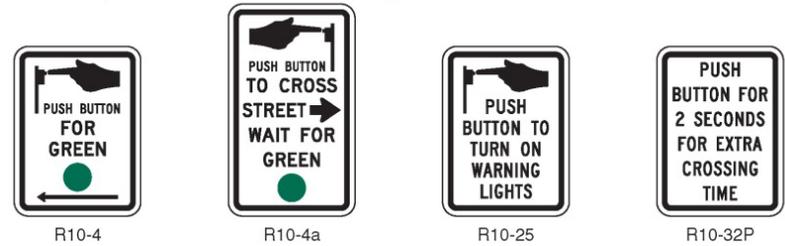
Figure 5-11. Examples of Signalized Pedestrian Crosswalk Signs

Figure 2B-26. Pedestrian Signs and Plaques (Sheet 1 of 2)



December 2009

Figure 2B-26. Pedestrian Signs and Plaques (Sheet 2 of 2)

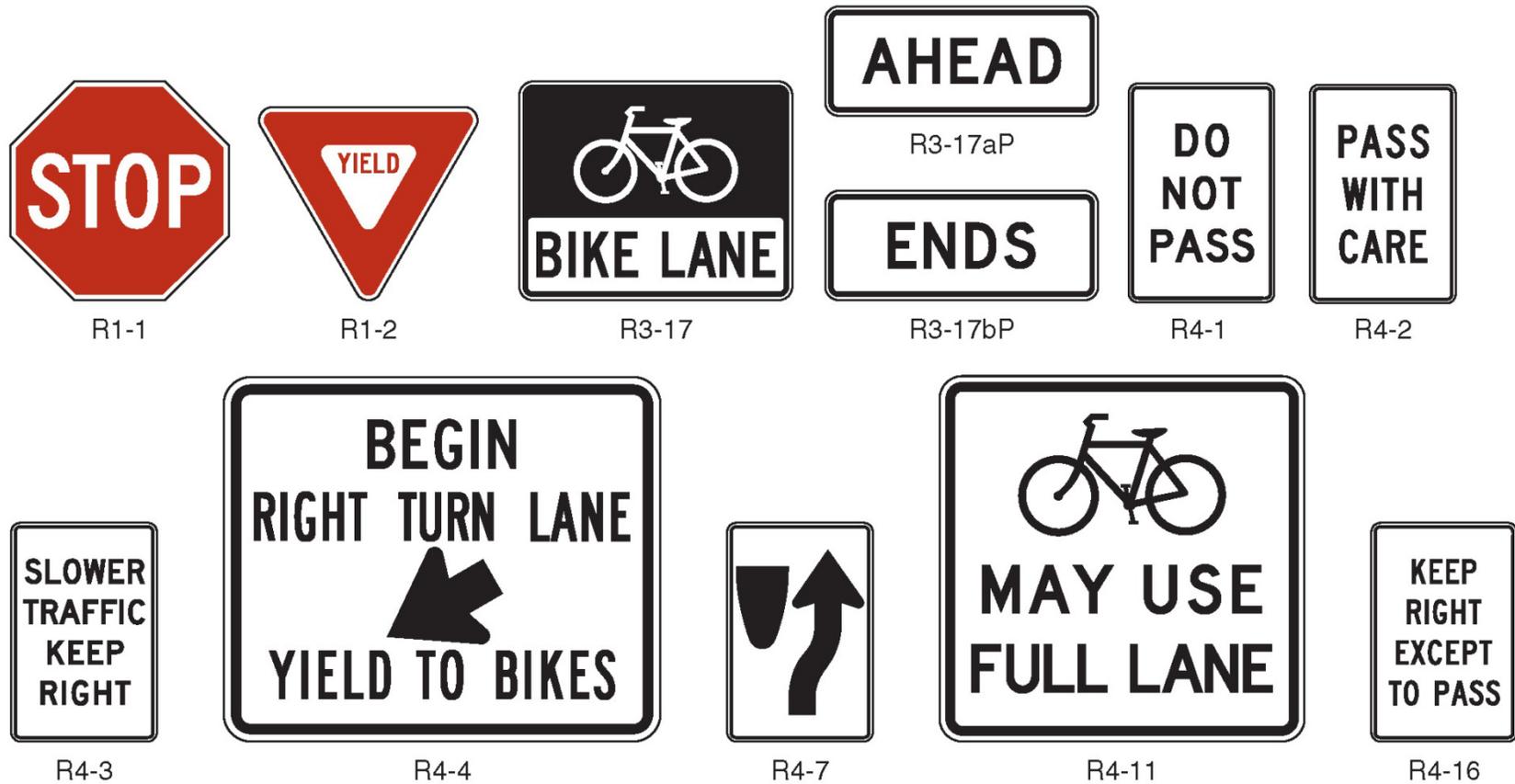


Sect. 2B.5I

Examples of signalized pedestrian crosswalk signs from the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.

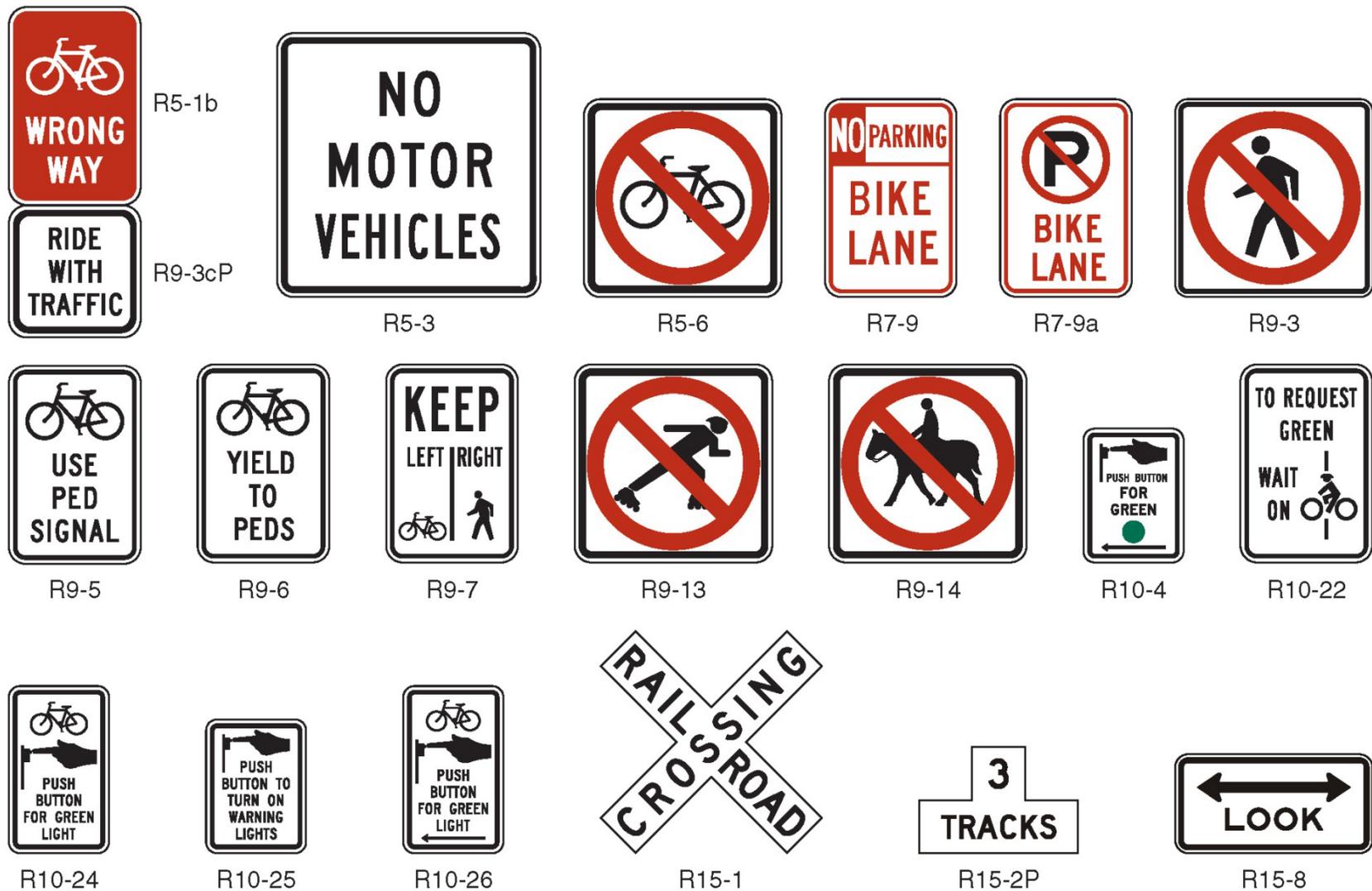
Figure 5-12. Examples of Regulatory Signs and Plaques for Bicycle Facilities

Figure 9B-2. Regulatory Signs and Plaques for Bicycle Facilities



Examples of bicycle signs from the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.

Figure 5-12 continued:



Examples of bicycle signs from the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.

Figure 5-13. Examples of Pedestrian Crosswalk Signs by Schools

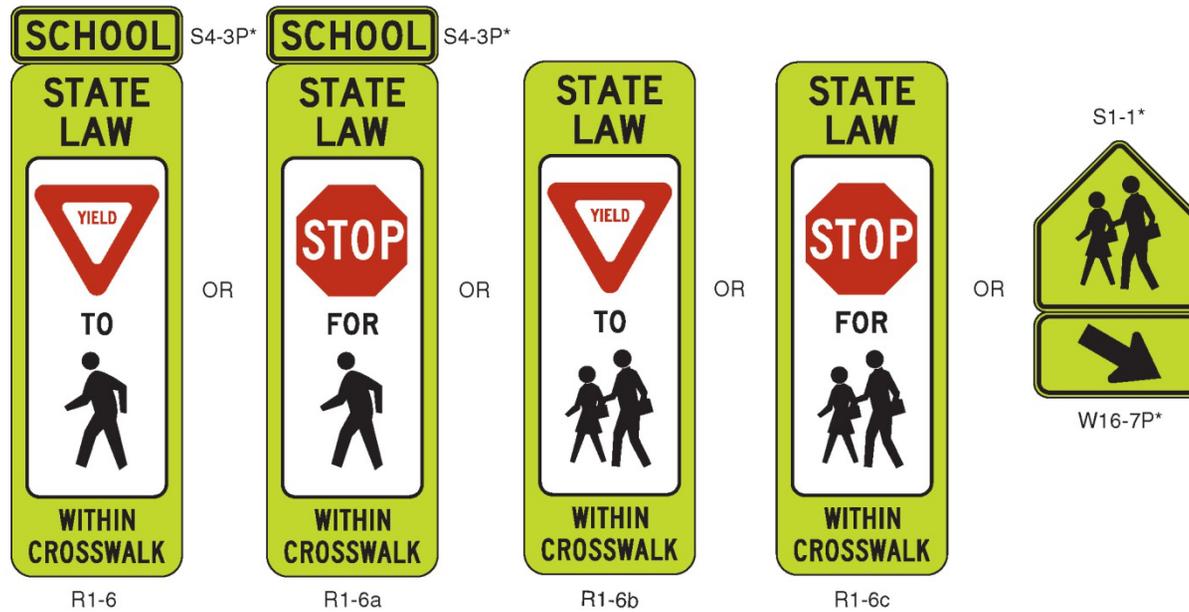
Figure 7B-6. In-Street Signs in School Areas

A - In advance of the school crossing



* Reduced size signs:
 S1-1 12 x 12 inches
 S4-3P 12 x 4 inches
 W16-7P 12 x 6 inches
 W16-9P 12 x 6 inches

B - At the school crossing



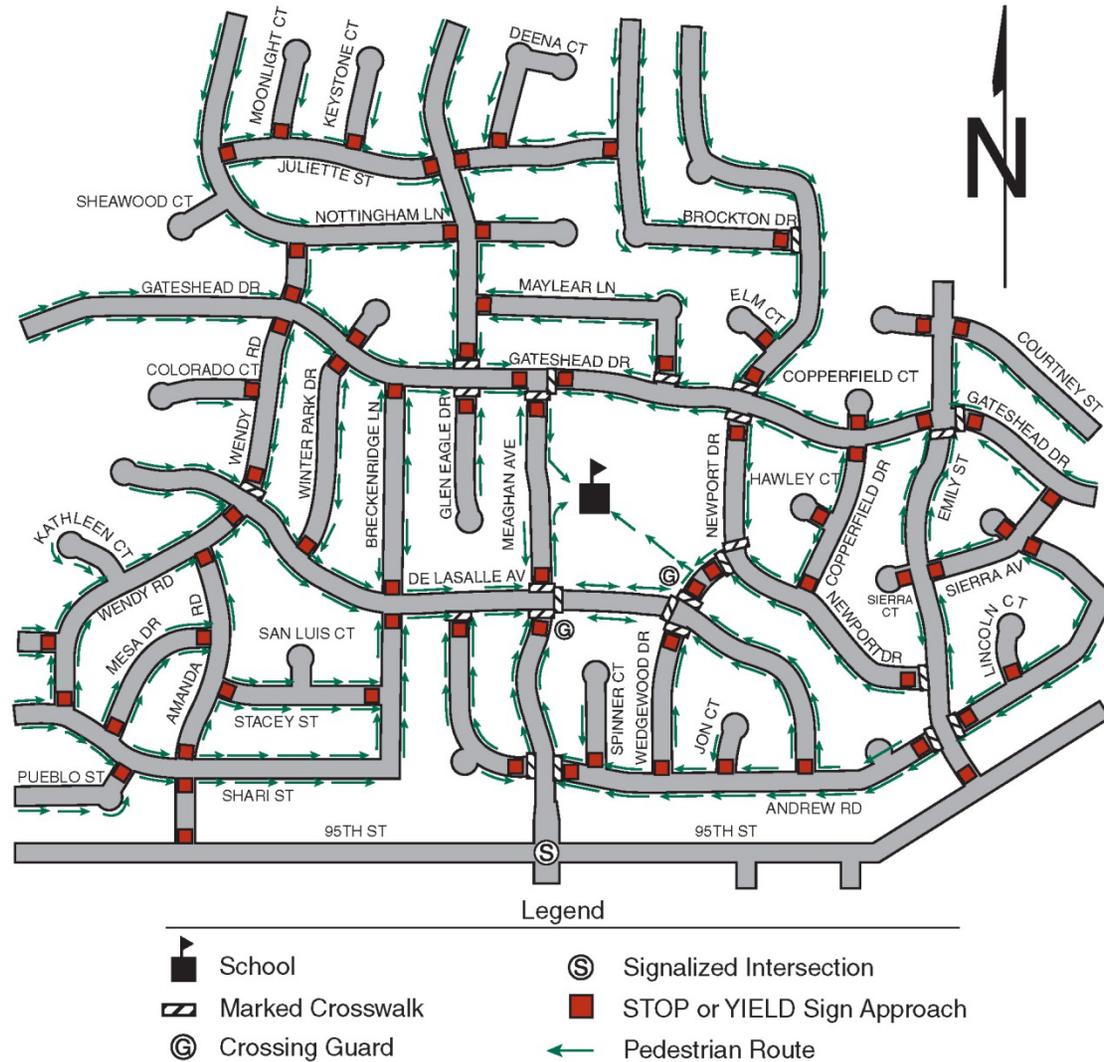
Notes:

1. The use of the STATE LAW legend is optional on the R1-6 series signs (see Section 7B.12).
2. The use of the SCHOOL plaque above the R1-6 and R1-6a signs is optional.

Examples of pedestrian crosswalk signs by schools from the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.

Figure 5-14. Example of a School Route Plan Map

Figure 7A-1. Example of School Route Plan Map



Example of a school route plan map including locations of pedestrian signs and crossings from the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.

Figure 5-15. Examples of Wayfinding Signs

Figure 2D-18. Examples of Community Wayfinding Guide Signs

A - Community Wayfinding Guide Signs with Enhancement Markers



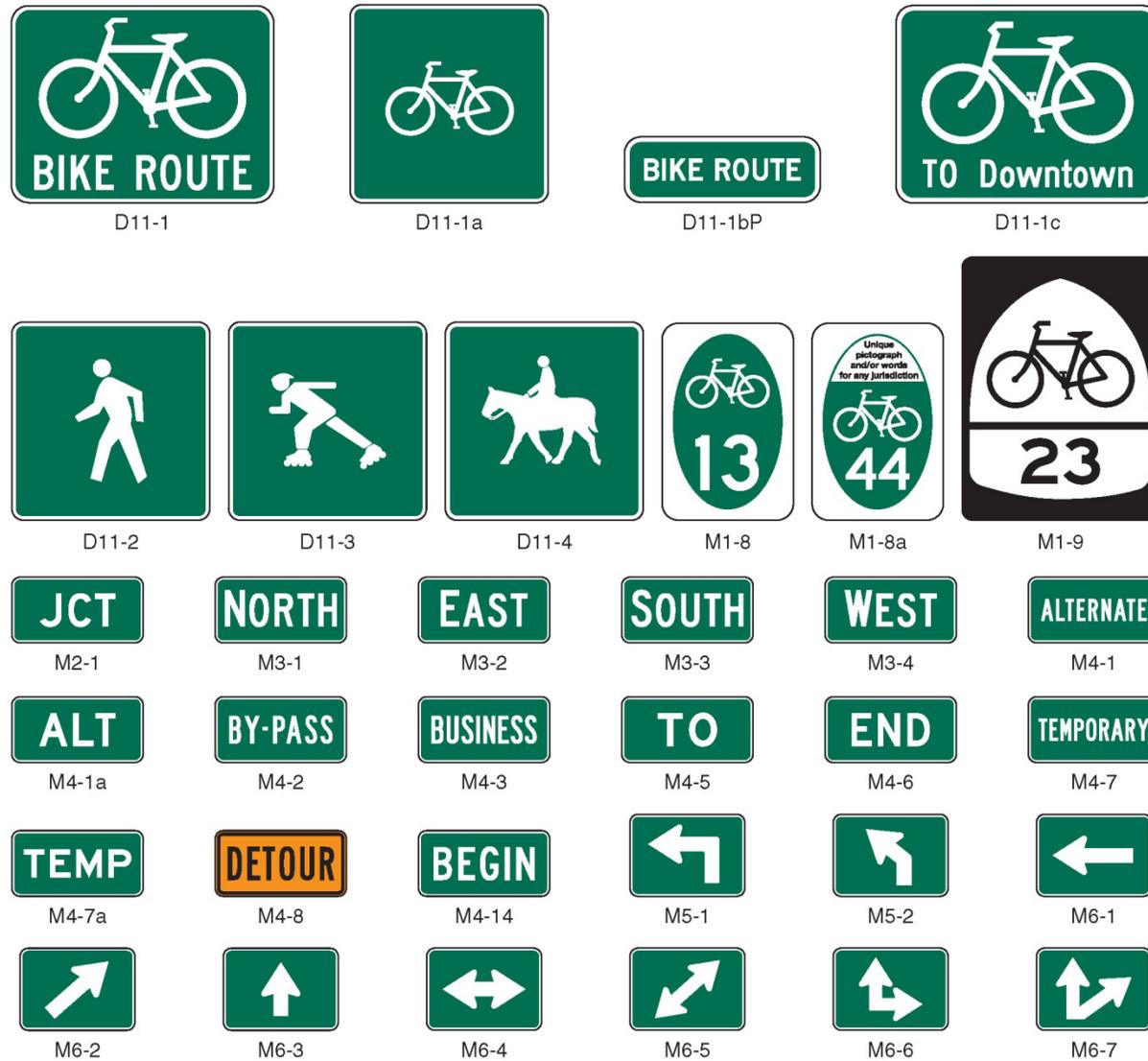
B - Destination Guide Signs for Color-Coded Community Wayfinding System



Examples of wayfinding signs from the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.

Figure 5-15 continued:

Figure 9B-4. Guide Signs and Plaques for Bicycle Facilities (Sheet 2 of 2)



Examples of wayfinding signs from the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition Revisions 1 and 2.

5.3 Traffic Calming

In addition to sidewalks, paths, and wide-paved shoulders, calming traffic is another critical component of this Plan to address pedestrian safety in the community. There a variety of techniques to accomplish this: tightening turns, all-way stops and yields, roundabouts, restriping lanes, and bicycle lanes. Many of the roads in Trent Woods are maintained by the Town, others by the State, and some are privately owned. Any modifications to roads will require close coordination amongst the entities that own and maintain the roads.

Tightening Turns and/or Extending Sidewalks



Pedestrians have less road width to cross when there is a curb extension and cars are forced to slow down to make right turns.

Tightening turns at intersections will force motorists to reduce their speeds. The angle gives drivers a better view of approaching traffic and pedestrians while decreasing the length of the crosswalk for pedestrians. This solution enhances pedestrian safety at all intersections, and would greatly improve the safety at major intersections where vehicles make quick turns.

All-Way Stops and Yields



A four way yield intersection, with some modification, can become a mini-roundabout

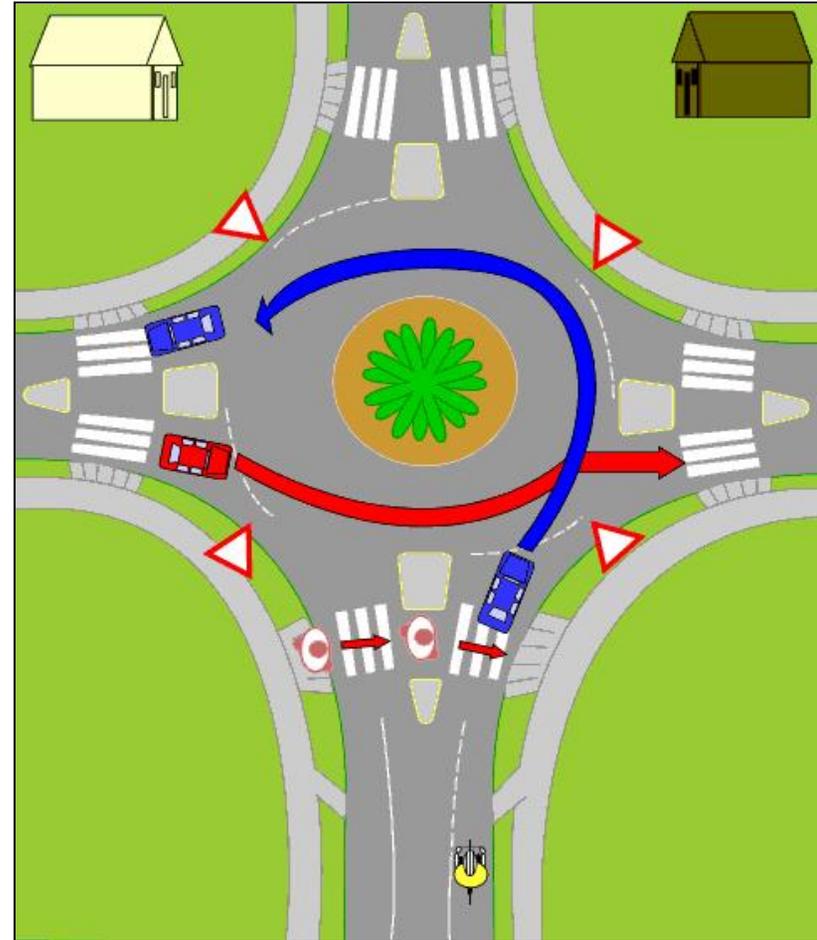
Neighborhood road intersections that currently have a stop in one direction can be modified to have a stop or a yield in all directions, if other speed controls are already in place. This photo shows a four-way yield, but this location can easily be made safer for pedestrians by including a roundabout in the middle of this intersection.

Roundabouts



A mini-roundabout in Madison, WI

Roundabouts are great for pedestrians, bicycles, and automobiles, despite the fears from those who are unfamiliar with these traffic control devices that are popular worldwide. Roundabouts limit potential conflict points because the automobiles and bicyclists are unable to make left turns. Instead, the vehicle moves in a counter-clockwise direction around the circle, and makes a right turn onto their chosen road. Vehicles get through the intersection more quickly, even though their speed is lower. Since these traffic speeds are slow, bicyclists can move into the travel lanes as if they were a larger vehicle. Pedestrians and novice bicyclists use sidewalks and crosswalks (sometimes with pedestrian refuge islands) on the outside of the roundabout, and have been shown to have fewer collisions with vehicles at these roundabouts than with conventional intersections.



This roundabout image is from Yorkton, Canada and shows crosswalks, safety islands, and optional bike paths for inexperienced cyclists who prefer not to take the lane.

Narrowing Residential Streets with Striping



A striped shoulder in Albemarle

On low-volume neighborhood roadways where some streets currently have no sidewalks, pedestrians sometimes choose to use portions of the roadway for walking. While this practice is allowed by law, it is important that vehicle speeds be controlled for safety purposes. This is particularly true when street lanes are so wide that drivers feel less constricted and can travel at speeds not conducive to safely sharing the roadway with pedestrians or young cyclists. Narrowing lanes and other traffic-affecting policies are effective in reducing vehicle speed on streets with or without sidewalks.

When retrofitting to install sidewalks in neighborhoods is not currently feasible, reducing vehicle lane width, and thereby vehicle speed, on these broad neighborhood streets will increase safety for pedestrians sharing the street with vehicles. Standard 9.5 to 10.5 foot lanes can be established by installing outside boundary lines with either paint or thermoplastic striping. While thermoplastic striping costs more, it will last significantly longer than will lines of standard paint, although standard paint will likely last for years on lower-volume streets. This practice is limited to roadways with speed limits of 25 mph or less, and with an ADT of 3,000 or less. Roadways that are primary pedestrian corridors and those in residential areas should keep traffic speeds at a maximum of 20 to 25 mph. Keeping motor vehicle lanes at a width of 9.5 to 10.5 feet with other traffic calming features could naturally keep speeds limited. Thirty to 40 mph roadways should have 11 foot-wide inside travel lanes and 12 foot-wide outside lanes, but 35 mph roadway lanes can be as narrow as 10 feet if separate bicycle lanes exist, and outside lanes can be as wide as 14 feet if they are meant to be shared travel lanes for bicycles and automobiles.

Pedestrians who choose to use the areas outside the painted lanes must still comply with local and state law. North Carolina General Statute § 20-174 specifically states that pedestrians must use sidewalks where they are provided. When no sidewalks are provided, pedestrians should walk facing traffic and must yield right-of-way to vehicular traffic, while vehicle drivers must use due care to avoid pedestrians on the roadway. The presence or the expectation of pedestrians on a street may also slow traffic on these neighborhood roadways.

Experienced bicyclists should use, and be expected to use, the vehicle lanes. Young and inexperienced bicyclists may use the area with the pedestrians, but should ride in the same direction as traffic. This photo shows striped shoulders in Albemarle, NC, that are primarily for on-street parking, but still offer minimal pedestrian accommodations.



Striped shoulders in Albemarle, NC wide enough for on-street parking

Bicycle Lanes



A bike lane in Charlotte, NC

It is important to understand that sidewalks are not designed for bicycles, and bicycle planning needs to be incorporated with roadway planning or with paved paths off of the road right-of-way. This Plan does not provide specific projects or recommendations for bicycles. The previous paragraph describes lane striping specifically for traffic calming, but bicycle lanes are functional lanes for bicycles that also serve to slow traffic and as traffic buffers for pedestrians on the sidewalk. Although neighborhood roads typically have low enough automobile speeds and volumes for cyclists to ride in the vehicle lanes, bicycle lanes on arterial roads offer a perception of safety to bicyclists, and make many drivers more comfortable with sharing the road with a cyclist. NCDOT guidelines require designated bicycle lanes to be a minimum of 4 feet from the edge of the gutter pan to the stripe.

5.4 Aesthetic Standards

Trent Woods is a beautiful community that takes great pride in its preserved natural spaces, trees, and suburban character. The design of any infrastructure project should respect the landscape and minimize visual impacts in addition to minimizing environmental and property impacts. Specific aesthetic standards should be developed to guide the design of crosswalk treatments, sidewalks, and multi-use paths. Examples are shown below:

Benches



Exercise Stations



Decorative Sidewalks



Landscaping



Photos 1, 2, and 4 courtesy of the Pedestrian Bicycle Information Center/Dan Burden.

Generally, landscaping with native species should be part of an infrastructure project not only to address aesthetics, but also to assist with water runoff. Wherever possible, ample space should be preserved between the road and the sidewalk or multi-use path to accommodate for trees and other landscaping. Such landscaping will enhance the visual aesthetics and keep with the Town's natural character. Landscaping will continue to be an amenity as trees mature, providing increased shade. It is imperative that landscaping be well-maintained as grasses and shrubs can become dangerous if they grow tall enough to obscure visibility for pedestrians and motorists.

5.5 Americans with Disabilities Act (ADA) Facility Transition Plan

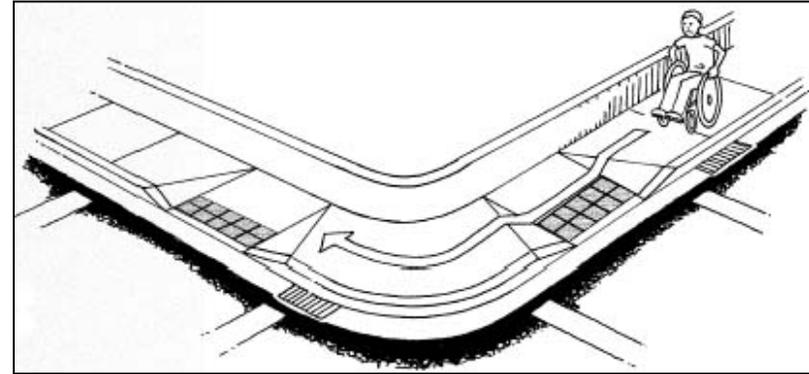


Lack of pedestrian planning in this NC neighborhood burdens people with disabilities

Title II of the Americans with Disabilities Act of 1990 (ADA) requires that local governments complete a Transition Plan that describes how the municipality will upgrade its existing public right-of-way facilities so they are compliant with ADA. This plan was intended to be complete for states and larger municipalities by July of 1992; with modifications done by January of 1995. The U.S. government and the community with disabilities realized this goal was lofty, but nearly twenty years later, its provisions are expected to be completed. In some instances, comprehensive pedestrian plans have served as the Transition Plan for municipal and state governments around the country.

This Plan recommends that the Town of Trent Woods takes special care to make certain that each right-of-way project completed in the Town incorporates curb ramps, sidewalk maintenance, and crosswalks that will satisfy ADA guidelines. This includes, but is not limited to: sidewalk and crossing cross slopes, sidewalk widths, surface, grades, curb cuts, ramps, landing areas, gaps, obstacles, detectable warnings, and signals. The illustrations here show some of the problems, issues and solutions that are involved with the proper planning for pedestrians with disabilities. Placing curb ramps out of the travel area, making sure to accommodate all users in the vehicle right-of-way, and providing detectable warnings on the ramps for the visually impaired are examples of the many improvements that can be completed. These illustrations and more information and guidance on this topic are located on the United States Department of Transportation's website at:

<http://www.fhwa.dot.gov/environment/sidewalk2/sidewalks207.htm>



Curb cuts and ramps without a minimum 6 foot buffer from the curb create dips and inadequate landing areas.



New sidewalks with ADA considerations.

6 | Proposed Projects

6.1 Proposed Projects

Through collaboration with the Steering Committee and input from the two public workshops, projects have been identified to improve pedestrian safety, increase connectivity, and address the goals and objectives of this Plan. These projects are divided into two main groups: linear facilities and spot improvements. Together, they form the recommendations for the Town’s pedestrian network. The linear facility projects connect at least two points in the Town and consist of several facility types that are detailed in Section 5: Facility Design Standards and Guidelines. The four types are: **wide-paved shoulders, sidewalks, sidewalks/wide-paved shoulder hybrid, and off-road connections.**

Spot improvements are crosswalks and signage that would address pedestrian safety and connectivity at intersections or mid-block road crossings. In addition to physical improvements, policies, ordinances, and programs have also been proposed to work in tandem with linear facilities and spot improvements. These policies, ordinances, and programs are outlined in Section 7: Recommended Policies, Ordinances, and Programs. Table 6-1 and Table 6-2 list the proposed projects and Figure 6-2 and Figure 6-3 show a map of the proposed project by facility type. The proposed projects are prioritized in Section 6.2.

Figure 6-1. Summary of Linear and Spot Improvements

	LINEAR	SPOT
Description	Connect at least two points	Improvements at a single point
Types	<ul style="list-style-type: none"> • Sidewalks • Wide-Paved Shoulders • Sidewalks/ Wide-Paved Shoulders Hybrid • Off-Road Connections 	<ul style="list-style-type: none"> • Neighborhood Connections • Improved Signage • High Visibility Crosswalks • Pedestrian Refuge and Crosswalks • Signalized Crossings

Table 6-1. Proposed Linear Facility Projects

MAP ID	FACILITY NAME	FROM	TO	FACILITY TYPE
1	Chelsea Road	Country Club Rd.	Country Club Dr.	Sidewalk + Wide-Paved Shoulder
2	Country Club Road West	Town boundary	Chelsea Rd.	Sidewalk + Wide-Paved Shoulder
3	Country Club Road East	Country Club Dr.	Chelsea Rd.	Sidewalk + Wide-Paved Shoulder
4	Country Club Drive 1	Chelsea Rd.	Devonshire Dr.	Sidewalk
5	Country Club Drive 2	Devonshire Dr.	Country Club Rd.	Sidewalk
6	Devonshire Drive Connector	Country Club Dr.	Canterbury Rd.	Sidewalk
7	Canterbury Road North	Highland Ave.	Windsor Dr.	Sidewalk
8	Trent Woods Drive East	Chelsea Rd.	River Rd.	Wide-Paved Shoulder
9	River Road	Trent Woods Dr.	Town boundary	Sidewalk
10	Trent Woods Drive West	River Rd.	Haywood Creek Dr.	Wide-Paved Shoulder
11	Canterbury Road South	Windsor Dr.	Wedgewood Dr.	Sidewalk
12	Wedgewood Drive	Country Club Rd.	Canterbury Rd.	Sidewalk
13	Highland Avenue	Canterbury Rd.	Trent Rd.	Sidewalk
14	Bangert Elementary Footpath	Red Fox Rd.	Bangert Elementary School	Footpath
15	Meadows Park Footpath	Carolina Ave.	Meadows Park	Footpath
16	Springwood-Hermitage Connection	Springwood Dr.	Hermitage Rd.	Footpath, Multi-Use Path, or Road
NB	Greenleaf Cemetery Road	Town boundary	Martin Luther King Jr. Blvd	Sidewalk
NB	Chelsea Road North	Town boundary	Trent Rd.	Sidewalk + Wide-Paved Shoulder

Bridges

MAP ID	FACILITY NAME	LOCATION	FACILITY TYPE
1	Wilson Creek Bridge	Trent Woods Dr.	Bridge improvement

Wilson Creek Bridge

Trent Woods Drive spans the Wilson Creek Bridge connecting the two parts of Trent Woods that are divided by Wilson Creek. The current bridge is 24 feet wide and lacks sidewalks. It was originally built in 1984 and is slated for replacement in the future according to NCDOT Division 2. The future replacement should have sidewalks and wide-paved shoulders to accommodate pedestrians and cyclists. Wide-paved shoulders are recommended for Trent Woods Drive from Chelsea Road to Haywood Creek Drive.

Other options may be considered for improving pedestrian safety at the bridge. A separate pedestrian bridge could parallel the existing vehicular bridge. It would separate pedestrian and vehicular traffic thereby increasing safety. These bridges are often prefabricated from aluminum, steel, or wood and then set into place. Aluminum offers the advantage of durability while being resistant to corrosion. There are several manufacturers of pedestrian bridges and estimates range from \$60,000 to \$80,000 for this project (See Section 6.3 for cost estimates). An engineering study would need to be completed to evaluate the appropriate bridge type for Wilson Creek.



Wilson Creek Bridge looking west.



Example of a pedestrian bridge next to an existing vehicular bridge. Photo courtesy of the Pedestrian Bicycle Information Center/Dan Burden.

Table 6-2. Proposed Spot Improvement Projects

MAP ID	LOCATION	TYPE
1	Devonshire Dr. and Country Club Dr.	High Visibility Crosswalk
2	Devonshire Dr. and Canterbury Rd.	High Visibility Crosswalk
3	Chelsea Rd. and Country Club Rd.	Pedestrian Refuge and Crosswalk*
4	Bangert Elementary Crosswalk	Pedestrian Refuge and Crosswalk
5	Chelsea Rd. and Country Club Dr.	Pedestrian Refuge and Crosswalk
6	Country Club Dr. and Country Club Rd.	Pedestrian Refuge and Crosswalk
7	Wedgewood Dr. and Country Club Rd.	Pedestrian Refuge and Crosswalk
8	Wedgewood Dr. and Dianne Dr.	High Visibility Crosswalk
9	Greenleaf Cemetery South	Pedestrian Refuge and Crosswalk
10	Greenleaf Cemetery North	Pedestrian Refuge and Crosswalk
11	Highland Ave. and Steeplechase Dr.	Improved Signage
12	Trent Woods Dr. and River Rd.	High Visibility Crosswalk
13	Steeplechase Dr. and Country Club Rd.	Pedestrian Refuge and Crosswalk
NB	Chelsea Rd. and Trent Rd.	Signalized Crossing
NB	Greenleaf Cemetery Rd. and Dr. MLK Blvd (US17)	Signalized Crossing
NB	Connection to Ben Quinn Elementary from Haywood Farms Rd.	Neighborhood Connection
NB	Highland Ave. and Trent Rd.	Signalized Crossing

*Pedestrian refuges as pictured in Section 5.2 not only enhance safety for pedestrians, they also help to calm traffic by encouraging motorists to slow down. Installing pedestrian refuges in Trent Woods would enhance safety along roads and at specific crossings.

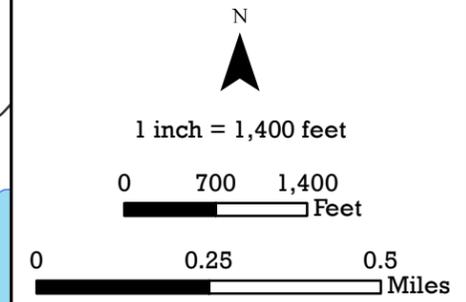
CRAVEN COUNTY

TRENT WOODS PEDESTRIAN PLAN

**FIGURE 6-2
PROPOSED LINEAR
FACILITY PROJECTS**

Legend

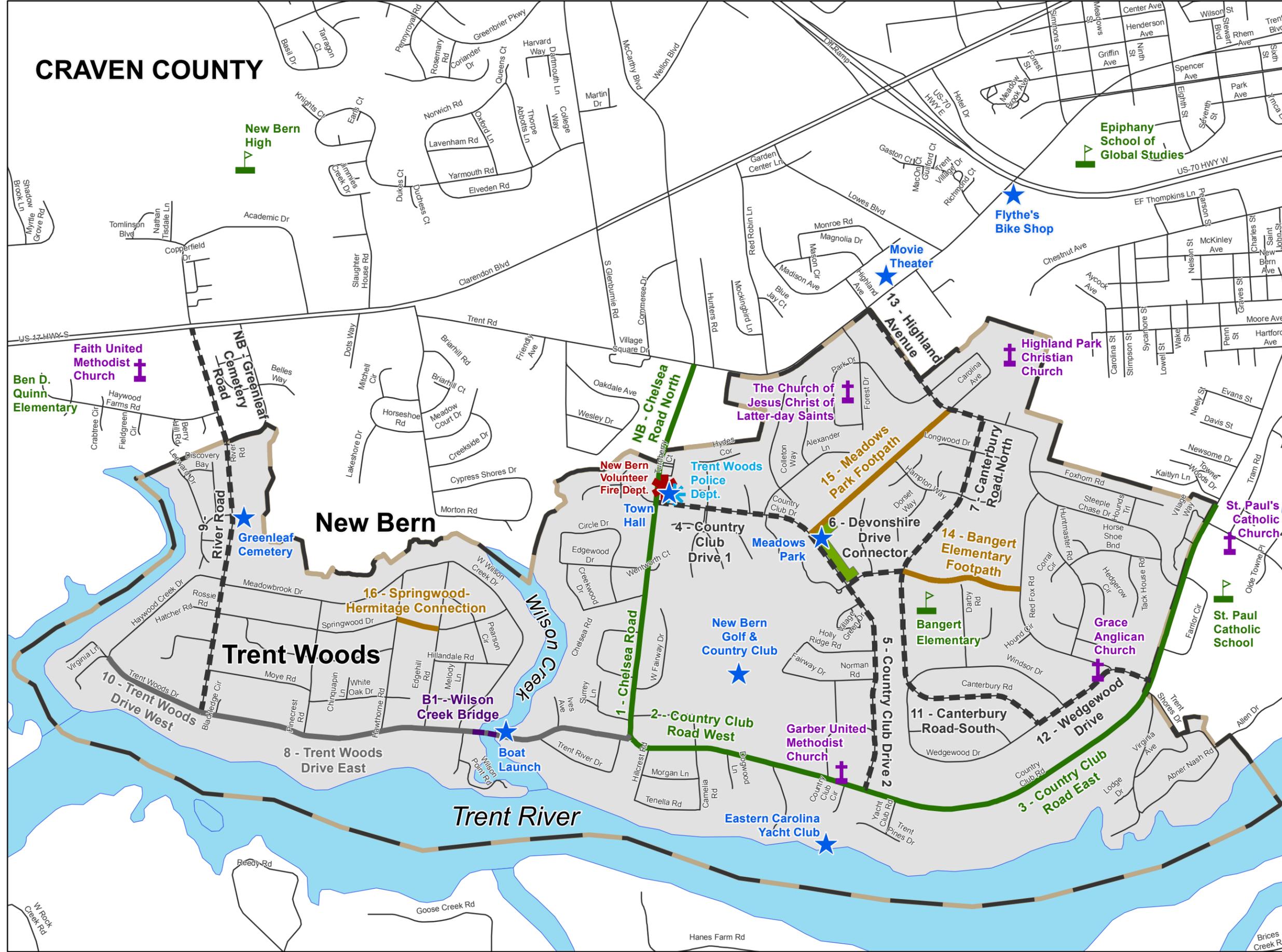
-  Municipal Boundary
-  Destination
-  Church
-  Fire Station
-  Park
-  Police Station
-  School
- Proposed Linear Facilities**
-  Sidewalk
-  Wide Paved Shoulder
-  Sidewalk + Wide Paved Shoulder
-  Off-Road Connection
-  Bridge



Sources: Craven County, NCDOT, and URS
This map is intended as a planning document and information is subject to revisions.



February 2014



CRAVEN COUNTY

TRENT WOODS PEDESTRIAN PLAN

**FIGURE 6-3
PROPOSED SPOT
IMPROVEMENTS**

LEGEND

-  Municipal Boundary
-  Destination
-  Church
-  Fire Station
-  Park
-  Police Station
-  School
- Spot Improvements**
-  Neighborhood Connection
-  Improved Signage
-  High Visibility Crosswalk
-  Pedestrian Refuge and Crosswalk
-  Signalized Crossing

N

1 inch = 1,400 feet

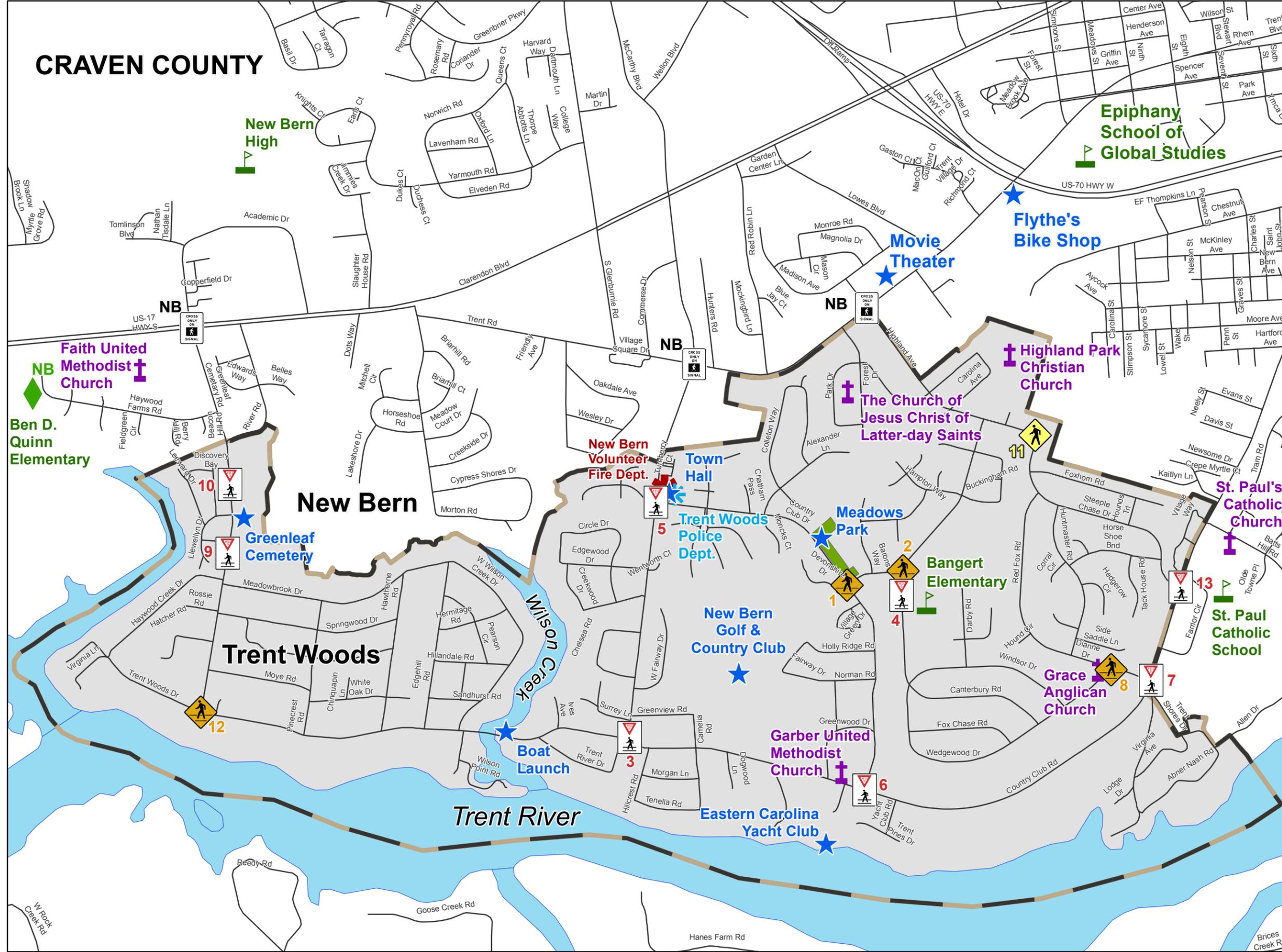
0 700 1,400 Feet

0 0.25 0.5 Miles

Sources: Craven County, NCDOT, and URS
This map is intended as a planning document and information is subject to revisions.



February 2014



6.2 Prioritization

The proposed projects have been prioritized in order to most efficiently and effectively improve pedestrian safety and connectivity in Trent Woods.

Linear Facility Prioritization

Linear facility projects were prioritized according to ten factors with input from the Steering Committee and public.

These ten factors are:

- Public and Steering Committee Priority
- School proximity
- Destination proximity
- Current Pedestrian Route
- Pedestrian and Bicycle Counts
- Safety: Vehicular Crashes
- Current Right-of-Way available for facility
- Overall Feasibility
- Critical Linkage
- Included in Existing Plan

Each project was awarded 0 to 10 points in each of the ten categories for a possible maximum score of 100. The highest ranked project received 89 points and the lowest ranked project 12 points.

The projects were organized into four priority groups:

- **High:** top 5 ranking projects
- **Medium:** next 5 ranking projects
- **Low:** rest of projects
- **Not Prioritized:** projects outside of Trent Woods town limits

More details on the prioritization process, including ranking criteria, can be found in Appendix B.

Spot Improvement Prioritization

Spot improvements were also prioritized. Not all of the factors used in the linear facility prioritization (listed above) were applicable to spot improvements. For instance the number of crashes and bicycle and pedestrian counts were only available for sections of road, not at specific intersections or crossings. Therefore spot improvements were ranked according to four out of the ten factors also used in the linear facility prioritization:

- Public and Steering Committee Priority
- School proximity
- Destination proximity
- Current Pedestrian Route

Each project was awarded 0 to 10 points in each of the four categories for a possible maximum score of 40. The highest ranked project received 38 points and the lowest ranked project 10 points.

The projects were organized into four priority groups:

- **High:** top 5 ranking projects
- **Medium:** next 5 ranking projects
- **Low:** remaining projects
- **Not Prioritized:** projects outside of Trent Woods town limits

More details on the prioritization process, including ranking criteria, can be found in Appendix B.

Prioritization as a General Guide

The prioritization is meant to serve as a general guide. There may likely be opportunities to implement these projects in an order other than the order in which they were prioritized. For example if NCDOT is repaving Trent Woods Drive, than it would be advantageous to implement wide-paved shoulders at that time even though Trent Woods Drive is a medium priority project. The prioritization in this Plan should generally be followed as it directly reflects the public input from Town residents and the Steering Committee. This should not, however, prevent the Town from taking advantage of pedestrian improvements as these opportunities present themselves.



Citizens of Trent Woods providing input on project priorities at the Second Public Workshop held on September 26, 2013.

Table 6-3. Prioritized Linear Facility Projects*

MAP ID	FACILITY NAME	PRIORITY	TOTAL SCORE	FACILITY TYPE
1	Chelsea Road	High	89	Sidewalk + Wide-Paved Shoulder
2	Country Club Road West	High	88	Sidewalk + Wide-Paved Shoulder
3	Country Club Road East	High	87	Sidewalk + Wide-Paved Shoulder
4	Country Club Drive 1	High	71	Sidewalk
5	Country Club Drive 2	High	71	Sidewalk
6	Devonshire Drive Connector	Medium	68	Sidewalk
7	Canterbury Road North	Medium	67	Sidewalk
8	Trent Woods Drive East	Medium	65	Wide-Paved Shoulder
9	River Road	Medium	61	Sidewalk
10	Trent Woods Drive West	Medium	59	Wide-Paved Shoulder
11	Canterbury Road South	Low	57	Sidewalk
12	Wedgewood Drive	Low	47	Sidewalk
13	Highland Avenue	Low	43	Sidewalk
14	Bangert Elementary Footpath	Low	39	Footpath
15	Meadows Park Footpath	Low	24	Footpath
16	Springwood-Hermitage Connection	Low	12	Footpath, Multi-Use Path, or Road
NB	Greenleaf Cemetery Road	Not Prioritized (in New Bern)	X	Sidewalk
NB	Chelsea Road North	Not Prioritized (in New Bern)	X	Sidewalk

*See Appendix B for a detailed prioritization of linear facility projects

Table 6-4. Prioritized Spot Improvement Projects*

MAP ID	LOCATION	PRIORITY	TOTAL SCORE
1	Devonshire Dr. and Country Club Dr.	High	38
2	Devonshire Dr. and Canterbury Rd.	High	36
3	Chelsea Rd. and Country Club Rd.	High	27
4	Bangert Elementary Crosswalk	High	26
5	Chelsea Rd. and Country Club Dr.	High	26
6	Country Club Dr. and Country Club Rd.	Medium	24
7	Wedgewood Dr. and Country Club Rd.	Medium	19
8	Wedgewood Dr. and Dianne Dr.	Medium	13
9	Greenleaf Cemetery South	Medium	13
10	Greenleaf Cemetery North	Medium	13
11	Highland Ave. and Steeplechase Dr.	Low	12
12	Trent Woods Dr. and River Rd.	Low	11
13	Steeplechase Dr. and Country Club Rd.	Low	10
NB	Chelsea Rd. and Trent Rd.	Not Prioritized (in New Bern)	X
NB	Greenleaf Cemetery Rd. and Dr. MLK Blvd (US17)	Not Prioritized (in New Bern)	X
NB	Connection to Ben Quinn Elementary from Haywood Farms Rd.	Not Prioritized (in New Bern)	X
NB	Highland Ave. and Trent Rd.	Not Prioritized (in New Bern)	X

*See Appendix B for a detailed prioritization of spot improvement projects

CRAVEN COUNTY

TRENT WOODS PEDESTRIAN PLAN

**FIGURE 6-4
PRIORITIZED LINEAR
FACILITY PROJECTS**

Legend

- Municipal Boundary
- Destination
- Church
- Fire Station
- Park
- Police Station
- School

Prioritized Linear Facilities

- High Priority
- Medium Priority
- Low Priority
- Not prioritized (in New Bern)

N

1 inch = 1,400 feet

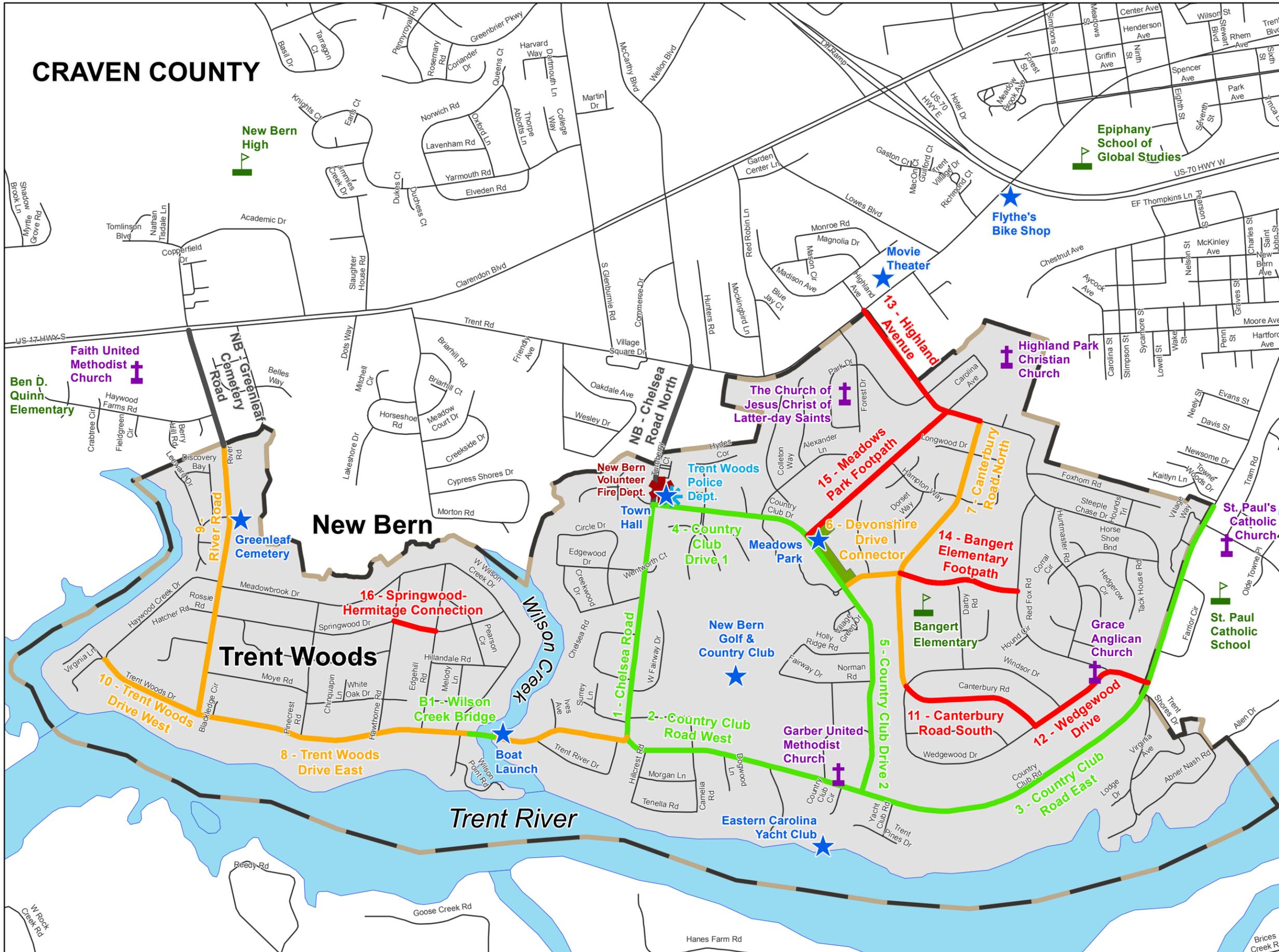
0 700 1,400 Feet

0 0.25 0.5 Miles

Sources: Craven County, NCDOT, and URS
This map is intended as a planning document and information is subject to revisions.



February 2014



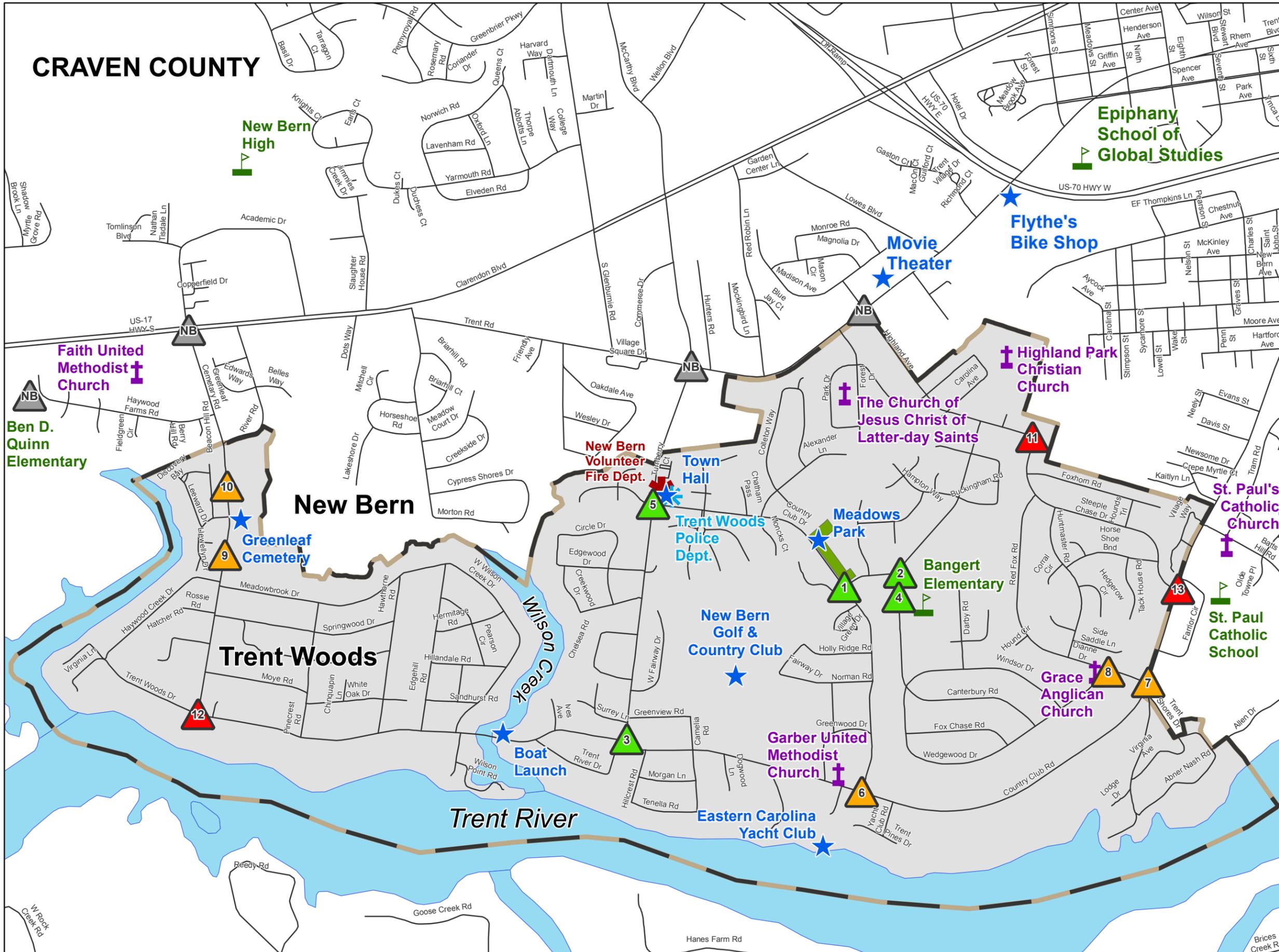
CRAVEN COUNTY

TRENT WOODS PEDESTRIAN PLAN

**FIGURE 6-5
PRIORITIZED SPOT IMPROVEMENTS**

LEGEND

-  Municipal Boundary
 -  Destination
 -  Church
 -  Fire Station
 -  Park
 -  Police Station
 -  School
- Spot Improvements**
-  High Priority
 -  Medium Priority
 -  Low Priority
 -  Not Prioritized (NB)



N

1 inch = 1,400 feet

0 700 1,400 Feet

0 0.25 0.5 Miles

Sources: Craven County, NCDOT, and URS
 This map is intended as a planning document and information is subject to revisions.

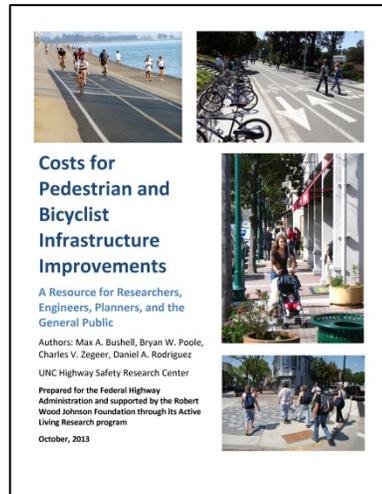


February 2014

6.3 Cost Estimates

Costs for infrastructure projects have been estimated using general construction costs from previous pedestrian plans as well as from the Pedestrian and Bicycle Information Center (PBIC). PBIC receives funding from the U.S. Department of Transportation Federal Highway Administration and is part of the University of North Carolina Highway Safe Research Center.

In October 2013, the PBIC released a report titled *Costs for Pedestrian and Bicyclist Infrastructure Improvements*. This report provides cost estimates for over 70 types of pedestrian and bicycle facilities by compiling more than 1,700 cost figures from construction and engineering bids around the country. Most cost figures are from 2010, 2011, and 2012. Interviews with various departments of transportation around the country were also conducted as part of this Plan. Given how comprehensive this study is, it was the preferred source for estimating costs of infrastructure projects for the Town of Trent Woods. The study provides the average, median, high, and low cost estimates for each item. The median estimate was used for the purposes of this Plan as the average estimate may be skewed by outliers.



The estimated costs are approximate and are subject to change based on the current price of materials and labor. They also may be more or less dependent on the actual conditions that would be determined during the engineering phase. These estimates do not include the costs of complementary amenities such as benches, landscaping, and water fountains. These estimates are intended to serve as a relative guide for a rough order of magnitude.

Table 6-5 lists the general costs used in estimating costs of linear facility projects. Cost estimate figures for spot improvements are listed in Table 6-6. The estimates are summarized in Table 6-7 and detailed in Table 6-8 and Table 6-9 on the following pages.

Table 6-5. Cost Estimate Figures for Linear Facilities and Bridge

ITEM	ESTIMATED COST (per mile)*	ASSUMPTIONS	SOURCES
Sidewalk (1 side of street)	\$145,000	Sidewalk is concrete and 5 feet wide, 4 inches thick.	Pedestrian and Bicycle Information Center Report October 2013
Wide-Paved Shoulders (2 sides of street)	\$500,000	New Bern Bicycle Plan assumes a 4 foot-wide WPS. Since 5 foot-wide WPS are recommended for Trent Woods, this figure was increased by 25%.	New Bern Bicycle Plan
Sidewalk/Wide-Paved Shoulders Hybrid (Sidewalk on 1 side, WPS on 2 sides)	\$645,000	*Same assumptions as are assumed for the Sidewalk and Wide-Paved Shoulder options	*Combined from Sidewalk and Wide-Paved Shoulder options
Off-Road Connection (Unpaved footpath)	\$85,000	Unpaved path is 8 feet wide.	Pedestrian and Bicycle Information Center Report October 2013
Pedestrian Bridge	\$70,000	45 foot span, 10 feet wide Albemarle Pedestrian Plan estimates \$1,200/linear foot Gator Bridge estimates \$150/square foot	Albemarle Pedestrian Plan, Gator Bridge (http://www.gatorbridge.com/)

*Costs rounded to the nearest \$5,000.

Table 6-6. Cost Estimate Figures for Spot Improvements

ITEM	ESTIMATED COST (per item)*	DESCRIPTION	SOURCES
Improved Signage	\$200	Stop/Yield Signs	Pedestrian and Bicycle Information Center Report October 2013
Striped Crosswalk	\$300	Regular striped crosswalk	Pedestrian and Bicycle Information Center Report October 2013
High Visibility Crosswalk	\$3,000	Provides more visibility than regular striped crosswalks and lasts longer	Pedestrian and Bicycle Information Center Report October 2013
Pedestrian Refuge	\$10,000	Also known as pedestrian islands, placed in the center of street at mid-block crossings	Pedestrian and Bicycle Information Center Report October 2013
Signalized Crossing	\$3,000	4-way audible signal with countdown timer. Estimated cost includes the push button, audible signal, countdown timer, signal head and pedestal	Pedestrian and Bicycle Information Center Report October 2013

*Costs rounded to the nearest hundred or thousand.

Table 6-7. Estimated Costs Summary

PRIORITY GROUP	LINEAR FACILITIES	SPOT IMPROVEMENTS	TOTAL ESTIMATED COST
High Priority	\$ 2,100,000	\$ 36,000	\$ 2,136,000
Medium Priority	\$ 1,040,000	\$ 43,000	\$ 1,083,000
Low Priority	\$ 330,000	\$ 13,200	\$ 343,200
Not Prioritized (in New Bern)	\$ 310,000	\$ 14,000	\$ 324,000
TOTAL	\$ 3,780,000	\$ 106,200	\$ 3,886,200

Wilson Creek Bridge

A separate, prefabricated pedestrian bridge over Wilson Creek Bridge is estimated to cost \$70,000 assuming a 45 foot span and 10 foot-wide deck. This estimate is included under the High Priority Linear Facility category in Table 6-7 above.

Table 6-8. Estimated Costs for Linear Facilities

MAP ID	PRIORITY	FACILITY NAME	FACILITY TYPE	LENGTH (Miles)	COST ESTIMATE*
1	High	Chelsea Road	Sidewalk + Wide-Paved Shoulder	0.67	\$ 440,000
2	High	Country Club Road West	Sidewalk + Wide-Paved Shoulder	0.67	\$ 440,000
3	High	Country Club Road East	Sidewalk + Wide-Paved Shoulder	1.48	\$ 960,000
4	High	Country Club Drive 1	Sidewalk	0.62	\$ 100,000
5	High	Country Club Drive 2	Sidewalk	0.60	\$ 90,000
6	Medium	Devonshire Drive Connector	Sidewalk	0.17	\$ 30,000
7	Medium	Canterbury Road North	Sidewalk	0.81	\$ 120,000
8	Medium	Trent Woods Drive East	Wide-Paved Shoulder	1.23	\$ 620,000
9	Medium	River Road	Sidewalk	0.76	\$ 110,000
10	Medium	Trent Woods Drive West	Wide-Paved Shoulder	0.31	\$ 160,000
11	Low	Canterbury Road South	Sidewalk	0.40	\$ 60,000
12	Low	Wedgewood Drive	Sidewalk	0.37	\$ 60,000
13	Low	Highland Avenue	Sidewalk	0.47	\$ 70,000
14	Low	Bangert Elementary Footpath	Footpath	0.34	\$ 30,000
15	Low	Meadows Park Footpath	Footpath	0.98	\$ 90,000
16	Low	Springwood-Hermitage Connection	Footpath, Multi-Use Path, or Road	0.12	\$ 20,000**
NB	Not Prioritized	Greenleaf Cemetery Road	Sidewalk	0.34	\$ 50,000
NB	Not Prioritized	Chelsea Road North	Sidewalk + Wide-Paved Shoulder	0.40	\$ 260,000

*Costs rounded up to the nearest \$10,000. **Unpaved path assumed for purposes of estimating

Table 6-9. Estimated Costs for Spot Improvements

MAP ID	PRIORITY	LOCATION	TYPE	ESTIMATED COST*
1	High Priority	Devonshire Dr. and Country Club Dr.	High Visibility Crosswalk	\$ 3,000
2	High Priority	Devonshire Dr. and Canterbury Rd.	Pedestrian Refuge and Crosswalk	\$ 3,000
3	High Priority	Chelsea Rd. and Country Club Rd.	Pedestrian Refuge and Crosswalk	\$ 10,000
4	High Priority	Bangert Elementary Crosswalk	Pedestrian Refuge and Crosswalk	\$ 10,000
5	High Priority	Chelsea Rd. and Country Club Dr.	Pedestrian Refuge and Crosswalk	\$ 10,000
6	Medium Priority	Country Club Dr. and Country Club Rd.	Pedestrian Refuge and Crosswalk	\$ 10,000
7	Medium Priority	Wedgewood Dr. and Country Club Rd.	Pedestrian Refuge and Crosswalk	\$ 10,000
8	Medium Priority	Wedgewood Dr. and Dianne Dr.	High Visibility Crosswalk	\$ 3,000
9	Medium Priority	Greenleaf Cemetery South	Pedestrian Refuge and Crosswalk	\$ 10,000
10	Medium Priority	Greenleaf Cemetery North	Pedestrian Refuge and Crosswalk	\$ 10,000
11	Low Priority	Highland Ave. and Steeplechase Dr.	Improved Signage	\$ 200
12	Low Priority	Trent Woods Dr. and River Rd.	High Visibility Crosswalk	\$ 3,000
13	Low Priority	Steeplechase Dr. and Country Club Rd.	Pedestrian Refuge and Crosswalk	\$ 10,000
NB	Not Prioritized (NB)	Chelsea Rd. and Trent Rd.	Signalized Crossing	\$ 3,000
NB	Not Prioritized (NB)	Greenleaf Cemetery Rd. and Dr. MLK Blvd (US17)	Signalized Crossing	\$ 3,000
NB	Not Prioritized	Connection to Ben Quinn Elementary from Haywood Farms Rd.	Neighborhood Connection	\$ 5,000**
NB	Not Prioritized	Highland Ave. and Trent Rd.	Signalized Crossing	\$ 3,000

*Costs have been rounded to the nearest hundred or thousand. **\$5,000 has been estimated for a neighborhood connection to Ben Quinn Elementary from Haywood Farms Road, which would include improvements to the existing landscaping and addition of crushed stone or similar material.

6.4 Establishing the Core Network: The Loop

In order to establish an effective pedestrian network that provides connectivity between destinations and community features, individual sidewalk and path projects must connect to one another. Several of the proposed linear facility projects for Trent Woods have been organized into a project package as a strategy for establishing the core of the Town's pedestrian network from which future phases of the network will connect.

This package consists of several sidewalk and wide-paved shoulder projects that received high rankings due to popularity, proximity to destinations, and heavy vehicular and pedestrian traffic. When combined, these projects provide enhanced connectivity for pedestrians in the form of a completed loop from which other pedestrian projects would connect to in the future. Appropriately named The Loop, it is in the center of Town connecting several important community destinations such as Town Hall, Meadows Park, and the Golf and Country Club. The Loop is approximately 2.7 miles and consists of the following projects listed in Table 6-10 and shown on Figure 6-6.

Wayfinding should be implemented on this loop to direct pedestrians to adjacent community destinations. Not only will this help visitors find their way, the wayfinding signs will promote an image and brand for Trent Woods.



Sign pointing to the Town Hall and Police Department in Trent Woods. The Fire Department is pictured behind the sign.



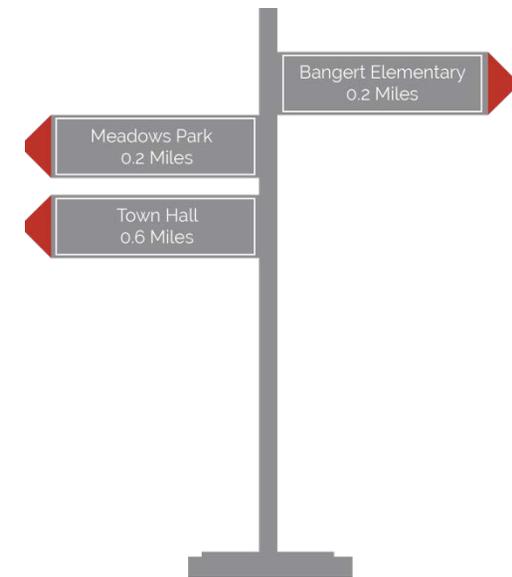
Playground at Meadows Family Park in Trent Woods

Table 6-10. Project Package: the Loop

MAP ID	FACILITY NAME	PRIORITY	TOTAL SCORE	FACILITY TYPE
1	Chelsea Road	High	89	Sidewalk + Wide-Paved Shoulder
2	Country Club Road West	High	88	Sidewalk + Wide-Paved Shoulder
4	Country Club Drive 1	High	71	Sidewalk
5	Country Club Drive 2	High	71	Sidewalk



Visualization of sidewalks on Country Club Drive, one of the projects in The Loop.



Example of a wayfinding sign

TRENT WOODS PEDESTRIAN PLAN

**FIGURE 6-6
PROJECT PACKAGE:
THE LOOP**

Chelsea Road, Country Club Road West, Country Club Drive 1, and Country Club Drive 2

Legend

-  Destination
-  Police Station
-  Fire Station
-  Church
-  School

Proposed Linear Facilities

-  Sidewalk
-  Wide Paved Shoulder
-  Sidewalk + Wide Paved Shoulder
-  Off-Road Connection
-  Bridge



1 inch = 500 feet

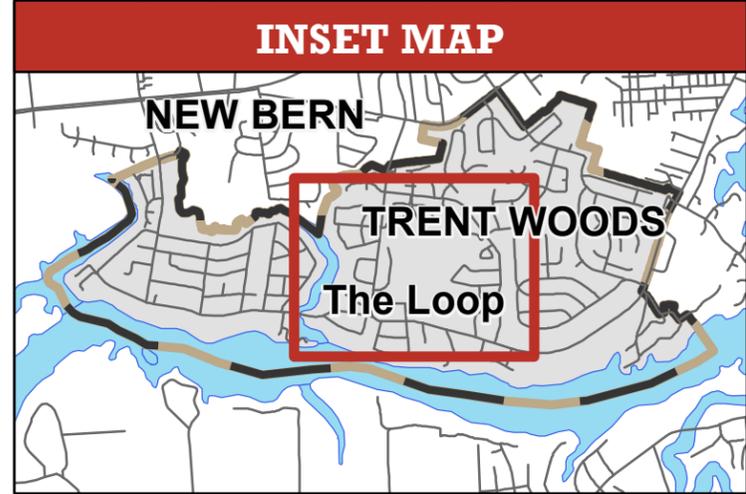
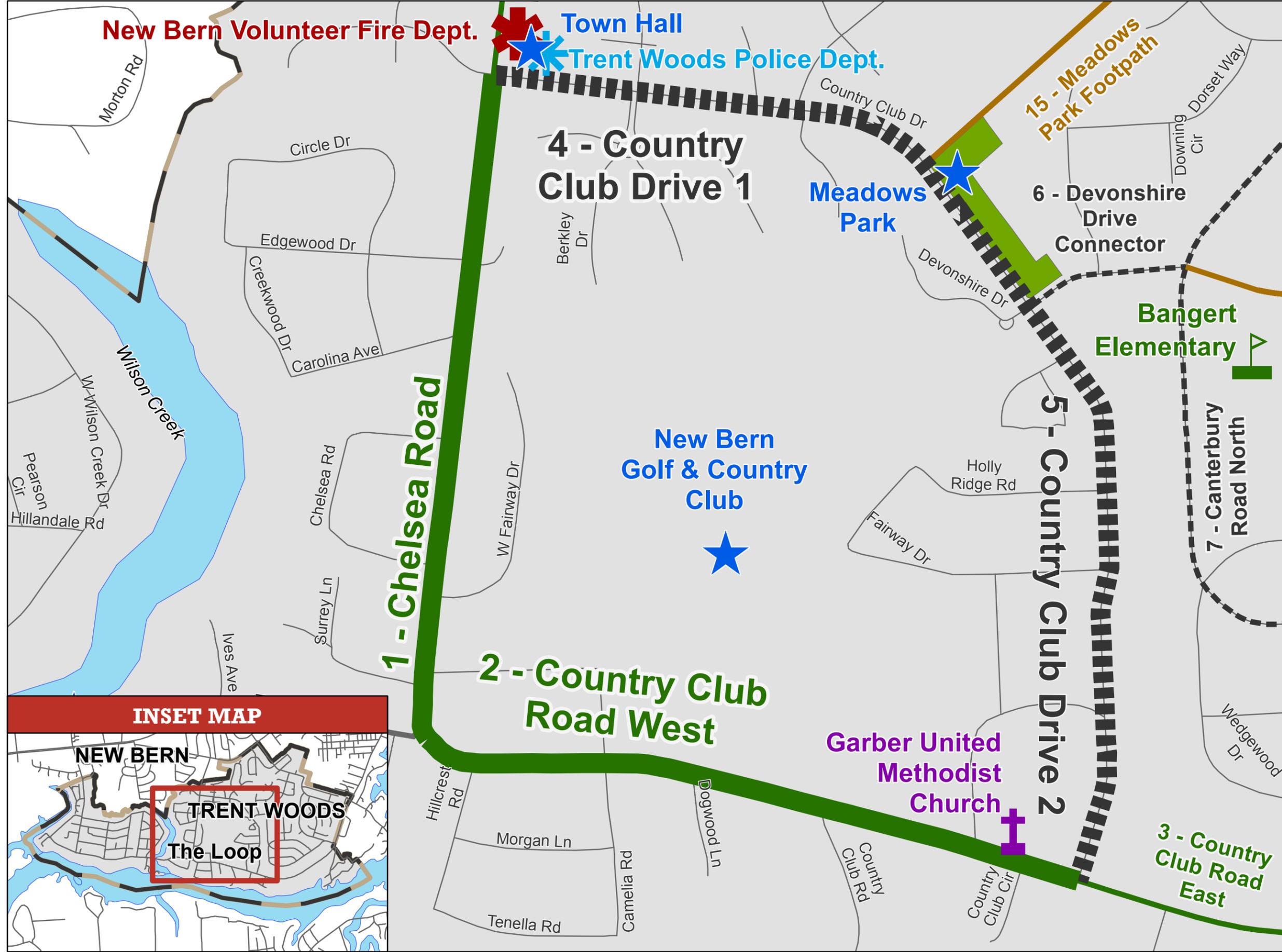
0 250 500 Feet

0 0.0625 0.125 Miles

Sources: Craven County, NCDOT, and URS
This map is intended as a planning document and information is subject to revisions.



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6.5 Complementary Amenities

The pedestrian network of linear facilities and spot improvements as described in Section 6.1 form the core of the Town's pedestrian system. Enhancing this network are complementary amenities that further improve pedestrian safety, provide comfort to pedestrians, and contribute to the Town's character and visual aesthetics.

These amenities should be included in plans and designs for wide-paved shoulders, sidewalks, and off-road connections. They should be built at the same time as these facilities in order to deliver to residents a high-quality pedestrian network they expect. For instance, including wayfinding signs with directions to popular destinations as part of a sidewalk project would greatly enhance the experience for the pedestrian. Benches would provide comfort as well as would drinking fountains. Many pedestrian networks in other communities have exercise stations along paths and sidewalks, most often in parks. Such stations could be included in Trent Woods' projects to encourage physical activity and wellbeing – an important goal of the Plan.

Throughout the design and construction of the pedestrian network, the aesthetics of Trent Woods' suburban character and tree-lined streets should be preserved and enhanced. Wherever possible, sidewalks and paths should be designed around large trees to avoid removal. Projects should include landscaping with native species to enhance the Town's aesthetics and minimize the irrigation needed when planting with non-native species. Public art such as decorative sidewalk blocks or sculpture installations can also enhance the Town's aesthetics and honor local artists

and should be considered to further improve the pedestrian environment.

Examples of these amenities are listed below, organized into the following categories: safety, comfort, and aesthetics. Recommendations for the design of these amenities is included in Section 5.2.

Safety

- Speed limit signs
- Share the road signs
- Lighting
- Wayfinding

Comfort

- Benches
- Drinking fountains

Aesthetics

- Tree preservation
- Landscaping
- Public art

Benefits

In addition to benefits for pedestrians, these complementary amenities also bring real economic benefits as well. Investment in walkable communities and amenities like benches and landscaping would very likely increase property values for residents of Trent Woods. The statewide Pedestrian and Bicycle Plan, WalkBikeNC, found that the annual return on bicycle infrastructure in the Outer Banks

yielded nine times the original investment (WalkBikeNC Summary, Page 13). At the state-level, promoting the quality of life here in North Carolina through walking and bicycling opportunities has the projection of boosting revenues to more than \$168 million annually in the tourism sector. The WalkBikeNC Plan, if implemented statewide, could support 1,600 new jobs and more than \$1 million in tax revenues (WalkBikeNC Summary, Page 26).

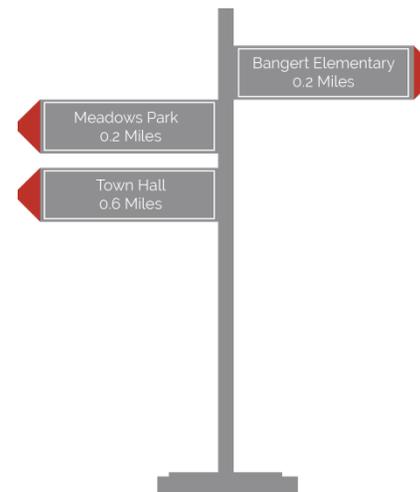
6.6 Chelsea Road: A Model Project



Chelsea Road is a prominent road located in the center of Trent Woods. It is a major gateway into Town from the City of New Bern and connects residents and visitors alike to important destinations such as Town Hall, the Police and Fire Departments, and the New Bern Golf and Country Club. It further connects to other prominent roads in the Town that lead to additional destinations including Meadows Park and

the boat launch at Wilson Creek. Because of its prominence, popularity among pedestrians, and proximity to these destinations, Chelsea Road is the highest ranked project and integral to The Loop project package. It would serve as the backbone to Trent Woods’ pedestrian network from which other projects would be connected. Sidewalks and wide-paved shoulders are proposed to accommodate pedestrians and cyclists.

This Plan recommends that Chelsea Road serve as a model pedestrian project for the Town. This project would be constructed first and would establish the Town’s pedestrian network. Implementing pedestrian upgrades to this prominent road and gateway into Trent Woods will make visible the benefits of such improvements and further generate support for future pedestrian enhancements. With that in mind, it is critical this project be implemented effectively with respect to not only the design of the wide-paved shoulders and sidewalks, but also the complementary amenities described in Section 6.5. Benches



and landscaping are recommended for Chelsea Road along with wayfinding signs to guide pedestrians to destinations such as Town Hall, Meadows Park, the Golf and Country Club, and Wilson Creek.

6.7 Comparison with New Bern Plans

As discussed in Section 4.1: Review of Relevant Plans, Ordinances and Policies, the New Bern Comprehensive Bicycle Plan (2007) and New Bern Pedestrian Plan (2009) make specific recommendations for sidewalks, wide-paved shoulders, signed bike routes, bike lanes, and multi-use paths within Trent Woods. These recommendations were considered for the Trent Woods Pedestrian Plan, and in many cases were included.

In some instances the proposed facility types were modified to address limited right-of-way and public input received since the New Bern plans were adopted. For example, multi-use paths were considered but ultimately not recommended in the Trent Woods Pedestrian Plan because they would likely require additional right-of-way and expense. Instead, a sidewalk/wide-paved shoulder hybrid is proposed. Further engineering studies would determine the feasibility of each proposed facility with respect to available right-of-way and the impact to utilities currently present. The facility types can be modified in the future by the Town based on engineering analysis and in order to provide consistency and connectivity with New Bern’s projects and facility types.

Table 6-11 and Table 6-12 on the following pages compare the proposed projects in this Plan with those recommended in the New Bern bicycle and pedestrian plans.

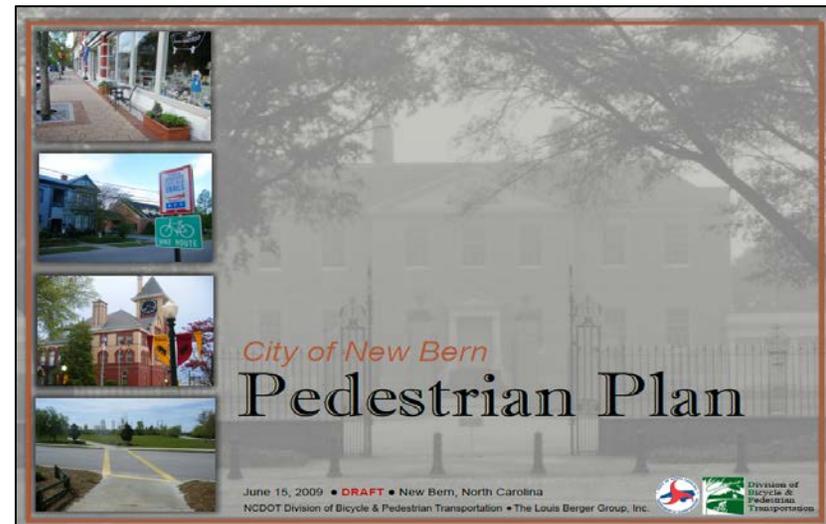


Table 6-11. Comparison to New Bern Comprehensive Bicycle Plan

FACILITY NAME	NEW BERN FACILITY TYPE	TRENT WOODS FACILITY TYPE
Chelsea Rd.	Wide-Paved Shoulder* + Bike Lane	Wide-Paved Shoulder* + Sidewalk
Country Club Rd.	Wide-Paved Shoulder* + Bike Lane	Wide-Paved Shoulder* + Sidewalk
Haywood Creek Dr.	Signed Bike Route	No facility proposed
Highland Ave.	Signed Bike Route	Sidewalk
River Rd.	Wide-Paved Shoulder*	Sidewalk
Steeplechase Dr.	Signed Bike Route	No facility proposed
Trent Woods Dr.	Wide Outside Lane	Wide-Paved Shoulder*

*The New Bern Bicycle Plan proposes four-foot wide paved shoulders while the Trent Woods Pedestrian Plan proposes five-foot wide paved shoulders.

Table 6-12. Comparison to New Bern Pedestrian Plan

FACILITY NAME	NEW BERN FACILITY TYPE	TRENT WOODS FACILITY TYPE
Canterbury Rd.	Sidewalk	Sidewalk
Chelsea Rd.	Sidewalk	Sidewalk + Wide-Paved Shoulder
Country Club Rd.	Multi-Use Path	Sidewalk + Wide-Paved Shoulder
Highland Ave.	Sidewalk	Sidewalk
River Rd. / Greenleaf Cemetery Rd.	Sidewalk	Sidewalk
Wedgewood Dr.	Sidewalk	Sidewalk
Trent Woods Dr.	Multi-Use Path	Wide-Paved Shoulder

7 | Recommended Policies, Ordinances, and Programs

7.1 Policy Recommendations

The Town of Trent Woods should implement policies and provisions of the CAMA Regional Land Use Plan for New Bern, Trent Woods and River Bend, the New Bern Pedestrian Plan and the Trent Woods Pedestrian Plan, and pursue a comprehensive set of strategies including:

- Implementation of Complete Streets policy
- A coordinated system of bicycle and pedestrian facilities
- Implementation of pedestrian and bicycle improvements contained in both the Regional Land Use Plan, the New Bern Bicycle and Pedestrian Plans and the Trent Woods Pedestrian Plan
- Formation of the Bicycle and Pedestrian Advisory Committee
- Annual plan review of the implementation of programs and projects

Redevelopment and new development permitted in Trent Woods should promote walking and bicycling. The Town

Commissioners should encourage pedestrian activity and bicycling through:

- Ensuring pedestrian facilities are planned in all new office, institutional, commercial and residential development
- Reducing reliance on the automobile as the only viable transportation option and promote walking and bicycling for healthy living
- Promote expansion of pedestrian amenities
- Require pedestrian and bicycle facilities in all roadway improvements
- Promote street and pedestrian connectivity in Trent Woods and adjoining facilities in New Bern
- Continue to participate in the New Bern Area MPO and promote local and regional bicycle and pedestrian projects

The Town should ensure that land use and zoning changes comply with pedestrian and land use policies. The Town should promote water resource and water quality protection, especially for the Trent River and any new development or redevelopment alongside this waterway. Furthermore, new infill developments should seek to create more pedestrian-friendly environments. An example of such development would be redevelopment of strip mall parking lots to provide ground space for new offices and or businesses.

Requirements for new pedestrian infrastructure should be consistent throughout the Town's planning jurisdiction as follows:

- All new office/institutional/commercial and residential developments should provide sidewalks, provide buffering from auto traffic and off-street parking lots, and provide trees that will shade sidewalks. Any frontage road adjacent to the development that has no current sidewalk must also receive sidewalks. These sidewalks should be of adequate width according to the standards set in this Plan for future levels of pedestrian usage. Trees, utility poles, and street furniture shall not be placed where they may hinder the view from pedestrian crosswalks and intersections. In some cases, developments offer suitable walkway connections or traffic calming without the need to include sidewalks on both sides of the roadway within the neighborhood or along frontage roads and thoroughfares. If the Town feels that suitable pedestrian linkages exist or when residential densities are less than four dwelling units per acre facilities such as an off-road path may be proposed
- Any new development that occurs where there is also a pedestrian project included in this Plan must include that project to a functioning level according to guidelines. In most cases, exact alignment of the projects is not definite
- When an existing sidewalk or path is closed for construction or maintenance reasons – on the walkway itself or on adjacent property – an adequate detour route should be established if feasible
- All local, state, and federal road and bridge project planning and construction projects must include reasonable non-motorized accommodation for both pedestrians and bicycles. According to NCDOT policy, 5 to 6 foot-wide sidewalks shall be included

on new bridges, and a determination on providing sidewalks on one or both sides of new bridges will be made during the planning process according to the NCDOT Pedestrian Policy Guidelines. NCDOT shall fund all or part of the cost of sidewalks or wide-paved shoulders when they are mapped and recommended as part of a transportation plan

- All walkways must be ADA accessible

7.2 Local Ordinance Recommendations

There are development standards in the Town's current Zoning Ordinance that should be modified to require pedestrian facilities consistent with standards contained in this Plan and to encourage more pedestrian-oriented development.

The existing zoning standard should be amended to require a minimum of 8 feet for sidewalks in office/institutional/commercial districts. Other areas, including residential districts should have 5 foot-wide sidewalks with a minimum of 2 foot-wide planting strips (see Section 5.2). Eight foot-wide buffers are recommended for the planting of any shade tree.

Sidewalks should be clear of obstructions such as utility poles, sign posts, fire hydrants, bike racks, newspaper stands, etc. These objects must remain in the furniture zone or planting buffer strip. Other standards contained in Section 5 should be incorporated into the Zoning Ordinance. Vertical clearance should be at least 7 feet from ground level to the bottom edge of signs or the lowest tree branches.

General Sidewalk Recommendations

The recommendations of this Plan to require sidewalks in neighborhoods and on arterial roads to be a minimum of 5 feet wide should be included in the code and amended from the current 4 foot requirement. This ordinance should clearly state and require the 5 foot-wide sidewalk width requirement that NCDOT and ADA recommends. NCDOT Division of Highways requires sidewalks standards no less than what is required by the American with Disabilities Act (ADA), which require widths of a minimum of three feet for a maximum of 200 feet in length, where level areas of five feet by five feet must be available for wheelchairs to be able to pass and reverse direction. ADA standards also restrict cross slopes of more than 2%. For these reasons, NCDOT's Division of Bicycle and Pedestrian Planning has its own Design and Construction Standards (Section 6.3.1. - Sidewalks). These standards recommend five feet minimum width for planting strips or buffers between curbs and sidewalks. This prevents excessive cross slopes that would otherwise occur where a driveway meets a sidewalk adjacent to the curb.

Speed Limits

Consider creating a policy that includes incorporating low speed design into residential and commercial street improvements and design. As Trent Woods develops the proposed pedestrian facilities, streets will change to accommodate the pedestrian. Narrow lane widths, curvy alignments, landscaping, shorter building setbacks, wide-paved shoulders, bicycle lanes, sidewalks, and other added features could eventually naturally decrease the current driving speed. Lower posted speed limits on roads with

higher design speeds, some traffic calming measures, and increased law enforcement would be necessary to deter speeding, particularly where pedestrians must share the roadway with cars. Residential streets with no sidewalks will become much safer and thus much more attractive to the pedestrian if the speed limit were to be reduced to 20 mph or less.

7.3 Program Recommendations

Bicycle and Pedestrian Advisory Committee

The Steering Committee was instrumental in forming this Plan and facilitating its adoption. The efforts of the committee should not end here. Rather, a Bicycle and Pedestrian Advisory Committee should be formed to continue pedestrian planning efforts and program implementation in Trent Woods. It could include existing Steering Committee members as well as additional residents concerned about pedestrian issues and needs in the community. Membership of the committee should reflect the demographic makeup of the Town in terms of age, race, and socioeconomic status. Representatives from community groups, schools, and businesses should be members. The Advisory Committee would be charged with the principal objective of advocating for pedestrian safety and mobility through education campaigns and infrastructure projects. The committee would research funding opportunities, grant applications, and play a role in selecting and monitoring the work of consultants designing and building pedestrian infrastructure. It would also serve to form partnerships between schools, businesses, and the City of New Bern. The committee should meet regularly and provide updates to

the Trent Woods Board of Commissioners. In addition to implementing infrastructure projects as discussed in Section 6, the following education, beautification, event, and safety programs are recommended as well.

Safety and Education Programs

Driver Education



Driver education is essential for teaching and reminding drivers of all ages the applicable laws and responsibilities of motorists as they pertain to safely sharing the road with pedestrians and cyclists.

Targeting the young generation with this Plan is very important. Children aged 5 to 15 are not yet old enough to drive, but it can be expected that the majority will become automobile users.

At the same time young drivers are very impressionable and this provides excellent opportunities to educate the driving population. Pedestrian safety, as well as how to safely maneuver an automobile while in the presence of pedestrians and bicycles can be an instrumental part of any driver's education program in Trent Woods. This training will allow this new generation to be more aware of the simple fact that motorized vehicles do not have sole right to the transportation network, and it is everyone's responsibility to be careful when in the roadways.

Pedestrian Education



Many pedestrian crashes occur because a traffic law(s) was disobeyed. . Crossing signalized intersections on the red phase, walking on the roadway in the same direction as traffic, and darting across traffic lanes are not only dangerous, they are illegal.

Indeed, much of the reasoning why a pedestrian breaks the law is because of conditions unknown to the motorist such as the scarcity of proper crossing locations or the absence of walkways out of the roadway. Unfortunately, many pedestrians take unnecessary risks, may not know which traffic laws apply to them, or actively choose not to follow the law. In addition to creating safe walking areas for pedestrians, walkers must be taught to respect the laws for their own safety. Pedestrian Education courses should be offered at schools, libraries, or on informational web sites.

School Safety Patrol Programs

School Safety Patrol Programs across the United States have been responsible for decreased pedestrian/vehicle collisions. The American Automobile Association (AAA), municipalities, and schools have sponsored these important safety programs in the past, and could be continued at Bangert and Ben Quinn Elementary Schools. AAA offers training and equipment to start safety patrol programs.

Watch For Me NC



With more than 2,400 pedestrians and 960 bicyclists hit by each vehicle each year in North Carolina, NCDOT in collaboration with municipalities and universities has launched the Watch For Me NC campaign to reduce crashes through education and enforcement. Education materials in the form of a website, public service announcements, pamphlets, bus wraps, billboards, and bumper stickers have been developed and distributed to increase awareness of pedestrians and bicyclists and applicable laws. The campaign also provides increased training to law enforcement.

Currently the campaign is being piloted in the Triangle region of North Carolina, but is intended to become a statewide effort and could be implemented in the Trent Woods area.



Watch For Me NC Campaign bumper sticker

North Carolina School Crossing Guard Training Program

As traffic continues to increase on North Carolina’s streets and highways, concern has grown over the safety of children as they walk to and from school. At the same time, health agencies, alarmed at the increase in obesity and inactivity among children, are encouraging parents and communities to get their children walking and biking to school. In response, the Division of Bicycle and Pedestrian Transportation 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 GS 20-114.1.

Additional Resources

Law enforcement agencies interested in participating in the School Crossing Guard Training Program should contact the Division of Bicycle and Pedestrian Transportation by phone at (919) 807-0777 or visit: <http://www.ncdot.gov/bikeped/>

Safe Routes to School



Trent Woods may consider a Safe Routes to School (SRTS) Program for Bangert Elementary School. Such a plan would improve pedestrian and bicycle safety for the approximately 30% of students who walk or bike to school.

Additional plans could also be considered for Ben Quinn Elementary School and several private schools. Although they are located just outside of Trent Woods, they are attended by students living in the Town.

The national Safe Routes to School Program was established in August 2005 as part of the most recent federal transportation re-authorization legislation, SAFETEA-LU. This law provides multi-year funding for the surface transportation programs that guide spending of federal gas tax revenue. Section 1404 of this legislation provides funding (for the first time) for State Departments of Transportation to create and administer these programs which allow communities to compete for funding for local projects.

The North Carolina Safe Routes to School Program “enables and encourages children to walk and bicycle to school; makes walking and bicycling to school a safe and more appealing transportation option, and facilitates the planning, development, and implementation of projects and activities

that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of the school.”

The general steps of a SRTS Program are outlined below by the North Carolina Division of Bicycle and Pedestrian Transportation:

1. **Bring the right people together.** Identify people who want to make walking and bicycling to school a safe and appealing transportation alternative. Provide a mechanism for a variety of community members to share concerns, interests, and knowledge, which will enable the group to tackle many different issues.
2. **Hold a kick-off meeting.** The kick-off has two goals: to create a vision for the SRTS program and to generate the next steps to take.
3. **Gather information and identify issues.** Specific barriers to address through the program will be identified by collecting useful information at the outset. This baseline data also provides a means by which the group can measure its success.
4. **Identify solutions.** Each issue identified will have a unique solution to address it. Comprehensive solutions will include a combination of engineering, education, encouragement, and enforcement strategies.

5. **Make a plan.** Every SRTS action plan should include the strategies and solutions identified through step 4 as well as a time schedule to implement them. Plans also should include a map of the area it covers and a process for evaluating and fine-tuning the program.
6. **Get the plan and people moving.** Some parts of the SRTS action plan can be implemented right away, with little to no funding – take advantage of these opportunities while waiting for other parts, and keep the big picture in mind.
7. **Evaluate, adjust, and keep going.** As the program is implemented, monitor the impact it is making and gauge the effectiveness of each strategy. Continue ones that are working well, and modify or redirect strategies that are not providing satisfactory outcomes.

Funding may be available through a grant application process by the NCDOT Division of Bicycle and Pedestrian Transportation. In the past, SRTS programs have been funded with federal dollars and have not required a local match.

WalkBikeNC: Safety and Health



North Carolina has an overweight/obesity rate of more 65%, increasing the risk of disease and adverse health conditions statewide (WalkBikeNC Report, Page 1-7). Through the provision of bicycle facilities, pedestrian paths and sidewalks, alternative routes to school, and

improvements to roadway crossings, Trent Woods can improve the safety of alternate transit as a way to encourage the physical activity and health of its residents. The WalkBikeNC Plan outlines a series of programs and initiatives that can work in parallel to local and NCDOT efforts to support pedestrian infrastructure.

Safety

Bicycle Helmet Initiative

Facilitated by NCDOT’s Department of Bicycle and Pedestrian Transportation (DBPT), the Initiative works to reduce bicycle related accidents of children through the promotion of helmet use, developing proper usage into and through adulthood. The DBPT supports local agencies and schools to encourage the program, offering a maximum of 24 helmets per year to each involved organization or group.

Partners include: Department of Public Instruction (DPI), Department of Health and Human Services (DHHS), Department of Insurance’s NC Safe Kids

Let’s Go NC - Bicycle and Pedestrian Curriculum

Aimed to instruct children between grades k-5, the program focuses on walking and biking safety and skills. As a way to promote healthy and active lifestyles, a curriculum was developed that includes aspects of the Safe Routes to School program, and classroom, video, and exercise materials.

Partners include: NCDOT, DPI, NC Safe Kids, NCATA

Streetwise Cycling: Guide to Safe Bicycling in North Carolina

Similar to the *Let’s Go NC*, the Streetwise Cycling targets adult vehicle operators to be informed about the rights and responsibilities of bicyclists. Information about riding, operating, and equipment use is included in the initiative and is available on NCDOT’s website.

Partners include: NCDOT, NC Safe Kids

Share the Road Posters

A campaign that can be quickly incorporated in Trent Woods is using “Share the Road” posters to inform and encourage driver awareness of pedestrians. Posters can be ordered or downloaded online with three different messages: “Be Responsible,” “Bicycle Safety Month,” and “Be Predictable.” License plates and other materials can also be obtained with similar marketing of pedestrian safety and awareness. An important part of using this campaign is to insure efficient and targeted distribution for peak visibility, such as in specific neighborhoods, on high-traffic roadways, and at public events.

Partners include: NCDOT, NCATA

Enforcement

Essential to pedestrian safety is enforcing existing driving laws and speed limits. Fortunately the Trent Woods Police Department has already done an excellent job of enforcing the Town’s speed limits, which range from 25 to 35 mph. The largest share of citations issued was for speeding. The second largest share of citations issued was for stop sign violations. The police department should continue its enforcement, especially in the morning and afternoon commute times when pedestrian and vehicular traffic is heaviest.

Pedestrians also have a responsibility to abide by laws pertaining to them such as crossing at crosswalks and walking in the direction of oncoming traffic. Town police should also encourage pedestrians to follow the laws in the interest of safety. The police department has already done this by placing signs to remind pedestrians to walk facing traffic.



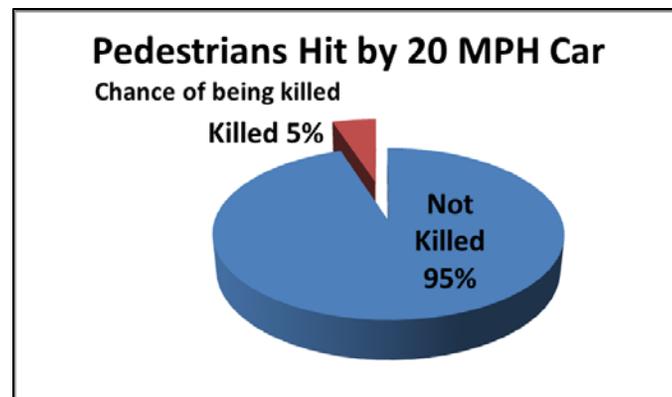
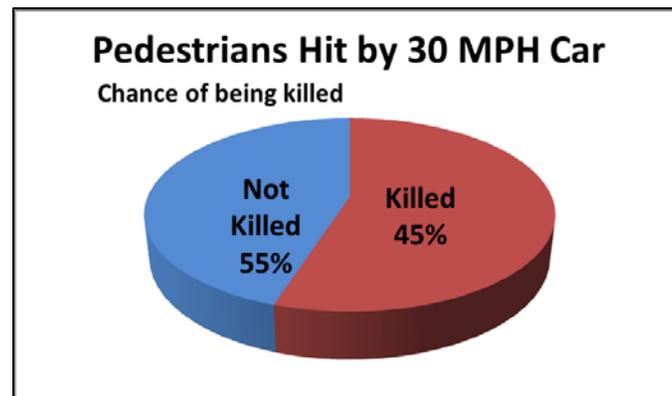
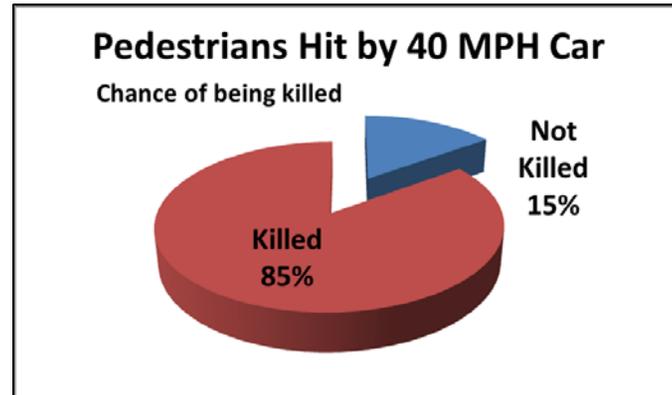
Sign reminding pedestrians to walk or run facing traffic placed by the Trent Woods Police Department as part of its campaign to increase pedestrian safety in the community.

Speed Limit Reduction

All roads within Trent Woods have either 25 or 35 mph speed limits. The Town may consider reducing speed limits especially on 35 mph roads, which would greatly improve pedestrian safety. Other communities have instituted a program called “Twenty’s Plenty” to raise awareness on automobile speeds and pedestrian safety. As illustrated with national data in the graphs to the right, the severity of pedestrian/automobile incidents greatly decreases with lower automobile speeds. At 20 mph, the percentage of pedestrians killed by being struck by a car dramatically decreases. (Pedestrian and Bicycle Information Center, 2013).



Speed limit and bike route sign on Devonshire Drive across from Meadows Family Park



Pedestrian Safety Education Campaign

The Trent Woods Police Department has at times placed signs along roads reminding pedestrians to walk facing traffic. This has been quite successful. Citizens commented at the public workshops that they noticed the signs and modified their behavior accordingly. This program should continue and could be part of a broader Pedestrian Safety Education Campaign. In addition to these signs, a campaign may also include: workshops for motorists and pedestrians on applicable laws and safety and events to raise awareness such as walks.

Events

Walk to Work, Shop, School and Play Days

Designate a day, or ideally a week or month where people walk to their destinations. This can coincide with *International Walk to School Week*, or with Bike to Work Week, or with another common “Hike, Bike, and Bus” week that some municipalities sponsor. Advertise these events, have some fun events along common pedestrian routes, and offer prizes and recognition for model participants. *International Walk to School Week* typically falls on the first week of October, and their web site with good information can be found at <http://www.walktoschool.org/>. Walk to School events can be as simple as a few kids and parents meeting to walk to school or can be very elaborate celebrations. Event logistics range from a central walking location to people walking from their homes. Successful events have the support and participation of the principal, police and parents, and programs such as this give public

agencies and representatives the opportunity to publicly support health, environment and safety initiatives.

Walking School Bus

A walking school bus is a group of children walking to school with one or more adults. It can be as informal as two families taking turns walking their children to school to an event that is more structured such as a route with meeting points, a timetable and a regularly rotated schedule of trained volunteers. More information can be found at <http://www.walkingschoolbus.org/>.

Walk a Child to School in North Carolina



Thanks to the national initiative and support from the NC Governor’s Highway Safety Program, Walk a Child to School Programs have gained a foothold in North Carolina and are growing each year. To date more than 5,000 students in 12 communities in the state have participated.

Access International Walk to School’s website at www.walktoschool.org to let them know about what the Town of Trent Woods is doing today to encourage children to walk (or bike) to school.

Open Street Events

Once some of the recommended projects are constructed, it would create a perfect opportunity for regular special events. A festival could be set up at the Town Hall, at a park, or on a greenway spurring a new experience that may draw more interest in pedestrian facilities.

An international trend is to turn major Town roads into “Sunday Parkways.” This concept takes long strips of roadways (linear or in a looping pattern) and converts one or both directions of traffic to pedestrian malls or for bicycle rides during a portion of every Sunday and holiday. This encourages people to get out and walk or bicycle, increases the amount of public space, and motivates people to walk more often throughout the rest of the week. This concept is included in the statewide WalkBikeNC Plan.

Walking and Bicycling Programs

A “Weekend Walkabout” can be coordinated with the NCDOT to bring attention to pedestrian infrastructure and highlight places to walk in the community. The event can be organized around historic sites, park walks, or neighborhood tours. Walking programs offer not only awareness, but also encourages community and/or families to be more physically active. The “Walk to School Day” and the “Bike Month,” both which take place nationally every fall, can also be used in conjunction to stimulate walking and bicycling in Trent Woods. This concept is included in the statewide WalkBikeNC Plan.

Partners: NCDOT, DPI

Walking or Bicycling Youth Engagement Contest

In the past, the NCDOT helped to host a statewide competition to both educate and engage students about walking and bicycling activities. This has been accomplished through school districts to schedule either audio, visual, or other media forms to market the health and recreational benefits of walking and/or bicycling. Events have been planned around the contest and a final vote on the best educational and promotional final project. This contest is encouraged by the WalkBikeNC Plan.

Partners: NCDOT, DPI

Beautification

Adopt a Sidewalk Program

Adopt a Road programs are common, enabling members of the community to sponsor and help to clean a road with litter and other debris. Trent Woods can begin a similar program for its sidewalks and multi-use paths once they are built. This program could also be used as a means for the community to alert the Town when there is a maintenance issue with a sidewalk, or as a means for a sidewalk to get special attention, funding, and improvements because of the dedication of its community sponsor. This program will encourage a sense of pride and ownership of the sidewalks and paths.

Additional Resources

NCDOT Share the Road information:

<http://www.ncdot.gov/bikeped/safetyeducation/>

North Carolina Safe Routes to School Program:

http://www.ncdot.org/transit/bicycle/safety/programs_initiatives/Safe_Routes.html

National Center for Safe Routes to School:

<http://www.saferoutesinfo.org/>

Open Street Events

Guide (includes networking opportunities and organizers guide): <http://openstreetsproject.org/>

Sample Programs:

- Atlanta Streets Alive (GA):
<http://www.atlantabike.org/atlantastreetsalive>
- Bull City Open Streets (NC): <http://bullcityopenstreets.com/>
- 2nd Sunday on King Street (SC):
<http://susanlucas.typepad.com/secondsundayonkingstreet/>

Share the Road Posters:

http://www.ncdot.gov/bikeped/download/bikeped_safety_materials_PosterOrder.pdf

SmartCommute

<http://www.smartcommute.org/>

WalkBikeNC Plan:

Including the Guide to NC Bicycle and Pedestrian Laws; Streetwise Cycling; and Bicycle Rodeo Kit

<http://www.ncdot.gov/bikeped/safetyeducation/manuals/>

Watch for Me NC:

<http://www.watchformenc.org/>

8 | Implementation

The following steps are recommended in order to implement the Comprehensive Pedestrian Plan:

1. Adopt the Trent Woods Comprehensive Pedestrian Plan.
2. Establish a Bicycle and Pedestrian Advisory Committee.
3. Form partnerships with the City of New Bern, New Bern Area Metropolitan Planning Organization, schools, local businesses, and community organizations.
4. Implement the policies, ordinances, and programs outlined in Section 7.
5. Secure funding and construct infrastructure projects as discussed in Section 6.

8.1 Adopt the Pedestrian Plan

A first step towards implementation of pedestrian infrastructure projects and programs is for the Trent Woods Board of Commissioners to adopt this Plan.

8.2 Establish the Bicycle and Pedestrian Advisory Committee

The Board of Commissioners should also establish the Bicycle and Pedestrian Advisory Committee as discussed in Section 7. The Committee will be instrumental in guiding the implementation of this Plan and in authoring the annual progress report.

8.3 Form Partnerships

City of New Bern

A partnership with the City of New Bern is critical for the success of this Plan. New Bern adopted a Comprehensive Bicycle Plan (2007) and a Comprehensive Pedestrian Plan (2009). Both of these plans, which are discussed in Section 4, relate to Trent Woods in that their pedestrian and bicycle networks would connect to proposed projects in the Trent Woods Pedestrian Plan. Furthermore New Bern's plans include specific projects within Trent Woods municipal limits. Trent Woods and New Bern have prioritized many of the same pedestrian projects so a partnership would serve both well in securing funding and improving pedestrian connectivity between the two municipalities. Trent Woods and New Bern have prioritized Chelsea Road, Country Club Road, and Trent Woods Drive for pedestrian improvements so these projects would be well served by a partnership.

Schools and Parent-Teacher Associations (PTA)

Partnerships with schools and PTAs can play an important role in addressing pedestrian safety for students walking to and from school. Pedestrian safety is a concern in Trent Woods as many students walk to school on roads with heavy traffic and without pedestrian accommodations. Infrastructure projects such as crosswalks and sidewalks will address these concerns, but education and safety programs are also needed. Partnerships can play an important role in both, but would likely be most instrumental in education and safety programs. Safe Routes to School and other programs mentioned in Section 7 need champions in order to be implemented. Representatives from schools and PTAs should serve as members on the Bicycle and Pedestrian Advisory Committee as discussed in Section 7, in order to foster these partnerships with the Town and community.

Community Businesses

Businesses benefit from greater pedestrian mobility. The statewide WalkBikeNC Plan projects that if implemented statewide, the infrastructure projects in the WalkBikeNC Plan could support 1,600 new jobs and more than \$1 million in tax revenues (WalkBikeNC Summary, Page 26). Partnerships between the Bicycle and Pedestrian Advisory Committee and businesses in Trent Woods and New Bern should be forged in order to promote pedestrian safety, programs, and infrastructure projects. Businesses may be inclined to sponsor an educational program or even a bench or section of sidewalk or trail.

Organizations

Outreach to community groups, civic organizations, and nonprofits with missions related to safety, alternative transportation, walking, running, and cycling would be of much benefit. By partnering with these organizations more resources would be available to carry out the programs and projects recommended by this Plan. For example, a 5K race/fundraiser could be held in partnership with a local running group to raise funds for a sidewalk project or education program at the schools.

8.4 Implement Programs and Projects

The Bicycle and Pedestrian Advisory Committee and Town Board of Commissioners can begin to implement the programs and policy recommendations made in Section 7 such as speed limit reductions, ordinances requiring sidewalks, and pedestrian and motorist education programs. Some of these programs may require additional funds that can be secured through grants and other mechanisms detailed in Section 8.5. Modifications to the Town's ordinances would not require additional funding.

As funding is secured by the Town, the proposed linear pedestrian (e.g. sidewalks and wide-paved shoulders) and spot improvement projects (e.g. high visibility crosswalks) in Section 6 should be implemented. Since it would not be feasible to design and construct all projects at once, they have been prioritized based on safety, activity, feasibility, and connectivity. They are organized into four priority groups: high, medium, low, and not prioritized (projects outside of Trent Woods). Public input from Town citizens

helped to prioritize these projects. The Town and Bicycle and Pedestrian Advisory Committee should start by designing and constructing the high priority projects, most notably The Loop formed by Chelsea Road, Country Club Drive, and Country Club Road. The Loop is centrally located and connects many of the Town's destinations such as Meadows Park, Town Hall, and the Police and Fire Departments. Specifically, the Town should first complete sidewalks and wide-paved shoulders on Chelsea Road, which was the highest ranking project. As the Town's first pedestrian project, successfully completing Chelsea Road is expected to generate further support for establishing the rest of the Town's pedestrian network.

8.5 Funding

Critical to the success of this Plan is of course securing funding for the recommended projects and programs. Fortunately, a variety of funding sources exist to fund the programs and projects in this Plan. This section describes local, state, and federal grant programs, tax mechanisms, and crowdfunding. No single grant or program will be able to entirely fund these projects and programs on their own. By strategically combining these funding sources more of the Plan can be realized. The descriptions of the following sources have been specifically tailored to Trent Woods, intended to give realistic suggestions for how to pay for these projects and programs.

New Bern Area Metropolitan Planning Organization (New Bern Area MPO)

The New Bern Area Metropolitan Planning Organization was formed in summer 2013, and will serve to address transportation needs in the region. The region including Trent Woods was previously a part of the Down East Rural Planning Organization, but after reaching the required threshold of 50,000 people the New Bern MPO was formed. The MPO will develop a Long-Range Transportation Plan (LRTP) that establishes a multimodal vision for the region. Based on the LRTP, the MPO will also establish a Transportation Improvement Program (TIP) that includes pedestrian, bicycle, and transit projects in addition to roadway projects.

Trent Woods has a unique opportunity to work in cooperation with the City of New Bern and New Bern MPO to have the pedestrian projects contained in this Plan included in the TIP. Inclusion in the TIP is essential for securing state and federal funding to implement these projects. Projects in the high priority group should also be prioritized in the TIP. As a member of the MPO, Trent Woods has a representative on the MPO's Transportation Advisory Committee. The Bicycle and Pedestrian Advisory Committee and Town Board of Commissioners should collaborate with the MPO through this representative.

Powell Bill

Powell Bill funds may be a potential mechanism to fund pedestrian infrastructure in Trent Woods. These funds are generated by the motor fuel sales tax and appropriated annually by the State to qualifying municipalities. Trent Woods is an eligible municipality and received approximately \$110,000 in 2013 (North Carolina State Street-Aid Allocations to Municipalities, 2013). According to state statutes, 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.” Therefore Powell Bill appropriations to Trent Woods may be a viable source for funding pedestrian improvements. The use of these funds would be at the discretion of the Town Board of Commissioners.



Photo courtesy of Pedestrian Bicycle Information Center / Austin Brown

Tax Increment Financing

Tax increment financing (TIF) can be used for financing public infrastructure, land acquisition, utilities, planning costs, and other improvements. It is a tool that utilizes future gain on taxes to finance current projects that will create the intended gains. Once the physical improvements are in place, property values are likely to increase. This increased property value and investment will create more taxable property, which increases the tax increment. TIF dedicates increased revenue to pay off debt issued to pay for the development. In the case of Trent Woods, TIFs could be an ideal way to establish funding for public projects and stimulate the Pedestrian Plan.

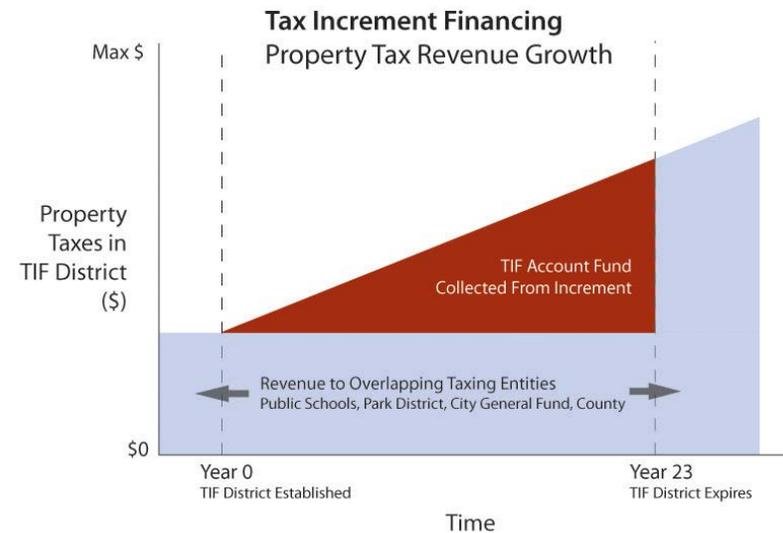


Figure from the University of Illinois at Chicago, Chicago TIF Information Forum, http://www.uic.edu/cuppa/voorheesctr/tif/public_html/tifproptax.jpg

Safe Routes to School

Funding for the Safe Routes to School Program mentioned in Section 7 would come from the NCDOT Department of Bicycle and Pedestrian Transportation. The Town would apply for funds, which have not required a local match in the past.

Parks and Recreation Trust Fund (PARTF)

The Town may consider applying for a grant through the Parks and Recreation Trust Fund (PARTF). PARTF provides dollar-for-dollar matching grants to local governments for the acquisition and/or development of park and recreational projects to serve the general public. Funds may be used to build or renovate recreational and support facilities or can be used to purchase land for recreational projects. This program could help fund a section of sidewalk or multi-use path within Meadows Park. This sidewalk or path section would be a component of a larger sidewalk or path proposed for Country Club Drive and Devonshire Drive. This grant is administered by the North Carolina Trails Program in the Division of Parks and Recreation.

NC Adopt-a-Trail Grant Program

The State Adopt-A-Trail Grant Program was authorized in 1987 by the North Carolina General Assembly for trail building, trail blazing, litter control, and resource protection. Funds may not be used for sidewalks or trail feasibility studies. Funds could potentially be used for construction of a trail in Meadows Park, multi-use paths, or trail amenities such as signage, benches, or bike racks. There are no matching funds required; however the grantee

must finance all project costs. Once the project is completed, these costs are reimbursed. This grant is administered by the North Carolina Trails Program in the Division of Parks and Recreation.

http://www.ncparks.gov/About/trails_AAT.php

Recreational Trails Program

The Recreational Trails Program was authorized by Congress in 2012 to fund trails and trail-related recreational needs with federal gas taxes from off-highway vehicles. The maximum grant award is \$200,000 and requires a 25% match. There are also grants through this program for promoting safety and environmental protection as they relate to recreational trail projects. This grant is administered by the North Carolina Trails Program in the Division of Parks and Recreation.

http://www.ncparks.gov/About/trails_RTP.php

Community Funding: Crowdfunding

In the last several years the internet has revolutionized fundraising. This new form of fundraising, called crowdfunding, enable people all over the world to start projects and contribute to them. Platforms such as Citizeninvestor, The Urban Conga, or Indiegogo are online communities that act as funding platforms for a diverse range of projects. Individuals or organizations post projects for a nominal fee and funders make contributions via credit card for a project of their choice. The system utilizes local communities and business to gain capital for urban projects and offers citizens direct ownership of these plans.

Trent Woods could consider using these websites to raise money towards pedestrian projects. For instance, if all Town residents contributed \$10 to a proposed project, approximately \$40,000 would be raised, which is the approximate cost of a sidewalk and crosswalks on Devonshire Drive. This strategy has been very successful and encourages participation by the community. Furthermore there is the option to only accept contributions if the project goal is met. For instance, the contributions from residents would only be accepted if the \$40,000 goal for the Devonshire Drive sidewalk was met. This further encourages community participation and ownership of the project.

Citizeninvestor: Projects are formed from “cities or official city partners” that focus on micro-projects (4-5 years). <http://www.citizeninvestor.com/>

The Urban Conga: An art and civic inspired crowdsourcing project that aims to “activate urban spaces through interactive installations.” The ultimate goal is to start conversations between the public and government agencies about urban issues.
<http://www.theurbanconga.com/>

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

8.6 Performance and Evaluation Measures for Plan Implementation

In order to evaluate the progress and effectiveness of the Trent Woods Pedestrian Plan, the following table (Table 8-1) lists evaluation criteria and examples of achieved milestones that the Bicycle and Pedestrian Advisory Committee and Town Board of Commissioners can use. These criteria and milestones are based on the goals and objectives of this Plan, which are listed in Section 1.4.

The evaluation of the Plan should occur annually and be published in the form of a report made available to the citizens of Trent Woods. The report should detail the progress made to date and the priorities for the coming year. This annual report will help to demonstrate the benefits of pedestrian infrastructure and programs as well as generate further support for the ongoing work of the Bicycle and Pedestrian Advisory Committee.

Table 8-1. Performance and Evaluation Measures for Plan Implementation

PLAN COMPONENT	PERFORMANCE EVALUATION	PROGRESS ACHIEVED
Promote partnerships with neighboring communities, businesses, and organizations, pedestrian/bicycle infrastructure/ programs	Host five yearly events focused around pedestrian and bicycling in the community	Develop partnerships with NCDOT and DHHS; Establish relationships with local businesses and organizations
Educate the community as to the benefits of pedestrian activity and applicable rules and regulations	Provide yearly events to enhance community understanding of safety measures for pedestrians; Increase participation in walking or bicycling	Driver & pedestrian education and Safe Routes to School Programs implemented; WalkBikeNC strategies utilized
Enhance pedestrian safety particularly on roads with heavy vehicular and pedestrian traffic	Track pedestrian and bicyclist crash/fatality rates; Track usage of improved facilities	Sidewalk, bike path, crosswalk, and intersection facility improvements
Improve the safety of students walking to and from school and of pedestrians walking throughout the Town	Increase student/families walking to school over driving to school; Track increase in use of pedestrian facilities for school-related commutes	Safe Routes to School Program; Traffic calming measures
Provide pedestrian connectivity to destinations within the community	Track pedestrian and bicycle counts; Increase percentage of roadways with sidewalks and bike paths	Complete Streets; Enhanced way-finding
Connect new pedestrian facilities to neighboring systems to increase pedestrian connectivity	Pedestrian and bicycle counts; Develop goal for miles of multi-use paths	Complete Streets; Multi-use path networks
All new transportation projects in the Town should include provisions for pedestrians	Increase percentage of trips made by walking or bicycling	Proposed Pedestrian Plan adopted and implemented in Trent Woods
Seek pedestrian funding, especially through the New Bern MPO	Raise funding to begin the first phases of the Pedestrian Plan	Funding secured to implement proposed Trent Woods Pedestrian Plan

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A | Public Involvement

Appendix A: Public Involvement contains agendas and minutes from the following meetings and workshops as well as findings from several interviews:

- First Public Workshop
- Second Public Workshop
- Steering Committee Meetings
- NCDOT Division 2 Coordination Meeting
- Online Comment Form
- Interviews



Town of Trent Woods Comprehensive Pedestrian Plan

FIRST PUBLIC WORKSHOP AGENDA

June 20, 2013 6 - 8 PM

Bangert Elementary School

6:00 PM SIGN-IN

Participants greeted by the Steering Committee and URS Team.
Electronic Sign-in at welcome table.
Participants are invited to sit in small groups in preparation for the small group exercise.

6:15 PM WORKSHOP KICK-OFF

Mayor Tyson will welcome the participants, and introduce the Steering Committee Chair and members. Melissa Rankin will introduce the student and the consultants.

Cindy will provide a brief history of the planning grant and an overview of the pedestrian planning efforts.

Adam Migliore Meyer will briefly describe the purpose and method of the small group exercise.

6:30 PM SMALL GROUP EXERCISE

Facilitators and recorders will begin with a visioning exercise and then lead their group in identifying community assets, pedestrian activity, constraints, and opportunities. A separate Guide for Facilitators and Recorders details these steps.

The URS Team and NCDOT will visit the groups throughout the exercise to answer questions and provide guidance. A looping Power Point presentation at the front of the room will accompany the exercise showing examples of pedestrian constraints and visualizations of potential opportunities.

See Guide for Facilitators and Recorders

7:30 PM REPORT OUT

A volunteer from each small group will report their findings back to the larger group.

8:00 PM CONCLUDE

Cindy Camacho will thank the community for participating and encourage further involvement at the second public workshop and online.

FIRST PUBLIC WORKSHOP

Guide for Facilitators and Recorders

BACKGROUND

Purpose

This guide is intended to assist facilitators and recorders in identifying community assets, pedestrian activity, constraints, and opportunities within their small groups.

Roles

As a **facilitator**, your role is to guide your small group in identifying: community assets, pedestrian activity, constraints, and opportunities. As a facilitator, you will need to keep your group focused in order to cover each part in the allotted time as noted. Please ensure that each participant has a chance to speak by calling on participants one at a time.

As a **recorder**, your role is to take notes, and assist the group in making sure that all comments, questions, and ideas are captured to share later with the larger group. All ideas are welcome and should be recorded without consideration to cost or feasibility.

Ground Rules

- Everyone participates and has a chance to speak
- All ideas are welcome and valid; respect one another
- Time is limited, comments should be limited to 2 minutes at a time
- Feel free to write on the maps or post-its. Please wait for facilitator to ask the questions
- We can stay in touch though the comment card and link on Town Website
- Questions and comments about issues other than the plan will be placed on a “parking lot” to be addressed later

Time and Supplies

- Approximately One hour and ten minutes for the entire exercise: one 5-10 minute visioning exercise and four 15 minute parts.
- A timekeeper at the front of the room will give a 5-minute warning and then announce when it is time to move onto the next part.
- If your group needs extra maps, please ask one of the staff members floating around the room

Suggestions

- Ask participants to label their comments on the map with a number so that the recorder can reference their comments
- Call on participants one at a time to ensure everyone has a chance to speak
- Please write your name and table number in the space provided on the map

Town of Trent Woods Comprehensive Pedestrian Plan

ACTIVITY

WELCOME, INTRODUCTIONS, and GROUND RULES

“Welcome to the small group session for the Town’s pedestrian plan. I’m _____ and will be serving as your facilitator along with _____ who is our recorder. We also need a volunteer to report our group’s findings at the end of this activity. Who would like to volunteer? Let’s go around the table and introduce ourselves.

Thank you all for participating today. Your input is valued and essential for the success of this plan. Our exercise consists of one 5 minute part, and four 15 minute parts. We will first start with a visioning exercise followed by identifying community assets, pedestrian activity, constraints, and opportunities. Before we start, I’d like to review the ground rules:

- Everyone participates and has a chance to speak
- All ideas are welcome and valid; respect one another
- Time is limited, comments should be limited to 2 minutes at a time
- Feel free to write on the maps or post-its. Please wait for facilitator to ask the questions
- We can stay in touch through the comment card and link on Town Website
- Questions and comments about issues other than the plan will be placed on a “parking lot” to be addressed later”

VISIONING

(5 mins)

“Let’s first begin with a visioning exercise. On the sticky notes provided, please complete the sentence ‘Trent Woods is...’ Once you have finished, [Recorder] will collect the sticky notes and summarize them to the group.”

PART 1: IDENTIFY COMMUNITY ASSETS

(15 mins)

“On the map in front of you, community assets such as parks, schools, and churches have been labeled. Going around the circle one-by-one, identify assets not shown by writing on the map. These could also include commercial areas and/or other notable features.”

PART 2: PEDESTRIAN ACTIVITY

(15 mins)

“Critical to this plan is understanding where pedestrian activity occurs. Going around the circle, describe pedestrian activity within the Town by writing on the map and making notes as necessary.”

Some questions to consider are:

- Where do you walk or run?
- Where do you exercise?
- Where do you notice areas with many pedestrians and areas of few pedestrians?

Town of Trent Woods Comprehensive Pedestrian Plan

ACTIVITY

PART 3: PEDESTRIAN CONSTRAINTS

(15 mins)

“The purpose of this plan is to address pedestrian constraint such as poor visibility, safety concerns, and lack of sidewalks. Locate and label on the map existing pedestrian constraints. Constraints may be physical, but can also be behavioral such as speeding or lack of awareness of pedestrians. The power point presentation shows some examples.”

Some questions to consider are:

- What are the dangerous intersections?
- Are there connections between community assets that we identified earlier?
- Are there certain times of the day that seem more dangerous than others for pedestrians?

PART 4: PEDESTRIAN OPPORTUNITIES

(15 mins)

“Given the pedestrian constraints that we identified, what are the opportunities for pedestrian improvements? Opportunities could include adding sidewalks, better signage, or programs targeted at raising awareness of pedestrian safety. Please identify and label the opportunities on the map one at a time. The power point presentation highlights some possibilities.”

Some questions to consider are:

- Where could pedestrian paths, sidewalks, or crosswalks be added?
- Would signage help to address pedestrian safety?
- What connections between community assets would you like to see?

CONCLUSION

“Thank you all for participating today. Your input will enhance our community’s pedestrian plan. We will now summarize our findings and parking lot items. Our volunteer will report them to the larger group when we reconvene in a few minutes.

Remember that before leaving this evening, please fill out the public comment card with your thoughts and suggestions from today’s session. This is also opportunity to share information that you were unable to during the exercise. There will be another public workshop this fall. Check the Town’s website for the date and other plan updates.”

Please see Agenda for the remainder of the workshop.

Thank you for serving as a facilitator and recorder!



Town of Trent Woods Comprehensive Pedestrian Plan

First Public Workshop Summary

Below is a summary from the First Public Workshop held at Bangert Elementary School on June 20, 2013 6 PM. The comments gathered during the visioning exercise and four-part small group exercise have been summarized and stated in this document. All comments have been recorded and will inform the Pedestrian Plan.

Visioning Exercise

Below are a few excerpts from the visioning exercise: "Trent Woods is..."

- Quiet, quaint, friendly, green.
- A safe quiet neighborhood with beautiful natural resources such as woods and river. Accessible by foot and bike.
- A friendly family community where kids can walk and ride bikes.

Small Group Exercise

Part 1: Community Assets

These community assets were identified in addition to the ones already mapped:

- Access to water for community
- Boat ramp
- Business Park near Steeplechase Dr. & Country Club Rd.
- Connectivity to Lawson Creek
- Food Lion off of McCarthy Blvd. (New Bern)
- Gas station at the intersection of Greenleaf Cemetery Rd. and US 17.
- Gas station at the intersection of Trent Rd. and Chelsea Rd.
- Law office at Wedgewood Dr. and Country Club Rd.
- Little commercialization
- Office on Chelsea Rd.
- Play area by Town Hall
- Pumping station areas
- River
- Shopping center west of Trent Rd. and Chelsea Rd. intersection
- Trees
- Undeveloped parcels for future community use
- Water
- YMCA off of Park Ave. (New Bern)



Town of Trent Woods Comprehensive Pedestrian Plan

Part 2: Pedestrian Activity

The following areas were noted because of heavy pedestrian activity:

- Bangert Elementary
 - Especially at crosswalk in front of school on Canterbury Rd.
- Canterbury Rd.
- Country Club Rd.
- Garber United Methodist Church: at crosswalk (especially on Wednesdays and Sundays)
- Haywood Creek Dr.
- Highland Ave.
- Loop formed by Chelsea Rd., Country Club Dr., and Country Club Rd.
- Loop formed by River Rd., Haywood Creek Dr., Meadowbrook Dr., W. Wilson Creek Dr. and Trent Woods Dr.
- Loop formed by Canterbury Rd., Steeplechase Dr., Highland Ave., and Wedgewood Dr.
- Meadows Park
- New Bern Golf & Country Club
 - Pedestrians use the golf course as a cut through between Chelsea Rd. and Country Club Rd.
- River Rd.
- Wedgewood Dr.
- W. Wilson Creek Dr.

Part 3: Pedestrian Constraints

Lack of Facilities:

- Trent Woods currently has no sidewalks, multi-use paths, or off-road paths for pedestrians
- There is no pedestrian access to Trent River
- Lack of lighting on roads for pedestrians walking in dawn or evening

Specific Streets:

- Bangert Elementary School (Canterbury Rd.)
 - Safety during drop-off/pick up is a concern. Traffic is especially heavy on Canterbury Rd. at 8 am and 2:30 pm
- Chelsea Rd. & Country Club Rd.
 - This intersection was identified by many people as being perhaps the most dangerous intersection in Town due to: heavy traffic, speeding, poor visibility, and lack of pedestrian accommodations for crossing.
- Country Club Dr.
 - No existing facilities yet many pedestrians use this road to get to Town Hall, Meadows Park, and Bangert Elementary School.
- Devonshire Dr.
 - An important and popular connection to Bangert Elementary and Meadows Park.



Town of Trent Woods Comprehensive Pedestrian Plan

- Given that students use this road to walk to school, pedestrian accommodations including sidewalks and crosswalks are needed.
- Highland Ave. & Steeplechase Dr.
 - This is a 90-degree turn as opposed to an intersection. The angle and speed make it dangerous for pedestrians.
- River Rd.
 - Several intersections along River Rd. are dangerous due to heavy vehicular and pedestrian traffic
 - Heavy traffic on River Rd. as it is a primary connection to and from New Bern including New Bern High School
- Steeplechase Dr. & Country Club Rd.
 - Heavy traffic at this intersection and poor line of sight
- Trent Woods Dr. and Country Club Rd.
 - The main east-west connection from one end of Trent Woods to the other.
 - Particularly dangerous in the mornings and late afternoons due to poor visibility from the rising and setting sun.
- Wedgewood Dr. & Dianne Dr. and Wedgewood Dr. & Country Club Dr.
 - Poor visibility at these intersections
- Wilson Creek Bridge
 - Narrow bridge is dangerous for pedestrians and cyclists, and is the only connection between Trent Woods east of Wilson Creek and the portion of Town on the west

Behavior:

- New Bern Golf & Country Club
 - Dangerous conflict between pedestrians and golf carts since they use the golf cart path as a cut-through
- Large vehicles and vehicles towing boats take up more room on the streets, giving less space to pedestrians.
- Vehicles passing pedestrians and cyclists do not always give them enough space.
- Pedestrians walking in the same direction as traffic is dangerous.

Part 4: Pedestrian Opportunities

Below is a summary of the pedestrian opportunities that were brainstormed:

- Bangert Elementary
 - Reconfigure drop off/pick-up traffic to be one way around the entire property to minimize conflicts with pedestrians
 - Add a footpath to Bangert Elementary from Fox Hollow through the undeveloped parcels adjacent to the school.
- Ben Quinn Elementary
 - Add a footpath from Haywood Farms Rd. to Ben Quinn Elementary
- Boat Ramp
 - Connect boat launching ramp to a bike path/sidewalk



Town of Trent Woods Comprehensive Pedestrian Plan

- Chelsea Rd.
 - Add a multi-use path or sidewalk along Chelsea Rd. that would be separated from traffic
- Chelsea Rd. & Country Club Rd.
 - Upgrade this intersection to address poor visibility and lack of pedestrian accommodation for safe crossings. Ideas include adding a flashing signal, a mirror to see oncoming traffic, and crosswalks.
- Education
 - Educate the pedestrians and cyclists on when they have the right of way, etc.
 - Educate pedestrians on the safety of walking against traffic
 - Programs for drivers to address awareness of pedestrians and speeding
- Haywood Creek
 - Add a footpath behind homes on Haywood Creek Dr. to provide water access to the Trent River/Haywood Creek.
- Meadows Park
 - Add a footpath to Meadows Park from Carolina Ave. to Meadows Park using the power line easement.
- Provide pedestrian accommodation on Trent Rd. in the form of a sidewalk or multi-use path for access to commercial uses on Trent Rd. and into New Bern. Several community assets are located on or near Trent Rd. including the YMCA and Epiphany School of Global Studies.
- Outer loop with wider roads for bike lanes and Inner loop closer to school with sidewalks are needed.
- River Rd.
 - Add a sidewalk or multi-use path on River Rd.
- Sign or mark pedestrian paths. Include mile markers especially since many pedestrians walk and run for exercise.
- Signage on roads
 - Provide signs alerting drivers to pedestrians in colors that attract attention
- Speed bumps/humps
- Speed limits
 - Lower speed limits
- Trent Woods Dr.
 - Pedestrian bridge on the W. Wilson Creek Bridge
- Undeveloped parcels
 - Identify undeveloped parcels where footpaths could be constructed. They could also serve as parks.
- Water Access
 - Provide pedestrian access to Trent River
- W. Wilson Creek Dr. and Creekwood Dr.
 - Add a footbridge across Wilson Creek to connect these two roads and provide an alternative to the Wilson Creek Bridge on Trent Woods Dr.



Town of Trent Woods Comprehensive Pedestrian Plan

Parking Lot Items

- “Meadows Park is wholly inadequate for a community the size of Trent Woods.”

Comment Forms:

Every comment received is included in its entirety:

General:

- Please consider a pervious surface on any kind of path – we don’t need any more drainage problems
- What a waste of taxpayer money! Contract to determine costs, provide to council. Then conduct a referendum to determine whether residents want to pay for sidewalks.
- Good discussions good map – lots of similar concerns. Variety of age groups/needs—all have validity—kids walk to school, seniors walk, yuppies able to jog/bike/walk.
- Maps are very helpful
- Great input from the community
- Thought it went extremely well. It is encouraging that most folks are on the same page with dangers/ideas for improvement.
- I think the meeting was well planned and executed. This topic is important to our community and to me and I appreciate the opportunity to have a voice.
- Great workshop! Good to see where we are and what may be possible for TW/NB. I have heard so much about the project but felt out of the loop until tonight. This should help/encourage more people to get and stay involved. Keep people interested by hosting meetings like this often.
- No matching funds
- Good info sharing. Great topics. Liked small group exercise.

Small Group Exercise

- The Town has been safe for 40+ years; we do not need to spend money on sidewalks.
- Places where walkers would go through low areas could have raised walkways like the aquarium – roadways without adequate shoulders might also be handled like this.



Town of Trent Woods Comprehensive Pedestrian Plan

SECOND INFORMAL OPEN HOUSE PUBLIC WORKSHOP AGENDA

September 26, 2013 6 - 8 PM

Bangert Elementary School

6:00 PM

WORKSHOP KICK-OFF

Introductions by Mayor Pro-Tem Shane Turney, Steering Committee Chair Melissa Rankin, and Project Consultant Adam Migliore Meyer

6:20 PM

OPEN HOUSE

Opportunity to view the proposed projects and priorities as well as comment on them

7:30 PM

CONCLUDE



Town of Trent Woods Comprehensive Pedestrian Plan

Second Public Workshop Summary

Bangert Elementary

6 – 8 pm, September 26, 2013

Narrative Summary

The Second Public Workshop for the Trent Woods Pedestrian Plan was held on Thursday, September 26, 2013 from 6 to 8 pm in the Bangert Elementary School cafeteria. The purpose of this workshop was to present the proposed pedestrian projects and priorities to the community and solicit their feedback. The format was an informal open house with brief introductions and presentation at the beginning. Approximately 20 citizens attended and 3 project consultant staff. Several members of the Steering Committee attended.

Mayor Pro Tem Shane Turney kicked off the workshop giving attendees a history of pedestrian planning efforts in the Town and thanking them for their participation in those efforts. Next, Steering Committee Chair Melissa Rankin gave an overview of the Steering Committee's role and progress so far. She explained the purpose of the workshop and introduced Project Consultant Adam Migliore Meyer. Mr. Meyer gave a brief presentation of the proposed project types (sidewalks, wide paved shoulders, off-road connections) and priorities (high, medium, and low). He then invited the attendees to study the project and priority maps at various tables in the cafeteria and encouraged them to write down their comments on the paper sheets provided.

Citizens gathered around three stations to view the maps and comment on them. Project Consultants Mr. Meyer, Mark Pierce, and Sarah Bassett were available to interpret the maps and answer any questions. Several comments were received and are summarized in the following section. The workshop concluded around 7:30 pm.



Town of Trent Woods Comprehensive Pedestrian Plan

Comments Received

Community members had an overall positive response to the proposed project types and priorities represented in the plans. Comments such as “love the proposed ideas,” “seems to be a good plan with safety issues being addressed,” and “suggested locations and pathways as well as the priorities to complete these projects are right on target” were complemented by constructive feedback in regards to map symbology used for the priorities map such as using red to indicate danger/higher priority and green to represent safer/lower priorities. There were some comments on the intersection improvements. One citizen was concerned with what particular issues intersection priorities 4, 9, and 10 were aiming to address. Disappointment was expressed that the Highland and Steeplechase intersection was not given a higher priority. Emphasis was placed on Wilson Creek Bridge and the intersection of Country Club Drive and Country Club Road as very hazardous areas by a participant, offering support in these highly prioritized areas. As a general comment, one community member suggested trees and bushes need to be more regularly “cut back” at high priority intersections.

An avid runner, and community supporter of the plan, commented that Trent Woods is growing and needs sidewalks, wide shoulders, and more safety for the community. Another citizen commented in favor of sidewalks and, living on River Road, is currently unable to ride bikes due to feeling unsafe where River Road runs into New Bern by Greenleaf Cemetery. There was preference expressed to see the Country Club Road West project be “prioritized second,” or have the entire road be considered as a single project. A comment was similarly offered to prioritize Chelsea and Country Club West, where the road connects, as a “first project.”

The networks surrounding Bangert Elementary School received support as one of the highest priority areas and a “big win to reduce traffic” as a safety measure. The proposed Bangert Pathway (footpath) would allow multiple community members the opportunity to walk their children to school, and as one participant noted, would see more traffic than the Meadows Footpath. A suggestion was offered to remove street parking, currently used for parents that do not participate in carpool, to make room for a sidewalk around the school.

Town of Trent Woods Comprehensive Pedestrian Plan

Agenda - Kickoff Meeting and Working Session

April 8, 2013 6:00 – 8:00 PM

5:30 PM **DINNER**
Pizza and drinks will be provided.

6:15 PM **INTRODUCTIONS and VISIONING EXERCISE**

A) Introductions
Town Staff, Steering Committee, URS Team

B) Visioning Exercise
Discuss the role of the Steering Committee

6:40 PM **OVERVIEW OF PLANNING TASKS**
Review the project approach including the eight tasks as outlined in the proposal:

Tentative Schedule	Task
April 2013	Task 1: Public Involvement <i>First Steering Committee Meeting</i>
May – June 2013	Task 2: Inventory and Evaluation of Existing Conditions <i>Second Steering Committee Meeting</i> <i>First Public Workshop</i>
July 2013	Task 3: Analysis of Existing Plans, Programs, and Policies
August 2013	Task 4: Development of Pedestrian Plan <i>Third Steering Committee Meeting</i>
September 2013	Task 5: Facility Standards and Guidelines
October 2013	Task 6: Project Development and Recommendations
November - December 2013	Task 7: Draft Plan <i>Fourth Steering Committee Meeting</i> <i>Second Public Workshop</i> Draft Plan submitted to NCDOT for review after incorporating comments from public workshop
January 2014*	Task 8: Plan Adoption and Implementation

*Schedule depending on NCDOT review of the Draft Plan

Town of Trent Woods Comprehensive Pedestrian Plan

7:00 PM WORKING SESSION

7:00 Google Earth Flyover and Input

Present Google Earth flyover of Trent Woods highlighting existing pedestrian conditions and receive input in preparation for the First Public Workshop.

7:15 Planning Exercise

Interactive exercise with the Steering Committee to identify pedestrian constraints and opportunities in the community

Existing Conditions/Constraints (15 minutes)

Opportunities (15 minutes)

8:00 PM ADJOURN

Town of Trent Woods Comprehensive Pedestrian Plan

Steering Committee Kickoff Meeting and Working Session

April 8, 2013 6:00 – 8:00 PM

MINUTES

ATTENDEES

Charles F. Tyson, Jr., Mayor
Marcia K. Sproul, Town Clerk
Robert Mosher, Planning Program Manager for NCDOT Bicycle and Pedestrian Division
Cindy Camacho, Project Manager, URS Corporation
Paul Himberger, Environmental Planner, URS Corporation
Adam Migliore Meyer, Transportation Planner, URS Corporation

Melissa Rankin, Steering Committee Chair
Stuart (Mac) Flythe III, Steering Committee Member
Stuart Flythe Jr., Steering Committee Member
Chris Hoveland, Steering Committee Member
Bill Joiner, Commissioner and Steering Committee Member
Tony Lee, Chief of Police and Steering Committee Member
Bob Mattocks, Steering Committee Member
Colleen Roberts, Steering Committee Member
John Taylor, Steering Committee Member
Shane Turney, Commissioner/Mayor Pro Tem and Steering Committee Member
Ken Wyman, Steering Committee Member

INTRODUCTIONS

Ms. Cindy Camacho began the meeting by introducing herself and the rest of the URS Team: Paul Himberger and Adam Migliore Meyer. Mayor Charles Tyson made opening remarks as did Mr. Robert Mosher, Planning Program Manager for NCDOT Bicycle and Pedestrian Division. Steering Committee members introduced themselves and expressed their interest for pedestrian issues in the community.

VISIONING EXERCISE

As a vision exercise to kick off the meeting, steering committee members were asked to complete the sentence: "Trent Woods is..." The pride, care and commitment for the town were evident in the members' responses. Many mentioned that the town is a family-oriented community for all ages, a great place to live, and a peaceful and safe town. The responses can be summarized in this one from a steering committee member: "Trent Woods is the most beautiful small town in the world."

EXISTING PEDESTRIAN CONDITIONS

Mr. Himberger presented the committee with a Google Earth flyover of the Town, highlighting existing pedestrian conditions such as the narrow bridge over Wilson Creek on Trent Woods Drive and the existing crosswalk at Bangert Elementary School. Mr. Himberger also mentioned

Town of Trent Woods Comprehensive Pedestrian Plan

the relation of New Bern Pedestrian Plan to Trent Woods, pointing out the plan's specific recommendations for Chelsea Road and Country Club Road.

OVERVIEW OF PLANNING TASKS

After Mr. Himberger presented the Google Earth flyover of existing pedestrian conditions and potential opportunities, Ms. Camacho gave a project overview, highlighting the following tasks:

Tentative Schedule	Task
April 2013	Task 1: Public Involvement <i>First Steering Committee Meeting</i>
May – June 2013	Task 2: Inventory and Evaluation of Existing Conditions <i>Second Steering Committee Meeting</i> <i>First Public Workshop</i>
July 2013	Task 3: Analysis of Existing Plans, Programs, and Policies
August 2013	Task 4: Development of Pedestrian Plan <i>Third Steering Committee Meeting</i>
September 2013	Task 5: Facility Standards and Guidelines
October 2013	Task 6: Project Development and Recommendations
November - December 2013	Task 7: Draft Plan <i>Fourth Steering Committee Meeting</i> <i>Second Public Workshop</i> Draft Plan submitted to NCDOT for review after incorporating comments from public workshop
January 2014*	Task 8: Plan Adoption and Implementation

*Schedule depending on NCDOT review of the Draft Plan

Ms. Camacho then discussed the role of the steering committee, which is two-fold: to serve as advisors and also as advocates. Members are *advisors* by providing feedback and recommendations on each task of the planning effort and *advocates* by inviting friends and family to future public meetings, serving as facilitators, and helping to both inform and educate the community as to the pedestrian plan's purpose and future recommendations.

WORKING SESSION

Following the discussion on the planning tasks and role of the steering committee, Mr. Meyer introduced the working session. The purpose of the session was to give steering committee members opportunities to: 1) identify community assets such as parks, schools, and places of worship; 2) locate pedestrian origins and destinations; 3) comment on pedestrian constraints such as dangerous intersections; and 4) consider pedestrian opportunities such as adding sidewalks in heavy traffic areas.

The committee formed into two small groups led by Ms. Camacho and Mr. Meyer, and provided insight into these four areas by placing color-coded dots and writing comments on a series of paper maps. The following subsections summarize the findings of both small groups:

Town of Trent Woods Comprehensive Pedestrian Plan

1) Community Assets

In addition to the schools and churches already on the map, the committee identified the following assets:

- Existing bike routes
- Meadows Park
- Greenleaf Cemetery
- Yacht Club
- Preschool at Garber United Methodist Church
- Church at the intersection of Diane Dr. and Wedgewood Dr.
- Movie theatre on Trent Rd.
- Flythe's Bike Shop on Trent Rd.
- Grocery store on McCarthy Blvd.

2) Pedestrian Origins and Destinations

The committee identified the following pedestrian origins and destinations:

- Town Hall
- Ben Quinn Elementary School (located in New Bern)
- Albert H. Bangert Elementary School
- Meadows Park
- Greenleaf Cemetery
- New Bern Golf & Country Club
- St. Paul Catholic School
- Graber United Methodist Church and preschool
- Yacht Club
- Flythe's Bike Shop

In addition to these specific origins and destinations, the committee also noted that Trent Woods is a very active community with walkers and runners so residents' homes are often the origins/destinations for pedestrian activity. The neighborhoods surrounding the two elementary schools are pedestrian origins for students and families. Residents from outside Trent Woods drive into town to walk the quiet residential streets, golf course, and cemetery according to committee members. There are several walking and running groups active within the town. The town is also host to road races during the year and holds its Christmas parade on the loop formed by Chelsea Rd. and Country Club Dr. This same loop is used throughout the year for exercise and leisure by walkers and runners.

3) Pedestrian Constraints

The committee identified the following pedestrian constraints:

- Trent Woods Dr. Bridge over Wilson Creek – narrow with heavy traffic
- Intersection of Chelsea Rd. and Trent Rd. – heavy traffic
- Intersection of Chelsea Rd. and Trent Woods Dr. is particularly dangerous for pedestrians given traffic and limited visibility
- Intersection of Trent Woods Dr. and River Rd. has heavy vehicle and pedestrian traffic

Town of Trent Woods Comprehensive Pedestrian Plan

- Trent Woods Dr. is a constraint because of heavy traffic and reduced visibility due to sun glare at dawn and dusk
- Country Club Rd. is a constraint due to absence of shoulder for pedestrians
- Country Club Rd. at Meadows Park: curve with limited visibility and pedestrian activity
- Intersection of Devonshire Dr. and Canterbury Rd. has no pedestrian accommodation for students crossing to Bangert Elementary
- Intersection of Country Club Rd. and Wedgewood Dr. – poor visibility
- Country Club Rd. at St. Paul’s Catholic Church has no pedestrian accommodation to access the church and school
- Highland Ave. at Steeple Chase Drive is a 90 degree turn so visibility is reduced; however little pedestrian activity was reported at this location
- Trent Rd. has heavy traffic and no pedestrian accommodations

4) Pedestrian Opportunities

In addition to opportunities to address the constraints listed above, the committee specifically identified the following pedestrian opportunities:

- Sidewalk or multi-use path along Country Club Rd. to connect with New Bern
- Pedestrian improvements on heavily-trafficked Trent Rd
- Sidewalk or multi-use path on the loop formed by Chelsea Rd. and Country Club Rd. This loop is heavily used by pedestrians including those going to Meadows Park and Bangert Elementary School.
- Pedestrian improvements at Bangert Elementary School. There is currently a crosswalk at the school, but there are no sidewalk connections.
- Pedestrian connection to the Epiphany School of Global Studies

Town of Trent Woods Comprehensive Pedestrian Plan

Agenda – Steering Committee Meeting

May 14, 2013 6:00 – 7:30 PM

6:00 PM INTRODUCTIONS and Review of Kick off Meeting

A) Introductions

Town Staff, URS Team, Steering Committee Members

B) Kick off Meeting Review

Discuss the findings of the Kick off Meeting

6:15 PM UPDATED PROJECT SCHEDULE

Schedule	Task
April 2013	Task 1: Public Involvement <i>First Steering Committee Meeting</i>
May – June 2013	Task 2: Inventory and Evaluation of Existing Conditions <i>Second Steering Committee Meeting – May 14, 2013</i> <i>First Public Workshop – TBD</i>
July 2013	Task 3: Analysis of Existing Plans, Programs, and Policies
August 2013	Task 4: Development of Pedestrian Plan <i>Third Steering Committee Meeting</i>
September 2013	Task 5: Facility Standards and Guidelines
October 2013	Task 6: Project Development and Recommendations
November - December 2013	Task 7: Draft Plan <i>Fourth Steering Committee Meeting</i> <i>Second Public Workshop</i> Draft Plan submitted to NCDOT for review after incorporating comments from public workshop
January 2014*	Task 8: Plan Adoption and Implementation

*Schedule depending on NCDOT review of the Draft Plan

Town of Trent Woods Comprehensive Pedestrian Plan

6:30 PM REVIEW OF PUBLIC WORKSHOP AGENDA

Purpose of Public Workshop:

- Solicit community input on pedestrian constraints and opportunities.
- The Pedestrian Plan will reflect the concerns and ideas of the community and Steering Committee

Outline of Agenda:

1. Welcome/Introduction
2. Visioning
3. Community Data Gathering
4. Reporting Out

6:50 PM MEETING FORMAT AND ROLE OF FACILITATORS AND RECORDERS

1. Distribute small group guide for facilitators and recorders
2. Volunteers for Facilitation and Recording
3. Public Notice and Get the Word Out
4. Media Notification/news article and bring neighbors, friends and family
5. Challenge: Each Steering Committee Member brings 5 people to public meeting

CLOSING



Town of Trent Woods Comprehensive Pedestrian Plan

Agenda – Steering Committee Meeting

August 22, 2013 6:00 – 7:30 PM

6:00 PM INTRODUCTION

6:05 PM UPDATED PROJECT SCHEDULE

Schedule	Activity
August 2013	Task 5: Facility Standards and Guidelines <i>Third Steering Committee Meeting – August 22, 6 – 7:30 PM</i>
September 2013	Task 6: Project Development and Recommendations <i>Second Public Workshop – September 26, 6-8 PM at Bangert Elementary</i>
October 2013	Task 6: Project Development and Recommendations
November - December 2013	Task 7: Draft Plan <i>Fourth Steering Committee Meeting – TBD</i> Draft Plan submitted to NCDOT for review after incorporating comments from public workshop and Steering Committee
January 2014*	Task 8: Plan Adoption and Implementation

*Schedule depending on NCDOT review of the Draft Plan

6:10 PM PEDESTRIAN PLAN GOALS

Briefly discuss Steering Committee feedback on goals for the Pedestrian Plan (Goals were sent out to the Steering Committee ahead of the meeting)

6:15 PM COORDINATION WITH NCDOT DIVISION 2

Summary of meeting outcomes with NCDOT Division 2 regarding NCDOT design standards and guidelines for pedestrian facilities

6:25 PM RECOMMENDED PROJECTS AND PRIORITIES

Presentation of specific sidewalk, wide paved shoulder, and multi-use path projects and priorities based on previous input from the Steering Committee and First Public Workshop.



Town of Trent Woods Comprehensive Pedestrian Plan

This is an opportunity for the Steering Committee to provide feedback. Projects and priorities will be revised as needed.

7:00 PM DISCUSSION of SECOND PUBLIC WORKSHOP

Purpose of Public Workshop:

- Present recommended pedestrian projects and priorities
- Solicit community input

Outline of Agenda for Second Public Workshop:

1. Welcome/Introduction
2. Presentation
3. Small Group Working Session
4. Reporting Out

Review plan for publicizing the workshop

- Challenge: Each Steering Committee Member brings 5 people to public meeting

CLOSING



Town of Trent Woods Comprehensive Pedestrian Plan

Third Steering Committee Meeting Minutes

August 22, 2013

Attendees:

- Cindy Camacho, URS
 - Adam Migliore Meyer, URS
 - Mark Pierce, URS
 - Robert Mosher, NCDOT Division of Bicycle and Pedestrian Transportation
 - Marcia Sproul, Trent Woods
 - Melissa Rankin, Steering Committee
 - Richard Leissner, Steering Committee
 - Lisa Haidt, Steering Committee
 - Chip Hughes, Steering Committee
 - Linda Froelich, Steering Committee
 - Scott Dacey, Craven County Board of Commissioners
 - Stan Ezzel, Steering Committee
 - Chris Hoveland, Steering Committee
 - Shane Turney, Steering Committee
 - Officer Tony Lee, Steering Committee
 - Wendy Stallings, Steering Committee
-
- Introductions of the URS Team, Bob Mosher, and Steering Committee
 - Summarized progress made to date and updated the Steering Committee with where we are today
 - Reviewed goals of the Pedestrian Plan. No comments from the Steering Committee.
 - Presented the methodology, prioritization criteria, and prioritization scores for the proposed sidewalk, wide paved shoulder, multi-use path, and off-road connection projects.
 - Briefed the Steering Committee on the outcome of the NCDOT Division 2 meeting held earlier in the day
 - Extensive discussion was held on the proposed projects. Discussion items included:
 - Prioritization scores for specific projects
 - Estimated costs
 - Right-of-way acquisition needed for multi-use paths



Town of Trent Woods Comprehensive Pedestrian Plan

- Whether to build individual projects in phases or all at once
 - Proposing sidewalks on one side of the road or both
-
- Action items: Steering Committee will meet separately to discuss proposed projects and report back to Project Consultants.



Town of Trent Woods Comprehensive Pedestrian Plan

Agenda – Fourth Steering Committee Meeting

January 13, 2014 6:00 – 7:30 PM

6:00 PM INTRODUCTIONS

6:10 PM REVIEW OF PEDESTRIAN PLAN

Review the Trent Woods Pedestrian Plan and receive comments from the Steering Committee

7:00 PM NEXT STEPS

CLOSING



Town of Trent Woods Comprehensive Pedestrian Plan

Fourth Steering Committee Meeting Minutes

January 13, 2013

Attendees:

- Cindy Camacho, URS
 - Adam Migliore Meyer, URS
 - Robert Mosher, NCDOT Division of Bicycle and Pedestrian Transportation
 - Jeff Cabaniss, NCDOT Division 2 Planning Engineer
 - Mayor Chuck Tyson, Trent Woods
 - Marcia Sproul, Trent Woods
 - Dan Murphy, Trent Woods Commissioner
 - Melissa Rankin, Steering Committee
 - Richard Leissner, Steering Committee
 - Lisa Haidt, Steering Committee
 - Linda Froelich, Steering Committee
 - Scott Dacey, Craven County Board of Commissioners
 - Stan Ezzel, Steering Committee
 - John Taylor, Steering Committee
 - Shane Turney, Steering Committee
 - Officer Tony Lee, Steering Committee
 - Wendy Stallings, Steering Committee
 - Bill Joiner, Steering Committee
- Introductions of the URS Team, Robert Mosher, Jeff Cabaniss, and Steering Committee
 - Received comments from the Steering Committee on the Final Draft of the Trent Woods Comprehensive Pedestrian Plan
 - Discussed that the Plan is a living document and can be amended in the future by the Town with guidance from the Bicycle and Pedestrian Advisory Committee
 - Next steps towards adoption of the Plan:
 - Revise the Plan according to comments received from the Steering Committee
 - Hold a public hearing for the Plan on February 6, 2014 and present the Plan for adoption by the Town Board of Commissioners
 - Next steps following the adoption of the Plan:
 - Feasibility study of specific projects
 - Presentation to the New Bern Area Metropolitan Planning Organization
 - Formation of a Bicycle and Pedestrian Advisory Committee



Town of Trent Woods Comprehensive Pedestrian Plan

PLANNING AND DESIGN MEETING WITH NCDOT DIVISION 2

August 22, 2013 – 2:00 PM

105 Pactolus Hwy. (NC 33)
PO Box 1587
Greenville, 27835

ATTENDEES:

- Dwayne Alligood, PE, NCDOT Division 2 Operations Engineer
- Jeff Cabaniss, PE, NCDOT Division 2 Planning Engineer
- Steve Hamilton, PE, CPM, NCDOT Division 2 Traffic Engineer
- John Rouse, PE, NCDOT Division 2 Division Engineer
- Reed Smith, PE, NCDOT Division 2 District Engineer
- Robert Mosher, AICP, ASLA, NCDOT DBPT Planning Program Manager
- Cindy Camacho, AICP, URS
- Adam Migliore Meyer, URS
- Mark Pierce, PE, URS

OBJECTIVES

- Introduce the Trent Woods Pedestrian Plan
- Present existing conditions and recommended pedestrian improvements
- Decide on NCDOT typical sections, including potential modifications, for implementing pedestrian improvements

AGENDA

INTRODUCTIONS

URS Team and NCDOT Division 2

OVERVIEW

Overview of the Trent Woods Pedestrian Plan including goals and objectives and progress made to date

IDENTIFIED PROJECTS

Presentation of the Trent Woods Pedestrian Plan map showing recommended projects and typical sections according to facility type. These facilities were identified by the Steering Committee and at the Public Workshop.



Town of Trent Woods Comprehensive Pedestrian Plan

OPEN DISCUSSION

Review existing right-of-way constraints in Trent Woods and decide on potential modifications to NCDOT typical sections

ACTION ITEMS

Confirm decisions on NCDOT typical sections, including potential modifications, for implementing pedestrian improvements



Town of Trent Woods Comprehensive Pedestrian Plan

NCDOT Division 2 Planning and Design Meeting Minutes

August 22, 2013

Greenville, NC

Attendees:

- Cindy Camacho, URS
- Mark Pierce, URS
- Adam Migliore Meyer, URS
- Robert Mosher, NCDOT Division of Bicycle and Pedestrian Planning
- Dwayne Alligood, NCDOT Division 2
- Steve Hamilton, NCDOT Division 2
- Mary Ann Moore, NCDOT Division 2

Discussion:

- Consider broadening the Trent Woods plan to be a pedestrian and bicycle plan
- Emerald Isle provides a good example of a multi-use trail with a ditch
- Pedestrian/Cyclists activity – MS 150 is held on Chelsea and Country Club Rd.
- Dwayne Alligood – NCDOT Division 2 supports Trent Woods' pedestrian plans if they are feasible
- Dwayne Alligood – For 5 foot paved shoulders, travel lanes need to be a minimum of 12 feet wide
- Robert Mosher – multi-use paths could vary between 8 and 10 feet wide
- Steve Hamilton – Recommends projects that include both wide paved shoulders and sidewalks
- Steve Hamilton – Recommends continuing proposed sidewalk on Canterbury Rd. north to the intersection with Highland Ave.
- Dwayne Alligood – the Wilson Creek Bridge will be replaced at some point. There are ASR conditions on the bridge. New Bern attempted to build a pedestrian bridge over Wilson Creek, but this project was never realized in part to right-of-way constraints



Town of Trent Woods Comprehensive Pedestrian Plan

Interview with Officer Tony Lee, Town of Trent Woods

NOTES

Interviewee: Officer Tony Lee, Trent Woods Police Department
Interviewer: Adam Migliore Meyer
Date: May 9, 2013 10 am

Bike Routes

- Office Lee said that the only official (marked) bike routes within the Town are on Canterbury Rd. (near Bangert Elementary) and Devonshire Rd.

Notable Intersections and Roads

The following intersections and roads are notable due to high pedestrian traffic coinciding with heavy vehicular traffic:

- Country Club Dr. at Devonshire Rd. by Bangert Elementary School
- Devonshire at Canterbury Rd. by Bangert Elementary
- Country Club Dr. at Meadows Park
- River Rd. at Greenleaf Cemetery
- Steeplechase Rd. and Highland Ave. – confirmed that there are pedestrians present
- Country Club Rd. to Chelsea Rd.

Data

- The Trent Woods Police Department has been conducting pedestrian and cyclist counts.
- Officer Lee will provide data from these counts as well as mapped locations of the data points at the Steering Committee meeting on May 14.
- Officer Lee will also provide crash data for the Town.

Trent Woods Pedestrian Plan Public Comment Form

Thank you for your interest in making Trent Woods a safer, more pedestrian-friendly community. Please share your thoughts, concerns, and ideas. Visit <http://www.trentwoodsnc.org/> to learn about upcoming meetings and other opportunities to get involved.

* Required

1. **Name ***

.....

2. **Address**

.....

3. **Email address**

.....

4. **Project updates**

Would you like to receive updates on the pedestrian plan by email?

Check all that apply.

Yes

No

5. **Pedestrian Activity**

Please describe pedestrian activity in the community including students walking to school and people exercising.

.....

.....

.....

.....

.....

6. Constraints

Please identify the location of pedestrian constraints and concerns such as a lack of sidewalks.

.....

.....

.....

.....

.....

7. Opportunities

Describe where opportunities may exist for pedestrian improvements such as adding a crosswalk or better signage.

.....

.....

.....

.....

.....

8. Other comments

Please let us know other concerns or ideas regarding pedestrian issues.

.....

.....

.....

.....

.....





Town of Trent Woods Comprehensive Pedestrian Plan

Interview with Principal Michelle Lee, Bangert Elementary

NOTES

Interviewee: Principal Michelle Lee, Bangert Elementary School
Interviewer: Adam Migliore Meyer
Date: April 30, 2013 at 2:00 PM

Demographics and Pedestrian Behavior

- About 50% of the student population lives in Trent Woods; the other 50% lives in New Bern near Tryon Place
- About 30% of the Trent Woods student population walks or rides their bike to school, mostly unattended
- Of those that walk or ride their bike to school, the vast majority utilize roads. Some cut through yards or neighborhoods to access the school.
- Pedestrian activity is heaviest in the mornings and afternoons, but the community is very active so there are runners, walkers, and joggers throughout the day
- Preschoolers in the vicinity
- Meadows Park on Country Club Dr. is a pedestrian origin/destination

Pedestrian Safety Concerns

- Pedestrian safety is very much a concern to Principal Lee given that students are young (Kindergarten – 5th grade) and streets surrounding the school lack sidewalks and crosswalks.
- Traffic is heavy around the school, particularly in the mornings and afternoons when school begins and lets out
- Country Club Dr., Devonshire Dr. and Canterbury Dr. are dangerous roads in particular due to heavy vehicular and pedestrian traffic. These roads lack pedestrian infrastructure.
- The drainage ditches along the roads preclude them from having shoulders for pedestrians
- There have been vehicular accidents in the past at the school
- Principal Lee witnessed a student fall into traffic from his bike while riding in the road

Initiatives and Recommendations

- A police officer has been added to the crosswalk in front of Bangert Elementary.



Town of Trent Woods Comprehensive Pedestrian Plan

- Students that walk or bike are released from school several minutes before carpools to give them a head start in walking home
- Re-configure traffic patterns at Bangert so that all carpool traffic flows in one direction to avoid the conflict between incoming and outgoing traffic that currently creates a hazardous situation for pedestrians. This idea has been discussed with Town police.
- Add sidewalks along Country Club Dr., Devonshire Dr., and Canterbury Dr. in particular; although all streets could benefit from sidewalks
- Add crosswalk for pedestrians to safely cross to Meadows Park



Town of Trent Woods Comprehensive Pedestrian Plan

Interview with Principal Curtis Gatlin, Ben D. Quinn Elementary

NOTES

Interviewee: Principal Curtis Gatlin, Ben D. Quinn Elementary School
Interviewer: Adam Migliore Meyer
Date: May 6, 2013 at 2:00 PM

Demographics and Pedestrian Behavior

- Very few students walk or bike to school (8-10 students)
- The students that do walk or bike to Ben Quinn live in the Haywood Farms subdivision and utilize the cut through at the end of Haywood Farms Road.
- Most students commute to and from school by carpool, bus, and a few activity vans

Pedestrian Safety Concerns

- Given that few students walk to school, Principal Gatlin reported that pedestrian safety is not a big concern.
- Furthermore, of the students that walk to school, most use quiet residential streets and a field so safety for them is not a concern either
- Principal Gatlin is a Trent Woods resident and said that he feels very comfortable walking and biking within the town. He said that drivers are courteous and he appreciates the signage by the Town reminding residents to walk on the correct side of the road.
- Pedestrian access is a concern to families living north of MLK Blvd in New Bern. It appears that due to lack of pedestrian infrastructure, students currently do not walk to school from these neighborhoods.

Initiatives and Recommendations

- Principal Gatlin has discussed safety improvements to the intersection of Trent Creek Rd. and Martin Luther King Jr. Blvd with NCDOT such as adding a protected left-turn arrow (northbound). According to Principal Gatlin, NCDOT has not supported these recommendations.
- Families in the Trent Creek subdivision north of MLK Blvd (in New Bern) have voiced concerns about pedestrian access and safety and have requested crosswalks.

B | Prioritization

Appendix B: Prioritization provides detailed criteria and rankings for the recommended liner facility and spot improvement projects.

LINEAR FACILITY PRIORITIZATION CRITERIA

Maximum score possible is 100 points.

CRITERIA	HIGH (8 – 10 points)	MEDIUM (4 – 7 points)	LOW (0 – 3 points)
Public and Steering Committee Priority	High priority	Medium priority	Low priority
School proximity	0 – 0.25 miles away	0.26 – 0.74 miles away	0.75 or more miles away
Destination proximity	Near 3 or more destinations	Near 1 or 2 destinations	Near 0 destinations
Current Pedestrian Route	Popular pedestrian route	Moderately popular pedestrian route	Not currently a pedestrian route
Pedestrian and Bicycle Counts	>15 counts	10 – 14 counts	0 – 9 counts
Safety: Vehicular Crashes	>15 crashes	10 – 14 crashes	0 – 9 crashes
Current Right-of-Way available for facility	ROW exists for all of facility	ROW exists for much of the facility	ROW exists for only a small portion or none of the facility
Overall Feasibility	Very Feasible	Moderately feasible	Not very feasible
Critical Linkage	Provides a critical linkage between higher priority pedestrian facilities or New Bern	Provides a linkage between lower priority pedestrian facilities or New Bern	Does not provide a critical linkage between pedestrian facilities or New Bern
Included in Existing Plan	High priority in an existing plan	Medium priority in an existing plan	Not included in an existing plan

SPOT IMPROVEMENT PRIORITIZATION CRITERIA

Maximum score possible is 40 points.

CRITERIA	HIGH (8 – 10 points)	MEDIUM (4 – 7 points)	LOW (0 – 3 points)
Public and Steering Committee Priority	High priority	Medium priority	Low priority
School proximity	0 – 0.25 miles away	0.26 – 0.74 miles away	0.75 or more miles away
Destination proximity	Near 3 or more destinations	Near 1 or 2 destinations	Near 0 destinations
Current Pedestrian Route	Popular pedestrian route	Moderately popular pedestrian route	Not currently a pedestrian route

SPOT IMPROVEMENT PRIORITIZATION

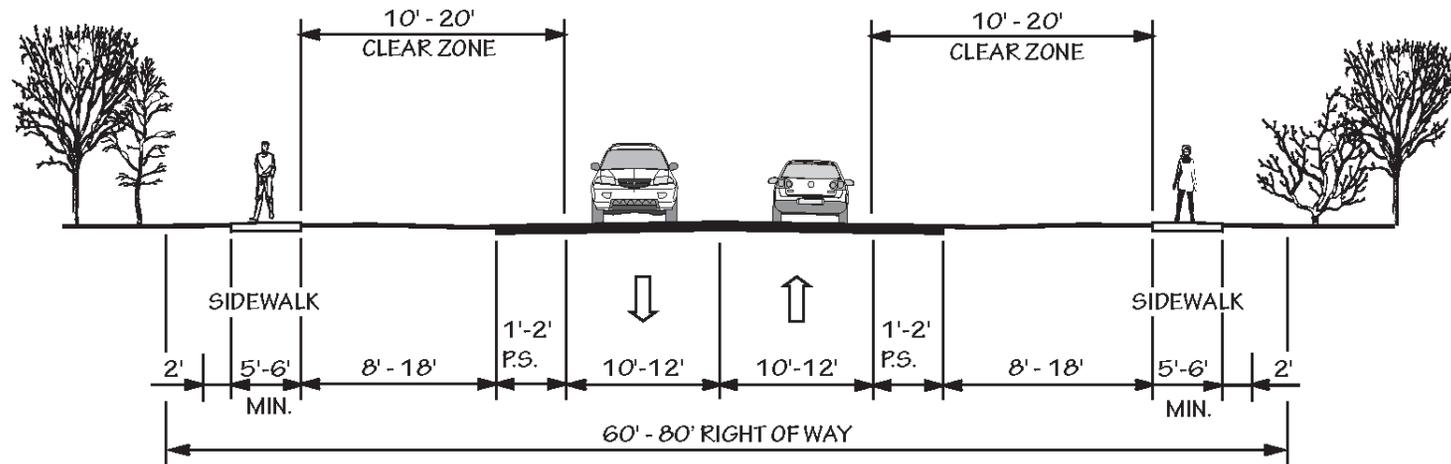
Map ID	Priority	Facility Name	Total Score	Public and Steering Committee Priority	School Proximity	Destination Proximity	Current Pedestrian Route
1	High	Devonshire Dr. and Country Club Dr.	38	8	10	10	10
2	High	Devonshire Dr. and Canterbury Rd.	36	8	10	10	8
3	High	Chelsea Rd. and Country Club Rd.	27	10	0	7	10
4	High	Bangert Elementary Crosswalk	26	6	10	3	7
5	High	Chelsea Rd. and Country Club Dr.	26	3	3	10	10
6	Medium	Country Club Dr. and Country Club Rd.	24	3	7	4	10
7	Medium	Wedgewood Dr. and Country Club Rd.	19	6	5	3	5
8	Medium	Wedgewood Dr. and Dianne Dr.	13	2	5	3	3
9	Medium	Greenleaf Cemetery South	13	2	2	4	5
10	Medium	Greenleaf Cemetery North	13	2	2	4	5
11	Low	Highland Ave. and Steeplechase Dr.	12	5	5	0	2
12	Low	Trent Woods Dr. and River Rd.	11	7	0	1	3
13	Low	Steeplechase Dr. and Country Club Rd.	10	4	0	4	2
NB	Not Prioritized (in New Bern)	Chelsea Rd. and Trent Rd.	X	X	X	X	X
NB	Not Prioritized (in New Bern)	Greenleaf Cemetery Rd. and Dr. MLK Blvd (US17)	X	X	X	X	X
NB	Not Prioritized (in New Bern)	Connection to Ben Quinn Elementary from Haywood Farms Rd.	X	X	X	X	X
NB	Not Prioritized (in New Bern)	Highland Ave. and Trent Rd.	X	X	X	X	X

C | Typical Sections

Appendix C: Typical Sections contains typical sections for Sidewalks, Wide-Paved Shoulders, Multi-Use Paths, and the Sidewalk/Wide-Paved Shoulder hybrid option.

2 F

BUFFERS AND SIDEWALKS WITHOUT A ROADWAY DITCH (20 MPH TO 45 MPH) (TYPICALLY COASTAL AREA MANAGEMENT ACT COUNTIES)

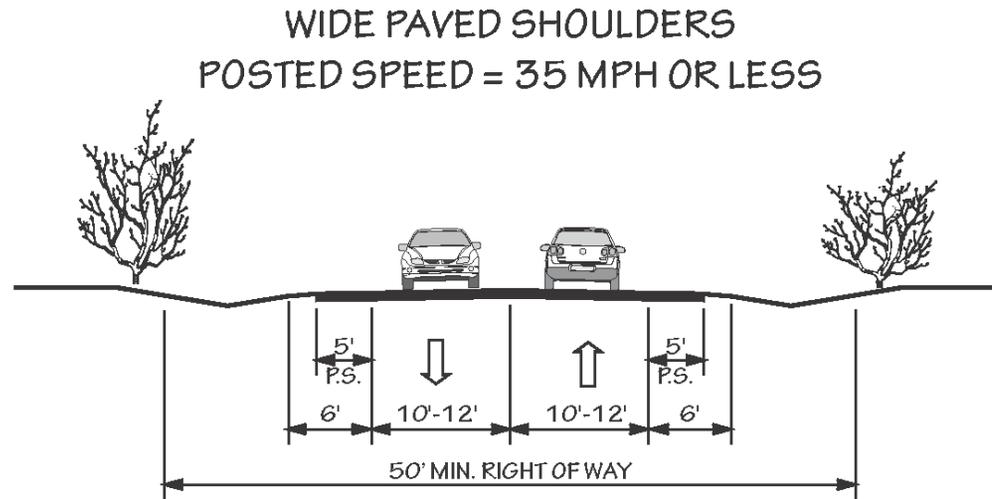


*URS has revised NCDOT Typical Section 2F - Buffers and Sidewalks without a Roadway Ditch - to reflect existing right-of-way and road sections in Trent Woods.

Revised: February 2014

2 C*

50' Minimum ROW

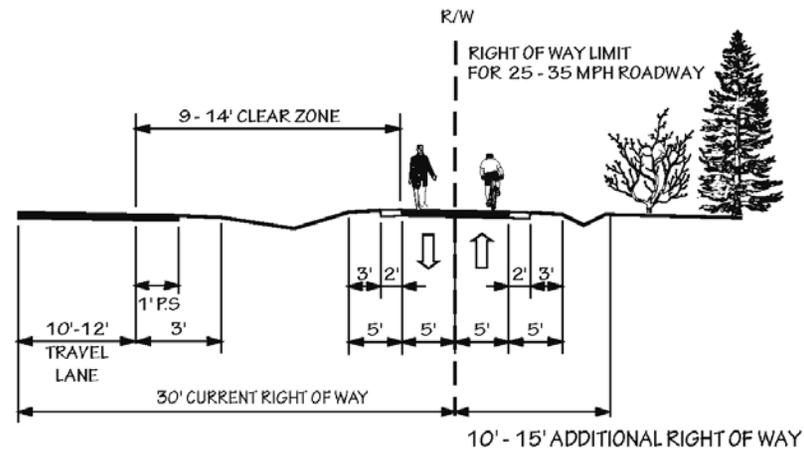


*URS has revised NCDOT Typical Section 2C - Wide Paved Shoulders to reflect existing right-of-way and road sections in Trent Woods.

Revised: February 2014

MULTI - USE PATH
ADJACENT TO A 25 - 35 MPH ROADWAY ASSUMING 60' RIGHT OF WAY

MA
MODIFIED



NOT TO SCALE

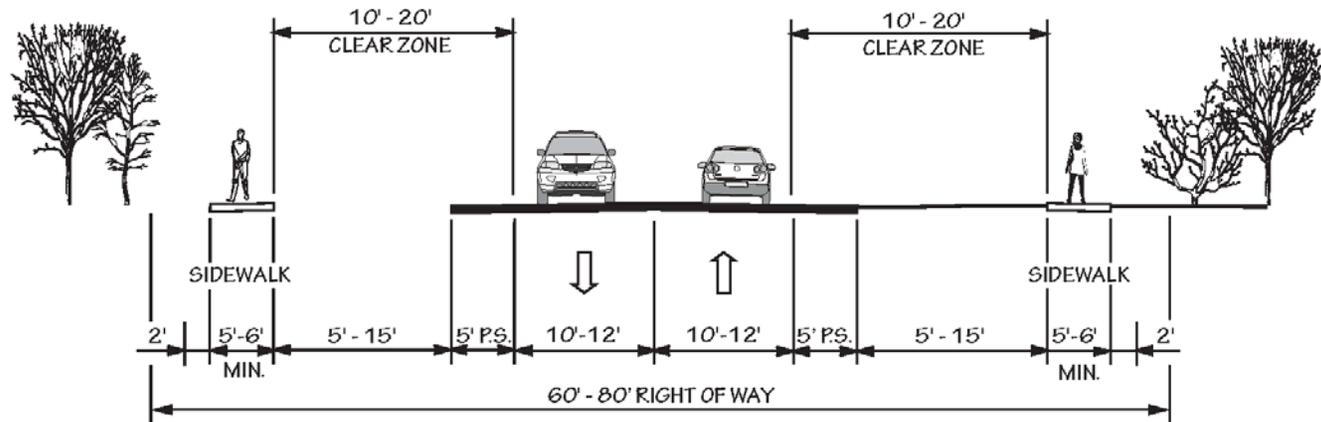
URS has revised NCDOT Typical Section MA - Multi-Use Path to reflect existing right-of-way and road sections in Trent Woods.

Revised: February 2014

2C/2F*

BUFFERS AND SIDEWALKS WITHOUT A ROADWAY DITCH
(20 MPH TO 45 MPH)
(TYPICALLY COASTAL AREA MANAGEMENT ACT COUNTIES)

60' - 80'
Minimum
ROW



*URS has revised NCDOT Typical Sections 2C and 2F to serve as the Sidewalk + Wide Paved Shoulder typical section. It reflects existing right-of-way and road sections in Trent Woods.

Revised: February 2014

D | Visualizations

Appendix D: Visualizations shows visualizations of recommended projects for Trent Woods. These projects are discussed in Section 6. Note that these are visualizations only and that the implemented projects may appear differently than they do on the following pages.



Wide-Paved Shoulders on Chelsea Road.



Sidewalk and Wide-Paved Shoulders on Country Club Drive.



Crosswalk on Country Club Road.



Striped Crosswalk at Bangert Elementary School.



Brick Crosswalk at Bangert Elementary School.

E | Supplementary Data

Appendix E: Supplementary Data contains copies of the following documents that informed this Pedestrian Plan:

- Town of Trent Woods Street List
- Trent Woods Police Department: Pedestrian/Bicyclist Survey
- Town of Trent Woods Traffic Statistics
- NCDOT Pedestrian and Bicycle Crash Tool Data

Updated
10.12.11

TOWN OF TRENT WOODS

STREET LISTING

ABNER NASH ROAD - **SO**
 ALEXANDER LANE - (1411, 1413)- **TO**
 ALEXANDER LANE - (1415,1417,1419,1420,
 1421,1422,1423,1424,1425,
 1426,1472) - **PO**
 BARONS WAY - **DO** 25 mph
 BERKLEY DRIVE - **TO**
 BLACKLEDGE CIRCLE - **DO**
 BRIDLE PATH - **SO**
 BUCKINGHAM ROAD - **HA**
 CAMBRIDGE COURT - **TO**
 CAMELIA ROAD - **TO**
 CANTERURY ROAD - **SO**
 CAROLINA AVENUE (OFF OF CHELSEA ROAD) - **TO**
 (4702,4703,4705,4707,4709,4711,4712,4713, 4715)
 CAROLINA AVENUE (OFF OF HIGHLAND AVENUE) - **TO**
 (1001,1003,1004,1005,1006,1007,1009,1011,1026,1028,1030, 1103,
 1104)
 CARTERET DRIVE - **TO**
 CHATHAM PASS - **TO**
 CHELSEA ROAD - **SO** 602
 (407,409,411,413,415,501,503,505,505a,505b,601,601b,603,
 606,607,609,613,703,705,707,709,900)
 CHINQUAPIN LANE - **TO**
 CIRCLE DRIVE - **SO**
 COLLETON WAY - **TO**
 COOPERS COURT - **TO**
 COQUINA CIRCLE - **TO**
 CORRAL CIRCLE - **SO**
 COUNTRY CLUB CIRCLE - **TO**
 COUNTRY CLUB DRIVE - (1000-1104) - **TO**
 COUNTRY CLUB DRIVE - (1106,1107,1108,1109,1111,1112)-**DO**
 COUNTRY CLUB ROAD - **SO**
 (3102,3104,3106,3108,3110,3112,3114,3116,3118,3120,3122,
 3124,3126,3128,3130,3132,3134,3136,3138,3140,3230,3302,
 3503,3508,3509,3510,3529,3535,3601,3602,3701,3908,3910,
 3914,3916,3920,3921,3922,4001,4011,4101,4201,4202,NBGCC, 4250,
 4315,4400,4401,4402,4403,4403b,4404,4405,4406,4500,4501,
 4502,4503,4504,4505,4506,4507,4508,4605,4607)
 CREEKWOOD DRIVE - **TO**
 DARBY ROAD - **TO**

Ownership Legend:

SO = State Owned
TO = Town Owned
HA = Homeowners Assoc.
PO = Privately Owned
DO = Developer Owned

TOWN OF TRENT WOODS STREET LISTING cont.

DEVONSHIRE DRIVE - 900 block - **TO**; 1000 & 1100 block - **HA** 25 mph
DIANNE DRIVE - **SO**
DISCOVERY BAY - **TO**
DOGWOOD LANE - **TO**
DORSET WAY - **TO** - up to 910 & 911 25 mph
DOWNING CIRCLE - **TO**
EDGEHILL ROAD - **TO**
EDGEWOOD DRIVE - **SO**
FAIRWAY DRIVE - **TO**
FOREST DRIVE - **SO**
FOX CHASE ROAD - **SO**
FOXHORN ROAD - **SO**
GLOUCESTER DRIVE - **TO**
GREENSIDE COURT - **DO**
GREENVIEW ROAD - **TO**
GREENWOOD ROAD - **TO**
GRENVILLE COURT - **DO**
HAMPTON WAY - **TO**
HATCHER ROAD - **TO**
HAWTHORNE ROAD - **TO**
HAYWOOD CREEK DRIVE - **SO**; 407, 409, 411, 413 - **PO**
HEDGEROW CIRCLE - **SO**
HERMITAGE ROAD - **TO**
HIGHLAND AVENUE - **SO**
(721,801,803,805,818,820,901,902,903,904,906,907,908,909,
910,911,913,1001,1002,1004,1005,1007,1008,1100,1101,
1102,1103,1105,1107,1109,1111,1201,1203,1205,1207,
1209,1211,1215)
HILLANDALE ROAD - **TO**
HILLCREST ROAD - **TO**
HOLLY RIDGE ROAD - **TO**
HORSE SHOE BEND - **TO**
HOUND CIRCLE - **SO**
HOUNDS TRAIL - **SO**
HUNT CLUB LANE - **TO**
HUNT MASTER ROAD - **SO**
HYDES CORNER - **TO**
IVES AVENUE - **TO**
LEEWARD DRIVE - **HA**
LLEWELLYN DRIVE - **TO**
LODGE DRIVE - **PO**
LONGWOOD DRIVE - **SO**
MATTHEWS LANE - **PO**
MEADOWBROOK DRIVE - **TO**

TOWN OF TRENT WOODS STREET LISTING cont.

MELODY LANE - **TO**
MONCK COURT - **TO**
MORGAN LANE - **TO**
MOYE ROAD - **TO**
NORMAN ROAD - **TO**
PARK DRIVE - 1000 block - **TO**; 1100 & 1200 blocks - **SO**
PEARSON CIRCLE - **TO**
PINE CREST ROAD - **TO**
PINE TREE LANE - **TO**
RED FOX ROAD - **SO**
RIVER ROAD - **SO**
(GREENLEAF MEMORIAL PARK, 501, 503, 505, 506, 508, 509, 510, 511, 600,
602, 603, 605, 608, 608a, 611, 612, 613, 614, 700, 702, 703, 705,
706, 707, 802, 804)
ROGERS COURT - **TO**
ROSSIE ROAD - **TO**
RUNAWAY BAY - **TO**
SANDHURST ROAD - **TO**
SIDESADDLE LANE - **SO**
SOMERSET COURT - **TO**
SPRINGWOOD DRIVE - **TO**
STEEPLE CHASE DRIVE - **SO**
STRATFORD ROAD - **TO**
STRATTON DRIVE - **TO**
SURREY LANE - **TO** 25 mph
TACKHOUSE ROAD - **TO**
TENELLA ROAD - **TO**
TRENT ROAD - **SO**
(3007, 3103, 3107, 3109, 3111, 3113, 3301, 3309, 3311)
TRENT PINES DRIVE - **TO**
TRENT RIVER DRIVE - **TO**
TRENT SHORES DRIVE - **SO**
TRENT WOODS DRIVE - **SO**
TRILLIUMS HIDEAWAY - **HA**
TURNBERRY COURT - **HA**
VICTORIA WAY - **HA**
VILLAGE GREEN DRIVE - **HA**
VILLAGE GREEN COURT - **HA**
VILLAGE WAY - **DO**
VIRGINIA AVENUE - **SO**
VIRGINIA LANE - **PO**
WEDGEWOOD DRIVE - **SO**
WENTWORTH COURT - **TO**

TOWN OF TRENT WOODS STREET LISTING cont.

WEST FAIRWAY DRIVE - TO

WESTWARD COURT - TO

WEXFORD PLACE - TO

WHITE OAK DRIVE - TO

WILSON POINT - TO

WEST WILSON CREEK DRIVE - SO

WINDSOR DRIVE - SO

YACHT CLUB ROAD - TO

Date:

**Trent Woods Police Department
Pedestrian / Bicyclist Survey**

P: Denotes Pedestrian
B: Denotes Bicyclist
* : Denotes Bicycle Route

600-700 hours	P	B	700-800 hours	P	B	800-900 hours	P	B	900-1000 hours	P	B
Country Club Dr	1		River Rd	1		Chelsea Rd	1	1	Country Club Rd	1	
Fox Horn Rd		1	Meadow Brook Dr	1					Highland Ave	1	
			Trent Woods Dr	3							
			Hawthorne Rd	1							
1000-1100 hours	P	B	1100-1200 hours	P	B	1200 1300 hours	P	B	1300-1400 hours	P	B
Canterbury Rd	1								Trent Woods Dr		3
									River Rd	1	
									Country Club Rd	1	2
1400-1500 hours	P	B	1500-1600 hours	P	B	1600-1700 hours	P	B	1700-1800 hours	P	B
Highland Ave		1	Country Club Rd		1	Country Club Rd		1			
Country Club Rd		1				Chelsea Rd	1				
1800-1900 hours			1900-2000 hours			2000-2100			2100-2200 hours		
Total	2	3		6	1		2	2		4	5

Date: 04/27/2013

Trent Woods Police Department
Pedestrian / Bicyclist Survey

P: Denotes Pedestrian
B: Denotes Bicyclist
*: Denotes Bicycle Route

600-700 hours	P	B	700-800 hours	P	B	800-900 hours	P	B	900-1000 hours	P	B
1000-1100 hours	P	B	1100-1200 hours	P	B	1200 1300 hours	P	B	1300-1400 hours	P	B
1400-1500 hours	P	B	1500-1600 hours	P	B	1600-1700 hours	P	B	1700-1800 hours	P	B
1800-1900 hours			1900-2000 hours			2000-2100			2100-2200 hours		
Country Club Dr	3		Darby Rd	2							
Alexander Dr	1		Wedgewood Dr	2							
Canterbury Rd	4		Fox Chase Rd	1							
			Forest Dr	1							
			Canterbury Rd	2							
			Hampton Way	4							
			River Rd	1							
Total	8	0		13	0		0	0		0	0

Date:

**Trent Woods Police Department
Pedestrian / Bicyclist Survey**

P: Denotes Pedestrian
B: Denotes Bicyclist
* : Denotes Bicycle Route

600-700 hours		P	B	700-800 hours		P	B	800-900 hours		P	B	900-1000 hours		P	B
Trent Woods Dr		5	2	Meadow Brook Dr		2		Chelsea Rd		1		Chelsea Rd		3	
River Rd		1		Trent Woods Dr			1	Country Club Rd		3	2	Canterbury Rd		3	2
Springwood Dr		1						Country Club Dr		3		Country Club Dr		1	
W. Wilson Creek Dr		2										Wedgewood Dr		5	
1000-1100 hours		P	B	1100-1200 hours		P	B	1200 1300 hours		P	B	1300-1400 hours		P	B
Chelsea Rd		3		Country Club Dr		5	1	Red Fox Rd		1		Melody Ln		1	
Edgewood Dr		1		Country Club Rd			1								
1400-1500 hours		P	B	1500-1600 hours		P	B	1600-1700 hours		P	B	1700-1800 hours		P	B
				Country Club Rd			1					Trent Woods Dr		1	
												W. Wilson Creek Dr		2	
												River Rd		1	
1800-1900 hours				1900-2000 hours				2000-2100				2100-2200 hours			
Total		13	2			7	4			8	2			17	2

Town of Trent Woods Traffic Statistics

Event	Time	Total
Traffic Complaints	01/01/2000-05/31/2013	546
Traffic Crashes	01/01/2000-05/31/2013	195
Traffic Crash Times	6:00 am-6:00 pm (2000-2013)	112
	6:00 pm-11:00 pm (2000-2013)	22
Traffic Crashes Involving Pedestrians and Motor Vehicles	01/01/2000-05/31/2013	1
Traffic Crashes Involving Bicyclists and Motor Vehicles	01/01/2000-05/31/2013	4
Pedestrian or Bicycle Related Fatalities		0
Traffic Citations Issued	01/01/2000-11/22/2013	5770
-Speeding		1943
-Stop Sign Violations		273
-Driving While Impaired		26
-Unsafe Movement		10

Road Specific Crashes Between 2000-2013: Roads with Heavy Traffic

Fourteen (14) traffic crashes occurred on Country Club Road between the hours of 6:00 am and 6:00 pm. Seven (7) traffic crashes occurred on Country Club Road between the hours of 6:00 pm and 12:00 am.

Thirteen (13) traffic crashes occurred on Chelsea Road between the hours of 6:00 am and 6:00 pm. Zero (0) traffic crashes have occurred on Chelsea Road between the hours of 6:00 pm and 12:00 am.

Ten (10) traffic crashes occurred on Trent Woods Drive between the hours of 6:00 am and 6:00 pm. Three (3) traffic crashes occurred on Trent Woods Drive between the hours of 6:00 pm and 12:00 am.

Nine (9) traffic crashes occurred on Country Club Drive between the hours of 6:00 am and 6:00 pm. One (1) traffic crash occurred on Country Club Drive between the hours of 6:00 pm and 12:00 am.

Three (3) traffic crashes occurred on Canterbury Road between the hours of 6:00 am and 6:00 pm. One (1) traffic crash occurred on Canterbury Road between the hours of 12:00 am and 6:00 am.

One (1) traffic crash occurred on Highland Avenue between the hours 6:00 am and 6:00 pm. One (1) traffic crash occurred on Highland Avenue between the 6:00 pm and 12:00 am.

PBCAT

Town of Trent Woods Pedestrian Crash Data

For Years 1997,1998,1999,2000,2001,2002,2003,2004,2005,2006,2007,2008,2009,2010

Crash Location	Crash Year						Total
	1999	2000	2002	2003	2004	2006	
Intersection	0	0	0	1	0	1	2
Non-Intersection	1	1	1	0	0	0	3
Non-Roadway	0	0	0	0	1	0	1
Total	1	1	1	1	1	1	6

Driver Estimated Speed	Crash Year						Total
	1999	2000	2002	2003	2004	2006	
0-5 mph	0	0	1	0	1	0	2
6-10 mph	0	1	0	1	0	0	2
21-25 mph	1	0	0	0	0	0	1
31-35 mph	0	0	0	0	0	1	1
Total	1	1	1	1	1	1	6

Driver Age	Crash Year						Total
	1999	2000	2002	2003	2004	2006	
29	0	0	0	0	1	0	1
39	0	0	0	0	0	1	1
43	0	1	0	0	0	0	1
54	1	0	0	0	0	0	1
55	0	0	1	0	0	0	1
70+	0	0	0	1	0	0	1
Total	1	1	1	1	1	1	6

