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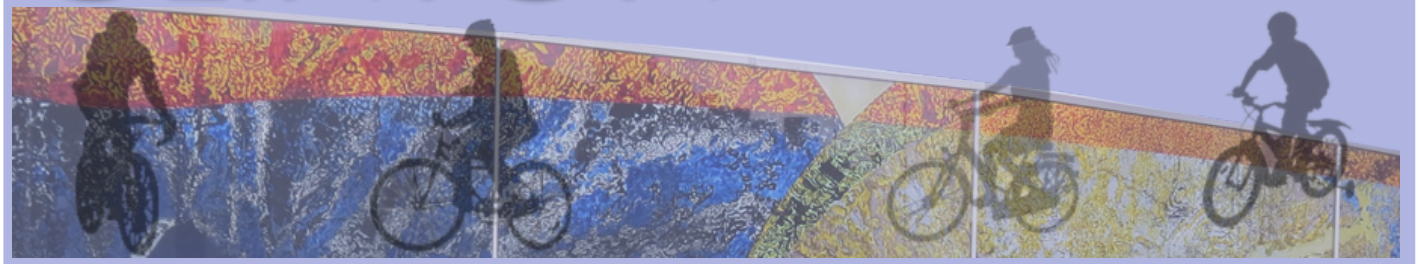

COMPREHENSIVE BICYCLE PLAN

January 2015

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Division of Bicycle & Pedestrian Transportation


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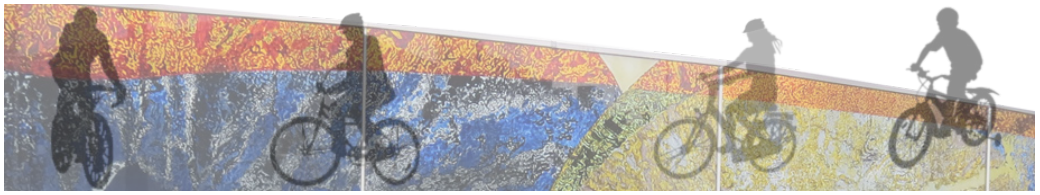
Acknowledgements

Bicycle Plan Steering Committee



David Elder, Center for Health and Wellness
Dr. Tommy Newton, Citizen
Jeff Bell, Citizen
Frankie Owens, Citizen
Bill Scott, First Citizens Bank
Tony Steffen, Public Works Manager
Jonathan Allen, Recreation Director
Timmy King, Clinton Police Department
Dr. Ted Thomas, Clinton-Sampson Chamber of Commerce
Kim Reid, North Carolina Cooperative Extension, Sampson County Center
Joel Strickland, Mid-Carolina Council of Governments
Lin Reynolds, NCDOT

Citizens of Clinton

Thank you to all citizens of Clinton who participated at community events. Your input was extremely important; incorporated by the project team into the vision, goals, and recommendations of this plan.

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Date of Adoption

January 6, 2015

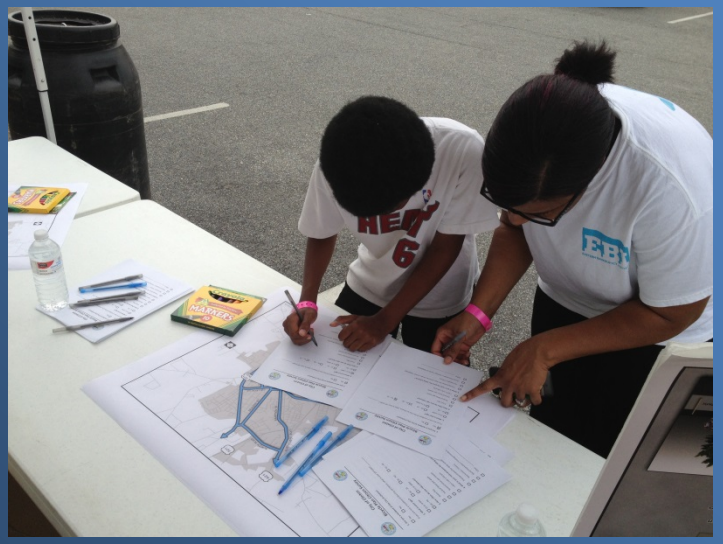
Executive Summary

A. Clinton Comprehensive Bicycle Plan

The Clinton Comprehensive Bicycle Plan is intended to be a "roadmap" to improve the opportunities for bicycling as a safe and realistic form of transportation throughout the city. The plan sets forth a long range vision, along with goals and strategies that were built upon a firm foundation of data and extenisve public input from Clinton's leaders, future leaders, and residents. The City received a matching grant offered through the North Carolina Department of Transportation's Division of Bicycle and Pedestrian Transportation (DBPT) to prepare this comprehensive bicycle plan.

B. The Plan Process

The city staff, project consultant, and NCDOT's project manager formed the project management team, whose primary task was to ensure that the plan stayed on task and met NCDOT's requirements for establishing the bicycle plan. A steering committee of 12 community leaders was formed to oversee the planning process and garner participation from the community. The basic process involved a project kick-off, extensive background research, the development of a draft plan, and review of the draft plan by the steering committee and NCDOT, followed by the adoption process of the final plan. Citizen participation during this process was obtained through four steering committee meetings, stakeholder interviews, public meetings and the project website.



Public Input at Alive After Five Event

C. Vision and Goals

Input was gathered from the steering committee and the public to develop the plan's vision and goals. The primary goals to accomplish the Clinton Bicycle Vision to the right are described below:

Goal 1: Improve bicycle safety and awareness throughout the City.

Objective 1.1 Establish educational activities, programs and advertising campaigns focused on bicycle safety.

Objective 1.2 Install and construct specified bicycle safety improvements to existing and future bicycle facilities, warning devices and enhance the overall bicycling environment.

Bicycle Plan Vision Statement

The City of Clinton's vision is to improve its bicycle transportation network, becoming a community that has a complete system for safe bicycle travel and realistic alternative modes of transportation for residents to move from work, to school, to shopping areas and back to home.

Goal 2: Improve bicycle connectivity throughout the City.

Objective 2.1 Design and install the identified bicycle improvements in accordance with the priority ratings set forth in the plan.

Goal 3: Increase the utilization of bicycle facilities as an alternative to motorized transportation.

Objective 3.1 Decrease dependence on motorized transportation for conducting daily activities such as going to work, school or shopping.

Objective 3.2 Expand the ability of elderly residents, children, and others who may not have motorized transportation to access all areas of the City and participate fully in its civic and economic life.

D. The Plan's Importance

In the long-term, the City of Clinton will experience benefits by moving forward with the implementation of this plan, its vision, objectives and recommended actions. In general, becoming a bicycle friendly city provides a realistic transportation alternative, promotes environmental stewardship, encourages good health and wellness through increased physical activity, builds the local economy, and

improves the overall quality of life. In the short-term, many of the priority projects identified will have immediate positive impacts on the residents' ability to move around the city by foot. The short-term projects will be completed within the context of the comprehensive bicycle transportation plan, ensuring that the long-term vision is steadily being achieved one action step at a time.

E. The Plan Context

The historic core of Clinton is a more bicycle friendly area of the community. In the early years of Clinton's development, businesses were established around the courthouse and neighborhoods were established surrounding that commercial core. Over time, the automobile became the dominant form of transportation and roadways were established connecting through and around the city, creating potential barriers to bicycle connectivity and the ability for Clinton's residents to ride bikes safely. As new areas developed outside of the core along NC 24 West and beyond US 701 Business, new roads and accompanying higher speed limits made it more difficult for residents to bicycle, which led to fewer residents choosing to bicycle. Today, the opportunity and desire exists to implement a bicycle system that connects all areas of the city, establishing links to facilitate safe bicycling.

F. Recommendations

The recommendations were developed in three broad areas that included projects, programs and policies. Utilizing citizen input, steering committee guidance and a background research process, recommendations were developed for each of these areas.

Bicycle Projects

General recommendations were made for creating and building a bicycle network, primarily through the identification of bicycle lanes and shared lanes. In addition to those facilities, a shared use sidepath, signed bicycle route and one area with heavy warning signage were also identified. During the process, a total of twenty-one bicycle route segments were identified. While all of the recommendations are important to completing a safe bicycle network in Clinton, a prioritization system was developed to identify top priorities as funding and city/private resources may become available.

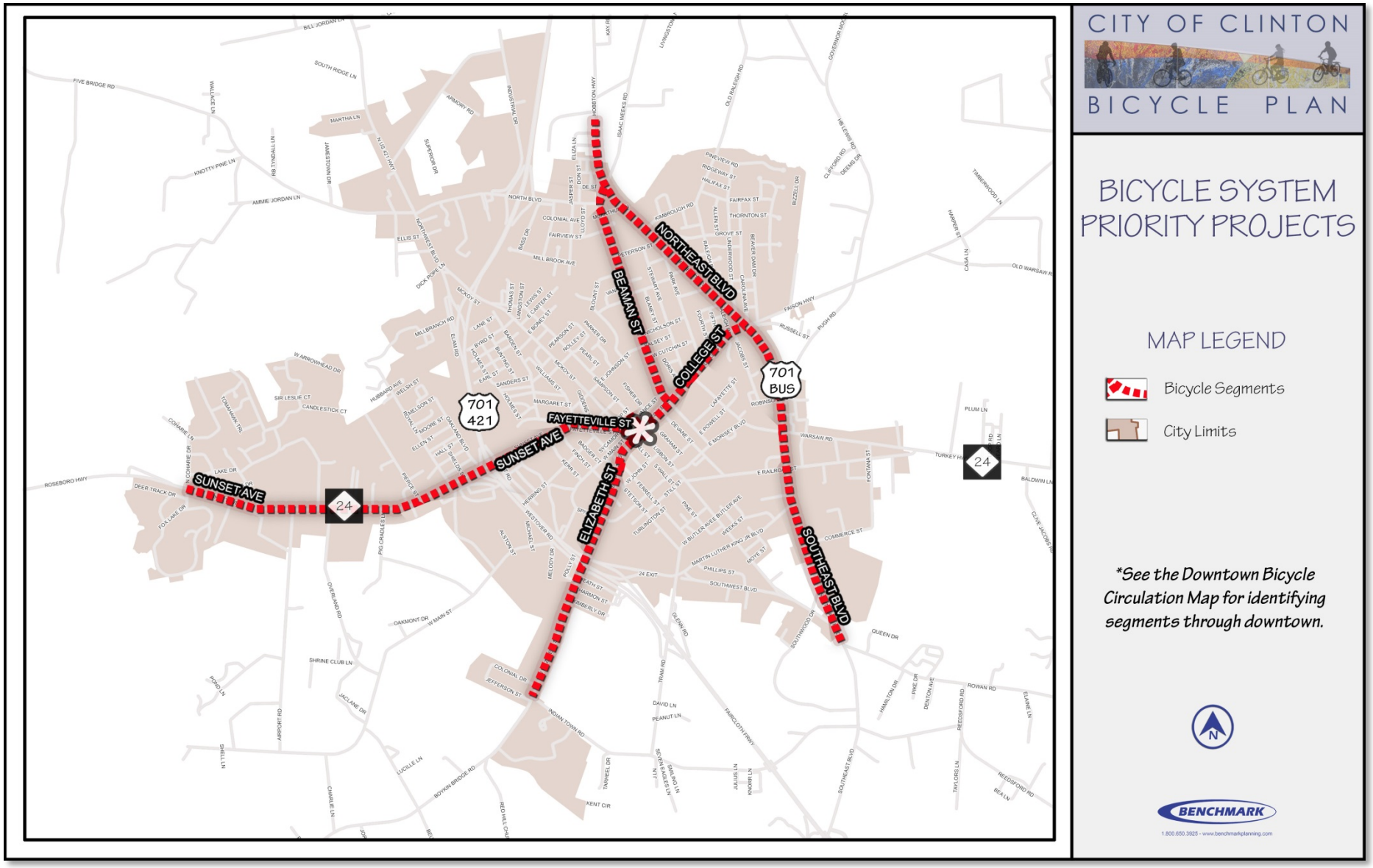
A total of seven projects are considered to be high priorities for helping to complete the bicycle network and improve connectivity. As indicated through survey responses, meeting discussions, field work and review by the Steering Committee, NCDOT, and City Staff, the following seven projects were recognized as priorities over the next five to ten years:

- NC Highway 24 West / Sunset Avenue – Bicycle Lanes
- US 701 Business (Entire length) – Complete Street
- Fayetteville Street – Shared Lanes
- Beaman Street – Road Diet and Bicycle Lanes
- Downtown – Shared Lanes
- Elizabeth Street – Shared Lanes and Multi-use Sidepath
- College Street – Bicycle Lanes

Bicycle Programs

In North Carolina and across the country, communities are investing their resources to create safer environments for bikes and increase the usage and usability of their bicycle networks through projects and programs that are categorized as follows: 1) education; 2) encouragement; and 3) enforcement. All three activities need to take place concurrently as they all depend on each other to create a safer biking environment. Key recommendations for each area include the following:

- The transitioning of the bicycle plan steering committee along with the pedestrian plan committee members into an single advisory committee to help ensure the implementation of the bicycle and pedestrian plans. The group should include participants and city departments from the steering committee to ensure that the key actors are involved going forward. This committee will help to coordinate educational events and keep the plan recommendations moving forward.
- Perhaps the most important program recommendations are to apply for participation in the Safe Routes to School program, establish a bicycle education program in the public schools and implement a bicycle safety enforcement program in the Clinton Police Department. The Safe Routes to School program will allow the City to access additional NCDOT resources and brings the potential for funding priority projects to enhance connectivity and access to schools as well as the improvement of bicycle safety in the immediate vicinity of schools. This effort should also incorporate key recommendations from the pedestrian plan.
- Residents should be encouraged to bike more and to become involved in organized bicycling events, which will provide a real-world experience to support the educational components of the bicycling program.



Priority Bicycle Projects Map

Bicycle Policies

One of the top priorities for policy implementation is the establishment of a dedicated funding mechanism for capital investments in bicycle facilities and the appropriation of adequate annual funding for facility maintenance. Without the financial backing to achieve the connectivity and safety enhancement goals of the plan, the overall vision of a healthy bicycle network cannot be achieved.

G. The Next Steps

The City of Clinton completed the development of this Comprehensive Bicycle Plan to identify bicycle improvements and the direction that needs to be taken to implement the various improvements. Strategies or action steps were developed as a guide for carrying out the plan over the next five to fifteen years. Many of the actions can be completed during the first year after the plan's adoption, while other improvements will require a longer time period to make them a reality.

Following the adoption of the plan, the implementation process will officially begin. City Staff, the consultant team and NCDOT officials met during the planning process to discuss strategies and action steps for many of the improvements identified in this plan since the timing of some road improvement projects has necessitated the need to incorporate findings from this plan into final designs. City Staff will need to work closely with the Planning Board, the community and an advisory committee to continue to build support for the plan as it moves forward.

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Section 1. Introduction

A. Bicycle Plan Overview

During the pedestrian plan process that was completed in 2012, City leaders also recognized the importance of developing an interconnected bicycle network in Clinton and the need for a comprehensive approach to guide future projects, programs and policies regarding bicycle transportation improvements. City officials acknowledged that having a bicycle plan would provide for a better quality of life for the citizens of Clinton and enhance the City's efforts to implement pedestrian initiatives as well. In furtherance of this goal, like the pedestrian plan, the City applied for a matching grant offered through the North Carolina Department of Transportation's Division of Bicycle and Pedestrian Transportation (DBPT) to prepare this comprehensive bicycle plan.

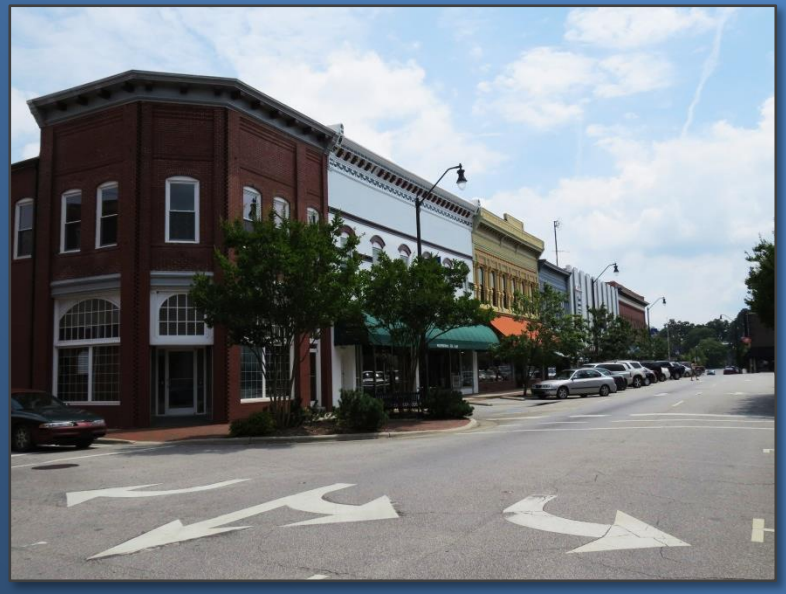

Figure 1-1: Downtown Clinton

In 2012, the City of Clinton's grant application to develop a Comprehensive Bicycle Transportation Plan was funded by DBPT and the NCDOT Transportation Planning Branch**.** NCDOT's Bicycle and Pedestrian Transportation program is the oldest program of its kind in the nation, established in 1973, and is one of the most recognized in the country. The program seeks to integrate bicycle and pedestrian safety, mobility and accessibility into the overall transportation program through engineering, planning, education and training. The annual matching grant program – the Bicycle and Pedestrian Planning Grant Initiative – was created by DBPT to encourage municipalities to develop comprehensive bicycle and pedestrian plans administered through DBPT.

Working closely with a steering committee of stakeholders in the community, and with technical assistance provided by a consultant, the City planning department oversaw the preparation of this Comprehensive Bicycle Plan. The document is based on sound research, public input and hours of review by steering committee members, City staff, NCDOT and others.

The plan's foundation includes an assessment of the existing pedestrian facilities, public meetings, and various stakeholders.

Figure 1-2: Public Input on Bicycle Plan during Alive After Five Event

B. Bicycle Plan Vision

It is important to develop a sound, clearly articulated vision that is representative of a variety of interests, setting forth the direction of the plan. Without a vision for the plan, establishing priority projects, goals, and objectives can become less meaningful or may be viewed as arbitrary. The vision set forth in this Comprehensive Bicycle Plan for the City of Clinton is an expression of the desired future bicycling patterns, improving the existing bicycle environment experienced by residents in Clinton today. The vision established in this plan is a reflection of the desired future based on input from the steering committee and the broader community through public meetings, steering committee meetings and the bicycle plan surveys. Figure 1-3, shows the vision statement adopted for this plan.

City of Clinton's Bicycle Transportation Network Vision

The City of Clinton's vision is to improve its bicycle transportation network, becoming a community that has a complete system for safe bicycle travel and realistic alternative modes of transportation for residents to move from work, to school, to shopping areas and back to home.

Figure 1-3: Bicycle Plan Vision Statement

C. Goals and Objectives

The goals and objectives were established within the framework established by the overall bicycle connectivity vision. In order for the City of Clinton to achieve its vision of connecting citizens with places of recreation, business, and their homes, a realistic roadmap was developed to make the vision a reality. The roadmap to reach the vision was based on Steering Committee feedback, broad input from the community, City Staff review, and guidance from NCDOT. Each goal consists of key objectives and actions necessary to achieve them, which are described in greater detail in Chapter 5 of the plan. The primary goals to accomplish the Clinton Bicycle Vision are described below:

Goal 1: Improve bicycle safety and awareness throughout the City.

Objective 1.1 Establish educational activities, programs and advertising campaigns focused on bicycle safety.

Objective 1.2 Install and construct specified bicycle safety improvements to existing and future bicycle facilities, warning devices and overall bicycling environment.

Goal 2: Improve bicycle connectivity throughout the City.

Objective 2.1 Design and install the identified bicycle improvements in accordance with the priority ratings set forth in the plan.

Goal 3: Increase the utilization of bicycle facilities as an alternative to motorized transportation.

Objective 3.1 Decrease dependence on motorized transportation for conducting daily activities such as going to work, school or shopping.

Objective 3.2 Expand the ability of elderly residents, children, and others who may not have motorized transportation to access all areas of the City and participate fully in its civic and economic life.

D. The Planning Process

This comprehensive bicycle plan was based on extensive field work, research, best practices, and public input. The process began with the formation of a steering committee made up of individuals with a variety of backgrounds and positions within the community, including representatives from City departments, community health organizations, school officials and regional transportation officials. This committee was responsible for reviewing the information prepared by City staff and the planning consultant throughout the process, and recommending the final draft of the plan to NCDOT and City Council for their evaluation and final approval. The committee was also responsible for helping to raise awareness throughout the community and encouraging broad participation in the plan. Another important part of the process was the collection and analysis of background data and information, which provided a picture of the current biking environment within the City. The broader community participated in the planning process through surveys, public workshops where citizens were allowed to give direct input to the planning team and through comments at a public hearing held by the City Council. Figure 1-4, displays the overall steps taken during the comprehensive bicycle planning process.

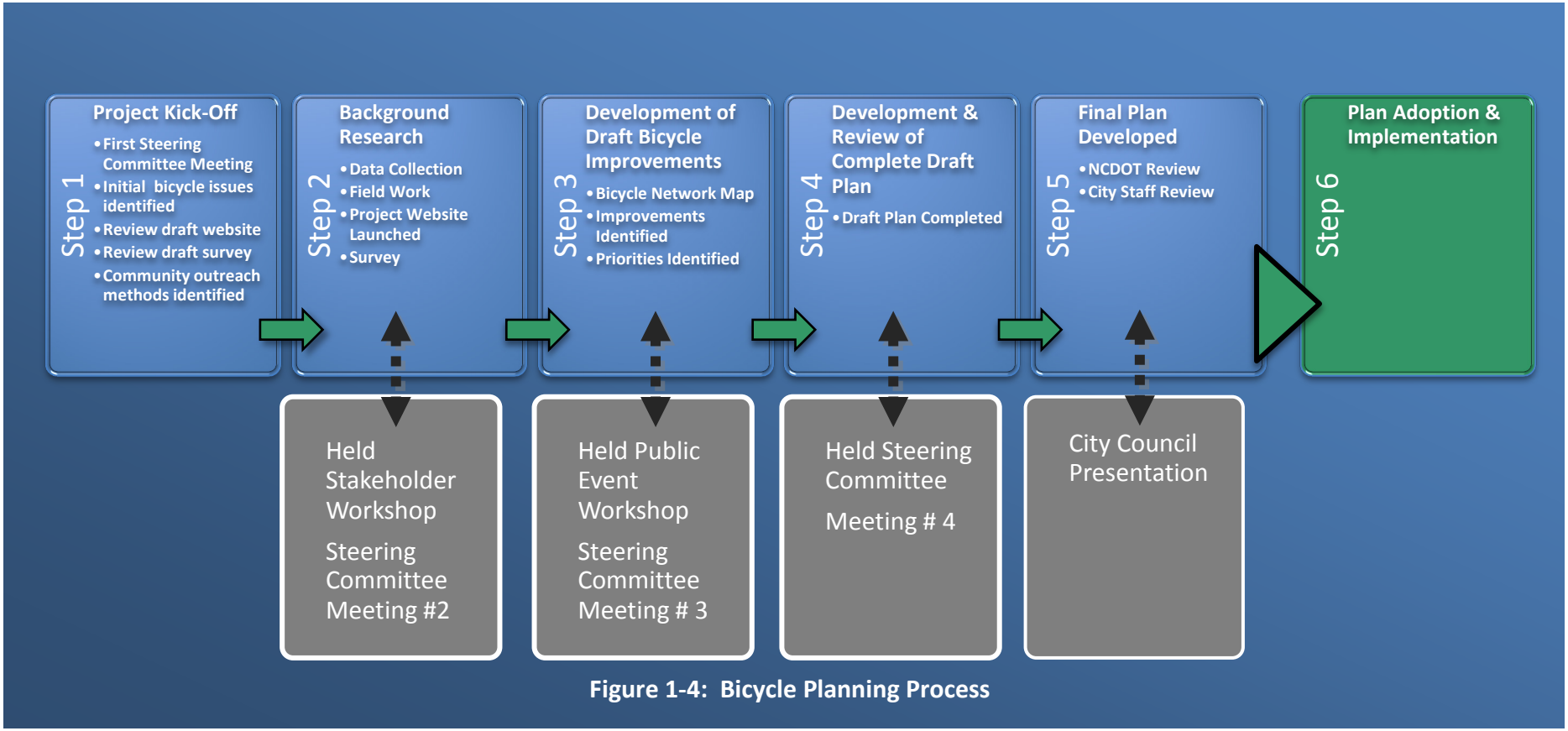

Figure 1-4: Bicycle Planning Process

E. Benefits of Bicycle Planning in Clinton

In the long-term, the City of Clinton will experience benefits by moving forward with the implementation of this plan, its vision, objectives and recommended actions. In general, becoming a bicycle friendly city provides a realistic transportation alternative, promotes environmental stewardship, encourages good health and wellness through increased physical activity, builds the local economy, and improves the overall quality of life. In the short-term, many of the priority projects identified will have immediate positive impacts on the residents' ability to move around the city by bike. The short-term projects will be completed within the context of the comprehensive bicycle transportation plan, ensuring the long-term vision is steadily being achieved one action step at a time.

Providing a Realistic Transportation Alternative

Some of Clinton's citizens are already biking during their normal daily routines as observed during various field visits by the planning team. However, many barriers were identified that discourage more residents from enjoying the benefits of bicycling. Clinton was originally laid out on a basic grid street pattern which provided a safe environment for riding bicycles. Over time, highways were built to support the growing demands for automobiles, creating a "wall" around the traditional core of the city, separating the city into two distinct geographic areas. Speed limits were higher along new roads and did not include provisions for safe cycling. Even though marked on-street bicycle facilities do not exist in Clinton today, riding bicycles within the core area of the City is much safer than in the areas beyond the central city due to the lower speeds and street designs that are more conducive to cycling.

Figure 1-5: Bicyclist in Downtown

This plan establishes a guide to create a safe bicycle system throughout the City, connecting the downtown core to the developing commercial, entertainment and recreational facilities located on the other side of the ring of high-speed roadways surrounding the core of the City. Providing ways for bicycles to move safely along and across these major barriers will enable the citizens of Clinton to make biking a realistic transportation alternative, help to lessen traffic congestion and expand the ability of residents to improve their health and well-being.

Promoting Environmental Stewardship

Residents of Clinton have long enjoyed the benefits of a self-supporting small town environment with a rich agricultural heritage, providing food not only for residents, but exporting agricultural products to other parts of the country and world. Clinton enjoys many

waterways and natural wetland habitats for passive nature enthusiasts and sportsmen alike. Providing a better bicycle transportation network in Clinton will, as mentioned above, lessen the City's reliance on motor-vehicle traffic as the predominate mode or choice of travel. Most of Clinton's residents drive their own car or ride with someone else, as regularly scheduled public transportation is nonexistent in Clinton, with very few residents currently riding a bicycle. Creating safe, connected bicycling routes to destinations that are important to the City's residents, will help encourage people to bike more; thereby reducing emissions from the use vehicular forms of transportation. Less traffic on Clinton's roadways will help reduce noise levels in neighborhoods from vehicles, and the numerous pollutants that end up in the cherished natural areas of the City from various forms of run-off and discharge.

Encouraging Good Health and Wellness

Most of the survey respondents indicated that they primarily ride a bike for fitness or recreational purposes. Providing a safe, well-planned and maintained bicycle system will increase opportunities for residents to bike for recreation and exercise. The nation as a whole is battling a looming health crisis caused by obesity, including an alarming rise in childhood obesity rates as noted in reports from the American Academy of Pediatrics' Trust for America's Health (http://healthyamericans.org/report/88/). In North Carolina, nearly two-thirds of adults are either overweight or obese, and the state has the 5th highest rate of childhood obesity in the United States (http://www.eatsmartmovemorenc.com/ObesityInNC/Texts/OBESITY_BURDEN_2009_WEB.pdf). Many researchers have concluded that children in this generation will likely have shorter life expectancies than their parent. Clinton has the opportunity to help combat this disturbing trend by raising awareness within the community, educating its citizens on the benefits of biking and providing the needed facilities and safe places to bike. Biking and/or daily exercise and improved participation in other healthy activities will help reduce the rate of the various diseases related to inactivity and obesity. As noted earlier, the way the older neighborhoods in Clinton were designed and structured, allowed for children to bike to school in relative safety. In the more suburban areas of modern Clinton, the larger consolidated school campuses are located in areas that present many barriers and challenges for biking. This study has identified improvements to help connect the City to the new schools in a safe manner. Finally, with the physical improvements noted in the plan, all of Clinton's residents should feel much safer and be more willing to bike, helping Clinton raise its "D" score from North Carolina's Eat Smart, Move More program to an "A." The Eat Smart, Move More program is a statewide movement that "promotes increased opportunities for healthy eating and physical activity wherever people live, learn, earn, play and pray." The program is led by a multi-

disciplinary team of partners from across the state that is charged with the mission of reversing the epidemic of obesity and chronic disease. More information on the program can be found at www.eatsmartmovemorenc.com.

Building the Local Economy

Removing long established barriers to bicycle and pedestrian mobility will help encourage an environment where more residents are willing to bike when they go about their daily errands. This opportunity to bike will help reduce the number of vehicle trips residents make to nearby communities and to purchase goods and services. A city with safe bicycle routes will also encourage residents to seek recreational and entertainment opportunities within Clinton. As indicated during interviews and workshops, respondents identified downtown, parks, friends and families homes, shopping and restaurants as places they either bike to now or would like to bike to in the future. Clinton enjoys the basic street layout and urban design needed to enable residents to patronize local businesses while traveling by bike, saving money by not driving, and helping the community prosper by spending local dollars "at home." Also of note, biking more may save residents some costs associated with vehicle maintenance and may even help residents make do with fewer vehicles per household. As noted by the Pedestrian and Bicycle Information Center's research, a typical household spends 18 percent of their income on motor vehicle ownership (http://www.pedbikeinfo.org/collateral/pbic_summary_report_2008-2009.pdf). With more opportunities to bike, Clinton's residents may find savings for their families as they reduce transportation costs, while also improving their health and wellbeing. The ability to bike to employment centers will also allow lower income residents to expand the range of options that they have for employment in the city, giving them the opportunity to access jobs farther from their homes safely and efficiently. Local businesses may also derive a greater benefit from increased bicycle traffic, given the slower pace of travel past their shops and offices, which increases the likelihood of unplanned stops by passers-by that may not be considered by motorists.

Improving the Overall Quality of Life

Many of the primary benefits of establishing a bicycle network that is safe and better connected, as described above, all lead to an improved quality of life. Creating an environment where motor vehicles aren't the only choice for transportation helps reduce traffic congestion, improves air and water quality, and increases health and wellness, while also providing opportunities for an enhanced local economy. Residents may be less likely to "jump in the car," bypassing shopping opportunities close to home, and traveling to a nearby city – exporting those potential dollars outside of the city in which they live. All of these factors relate to the livability of a community, the

attitude of residents, local opportunities and the overall perception of bicycle transportation in the city by its residents. As the City establishes more opportunities for bicyclists through improved facilities, greater awareness of the benefits of biking, and the introduction of greenways, its resident's will experience a better quality of life as the facilities are constructed and the recommended programs and policies are implemented.


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Section 2. Existing Conditions

A. Introduction

The purpose of this section of the plan is to provide a summary of the characteristics present in the City of Clinton that influence the existing bicycle environment. The data, along with the other information contained in this section of the plan, is intended to provide the reader with a greater understanding of the underlying bicycle conditions, including spatial distribution patterns of land uses, population and existing facilities in Clinton. The study area is focused on the areas within the City of Clinton's primary corporate boundary, with the areas outside of the City's boundary line, in the extraterritorial jurisdiction area, receiving minor attention.

B. Demographic Data

The City of Clinton has a total population of 8,639 people, 3,392 households and 2,068 families according to the 2010 Census figures. There were approximately 1,115 people per square mile with approximately 480 housing units per square mile. Figure 2.1 displays the population density in Clinton as related to the existing roadways and sidewalk network. The racial makeup in Clinton in 2010 was 49 percent White, 41 percent African American or Black, with Native Americans and Asians accounting for approximately 1 percent each. Pacific Islanders, people of other races and people of two or more races made up the remaining 8 percent.

Within the 3,392 households, 25 percent had children under the age of 18 living with them, 36 percent were married couples living together, 21 percent had a female householder with no husband present, and 39 percent were non-family households. Almost 37 percent of households were made up of individual residents with 18 percent of the households having someone who was 65 years of age or older living alone. The average household size in Clinton was 2.27.

The age distribution of Clinton's population was fairly balanced with 24 percent of the population under the age of 20 and in the 20 to 39 age group respectively. The population group between 40 and 64 years of age accounted for 32 percent of the population, with persons 65 years or older representing 22 percent of the total population. The median age in Clinton was 42 in 2010, which corresponded to the age characteristics of those who participated in the survey.

C. Vehicle Ownership and Commuting Data

In addition to the basic demographic characteristics of the community, it is important to understand other factors that affect the demand for bicycle facilities, including income, vehicle ownership rates, distance to employment and usual method of transportation to work. In 2010, households in the City of Clinton had a median income of $30,500, which is well below the median household income for the State of North Carolina as a whole ($45,570) and the national median household income ($51,914). This lower level of household income corresponds directly to the degree of availability of vehicles in the community. In 2010, nearly 16% of households in the City of Clinton did not own at least one motor vehicle. This is nearly double the rate of 8.9% found at the national level, and more than double the rate of 6.5% found in North Carolina as a whole. The lower median income is also reflected in the data regarding the number of vehicles owned by households that have at least one motor vehicle available. In Clinton, households with only a single vehicle make up nearly 47% of the households with at least one vehicle available, compared to 34.2% at the state level and 36.5% at the national level.

Despite the lower than average rate of motor vehicle ownership in Clinton, travel by automobile is the predominant means of transportation to work for the 3,549 residents who are employed. Nearly 94% of Clinton's residents who are employed travel to work in a motor vehicle, which is a rate that is higher than the state rate of 92% and the national rate of 86.5%. Of those traveling to work by automobile, a larger share are also commuting alone, with only 10% of the employed residents carpooling, compared to 10.5% at the national level and 11.4% at the state level. Walking to work was the preferred means of travel for 1.9% of the city's employed residents, compared to 1.8% at the state level and 2.8% at the national level. Riding a bicycle to work was the preferred means of travel to work for 0.9% of the city's employed residents, compared to only 0.2% at the state level and 0.5% at the national level.

The distance that Clinton's employed residents travel to work, reflected in the time it takes for them to travel from home to work, is much lower than what is found at the state and national levels. Nearly 11% of employed residents in Clinton have a travel time of less than 5 minutes, compared to only 3.3% at the state level and 3.5% at the national level. Residents who travel fewer than 15 minutes to work accounted for nearly 68% of the total, compared to only 29% at the state level and 28.5% at the national level. Residents with a long (more than 30 minute commute) travel time to work account for only 16% of Clinton's employed residents, compared to 30% at the state level and 35% at the national level.

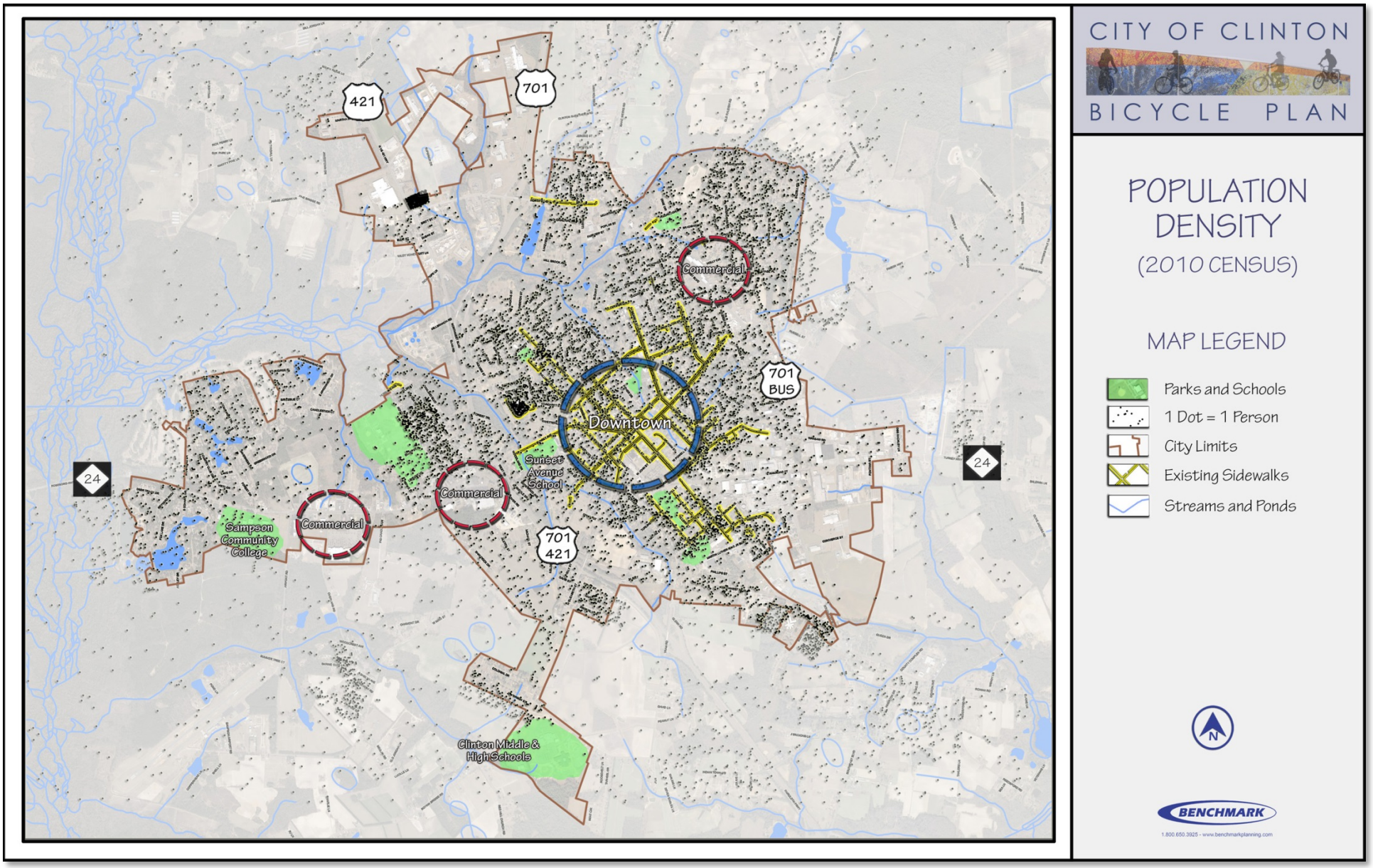


Figure 2-1: Population Density

D. Land Development Patterns

Clinton originally developed around the Sampson County courthouse, with a traditional downtown core immediately adjacent to historic neighborhoods. Public schools in Clinton were woven into the fabric of the city, allowing for good accessibility to the schools for children living in surrounding neighborhoods. Residents were also able to walk or bike downtown and to various "hubs" of retail, office and small scale industrial based employment. As automobiles became the predominant form of transportation, a trend that was observed across the country following World War II, bicycle and pedestrian connections became secondary to the building of roads for automobiles as the city expanded. Clinton, however, was fortunate to maintain a relatively compact development pattern, even though new roadways did not accommodate bicycles. New neighborhoods and commercial development were somewhat centralized in relation to the City's traditional core, allowing for the opportunity to make future bicycle connections.

As shown in Figure 2-2, Bicycle Connectivity Barriers, the central core of the City, downtown and its immediately adjacent neighborhoods, became encircled by an extensive highway system, cutting off bicycle and pedestrian access from the older core in the city to the newly developing areas, since bicycle facilities, pedestrian crosswalks and sidewalks were never constructed in these areas. Following this development pattern, new schools were also built on the outskirts of the City without any facilities for bicycles or for pedestrians to walk safely. The new schools, although not centrally located, are in close proximity to many children and residents, particularly in the western and southern portions of the city, presenting opportunities for connectivity. School children are often observed walking and riding bikes along the edge of Elizabeth Street to commute to school. Although much of the land is currently vacant immediately adjacent to the middle and high schools, it is most likely that residential development will eventually occur in this area. The opportunity exists now to set forth recommendations for these growth areas to ensure that adequate bicycle and pedestrian accommodations are provided in concert with future growth.

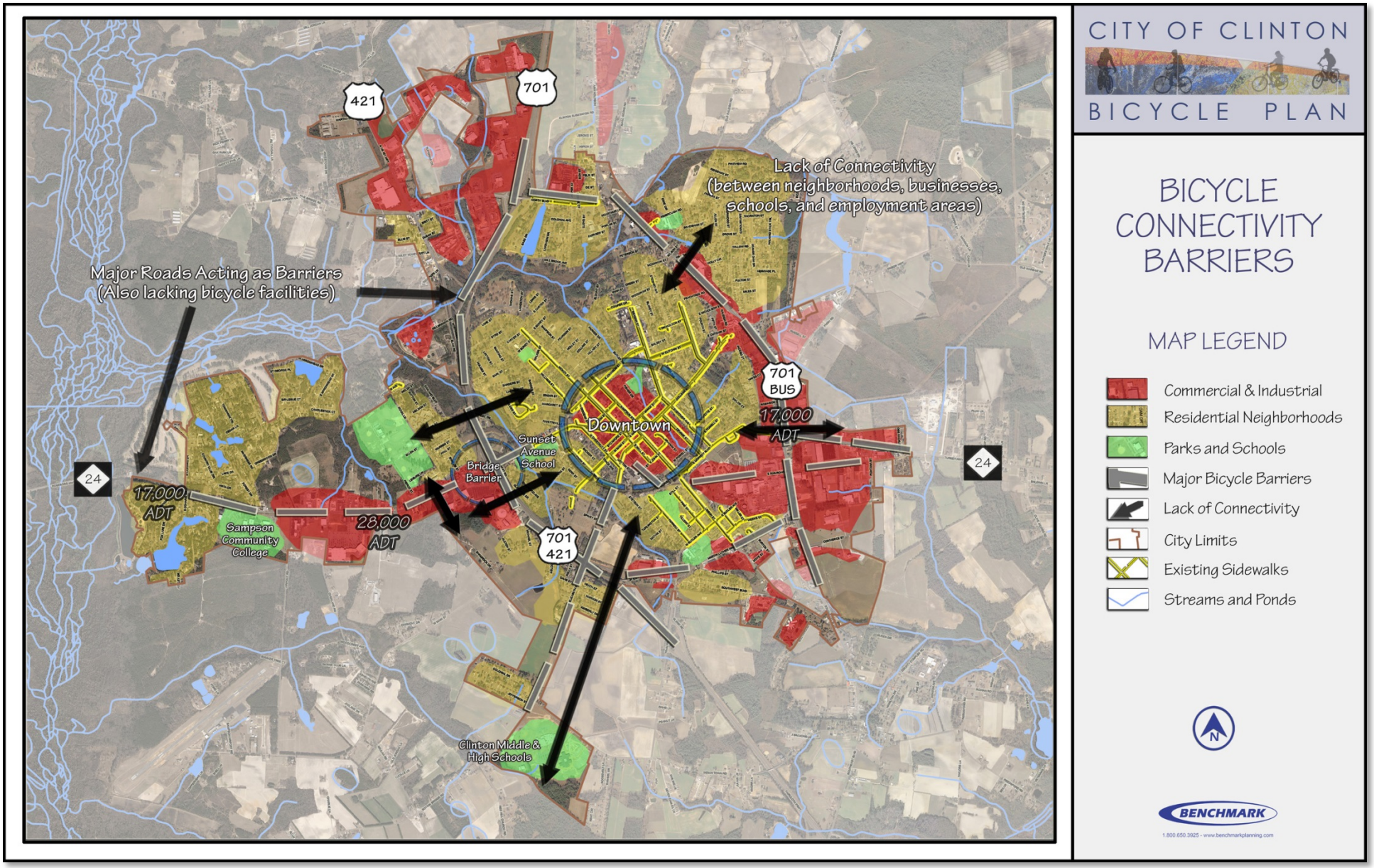


Figure 2-2: Bicycle Connectivity Barriers

E. Destinations in Clinton

The table shown in Figure 2-3 below shows survey respondents' current and desired destinations that they either enjoy biking to now or would like to in the future. The most common destination chosen was neighbors (homes), followed by parks and downtown. Only a small percentage of respondents selected work as a place they ride their bicycle. Those specifying "other" as a choice included: neighborhood, everywhere, recreation and trails. A map of major destinations in Clinton is displayed in Figure 2-4.

When you ride a bicycle, where are you going? (Check all that apply)	
Answer Options	**Response Percent**
Downtown	26.7%
Library	-
Shopping	-
School	-
Work	6.7%
Park	33.3%
Neighbors	46.7%
Other (please specify)	14 answered other*

Figure 2-3: Survey Responses – Preferred Destinations

*Primary responses to other included: neighborhood, recreation, everywhere, and trails.

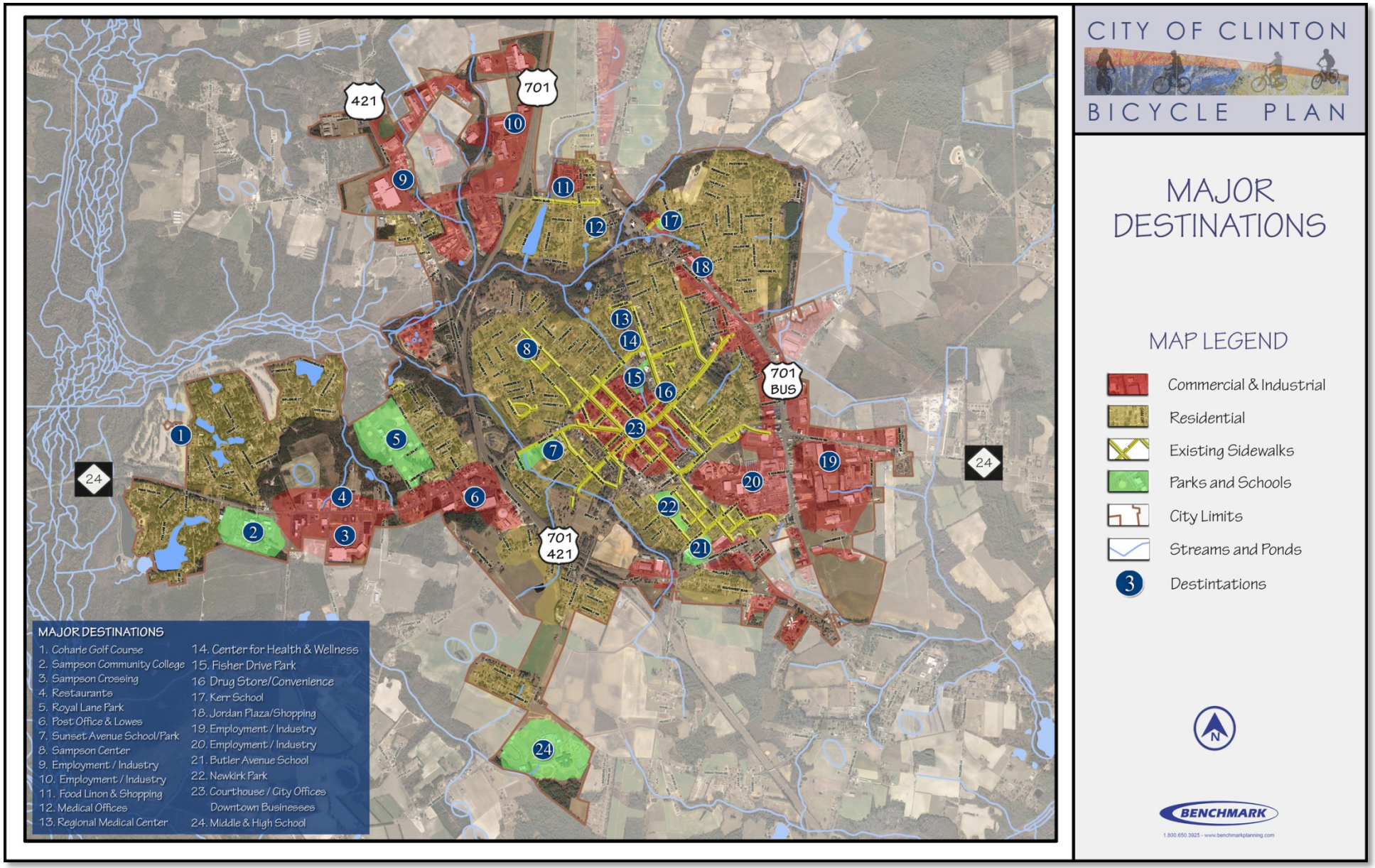


Figure 2-4: Major Destinations

F. Bike Conditions and Barriers

In Clinton, riding a bicycle is not the easiest choice to make for transportation or recreation alternatives; however, many people still choose to ride a bike. Even though the City does not have any official bicycle lanes, many of the roads in the city are wide enough to accommodate bicyles. Many of the streets have reasonable speed limits, which, when combined with the wider streets can help create a safer environment in which to ride a bicycle, if speeds are monitored and safety facilities, such as marked bike lanes with narrower travel lanes are created. The opportunity exist to more clearly define bicycle routes and connections throughout the city to encourage greater bicycle use for daily trips into the historic downtown, around neighborhoods, to schools and commercial areas. Connections are also needed beyond those areas in the NC 24 and US 701/421 bypass vicinity on the western edge of downtown. The US 701/421 bypass intersection with NC Highway 24 is a hazardous barrier for City residents on bikes seeking entertainment, recreational and goods and services along the NC Highway 24 corridor. Also along the eastern edge in this general area, Sunset Avenue School children are at risk as some ride bikes along NC 24. Other areas in need of safe connectivity include the middle and high school area and connections to Clinton's primary municipal park.

Figure 2-5: Bicyclist on US Bus. 701 at Kerr School

Bicycle facility improvements along the NC 24 corridor would also connect residents to one of the major shopping facilities in the city and places of employment along the highway. Another major highway lacking adequate bicycle facilities is Business 701 where the size of the lanes and number of lanes are much greater than needed to support transportation needs over the long-term. The wide roadway was designed to handle high amounts of traffic that has shifted to Interstate 40 since the construction of the highway. Survey respondents indicated a lack of bicycle facilities as the primary reason for discouraging them from riding a bicycle more often. Currently, the city does

not have any officially designated bicycle routes. Respondents to the survey also identified aggressive drivers, too much traffic, poor road conditions and crime/safety as discouraging factors. Other responses included a fear of dogs and lack of safe places to ride, in general.

Inventory of Potential Bicycle Routes

As discussed above, Clinton does not have any formal bicycle segments; however, local bicycle enthusiasts have identified various segments in and around the city for their recreational/fitness use that are not marked. The steering committee, focus groups and responses from the survey, coupled with basic research by the consultant team, helped identify initial roadways and streets that may serve as potential bicycle segments to create a comprehensive bike system. A total of seventeen preliminary segments were identified for the inventory of existing roadway conditions.

The steering committee considered the following criteria for analyzing and understanding the existing roadway conditions for potential bicycle segments:

- Distance of the potential segment
- Approximate width of the roadway / street
- Lane configurations
- On-street parking facilities
- NCDOT or City Maintained Roadway/Street
- General conditions (Traffic Volumes and Speed if important)
- Potential connections to destinations (commercial, residential, parks and schools)
- Potential connections with existing or planned pedestrian facilities

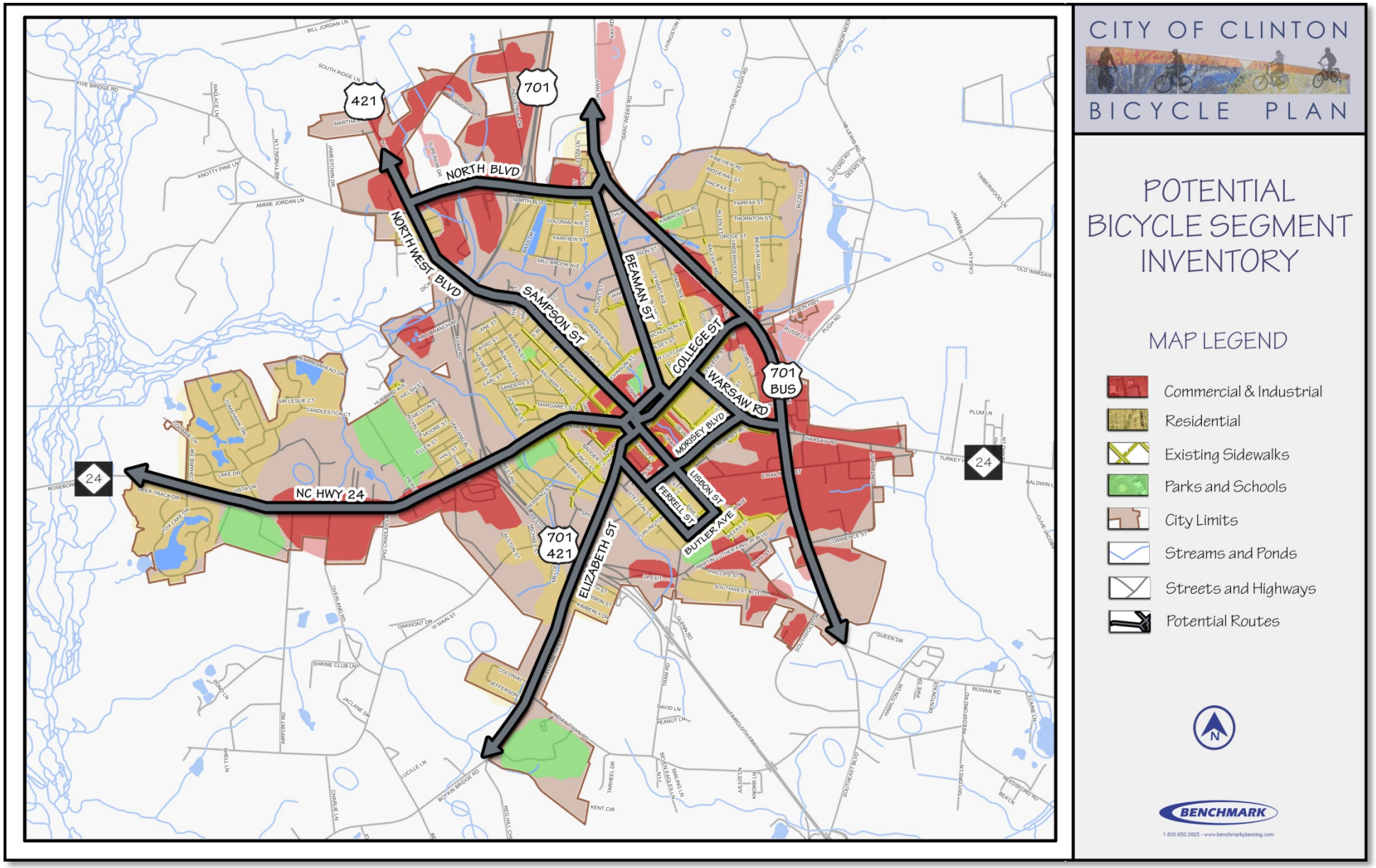


Figure 2-6: Potential Bicycle Segment Inventory

Figure 2-7: Existing Conditions of Roadways Table

Potential Bike Route	From	To	Distance (in Feet)	Approx. Road Width	Summary
NC 24 / Sunset Ave	N. Coharie Dr	Fayetteville St.	11,850	68 – 104	Roadway will be under construction soon with a five-lane to seven lane cross section and sidewalks on both sides. Because of high traffic volumes (16,000 to 33,000 AADT), curb cuts will be limited along the road. Bicyclists and Pedestrians utilize this route. Proposed 12' travel lanes.
Fayetteville Street	Sunset Ave.	Wall St.	1,500	40	10' parallel parking each side 10' travel lanes
Vance Street	Wall St.	Sampson St.	460	30	9' parallel parking on outer most edge, (2) 10' to 11' one-way travel lanes, northwestern edge of courthouse, one area with angled parking, daytime activity. Not an NCDOT maintained road.
North Wall Street	Vance St.	Elizabeth St.	500	40	9' parallel parking outer edge, (3) 10' to 11' one-way travel lanes, southwestern edge of courthouse, daytime activity. 2,600 AADT.
Main Street	Wall St.	College St.	490	58	18' angled parking along inner and outer edges, (2) 11' one-way travel lanes, southeastern edge of courthouse, daytime activity. Not an NCDOT maintained road.
Sampson Street	College St.	McKoy St.	5,700	24 to 30	Sidewalks and 30' wide to Johnson Street with 35 mph and sidewalks. Then, narrows to 24' with no posted speed limit and numerous children at play signs. Not an NCDOT maintained road.
McKoy Street	Sampson St.	Northwest Blvd.	1,800	36	10' striped paved area along northern edge, two way travel with 13' lanes
Northwest Boulevard	Mckoy St.	City Limit	9,800	25 to 62	5 lane facility with center turn lane (62'), narrows to 36' three lane facility after Industrial Drive, then, to a 25' two way facility after Village Drive.
North Boulevard	Northeast Blvd.	Beaman St.	5,400	62	5 lane facility with center turn lane.

Figure 2-7: Existing Conditions of Roadways Table (continued)

Potential Bike Route	From	To	Distance (in Feet)	Approx. Road Width	Summary
Beaman Street	US 701/Dixon St.	College St.	6,700	36	2 lane facility from College St. to Johnson. 3 lane facility from Johnson to Peterson Street. Remains 2 lanes from Peterson to McArthur where it becomes 3 lanes and immediately turns to four lanes at North Boulevard where Beaman Street becomes Dixon Street for 500' to where it meets US 701. Plans to widen entire street to 3 lanes - includes bridge widening.
College Street	US 701	Sampson St.	4,300	40	2 lane facility from Main St. to Beaman St. where it varies in width to 3 lanes at intersections where turns are needed.
Warsaw Road	US 701	College St.	3,000	45	4 lane facility from US 701 Bus. to East Morisey Boulevard. From Morisey to College, 2 lane facility with 10' striped paved areas on the outside lanes.
Morisey Boulevard	Warsaw Rd.	Ferrell St.	3,400	40	2 lanes with parallel parking from Warsaw Road to Lisbon. 2 lane with intermittent parallel parking from Lisbon to Ferrell St.
Lisbon Street	Butler Ave.	E. Main St.	3,400	40	2 lanes with parallel parking from Butler Ave to Elizabeth Street. 2 lanes and one-way from Elizabeth to E. Main Street, parallel parking on southwest side of Lisbon.
Butler Avenue	Lisbon St.	Ferrell St.	1,000	45	2 lanes with unmarked parallel parking. Roadway is parallel with Butler Avenue School.
Ferrell Street	Butler Ave.	Elizabeth St.	3,900	36	2 lanes.
Elizabeth Street	Lisbon St.	Sampson Middle/High School	8,300	20 - 35	2 lanes – connection from downtown to schools. Roundabout at terminus with schools. 35' with Parallel parking on one side in downtown section from Depot to Lisbon Street.
US 701 Business	City Limit	City Limit	24,000	68 - 92	5 lane facility with center turn lane, with the segment between Warsaw Road and Martin King Luther King Jr. (the portion where NC24 and US 701 share the road) varying from 6 to 8 lanes.

2012 Annual Average Daily Traffic Counts

The Traffic Survey Group with the Transportation Planning Branch of the North Carolina Department of Transportation develops annual average daily traffic counts across the state. Traffic Volume (AADT) Maps are a product created by the Traffic Survey Group in cooperation with the Information & Mapping Unit. Information & Mapping supplies the county (and urban) maps, which serve as a foundation for Traffic Survey employees to identify locations known as "count stations". Traffic Survey then labels each count station on these maps with the Annual Average Daily Traffic (AADT) volume. Within Clinton, several major roadways exist with traffic volumes well over 10,000 AADT, with over 33,000 vehicles per day counted near the intersection of the US 701/421 Bypass and NC Highway 24, a slight decline from 28,000 in 2009. The most western point of traffic analysis along NC 24 near Sampson Community College is approximately 16,000 vehicles per day. Traffic on the eastern edge of the city at NC 24 and US 701 Business also reached 17,000 vehicles per day, which remained about the same from the 2009 AADT figures. In general, minor increases in traffic volumes were noted throughout the area with the highest increase near the intersection of US 701/421 Bypass and NC 24 at 5,000 trips per day higher. Figure 2-8 displays the 2012 AADT for the City of Clinton.

Bicycle Crashes 1990 - 2010

Over the past twenty-two years there have been 38 official police reports of pedalcyclist (bicycle) crashes of varying degree of severity, as shown in Figure 2-9. During this time period there were only five years without an accident report. The type of injuries resulting from these crashes include three that were disabling injuries, 13 crashes where an injury was evident, 16 where injury was possible and 3 where only property damage was recorded. The roadways (and general areas) with the highest incident of pedestrian crashes were the Barden Street/Fayetteville Street area and the general area surrounding the intersection of Warsaw Road with Business 701. Morisey Boulevard also had several bicycle crash incidents. The primary bicycle crash areas were also noted in the surveys as needing bicycle facility improvements. Finally, during the pedestrian plan process, the areas identified above were also noted for higher incidents of pedestrian crashes as well.

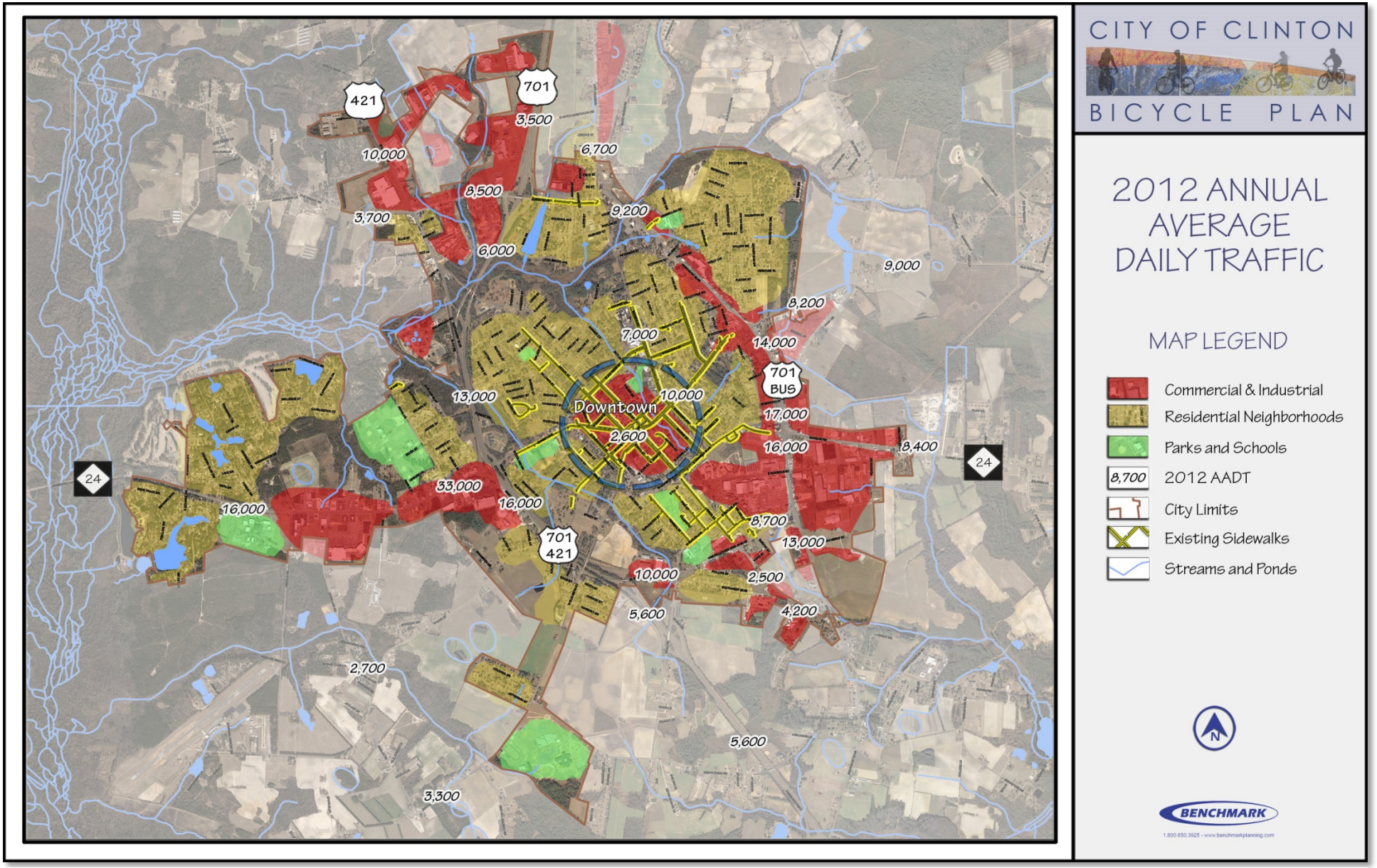


Figure 2-8: 2012 AADT Map

Figure 2-9: Pedalcyclist (Bicycle) Crashes by Roadway from 1990 - 2013

On Road	Miles	Dir	From Road	Toward Road	Crash Severity	Date of the Crash	Time of the Crash
FAYETTEVILLE ST	0.008	E	SUNSET AVE	WILLIAMS ST	A-Injury (Disabling)	6/4/1990	8:45 PM
COHARIE DR	0.003	S	COUNTRY CLUB DR	SUNSET AVE	B-Injury (Evident)	8/26/1990	5:09 PM
SUNSET AVE	0		US 421	SHIELDS ST	B-Injury (Evident)	7/11/1991	4:52 PM
MORRISEY BLVD	0.005	N	EASTOVER AVE	WARSAW RD	B-Injury (Evident)	7/11/1991	12:36 PM
NORTHWEST BLVD	0		ELLIS ST	MCKOY ST	B-Injury (Evident)	12/1/1991	11:44 AM
BARDEN ST	0		MARGARET ST	WINFREY ST	A-Injury (Disabling)	4/14/1992	8:05 PM
POWELL ST	0.009	N	GRAHAM ST	DEVANE ST	B-Injury (Evident)	6/19/1992	5:06 PM
MORISEY BLVD	0		LISBON ST	WARSAW RD	C-Injury (Possible)	7/15/1992	2:48 PM
WILLIAMS ST	0		JOHNSON ST	FAYETTEVILLE ST	C-Injury (Possible)	10/21/1992	7:05 PM
SUNSET AVE	0		WESTOVER RD	NC 24	C-Injury (Possible)	11/15/1992	2:33 PM
MORRISEY BLVD	0.038	W	DEVANE ST	LISBON ST	B-Injury (Evident)	1/13/1993	3:16 PM
DEVANE ST	0.004	N	POWELL ST	COLLEGE ST	C-Injury (Possible)	1/23/1993	4:21 PM
BARDEN ST	0		CALHOUN ST	SAUNDERS ST	A-Injury (Disabling)	4/15/1993	12:43 PM
SANDERS ST	0.01	E	BUNTING ST	BARDEN ST	B-Injury (Evident)	4/16/1994	6:33 PM
SOUTHEAST BLVD	0.095	N	WARSAW RD	PUGH RD	B-Injury (Evident)	6/17/1994	4:59 PM
SOUTHEAST BLVD	0.095	W	WARSAW RD	PUGH RD	B-Injury (Evident)	6/18/1994	12:18 PM
(South)EAST BLVD	0	N	WARSAW RD	PUGH RD	C-Injury (Possible)	9/27/1994	10:51 AM
JOHNSON ST	0.085	E	SAMPSON ST	PARKER DR	C-Injury (Possible)	12/16/1994	3:45 PM
BARDEN ST	0		WILLIAMS ST	BONEY ST	B-Injury (Evident)	7/27/1995	8:09 PM
SAMPSON ST	0.047	N	PEARL ST	LEE ST	B-Injury (Evident)	6/6/1996	2:00 PM
BARDEN ST	0.04	S	BONEY ST	WILLIAMS ST	C-Injury (Possible)	11/11/1997	1:15 PM
STILL ST	0.016	W	PINE ST	FERRALL ST	C-Injury (Possible)	11/23/1997	3:55 PM
SOUTH EAST BLVD	0.047	S	WARSAW RD	RAILRAOD ST	C-Injury (Possible)	4/2/1999	10:22 AM
(North)WEST BLVD	0.095	S	SUSAN ST	MCKOY ST	C-Injury (Possible)	8/29/1999	12:53 PM

Figure 2-9 (continued): Pedalcyclist (Bicycle) Crashes by Roadway from 1990 - 2013

On Road	Miles	Dir	From Road	Toward Road	Crash Severity	Date of the Crash	Time of the Crash
SUNSET	0		KERR ST		Property Damage Only	8/1/2000	9:44 PM
MORISEY BLVD	0.026	W	EASTOVER AVE	WARSAW RD	B-Injury (Evident)	2/12/2001	5:51 AM
US 701	0		WARSAW RD	RAILROAD ST	C-Injury (Possible)	5/30/2002	11:12 AM
SUNSET AVE	0.022	E	KERR ST	FINCH STREET	B-Injury (Evident)	6/17/2003	11:54 AM
WILLIAMS ST	0		FAYETTEVILLE ST		C-Injury (Possible)	8/18/2003	5:33 PM
COLLEGE ST	0.066	E	PARK AVE	FIFTH ST	B-Injury (Evident)	9/20/2003	9:41 PM
BARDEN ST	0		MARGRET ST	EDGAR ST	C-Injury (Possible)	9/5/2004	5:36 PM
US 701	0		ALLTEL PARKING LOT	PUGH RD	C-Injury (Possible)	9/8/2004	12:59 PM
ELIZABETH ST	0.002	W	WALL ST		Property Damage Only	2/11/2008	9:41 PM
RAILROAD ST	0.109	E	DEVANE ST	US 701	B-Injury (Evident)	9/10/2008	6:20 AM
JOHN STREET	0		FERRELL STREET	STETSON STREET	Property Damage Only	7/7/2010	2:05 PM
SHEILDS ST	0		HALL ST	WARREN ST	C-Injury (Possible)	8/9/2010	6:19 PM
SOUTHEAST BLVD	0		WARSAW ROAD	PUGH ROAD	C-Injury (Possible)	4/13/2011	5:10 PM
STILL STREET	0.083	SW	STETESON STREET	STETESON STREET	B-Injury (Evident)	4/11/2012	2:39 PM

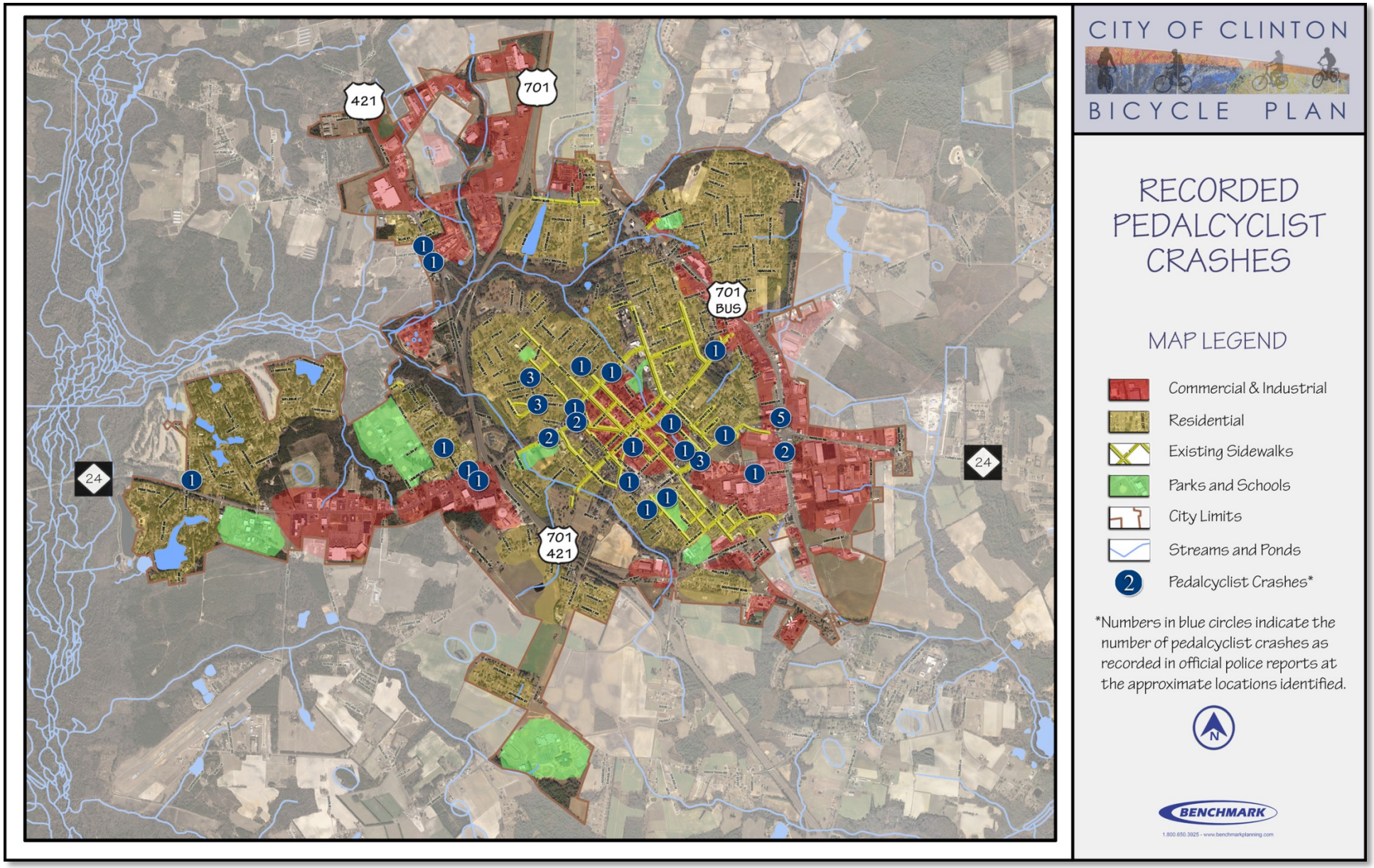


Figure 2-10: Pedalcyclist (Bicycle) Crash Map (1990 -2013)

G. Bicycle Use and Future Needs

As part of the development of the plan, residents participated in a survey and community input sessions that inquired about their experiences and needs related to bicycling in Clinton. The bicycle planning survey and committee meetings revealed information about basic bicycling patterns and the desires of Clinton's citizens. In this section, the key findings from the survey are discussed, while the detailed results of the survey are summarized in Appendix A.

Riding a bicycle in Clinton is an activity that is not wide spread:

As noted in the more extensive pedestrian plan survey conducted in 2011, most respondents indicated they either drive or ride with a friend to move around the city. However, the survey revealed that nearly 15 percent ride a bike as part of their transportation options. Some responded that they use a taxi or some other private form of transportation, since regularly scheduled public transportation is not available. In the survey for the bicycle plan, approximately 61 percent of respondents indicated that they ride a bicycle – 41 percent of those several days a month, 15 percent of those several days a week and only 5 percent that bicycle every day. Approximately 39 percent indicated they did not ride a bicycle at all.

Clinton's residents will bicycle more if improvements are made:

Many of those surveyed responded that there are multiple factors discouraging them from biking. Conversely, survey respondents indicated that if certain improvements were made they would bicycle more often. Below is a list of the top issues discouraging residents from biking, which is followed by a list of the top improvements needed.

The top issues discouraging residents from biking now include:

- Lack of bicycle facilities
- Aggressive drivers
- Too much traffic
- Poor road conditions
- Crime/Safety
- Fear of Dogs

The top improvements that would encourage residents to bicycle more:

- Bicycle lanes
- Off-road bike trails
- Map of bicycle routes
- Traffic enforcement
- Bicycle racks
- Lower speed limits

Clinton's residents bike primarily for recreational purposes:

One of the key points of the Bicycle Plan vision is to create an environment where Clinton's residents will want to choose biking, not just for recreation, but for daily transportation needs to help reduce the number of vehicles on Clinton's roads. As indicated in the surveys, however, 97 percent of those responding ride a bike for recreation or fitness, not as an alternative mode of transportation. Only 3 percent ride a bike for social interaction/visiting friends or neighbors, with no one responding that they ride a bicycle for daily transportation activities. Providing a safe bicycling environment will help increase the number of residents choosing biking as a realistic alternative for their daily transportation needs.

Clinton's residents bike to parks, neighbor's homes and downtown:

Key destinations that residents are currently biking to include:

- Neighbor's home
- Park
- Downtown

Identified roadways and intersections needing bicycle systems/facility improvements:

When answering the open ended question on the survey regarding the survey respondent's top three roadways that needed sidewalks and bicycle improvements, the following roadways were identified:

- NC / Sunset Ave
- 701 Business (NE and SE Boulevard)
- Fayetteville Street
- Beaman Street

- Downtown in general (various streets)
- Sampson Street
- Warsaw Road
- Elizabeth Street

In addition to the identification of the top three roadways, survey respondents were also asked to list the top three intersections they believed needed improvements. The respondents indicated intersections along many of the same roadways identified as needing bicycle facility improvements. The intersections identified as top priorities included:

- NC 24 / Sunset Ave (various major intersections)
- 701 Business (various major intersections)
- Downtown (various intersections)
- Fayetteville Street
- Beaman Street
- Warsaw Road
- Elizabeth Street
- Lisbon Street

H. Summary of Existing Plans and Policies

Like the pedestrian plan, the City had not adopted any plans that comprehensively address bicycle improvements, which was one of the primary reasons for pursuing this planning process. The City had previously adopted as a goal in its 2000-2020 Land Development Plan to prepare a plan for pedestrians, bicycle and greenways; however, progress had not been made, until now, due to the lack of funding opportunities. Clinton is currently preparing a comprehenisve plan which will include recommendations from this plan and from the recently adopted pedestrian plan.

In 2010, the City adopted a new Land Development Ordiance. The City of Clinton Land Development Ordinance (LDO) combined the former zoning and subdivision regulations into a unified and cohesive format. Planning Staff should consider amendments to the LDO that encourage new development to provide bicycle facilities as part of their projects. Amendments should also be considered that encourage new developments that adjoin existing or planned bicycle routes to ensure proper connections are in place to provide safe bicycle access.

Section 3. Bicycle System Improvements

A. Introduction

Most cities developed around a traditional downtown with interconnected places to live, work, shop and play. It was not until the widespread use of the automobile and the expansion of our national highway systems following World War II that our cities began to become less connected and decentralized. The City of Clinton followed this general development pattern. In its early years, Clinton was well connected, with the courthouse and downtown in the center surrounded by residential neighborhoods, places of work, schools, and churches. Residents could easily walk or bike as a form of transportation to accomplish almost all of their daily tasks. As Clinton grew, the farm fields that surrounded the city were developed and the city expanded outward from its core; however, the interconnected pattern that allowed for bicycling had evaporated.

This section highlights Clinton's plans for breaking through these connectivity barriers and creating a better connected city and new bicycle system. During the bicycle planning process, many barriers were identified which hindered connectivity between residential neighborhoods, parks, places of employment and commercial/retail development. The proposed improvements in this section set forth a clear path to establishing a safer and well-connected system for bicyclists throughout the city, not just its traditional center.

Although Clinton did not integrate safe bicycle facilities into new development, the city is positioned to add bicycle facility improvements now, creating a more bicycle friendly and connected Clinton. The backbone of the bicycle network proposed to connect these outlying growth areas with the core of the City relies primarily along major transportation corridors that are currently being utilized by bicyclists. Implementing this improved bicycle network over the long-term will help make the entire city of Clinton safer for bicyclists.

B. Basis for Determining Bicycle System Improvements

After months of research, including direct input from city residents, working with NCDOT and local City Staff, plans were established to improve the overall bicycle system through a series of recommended facility improvements. Public input, along with field work and research of the existing pedestrian conditions made it clear where the priorities exist in Clinton. The diagram in Figure 3-1 demonstrates the various sources of information and input that went into recommendations for the bicycle network improvements and overall bicycles system.

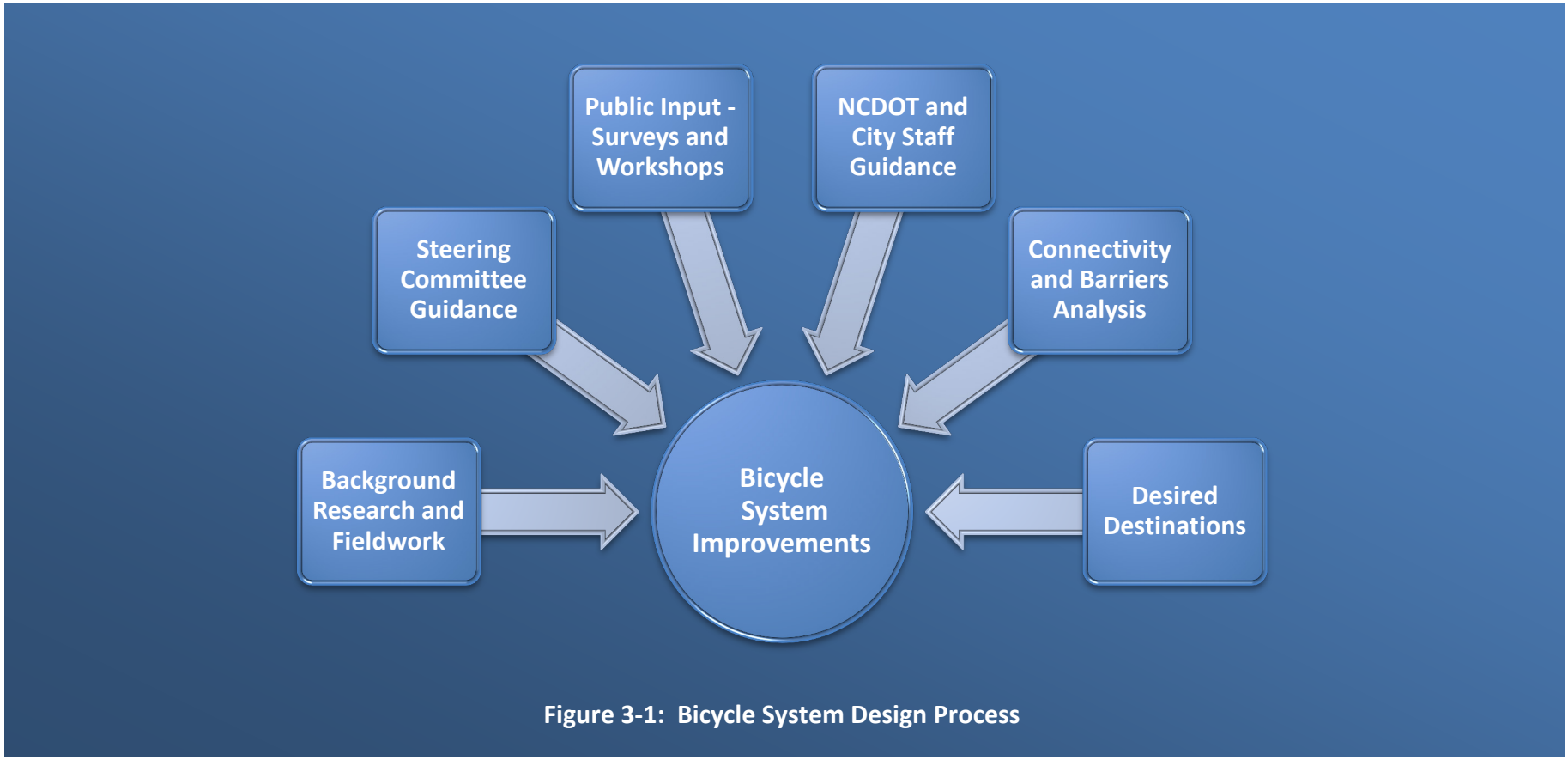


Figure 3-1: Bicycle System Design Process

C. Bicycle Network Recommendations

Bicycle traffic is allowed on all City and State maintained roadways in Clinton, with the exception of US 421/Faircloth Freeway and limited access roadways. However, many of Clinton's roadways are not safe for bicycle traffic. A series of recommendations were prepared that clearly establish a safe and connected bicycle system for Clinton in the future. The improvements include on-road and off-road connections to form a series of loops and connectors that form a framework of bicycle routes for alternative transportation connections to important destinations throughout the city. The detailed phases for implementation are described in greater detail in Section 5 of the plan. The types of recommended facilities and routes are defined below and illustrated in Figure 3.2 and Figure 3.3 on the pages that follow.

Bicycle Facilities and Route Types

Bicycle Lanes

The primary bicycle facility recommended in this plan is the on-street bicycle lane. Bicycle lanes typically border the outer most lane of a roadway. The lane is designated by a white stripe, bicycle lane signs, and pavement markings indicating the lane is for the exclusive use of bicyclists. The minimum recommended width for a bicycle lane is four feet; five- and six-foot bike lanes are typical for collector and arterial roads. Existing roadways can often accommodate bicycle lanes by modifications to travel lane widths and restriping.

Shared Lanes

Another primary bicycle facility recommended in this use of shared lane markings or "sharrows". The sharrow markings are placed in the travel lane to indicate to drivers that bicyclists share the road with motorists, while providing direction to bicyclists. The sharrows are commonly recommended in areas with parallel parking and are placed in a manner to alert cyclists of

Figure 3-2: Example Facilities

potential collisions with doors being opened by parked vehicles. The pavement markings are typically placed after intersections and then, every 100 to250 feet.

Side Paths

The Elizabeth Street Corridor from Chestnut Street to the Middle and High Schools is recommended to have a side path in the Pedestrian Plan and in this Bicycle Plan. This type of facility is multi-use and typically located within the roadway corridor right-of-way, or adjacent to roads where there are few driveways and major intersections.

Signed Bicycle Segment

In this plan, Sampson Street is designated as a signed bicycle segment from downtown out to McKoy Street. This signed segment connects downtown and neighborhoods where a special bicycle facility is not needed, primarily due to the very low traffic volume and speed. Westover Road is also proposed as signed segment connecting the new SR 5 to Elizabeth Street.

Bicycle Warning / Share the Road Signs

According to the NCDOT pedalcyclist crash reports, the Barden Street area has had the most reported crash incidents; however, the physical constraints of the roadway make it difficult to install a formal bicycle facility. It is recommended that warning signage be installed to alert motorists of bicycle activity in the area with the goal of increasing awareness and reducing bicycle crashes with motor vehicles. This area also includes high pedestrian activity; therefore, a combined warning sign may be the best choice for this street.

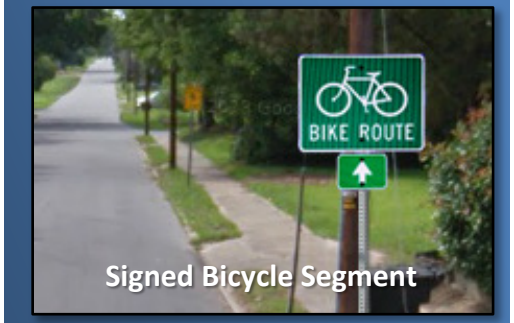


Figure 3-3: Example Facilities

Bicycle Facilities Segment Recommendations

The proposed bicycle network map, in Figures 3-4 and 3-5, displays the bicycle facilities improvements that will be needed over the long-term to improve bicycle connectivity in Clinton. The table in Figure 3-7 displays the detailed recommendations and notes to accompany the bicycle network map. For this plan, twenty-one facility improvements were identified. The proposed location of bicycle facility improvements are as follows:

Proposed Roadways

1. NC 24 / Sunset Ave
2. Fayetteville Street
3. Vance Street
4. Wall Street
5. Main Street
6. Sampson Street
7. McKoy Street
8. Northwest Boulevard
9. North Boulevard
10. Beaman Street
11. College Street
12. Warsaw Road
13. Morisey Boulevard
14. US Bus 701
15. Lisbon Street
16. Butler Avenue
17. Ferrell Street
18. Elizabeth Street
19. SR 5 (new road)
20. Westover Road
21. Barden Street/Fayetteville St. (Portion)
22. Johnson Street (includes a portion of Williams Street)

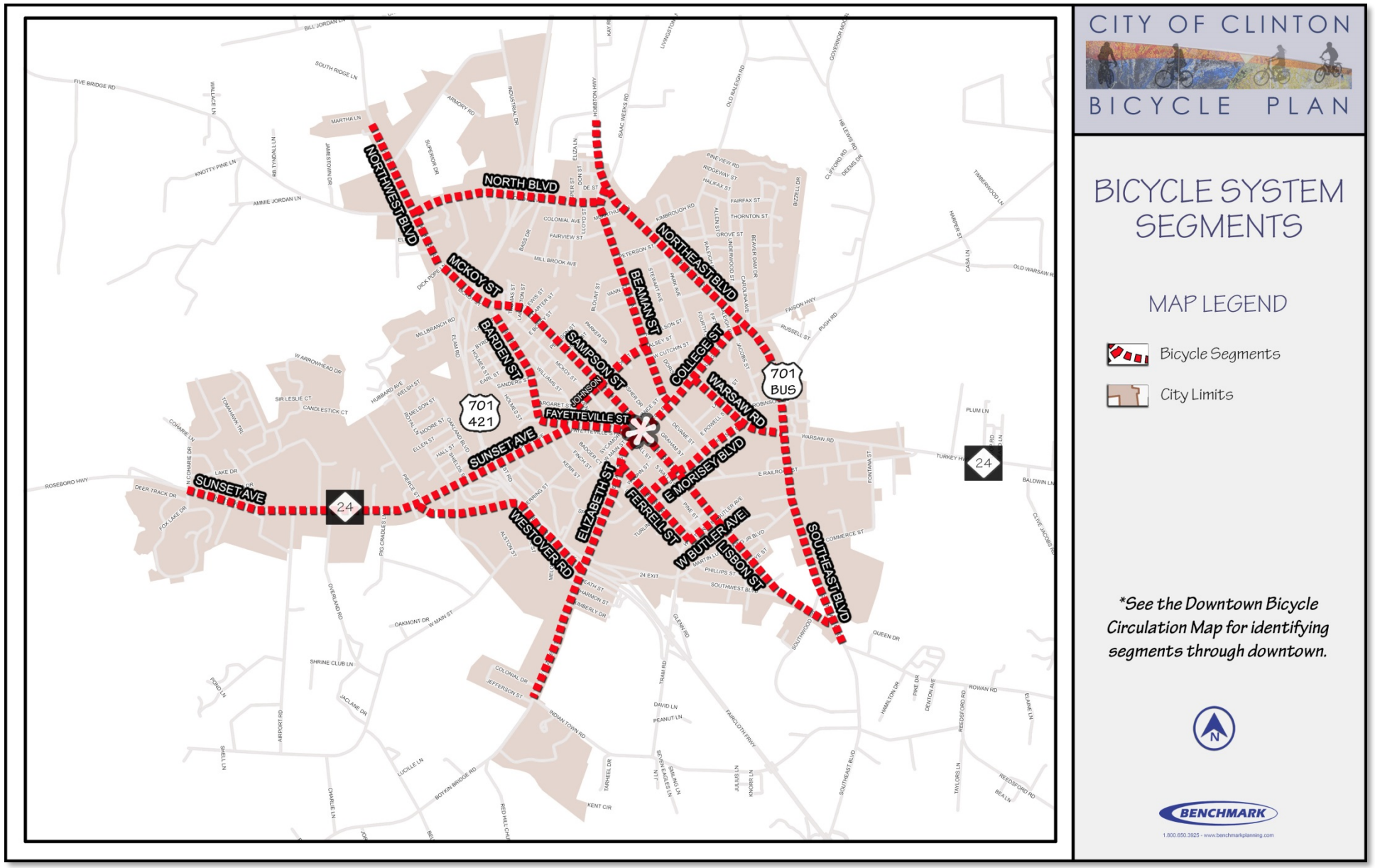


Figure 3-4: Proposed Bicycle System & Routes Network

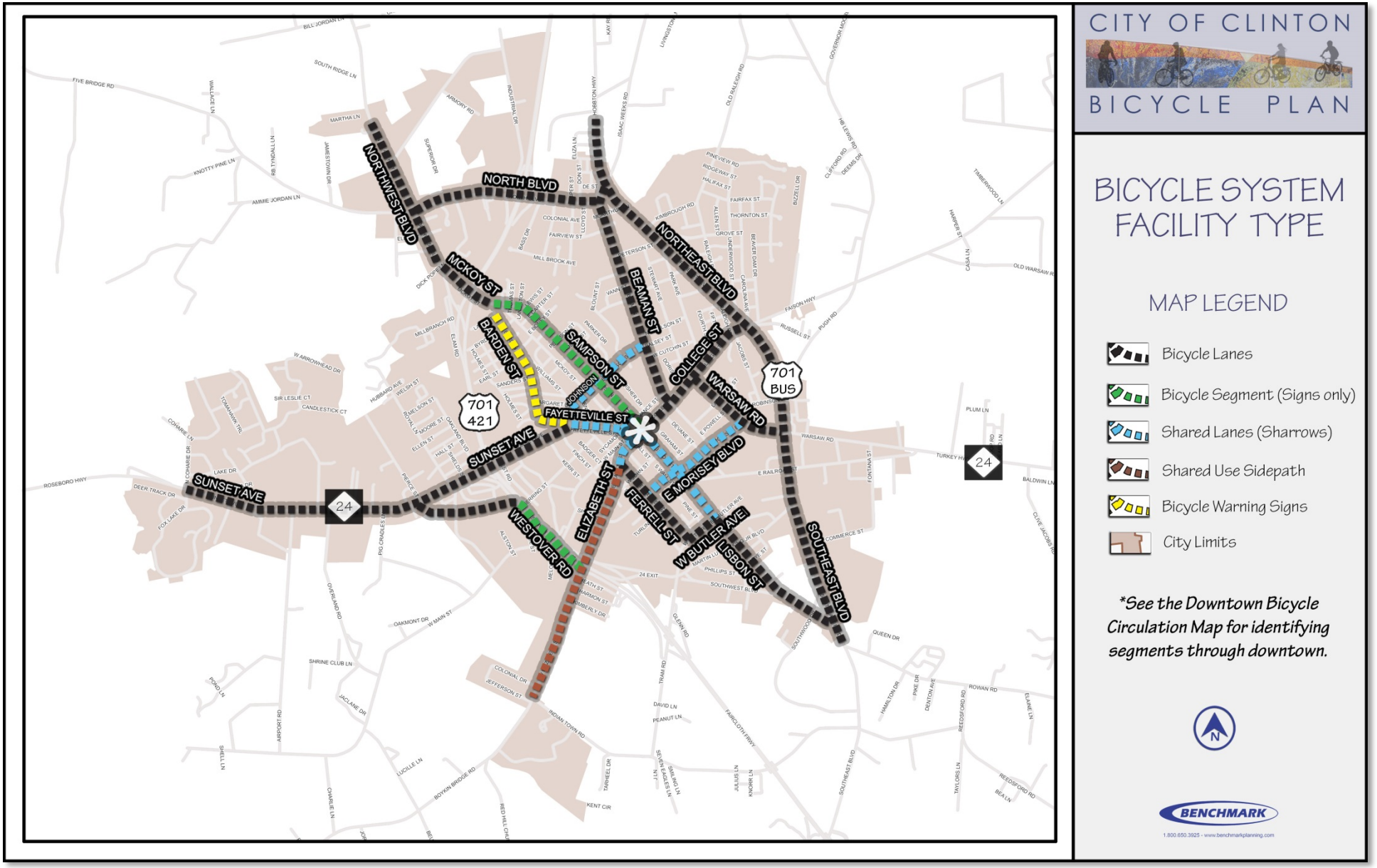


Figure 3-5: Proposed Bicycle System Facility Type

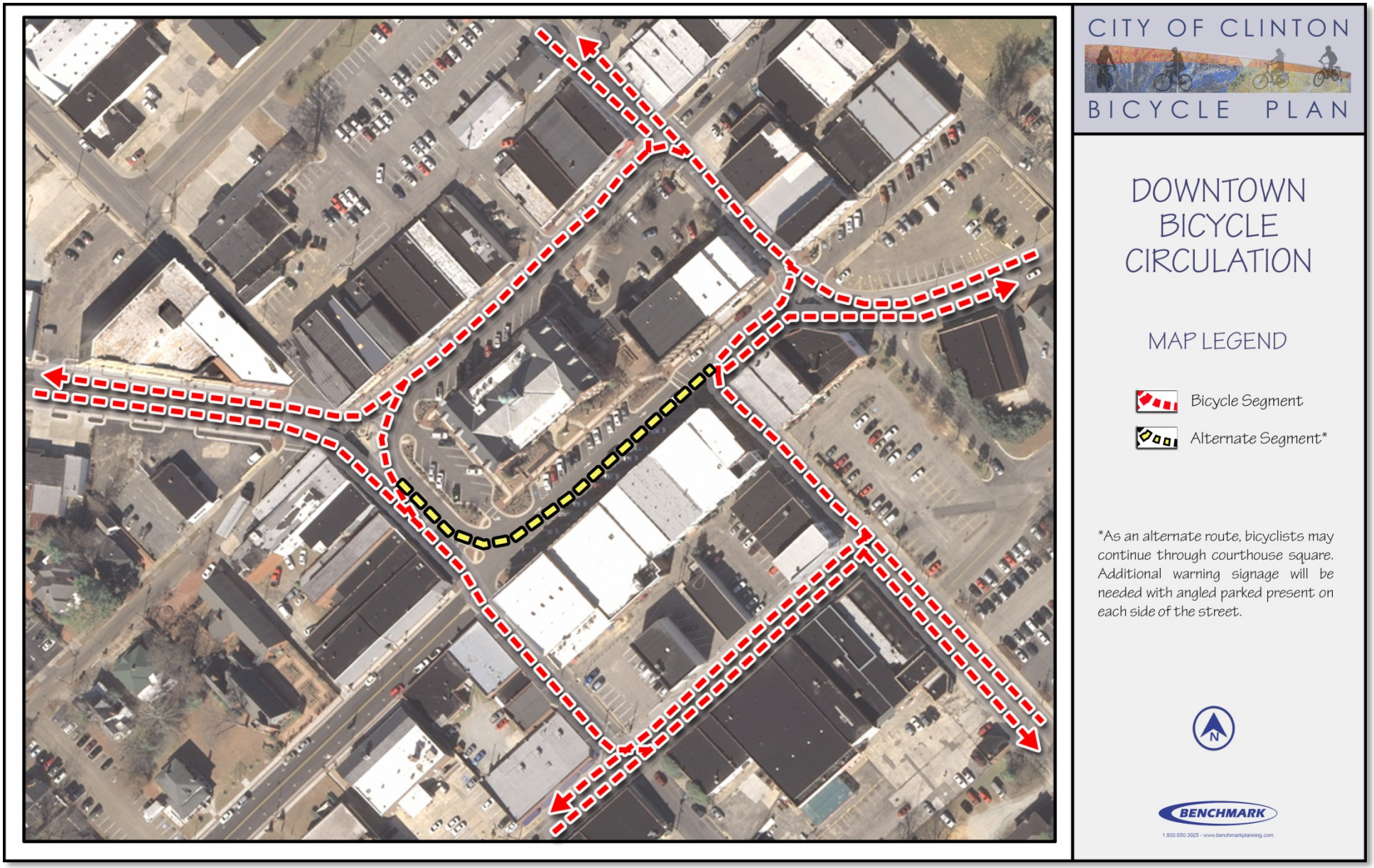


Figure 3-6: Downtown Bicycle Circulation

Figure 3-7: Bicycle Network Improvements Table

No.	Bike Facility	From	To	Distance (in Feet)	Road Width	Recommendation	Construction Method	NCDOT Maintained
1	**NC 24 / Sunset Ave**	N. Coharie Dr	Fayetteville St.	11,850	Varies (68'-104')	Bicycle Lanes	Stripe	Yes - Widening Underway
2	**Fayetteville Street**	Sunset Ave.	Wall St.	1,500	40	Sharrows	Stripe	Yes
3	**Vance Street**	Wall St.	Sampson St.	460	30	Sharrows	Stripe	Not an NCDOT maintained road
4	**North Wall Street**	Vance St.	Elizabeth St.	500	40	Sharrows	Stripe	Yes
5	**Main Street**	Wall St.	College St.	490	46	Sharrows	Stripe	Not an NCDOT maintained road
6	**Sampson Street**	College St.	McKoy St.	5,700	24 to 30	Signed Bicycle Route	Signed Bicycle Segment	Not an NCDOT maintained road
7	**McKoy Street**	Sampson St.	Northwest Blvd.	1,800	36	Bicycle Lanes	Stripe	Yes
8	**Northwest Boulevard**	Mckoy St. @ Sampson St.	City Limit	9,800	25 to 62	Bicycle Lanes and Signed Bicycle Route	Stripe & Signs	Yes
9	**North Boulevard**	Northeast Blvd.	Beaman St.	5,400	62	Bicycle Lanes	Stripe	Yes
10	**Beaman Street**	US 701/Isaac Weeks Road	College St.	6,700	36	Road Diet & Bicycle Lanes	Road diet & stipe	Yes
11	**College Street**	US 701	Sampson St.	4,300	40	Bicycle Lanes	Stripe & Signs	Yes
12	**Warsaw Road**	US 701	College St.	3,000	45	Bicycle Lanes	Stripe & Signs	Yes
13	**Morisey Boulevard**	Warsaw Rd.	Ferrell St.	3,400	40	Sharrows	Stripe	Yes
14	**US 701 Bus**	City Limit	City Limit	24,000	68 to 92	Bicycle Lanes	Road diet & stripe	Yes

Figure 3-7 (continued): Bicycle Network Improvements Table

No.	Bike Facility	From	To	Distance (in Feet)	Road Width	Recommendation	Construction Method	NCDOT Maintained
15	**Lisbon Street**	Butler Ave.	E. Main St.	3,400	40	Sharrows	Stripe	Yes
16	**Butler Avenue**	Lisbon St.	Ferrell St.	1,000	45	Bicycle Lanes	Stripe & Signs	Yes
17	**Ferrell Street**	Butler Ave.	Elizabeth St.	3,900	36	Bicycle Lanes	Stripe & Signs	Yes
18	**Elizabeth Street**	Lisbon St.	Sampson Middle/High School	8,300	20 to 35	Side Path, Bicycle Lanes, Sharrows	New pavement, stripe and signs	Yes
19	**SR 5**	Sunset/NC 24	Westover Road	2,900	32	Bicycle Lanes	Stripe & Signs	Yes
20	**Westover Road**	SR 5	Elizabeth Street	2,900	20 to 32	Signed Route	Signed Bicycle Segment	Yes
21	**Barden St.**	Lane St.	Fayetteville St/ Intersection with Susnset	3,200 Barden / 900 Fayetteville Portion	20 to 26	Bicycle Warning Signs	Bicycle Warning Signs	Not an NCDOT maintained road
22	**Johnson Street**	Beaman St.	Fayetteville St (via short segment on Williams Street)	2,795 Johnson / 390 Williams	32	Sharrows	Stripe	Yes

Priority Network Improvements

A total of seven projects from the aforementioned bicycle network improvements are considered to be high priorities for helping to complete the bicycle network and improve connectivity. As indicated through survey responses, field work and review by the Steering Committee, NCDOT, and City Staff, the following seven projects or areas were recognized as priorities over the next five to ten years:

- NC Highway 24 West / Sunset Avenue – Bicycle Lanes
- US 701 Business (Entire length) – Complete Street
- Fayetteville Street – Shared Lanes
- Beaman Street – Bicycle Lanes
- Downtown Area – Shared Lanes & Signage
- Elizabeth Street – Shared Lanes & Sidepath
- College Street – Bicycle Lanes

NC Highway 24 Project Details

The top priority project is to consider striping the new NC Highway 24 from Fayetteville Street to Coharie Road to include bicycle lanes. The proposed improvements, which are scheduled to begin in FY 2014, include sidewalks on both sides of the road, access management, marked crosswalks at signalized intersections and pedestrian signals and signage at major intersections. Bicyclists will most likely utilize the sidewalk facilities if bicycle lanes are not designated during this extensive project. By narrowing all of the travel lanes across the new street section to accommodate bicycle lanes, motorists may be more likely to follow the posted 35 mph speed limit with the physical constraints of the more narrow lanes. This improvement should help to create a safer environment for bicyclists and improve overall vehicular safety by helping reduce vehicular travel speeds. One major barrier will be movement underneath Faircloth Freeway. More experienced bicyclists may continue underneath the freeway in the outer lane or less experienced bicyclists may consider dismounting the bicycle and crossing by foot utilizing the planned pedestrian connection under the freeway. If bicycle lanes are not included, warning signage should be installed to alert motorists to potential bicycle traffic.

US 701 Business Improvements

The second highest priority roadway identified was US 701 Business. Traffic volumes have decreased along US 701 Business in the most traveled areas by 2,000 to 3,000 AADT since 2005. The US 701 Business roadway is predominantly a five lane facility that expands to eight lanes in the vicinity of its intersection with NC 24. The massive expanse of this five lane facility is a barrier to bicycle and pedestrian connectivity and the number of lanes present may not be needed to move the traffic generated along this roadway. Several recent trends have emerged in transportation planning that, when coupled together provide a more efficient transportation network that also enhances the visual environment and vitality of surrounding neighborhoods and businesses. The two primary trends are “Road Diets” and “Complete Streets.” The road diet narrows unneeded or excessive road lanes, while the complete streets concept encourages the use of all modes of travel along transportation corridors. As noted in the Pedestrian Plan, prior to any future improvement or resurfacing projects along US 701 Business, a detailed study of this corridor should be completed that analyzes traffic generators and volumes, as well as the physical parameters of the roadway to determine its potential for a road diet and a “complete street” plan similar to the concept shown in Figure 3-8. Completing this corridor study and analysis will help revitalize the corridor by ensuring it is a bicycle/pedestrian-friendly and business-friendly environment along US 701 Business once implemented.

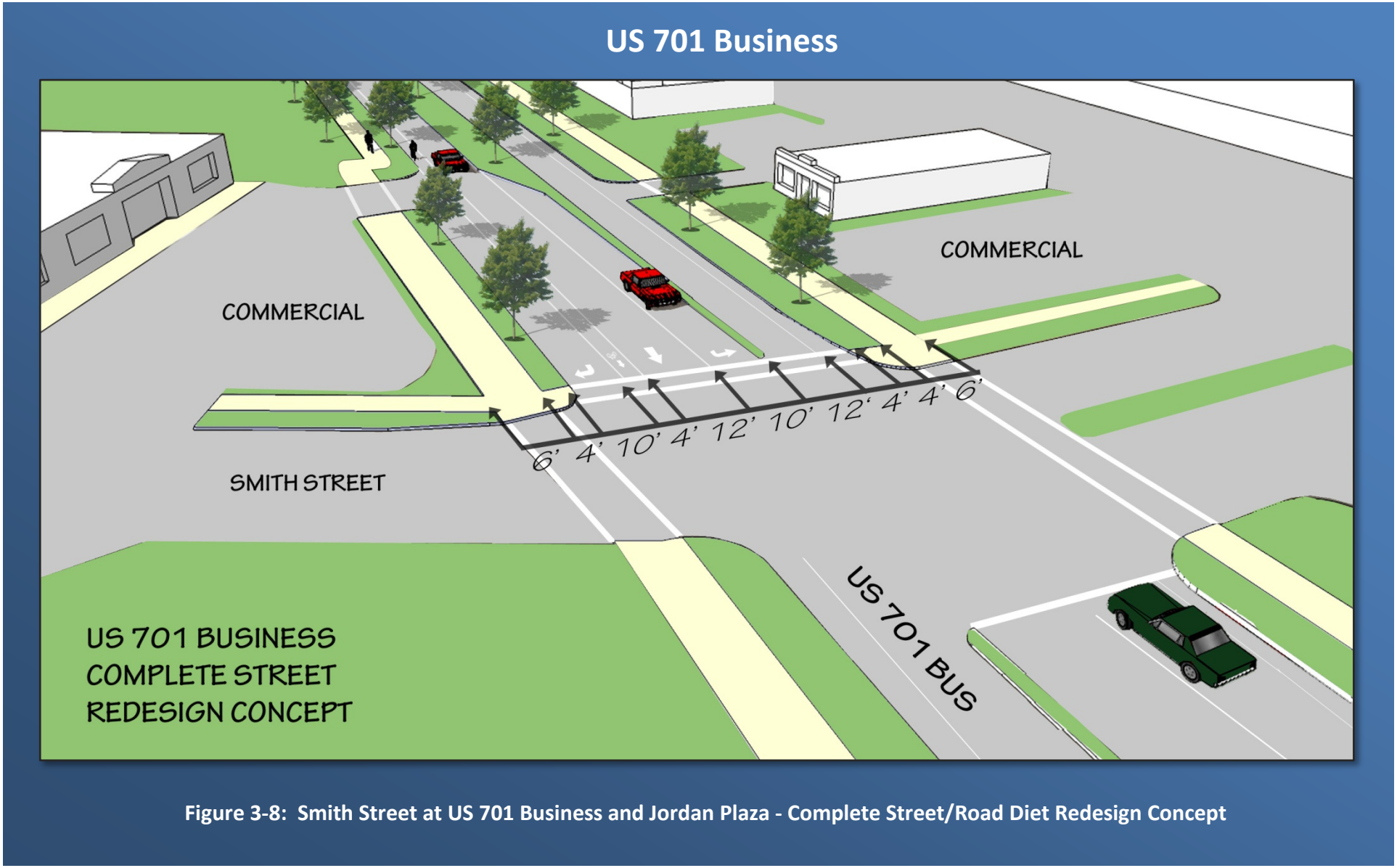


Figure 3-8: Smith Street at US 701 Business and Jordan Plaza - Complete Street/Road Diet Redesign Concept

Fayetteville Street

When the Sunset Avenue / NC 24 project is completed, bicycle traffic will be directed into downtown, completing a major linear spine that connects downtown to neighborhoods, schools, commercial areas, parks and the community college. As demonstrated in the images below, with parallel parking existing along Fayetteville Street, shared lanes marked by sharrows are recommended to alert drivers of bicyclist traffic. The speed limits are suitable for shared lanes with goal of maintaining the important on street parking along this segment.

Fayetteville Street Shared Lanes Marked With Sharrows

Figure 3-9: US 701/421 Intersection Improvements - Step One

Downtown

Bicycle traffic navigates the downtown courthouse square on a regular basis. However, a clear circulation route has not been defined to safely navigate through and around the square. When approaching from Fayetteville Street, it is recommended that less experienced bicyclists continue through the square following a shared lane along North Wall Street, making a slight detour around Main Street to Elizabeth Street. Bicyclists will then turn left onto Elizabeth Street, connecting to Lisbon Street where bicycle traffic will proceed left to connect back into Main Street at the square. However, bicyclists may move directly through the square as an alternate route for more experienced riders. Angled parking is present along the inner and outer lanes, which presents potentially unsafe conditions for inexperienced riders. Appropriate warning signage is needed to alert bicyclists and motorists. Once Main Street passes Lisbon the angled parking turns into parallel parking, enabling safer bicycling from Lisbon Street around the remainder of the square. Please refer to figure 3-6: Downtown Bicycle Traffic Circulation.

Downtown Shared Lanes Marked With Sharrows

Figure 3-10: Shared Lanes through downtown marked with sharrows.

Beaman Street

This street connects commercial and residential areas along the north end of the city to the hospital, Wellness Center, and downtown. NCDOT currently has plans to widen the northern two-lane portion to three lanes, which will include widening the bridge across Old Williams Mill Branch to match the current three lane cross-section. This plan recommends working with NCDOT to amend the 3-lane widening plan to incorporate bicycle lanes and pedestrian improvements recommended from the pedestrian plan, while concurrently road dieting the existing three-lane portions of Beaman Street to include bicycle and pedestrian facilities.

Beaman Street Road Diet and Bicycle Lanes

Figure 3-11: This image illustrates how Beaman Street can be transformed to allow bicycle lanes through a "road diet."

Elizabeth Street

The completion of the shared use sidepath described in the pedestrian plan, which connects the core of the city with the new middle and high schools in the southwestern corner of the city, allows for a safe bicycle transportation connection as well. The primary barriers along this route are the approaches to the bridge crossing US 701, which have guardrails and steep drop-offs on either side of the road. Once beyond the bridge, the conditions are very favorable to complete the network using a shared use path as illustrated in Figure 3-12.

Elizabeth Street Shared Use Sidepath

The image to the right displays a potential shared use sidepath connecting downtown with Clinton's middle and high schools. The path will provide safe biking and walking options for school children and for residents seeking recreation and fitness opportunities. The roundabout terminating at the schools is already equipped with pedestrian facilities.

Figure 3-12: Elizabeth Street Shared Use Sidepath

College Street

College Street is a main arterial that helps connect downtown with nearby historic neighborhoods. The land uses along the corridor are a mix of commercial, office and residential. The street will collect bicycle traffic from Beaman Street, Warsaw Road and US 701 Business when it becomes a complete street in the future. This project will connect bicyclists moving away from and into the courthouse square area. The City will need to work closely with NCDOT as several areas along College Street will be difficult to establish a full bicycle lane. In areas where the existing width prohibits a full bicycle lane, guidelines for establishing a shared lane will need to be considered.

College Street Bicycle Lanes

Figure 3-13: Illustration of College Street Bicycle Lane

Project 1 Detail: Sunset Avenue / NC 24	
From / To	N. Coharie Dr. / Fayetteville St.
Facility Type	Bicycle Lane
Method	New Construction / Stripe 2 lanes
Miles / Feet	2.24 miles / 11,850’
Trip Generators	Commercial Areas, Royal Lane Park, Community College, and connector to downtown and residential areas.
Development/ Funding	Work with NCDOT to include in current project without delaying overall project.
Ownership	NCDOT Roadway
Lane Configuration	4 Lane w/Center Turn (68’ – 104’): 12 | 12 | 14 | 12 | 12
Proposed Configuration	4 Lane w/ Center Turn and Bicycle Lanes (68’): 4 | 12 | 12 | 12 | 12 | 12 | 4
Constraints	City and NCDOT do not want further delays on the widening project. No known ROW constraints for what is recommended.
Comments	This facility will have sidewalks. Bicyclists will be inclined to utilize sidewalks without the presence of bike lanes.

Estimated Costs		
$14,220	$0.6/ft	2 Lanes, 4 inch stripes
$8,500	$250 ea.	34 Bike Symbol Markings (Start Stop & at Intersections)
$3,500	$250 ea.	14 Signs
$26,220		TOTAL ESTIMATE (without contingency)
$3,933		15% Contingency
$30,155		TOTAL ESTIMATE

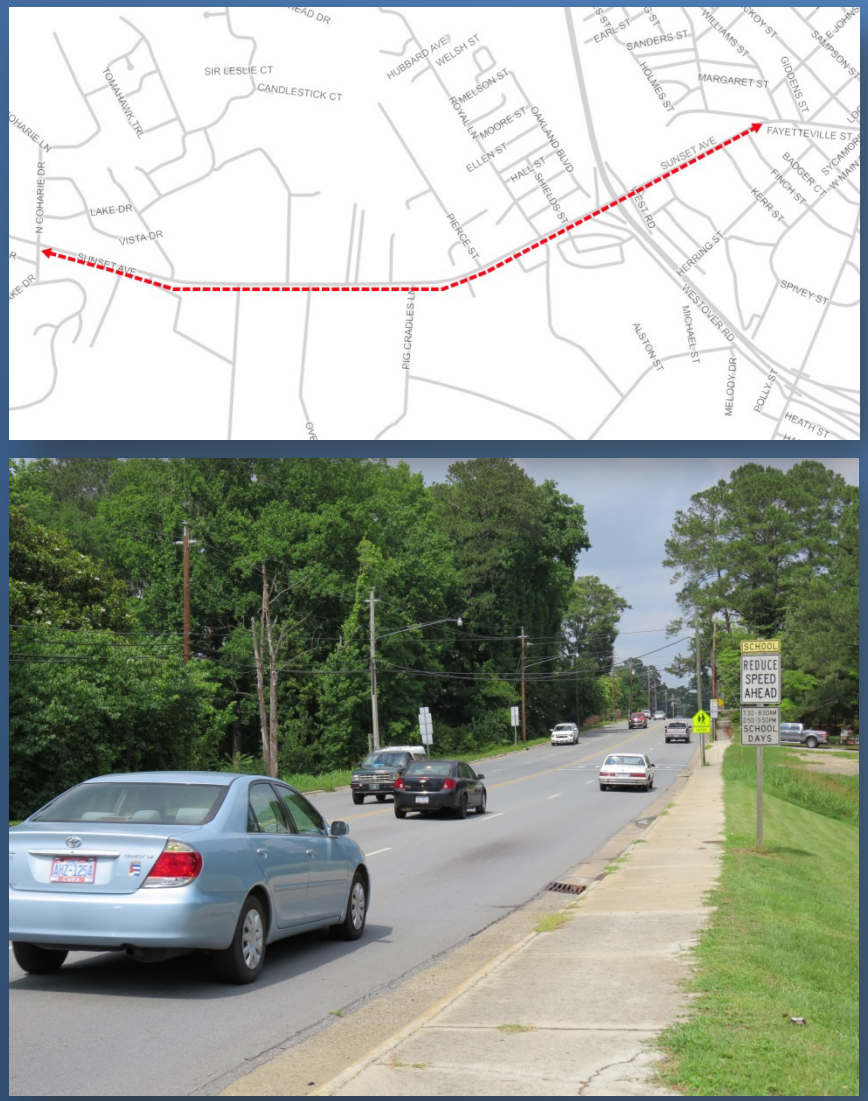


Figure 3-14: NC Highway 24/Sunset Avenue

Project 2 Detail: Fayetteville Street	
From / To	Sunset Avenue to South Wall Street / Vance Street
Facility Type	Shared-lanes / Sharrows
Method	New Construction / Sharrow – Share Lane Markings
Miles / Feet	0.28 miles / 1,500’
Trip Generators	Downtown, School, Connector to NC 24/Sunset Ave destinations and residential areas
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for shared lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	2 Lane and on-street parallel parking (40’): 9 | 11 | 11 | 9
Proposed Configuration	2 Lane and on-street parking and sharrows (40’): 9 | 11 | 11 | 9
Constraints	No known ROW or other constraints for what is recommended.
Comments	This is a low cost opportunity to designate bicycle route into downtown.

Estimated Costs		
$1,500	$250 ea.	6 Sharrow Markings (Start Stop & after Intersections)
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$2,500		TOTAL ESTIMATE (without contingency)
$375		15% Contingency
$2,875		TOTAL ESTIMATE

Figure 3-15: NC Highway 24/Sunset Avenue

Project 3 Detail: Vance Street	
From / To	Wall St. / Sampson St.
Facility Type	Shared Lanes / Sharrows
Method	New Construction / Sharrow – Share Lane Markings
Miles / Feet	0.087 miles / 460’
Trip Generators	Downtown bicycle network
Development/ Funding	Local CIP funding for shared lane markings and signage
Ownership	City of Clinton
Lane Configuration	2 Lane and on-street parallel parking (30’): 11 | 11 | 8
Proposed Configuration	2 Lane and on-street parking and sharrows (30’): 11 | 11 | 8
Constraints	No known ROW or other constraints for what is recommended.
Comments	This is a low cost opportunity to designate bicycle route around courthouse.

Estimated Costs		
$500	$250 ea.	2 Sharrow Markings (Start Stop & after Intersections)
$500	$250 ea.	2 Signs (start/stop & after major intersections)
$1,000		TOTAL ESTIMATE (without contingency)
$150		15% Contingency
$1,150		TOTAL ESTIMATE

Figure 3-16: NC Highway 24/Sunset Avenue

Project 4 Detail: North Wall Street	
From / To	Vance St. / Elizabeth St.
Facility Type	Shared Lanes / Sharrows
Method	New Construction / Sharrow – Share Lane Markings
Miles / Feet	0.095 miles / 500’
Trip Generators	Downtown bicycle network
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for shared lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	3 Lane w/ 2 inner lanes circulating around courthouse with outside lane passing through straight (40’): 10 | 11 | 11 | 8
Proposed Configuration	Maintain Existing and add Shared-Lane makings (40’): 10 | 11 | 11 | 8
Constraints	No known ROW or other constraints for what is recommended.
Comments	Inexperienced bicyclists will be encouraged to continue straight through the courthouse square, while more experienced bicyclists can continue around the square.

Estimated Costs		
$750	$250 ea.	3 Sharrow Markings (Start Stop & after Intersections)
$750	$250 ea.	3 Signs (start/stop & after major intersections)
$1,500		TOTAL ESTIMATE (without contingency)
$225		15% Contingency
$1,725		TOTAL ESTIMATE

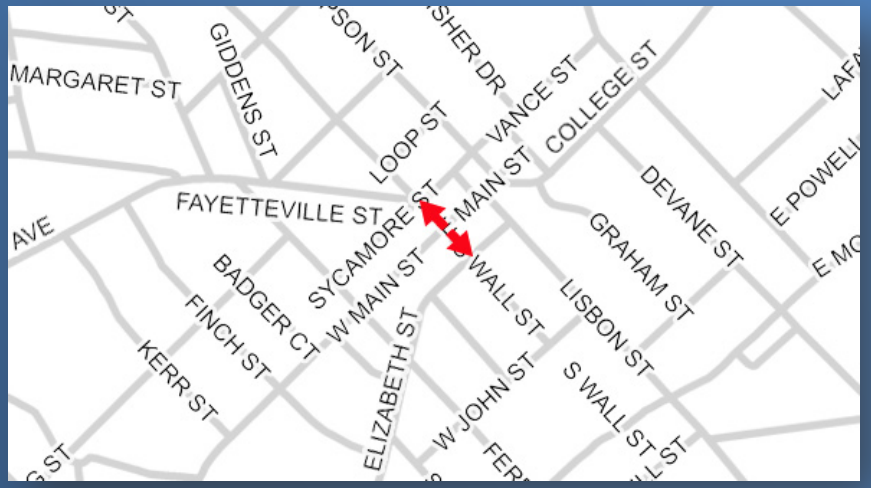


Figure 3-17: Wall Street Shared-Lane Concept directing bicycle traffic one block up to Elizabeth Street

Project 5 Detail: Main Street		
From / To	Lisbon St. / Sampson St. & College St.	
Facility Type	Shared Lanes / Sharrows	
Method	New Construction / Sharrow – Shared Lane Markings	
Miles / Feet	0.093 miles / 490’	
Trip Generators	Downtown bicycle network	
Development/ Funding	Local CIP funding for shared lane markings and signage	
Ownership	City of Clinton	
Lane Configuration	2 inner lanes circulating around courthouse, 1 right turn lane to College St. – 2 lanes of parallel parking (46’): 8 | 10 | 10 | 10 | 8	
Proposed Configuration	Maintain Existing and add Shared-Lane makings for the outside turn lane for College Street and outside turn land for Sampson Street (46’): 8 | 10 | 10 | 10 | 8	
Constraints	No known ROW or other constraints for what is recommended.	
Comments	City to consult with NCDOT DBPT to determine placement.	
Estimated Costs		
$500	$250 ea.	2 Sharrow Markings (Start Stop & after Intersections)
$500	$250 ea.	2 Signs (start/stop & after major intersections)
$1,000		TOTAL ESTIMATE (without contingency)
$150		15% Contingency
$1,150		TOTAL ESTIMATE

Figure 3-18: Example Illustration of shared lanes on Main Street.

Project 6 Detail: Sampson Street	
From / To	College St. / McKoy St.
Facility Type	Shared Lanes / Sharrows and Signed Routing
Method	Sign Installation / Sharrow – Share Lane Markings
Miles / Feet	Downtown (0.38miles/200') Signed Route (1.04 miles / 5,500')
Trip Generators	Downtown, Park, and residential areas
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for shared lane markings and signage
Ownership	City of Clinton
Lane Configuration	Downtown: 8 | 9 | 9 (26' width) Signed Route: 15 | 15 and 12| 12 (30' to 24' width)
Proposed Configuration	Maintain Existing lane configurations and add Shared-Lane makings.
Constraints	No known ROW or other constraints for what is recommended.
Comments	Sharrows from College St. to Vance St. (consider to Johnson). Install signs along Sampson Street from Vance to McKoy. Consider destination signage as system segments are connected.

Estimated Costs		
$500	$250 ea.	2 Sharrow Markings (Start Stop & after Intersections)
$500	$250 ea.	2 Signs (start/stop & after major intersections)
$1,250	$250 ea.	5 Bicycle Route Signs (Green)
$2,250		TOTAL ESTIMATE (without contingency)
$338		15% Contingency
$2,588		TOTAL ESTIMATE

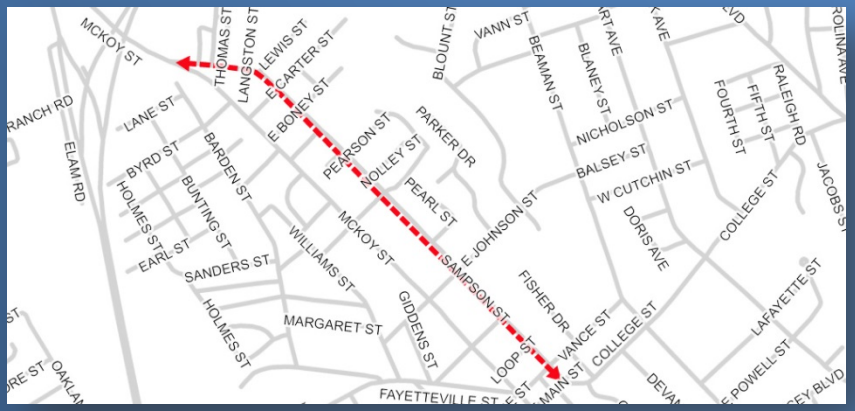


Figure 3-19: Photo rendering of Sampson Street Bicycle Route

Project 7 Detail: McKoy Street		
From / To	Sampson St. / Northwest Blvd.	
Facility Type	Bicycle Lanes	
Method	Stripe Bicycle Lanes	
Miles / Feet	0.34 miles / 1,800’	
Trip Generators	Shopping, Downtown, Recreation routes, neighborhoods	
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage	
Ownership	NCDOT Roadway	
Lane Configuration	2 lane travel way with wide shoulder (36’): 13 | 13 | 10	
Proposed Configuration	Restripe roadway to accommodate bicycle lanes (36’): 6 | 12 | 12 | 6	
Constraints	No known ROW or other constraints for what is recommended.	
Comments	Lanes should be striped when roadway is scheduled for paving.	
Estimated Costs		
$2,160	$0.6/ ft.	2 Bike Symbol Markings (Start Stop & after Intersections)
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$2,000	$2,000	High Visibility ladder style crosswalk at Sampson St.
$5,160		TOTAL ESTIMATE (without contingency)
$774		15% Contingency
$5,934		TOTAL ESTIMATE

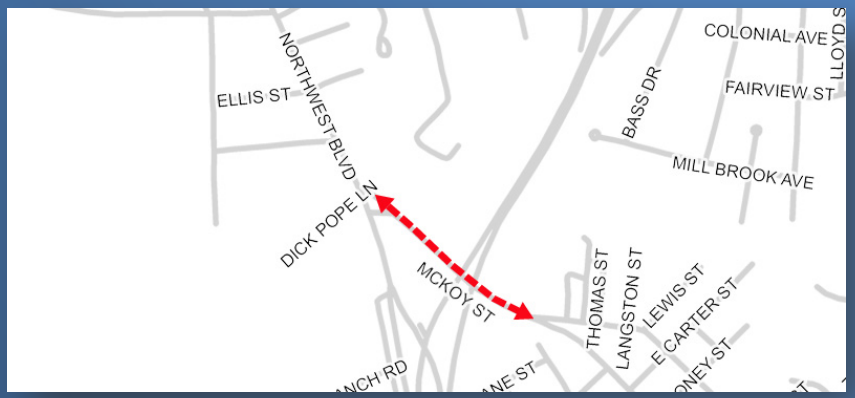


Figure 3-20: McKoy Street – Existing Conditions.

Project 8 Detail: Northwest Boulevard	
From / To	McKoy St. / City Limits
Facility Type	Bicycle Lanes
Method	New Construction / Bicycle Lanes
Miles / Feet	1.86 miles / 9,800’
Trip Generators	Recreational routes outside of town, North Boulevard Shopping, rural/suburban neighborhoods, link to downtown from northwest.
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	5 lane facility with center turn lane (62’), narrows to 3 lane facility (36’) after Industrial Drive, then, to two way traffic at Village Drive (25’).
Proposed Configuration	Maintain Existing makings for 3 lane and 2 lane; change 5 lane facility to accommodate bike lanes: 6 | 10 | 10 | 10 | 10 | 10 | 6 Road Diet may also be an option.
Constraints	No known ROW or other constraints for what is recommended.
Comments	Lanes should be striped when roadway is scheduled for paving.

Estimated Costs		
$2,000	$250 ea.	8 Bike Symbol Markings (Start Stop & after Intersections)
$2,000	$250 ea.	8 Signs (start/stop & after major intersections)
$3,930	$0.6/ ft.	Bike lanes (3,275’ (x2) – 5 lane facility)
$2,000	$2,000	High Visibility ladder style crosswalk at McKoy St.
$9,930		TOTAL ESTIMATE (without contingency)
$1,490		15% Contingency
$11,420		TOTAL ESTIMATE

Figure 3-21: Northwest Boulevard – Existing Conditions.

Project 9 Detail: North Boulevard		
From / To	Northwest Blvd / Beaman St	
Facility Type	Bicycle Lanes	
Method	New Construction / Bicycle Lanes	
Miles / Feet	1.02 miles / 5,400’	
Trip Generators	Residential areas, shopping areas	
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage	
Ownership	NCDOT Roadway	
Lane Configuration	5 lane facility with center turn lane (62’): 12 | 12 | 14 | 12 | 12	
Proposed Configuration	Restripe to accommodate bicycle lanes (62’): 6 | 10 | 10 | 10 | 10 | 10 | 6	
Constraints	No known ROW or other constraints for what is recommended.	
Comments	Lanes and intersections should be striped when roadway is scheduled for paving.	
Estimated Costs		
$2,500	$250 ea.	10 Bike Symbol Markings (Start Stop & after Intersections)
$1,500	$250 ea.	6 Signs (start/stop & after major intersections)
$6,480	$0.6/ ft.	Bike lanes
$10,480		TOTAL ESTIMATE (without contingency)
$1,572		15% Contingency
$12,052		TOTAL ESTIMATE

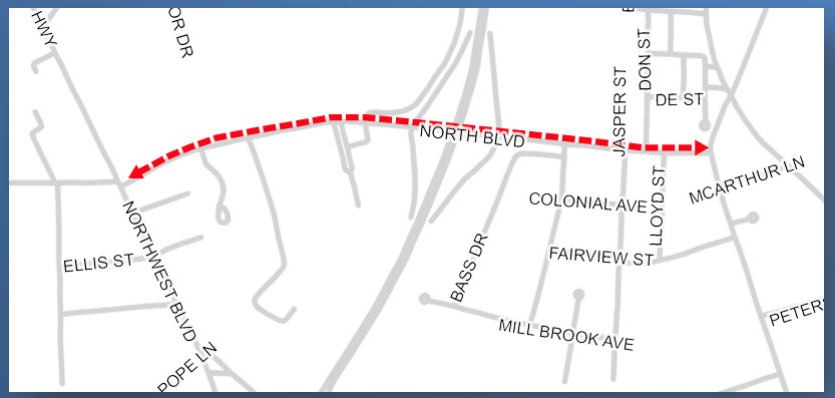


Figure 3-22: North Boulevard – Existing Conditions

Project 10 Detail: Beaman Street	
From / To	College St. / US 701 Bus
Facility Type	Bicycle Lanes
Method	New Construction / Bicycle Lanes
Miles / Feet	1.27 miles / 6,700’
Trip Generators	Downtown, Park, Health & Wellness Center, Hospital, Medical Offices, shopping and residential areas
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	3 Lane facility with center turn lane (36’): 12 | 12 | 12 2 lane travel way beyond Old Williams Mill Branch (24’)
Proposed Configuration	Restripe (road diet) to accommodate bike lanes (36’): 6 | 12 | 12 | 6 Amend 3 lane widening plan with NCDOT
Constraints	No known ROW or other constraints for what is recommended.
Comments	Lanes should be striped when roadway is scheduled for paving and new bridge installed over Old Williams Mill Branch.

Estimated Costs		
$3,000	$250 ea.	12 Bike Symbol Markings (Start Stop & after Intersections)
$2,000	$250 ea.	5 Signs (start/stop & after major intersections)
$8,040	$0.6/ ft.	Bike lanes
$13,040		TOTAL ESTIMATE (without contingency)
$1,956		15% Contingency
$14,996		TOTAL ESTIMATE

Figure 3-23: Example Illustration of Beaman Street Road Diet with Bicycle Lanes.

Project 11 Detail: College Street		
From / To	Sampson St. / US 701 Bus	
Facility Type	Bicycle Lanes	
Method	New Construction / Bicycle Lanes	
Miles / Feet	0.81 miles / 4,300’	
Trip Generators	Downtown, shopping and residential areas	
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage	
Ownership	NCDOT Roadway	
Lane Configuration	3 Lane facility with center turn lane (38’ to 40’): 13 | 11 | 13 (gutter is approximately 1.6’ on each side) 2 lane facility for portions beyond Beaman (38’ to 40’)	
Proposed Configuration	Restripe to accommodate for bicycle lanes (38’ to 40’): 5 | 10 | 10 | 10 | 5 Actual bicycle lane will be approximately 4’.	
Constraints	Full bicycle lanes may be difficult in some locations. Work closely with NCDOT on possible shared lane alternatives.	
Comments	Lanes should be striped when roadway is scheduled for paving.	
Estimated Costs		
$4,000	$250 ea.	16 Bike Symbol Markings (Start Stop & after Intersections)
$2,000	$250 ea.	8 Signs (start/stop & after major intersections)
$5,160	$0.6/ ft.	Bike lanes
$11,160		TOTAL ESTIMATE (without contingency)
$1,674		15% Contingency
$12,834		TOTAL ESTIMATE

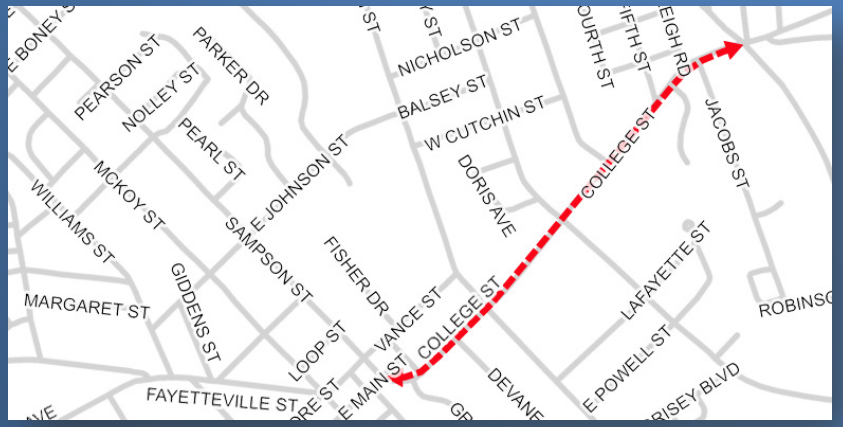


Figure 3-24: Potential Bike Lanes along College Street

Project 12 Detail: Warsaw Road	
From / To	US 701 Bus / College St.
Facility Type	Bicycle Lanes
Method	Bicycle Lanes
Miles / Feet	0.57 miles / 3,000’
Trip Generators	Neighborhoods, Employment, Shopping
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	2 way travel with 10’ striped shoulders (45’): 10 | 12.5 | 12.5 | 10
Proposed Configuration	Maintain Existing and add Shared-Lane makings (45’): 10 | 12.5 | 12.5 | 10
Constraints	No known ROW or other constraints for what is recommended. City may consider bike lanes and on-street parking due to the existing width.
Comments	Restriping at intersections only.

Estimated Costs		
$1,500	$250 ea.	6 Bike Symbol Markings (Start Stop & after Intersections)
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$120	$.6 / ft.	Striping at intersections (200’)
$2,520		TOTAL ESTIMATE (without contingency)
$378		15% Contingency
$2,898		TOTAL ESTIMATE

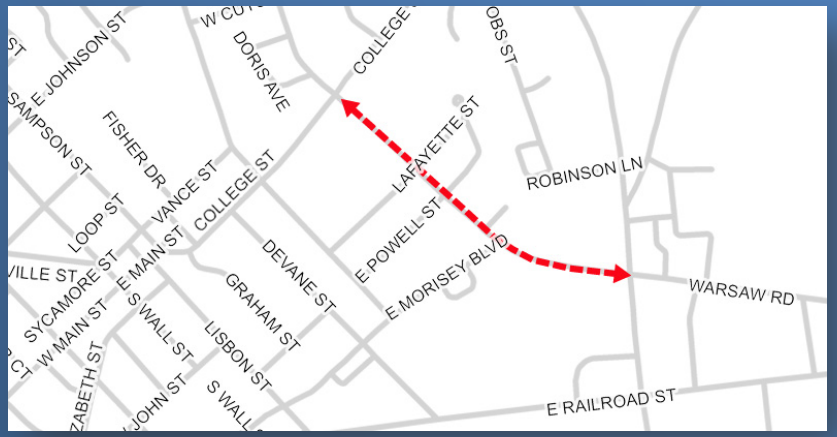


Figure 3-25: Existing Conditions – Warsaw Road

Project 13 Detail: Morisey Boulevard	
From / To	Ferrell St. / Warsaw Rd.
Facility Type	Shared Lane
Method	Shared Lane / Sharrows - Stripe
Miles / Feet	0.64 miles / 3,400’
Trip Generators	Neighborhoods and Park
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for shared lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	Two way traffic with parallel parking on each side (40’): 8| 12 | 12 | 8
Proposed Configuration	Maintain Existing and add Shared Lane makings (40’): 8| 12 | 12 | 8
Constraints	No known ROW or other constraints for what is recommended.
Comments	No comments

Estimated Costs		
$2,000	$250 ea.	8 Sharrow Markings (Start Stop & after Intersections)
$2,000	$250 ea.	8 Signs (start/stop & after major intersections)
$4,000		TOTAL ESTIMATE (without contingency)
$600		15% Contingency
$4,600		TOTAL ESTIMATE

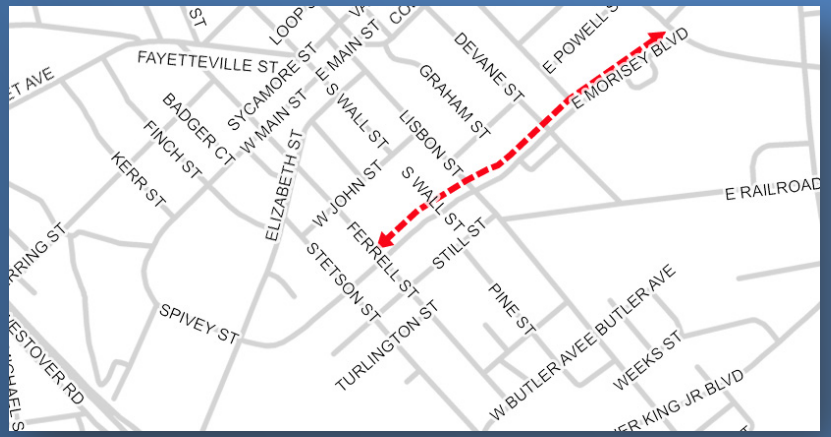


Figure 3-26: Morisey Boulevard – Existing Conditions

Project 14 Detail: US 701 Business	
From / To	City Limit to City Limit
Facility Type	Complete Street (Bicycle and Pedestrian Facilities
Method	New Construction / Bicycle Lanes
Miles / Feet	4.55 miles / 24,000’
Trip Generators	Shopping, Employment, School and Residential Areas
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	5 lane facility with center turn lane, with the segment between Warsaw Road and Martin King Luther King Jr. (the portion where NC24 and US 701 share the road) varying from 6 to 8 lanes.
Proposed Configuration	Complete Street Redesign Concept – Road Diet to incorporate sidewalks, bicycle lanes 2 travel lanes separated by median with left turn lanes at major intersections.
Constraints	No known ROW or other constraints for what is recommended.
Comments	This will entail a major corridor study prior to NCDOT repaving.

Estimated Costs		
$75,000		Estimated Cost of NCDOT Study

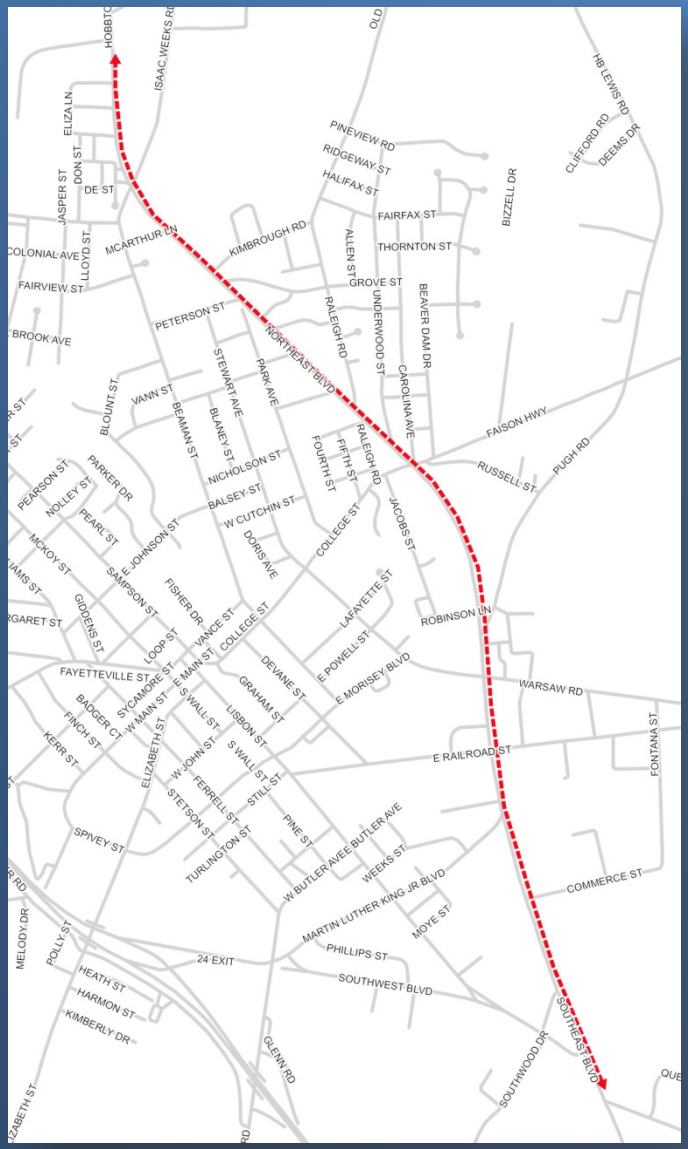


Figure 3-27: Map of US 701 Study Area for Complete Street Redesign Concept.

Project 15 Detail: Lisbon Street	
From / To	E. Main Street / Butler Ave.
Facility Type	Shared Lanes / Sharrows
Method	New Construction / Shared Lanes – Sharrow Markings
Miles / Feet	0.64 miles / 3,400’
Trip Generators	Downtown and Residential Areas
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for shared lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	Two way traffic with parallel parking on each side (40’): 8 | 12 | 12 | 8
Proposed Configuration	Maintain Existing and add Shared Lane makings (40’): 8 | 12 | 12 | 8
Constraints	No known ROW or other constraints for what is recommended.
Comments	Consider extension to Southeast Boulevard long-term.

Estimated Costs		
$1,250	$250 ea.	5 Sharrow Markings (Start Stop & after Intersections)
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$2,250		TOTAL ESTIMATE (without contingency)
$338		15% Contingency
$2,588		TOTAL ESTIMATE

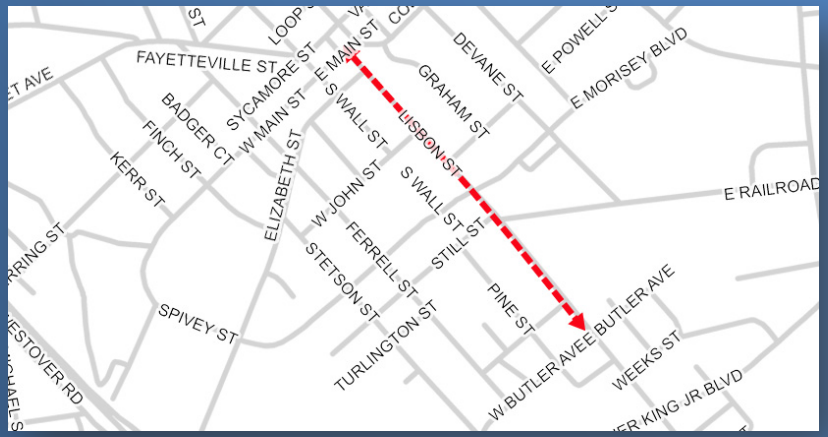


Figure 3-28: Lisbon Street – Existing Conditions

Project 16 Detail: Butler Avenue		
From / To	Ferrell St. / Lisbon St.	
Facility Type	Bicycle Lanes	
Method	New Construction / Bicycle Lanes	
Miles / Feet	0.19 miles / 1,000’	
Trip Generators	School, Park, and residential areas	
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage	
Ownership	NCDOT Roadway	
Lane Configuration	Two way travel (45’): 22 | 23	
Proposed Configuration	Maintain Existing and add bicycle lane makings (45’): 6 | 16 | 17 | 6	
Constraints	No known ROW or other constraints for what is recommended.	
Comments	Occasionally, roadsides are used for parallel parking.	
Estimated Costs		
$1,000	$250 ea.	4 Bike Symbol Markings (Start Stop & after Intersections)
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$1,200	$.6 / ft.	Bicycle Lane Striping
$3,200		TOTAL ESTIMATE (without contingency)
$480		15% Contingency
$3,680		TOTAL ESTIMATE

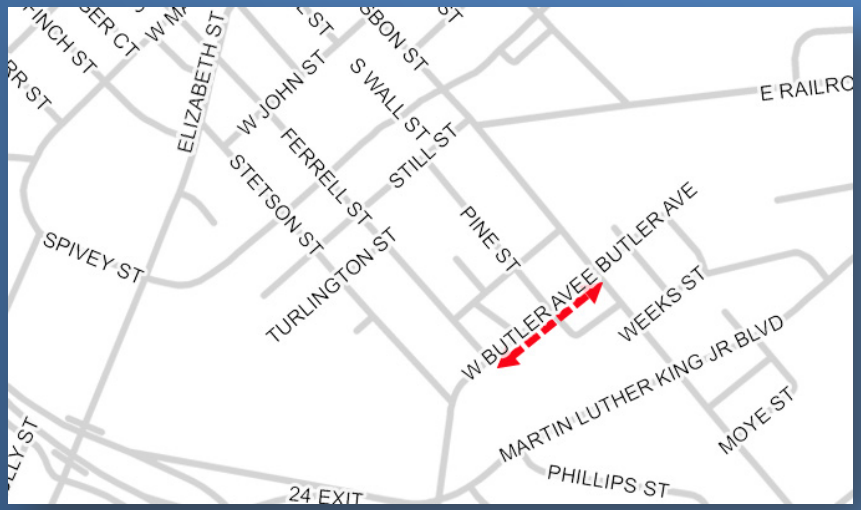


Figure 3-29: Butler Avenue – Existing Conditions

Project 17 Detail: Ferrell Street		
From / To	Butler Ave. / Elizabeth St.	
Facility Type	Bicycle Lanes	
Method	New Construction / Bicycle Lanes	
Miles / Feet	0.73 miles / 3,900’	
Trip Generators	Downtown, School, Park, and residential areas	
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage	
Ownership	NCDOT Roadway	
Lane Configuration	Two way travel (41’): 19| 19 (gutter pans are an additional 1.6’ on each side)	
Proposed Configuration	Maintain Existing and add bicycle lane markings (41’): 7 | 14 | 14 | 6	
Constraints	No known ROW or other constraints for what is recommended.	
Comments	Occasionally, roadsides are used for parallel parking.	
Estimated Costs		
$1,500	$250 ea.	6 Bike Symbol Markings (Start Stop & after Intersections)
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$4,680	$.6 / ft.	Bicycle Lane Striping
$7,180		TOTAL ESTIMATE (without contingency)
$1,077		15% Contingency
$8,257		TOTAL ESTIMATE

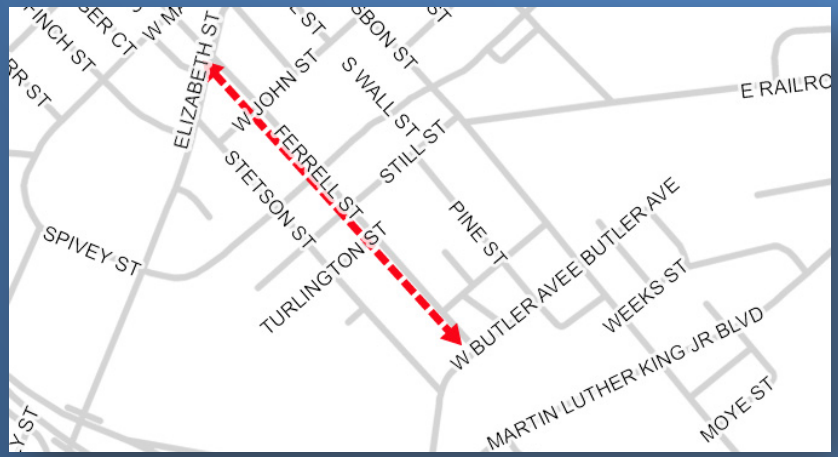


Figure 3-30: Ferrell Street next to Park.

Project 18 Detail: Elizabeth Street	
From / To	Lisbon St. / Indian Town Rd.
Facility Type	Shared Lanes / Shared Use Sidepath
Method	New Construction / Sidepath and Shared Lane Markings
Miles / Feet	Shared Lanes (0.21 miles / 1,100'); Sidepath (1.36 miles/7,200')
Trip Generators	Downtown, Park, Schools and residential areas
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for shared lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	Two way travel (20' – 35'):
Proposed Configuration	Maintain Existing, add Shared-Lane makings and sidepath.
Constraints	Stormwater drainage from S. Chestnut to bridge improvements to make sidepath along south side feasible (change from Pedestrian Plan).
Comments	Shared Lanes from S. Chestnut St. to Lisbon St. / Sidepath from S. Chestnut St. to Indian Town Rd. Approaches to bridge over US 421/Faircloth Freeway are potential obstacles for sidepath.

Estimated Costs		
$2,000	$250 ea.	8 Bike Symbol Markings (Start Stop & after Intersections)
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$792,000	$110/ft.	Sidepath
$795,000		TOTAL ESTIMATE (without contingency)
$119,250		15% Contingency
$914,250		TOTAL ESTIMATE

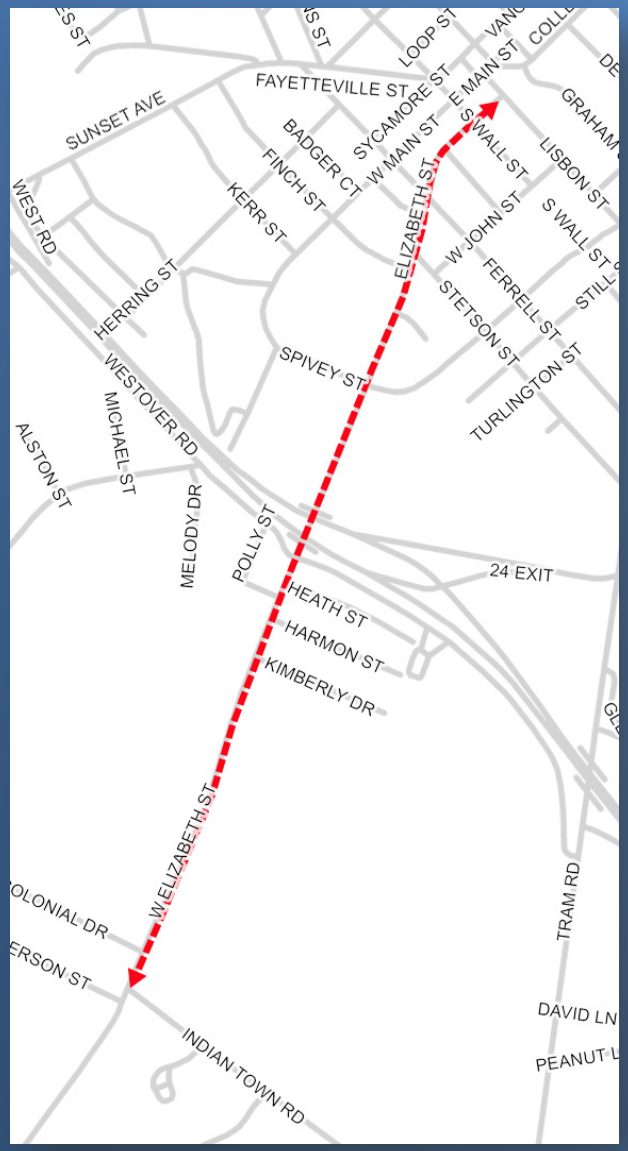
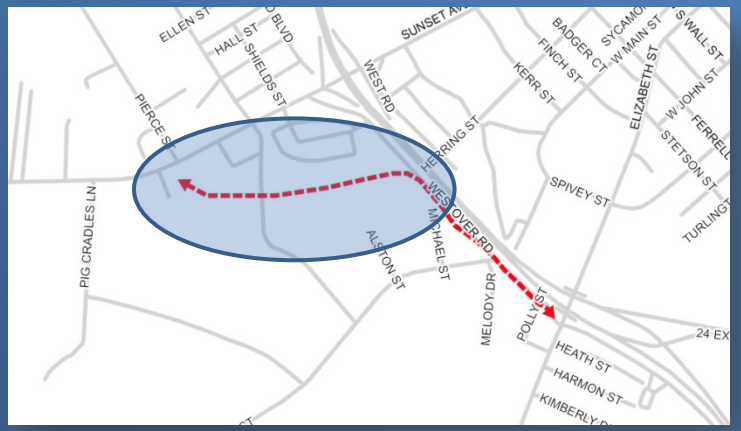


Figure 3-31: Elizabeth Street Improvement Area

Project 19 Detail: SR 5	
From / To	Westover Road / Sunset Ave – NC 24
Facility Type	Bicycle Lanes
Method	New Construction / New Street / Bicycle Lanes
Miles / Feet	0.55 miles / 2,900’
Trip Generators	Shopping Areas, Park, Employment and Neighborhoods
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle lane markings and signage
Ownership	NCDOT Roadway
Lane Configuration	Two way travel (32’) Not yet constructed / Part of NC 24 Improvements
Proposed Configuration	Maintain Existing and add Shared-Lane makings (40’): Incorporate 4’to 6’ wide bicycle lanes during final construction.
Constraints	No known ROW or other constraints for what is recommended.
Comments	Meet with NCDOT as soon as possible to incorporate this addition.

Estimated Costs		
$1,000	$250 ea.	4 Bike Symbol Markings (Start Stop & after Intersections)
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$3,480	$.6 / ft.	Bicycle Lane Striping
$5,480		TOTAL ESTIMATE (without contingency)
$822		15% Contingency
$6,302		TOTAL ESTIMATE



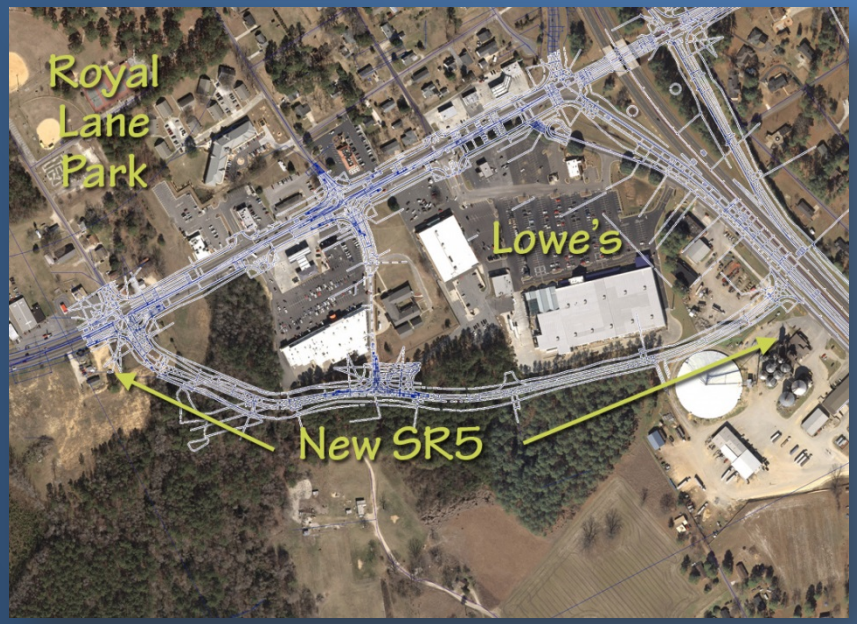


Figure 3-32: Illustration of New SR5 Location

Project 20 Detail: Westover Road	
From / To	New SR 5 / Elizabeth St.
Facility Type	Signed Route
Method	Install Bicycle Route Signs
Miles / Feet	0.55 miles / 2,900’
Trip Generators	Shopping Areas, Park, Employment and Neighborhoods
Development/ Funding	Encroachment Agreement from Local NCDOT. Local CIP funding for bicycle signage
Ownership	NCDOT Roadway
Lane Configuration	Two way travel (20’ to 32’)
Proposed Configuration	Maintain Existing and add Bicycle Segment Signage
Constraints	No known ROW or other constraints for what is recommended.
Comments	When roadway is scheduled for paving, evaluate traffic from SR5 improvements and access needs at that time for bicycle lane striping. Consider destination signage as system segments are connected.

Estimated Costs		
$1,000	$250 ea.	4 Signs (start/stop & after major intersections)
$1,000		TOTAL ESTIMATE (without contingency)
$150		15% Contingency
$1,150		TOTAL ESTIMATE

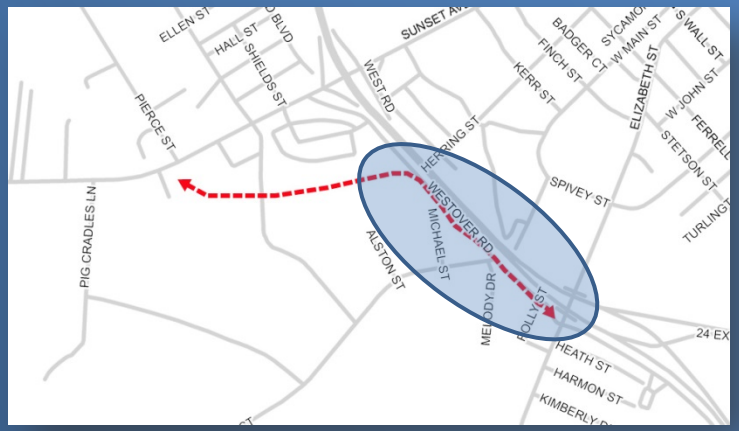


Figure 3-33: Westover Road – Existing Conditions

Project 21 Detail: Barden Street		
From / To	Lane St. / Fayetteville St. at Intersection with Sunset Ave.	
Facility Type	Bicycle & Pedestrian Warning Signage	
Method	Install Bicycle & Pedestrian Warning Signage	
Miles / Feet	Barden St. (0.6 miles / 3,200'); Fayetteville St. (.17 miles /900')	
Trip Generators	Neighborhoods and Park	
Development/ Funding	Local CIP funding for bicycle lane markings and signage	
Ownership	City of Clinton	
Lane Configuration	Two way travel (20' to 26')	
Proposed Configuration	Maintain Existing and install warning signs.	
Constraints	No known ROW or other constraints for what is recommended.	
Comments	Lanes are too narrow to add bicycle facilities. This is a high traffic pedestrian area as well.	
Estimated Costs		
$1,500	$250 ea.	6 Signs (Near major intersections)
$1,500		TOTAL ESTIMATE (without contingency)
$225		15% Contingency
$1,725		TOTAL ESTIMATE

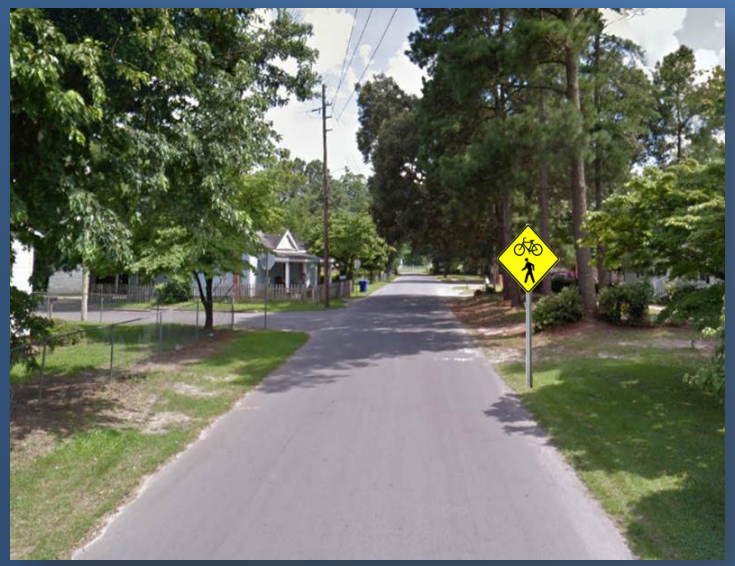


Figure 3-34: Example Illustration of Warning Signs on Barden Street

Project 21 Detail: Johnson Street		
From / To	Beaman Street to Williams Street to Fayetteville Street	
Facility Type	Shared Lanes / Sharrows	
Method	New Construction / Shared Lanes – Sharrow Markings	
Miles / Feet	Johnson St. (0.53 miles / 2,795'); Williams St. (.07 miles /390')	
Trip Generators	Neighborhoods, Wellness Center, east-west connector	
Development/ Funding	Local CIP funding for shared lane markings and signage	
Ownership	NCDOT	
Lane Configuration	Two way travel (32') with parallel parking on one side 12 | 12 | 8	
Proposed Configuration	Maintain Existing and install warning signs. 12 | 12 | 8	
Constraints	No known ROW or other constraints for what is recommended.	
Comments	Lanes are too narrow to add bicycle facilities without removing parallel parking. This is a high traffic pedestrian area as well.	
Estimated Costs		
$2,500	$250 ea.	10 Sharrow Markings (Start Stop & after Intersections)
$1,500	$250 ea.	6 Signs (start/stop & after major intersections)
$4,000		TOTAL ESTIMATE (without contingency)
$600		15% Contingency
$4,600		TOTAL ESTIMATE

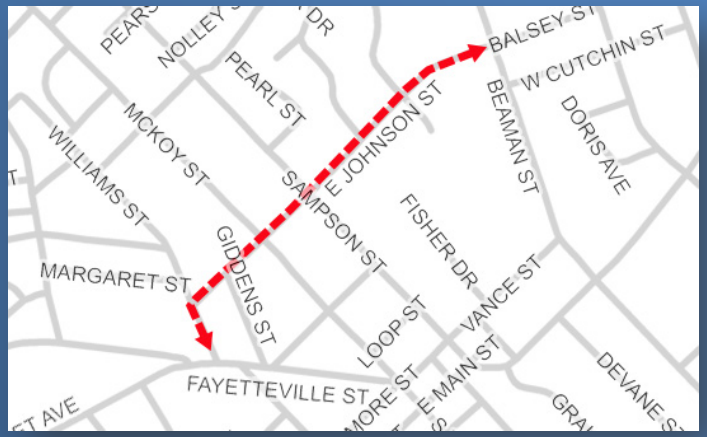


Figure 3-35: View of Wellness Center from East Johnshon Street

Intersection Improvements

During the pedestrian planning process, several key intersections were identified that needed improvements for safe crossings by pedestrians. Many of the recommended pedestrian intersection improvements will help facilitate safer connections for bicyclists in the bicycle network plan as well. While many of the bicyclists that will utilize the various bicycle routes identified in this plan will be experienced riders, many riders may not be as experienced and may prefer to dismount and use pedestrian crosswalks at major intersections. Design considerations are noted extensively in the pedestrian plan and in the appendix of this plan. The five main intersection areas needing specific improvements concerning bicyclist safety are as follows:

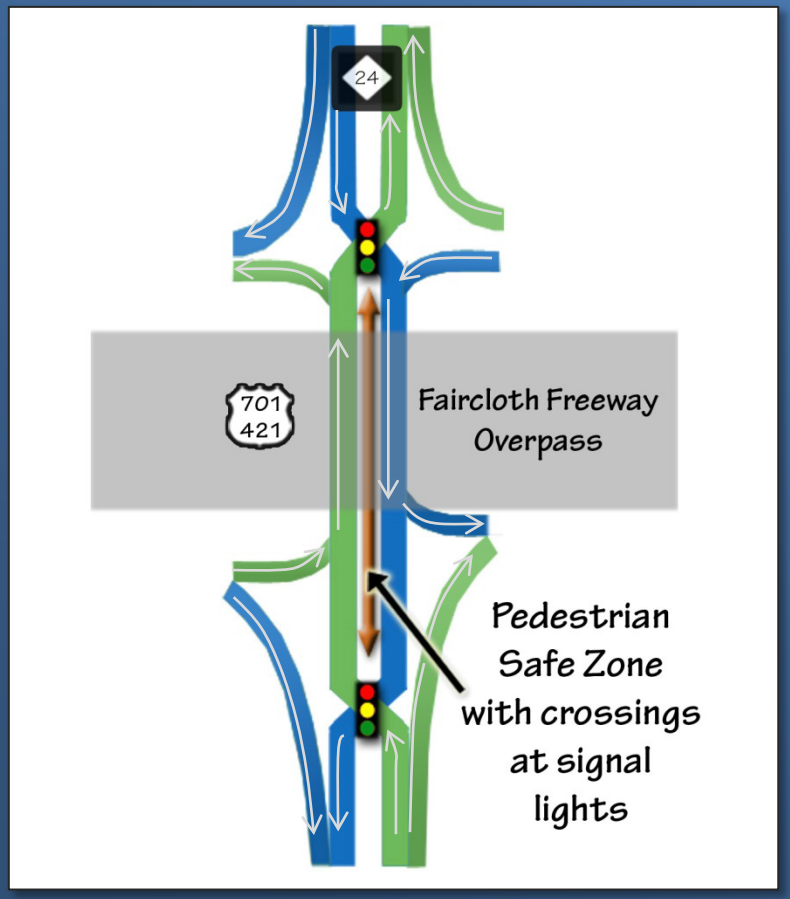
Proposed Intersection Improvements

1. NC 24 at US 701/421/Faircloth Freeway
2. Fayetteville Street (Several Locations)
3. Northwest Boulevard at North Boulevard
4. North Boulevard at Beaman Street
5. Northeast Boulevard (to be addressed as part of the complete street / road diet study)

NC Highway 24 West Intersection with US 701/421 (Faircloth Freeway)

During the pedestrian plan process a series of proposed intersection improvements involved a comprehensive approach to resolve a series of immediate safety issues that were identified during the planning process. This area is a barrier for pedestrian and bicycle access to the western side of US 701/421 where there is a large commercial area and the City's primary park. The underpass itself is difficult to pass through for pedestrians and bicyclists due to space limitations and the absence of sidewalks and crosswalks. The overall concept in this area is to establish safe connections to and through the underpass / intersection. After meeting with NCDOT officials, a series of recommendations and action steps were prepared for this area that included a temporary sidewalk area along the southern side of NC 24 under the freeway that can serve as safe pedestrian and bicycle access until a more comprehensive solution can be implemented when it becomes time to replace and improve the bridge. At that time, the diverging diamond interchange concept was recommended for consideration to provide safer crossing for pedestrians and bicyclists.

US 701/421 Intersection with NC 24
Comprehensive Concept



In the diverging diamond interchange, concrete barriers, extra signage and additional pavement markers help guide motorists through this new interchange pattern. Pedestrians and less experienced cyclists cross safely at the signalized intersections and are protected by the concrete barriers through the middle of the roadway. Motorists entering the interchange are directed to the opposite side of the roadway after the first set of traffic lights. Highway bound traffic exits the roadway without the need to stop for additional signals, while drivers going straight proceed through the second set of traffic lights and return to the right side of the road after leaving the interchange.

Figure 3-35: NC 24 West and Faircloth Freeway Diverging Diamond Concept

Fayetteville Street (Sunset to West Faison)

Several intersections along Fayetteville Street were identified as priorities during the pedestrian plan that are also important to the bicycle plan. The alignments of Sunset Avenue, Williams Street, and North Chestnut Street with Fayetteville Street have created lengthy distances and gaps in the street definition to create a potentially unsafe environment for bicyclists. At Sunset, Williams and North Chestnut, ladder style crosswalks, a tighter turning radius, and warning signage for this area is recommended with the addition of a refuge island at North Chestnut Street. West Faison and Giddens Streets have shorter crossing distances and will benefit from ladder style crosswalks. These improvements will provide a "buffer" for bicyclists wishing to stay mounted on their bikes through the intersection, while providing the opportunity for less experienced riders to dismount and utilize the high visibility pedestrian crossings and refuge islands.

Northwest Boulevard at North Boulevard

Similar to the various intersections along Fayetteville Street, this intersection is a very wide creating similar safety concerns for bicyclists. It is recommended that the high visibility ladder style crosswalks be installed to assist riders who may not be comfortable crossing the intersection as a rider.

North Boulevard at Beaman Street

This intersection transitions riders across Beaman and riders going south along Beaman across North Boulevard. It is recommended that high visibility ladder style crosswalks be placed at these intersections to allow for less experienced riders to cross safely.

Northeast Boulevard / US 701 Business

Multiple intersections exist along US 701 Business that can benefit from high visibility ladder style crosswalks. However, a more comprehensive approach to the roadway is recommended to address future bicycle and pedestrian transportation through the complete streets concept and road diet. The implementation of the complete streets concept and road diet will help make US 701 Business a much safe roadway for pedestrians and bicyclists alike.

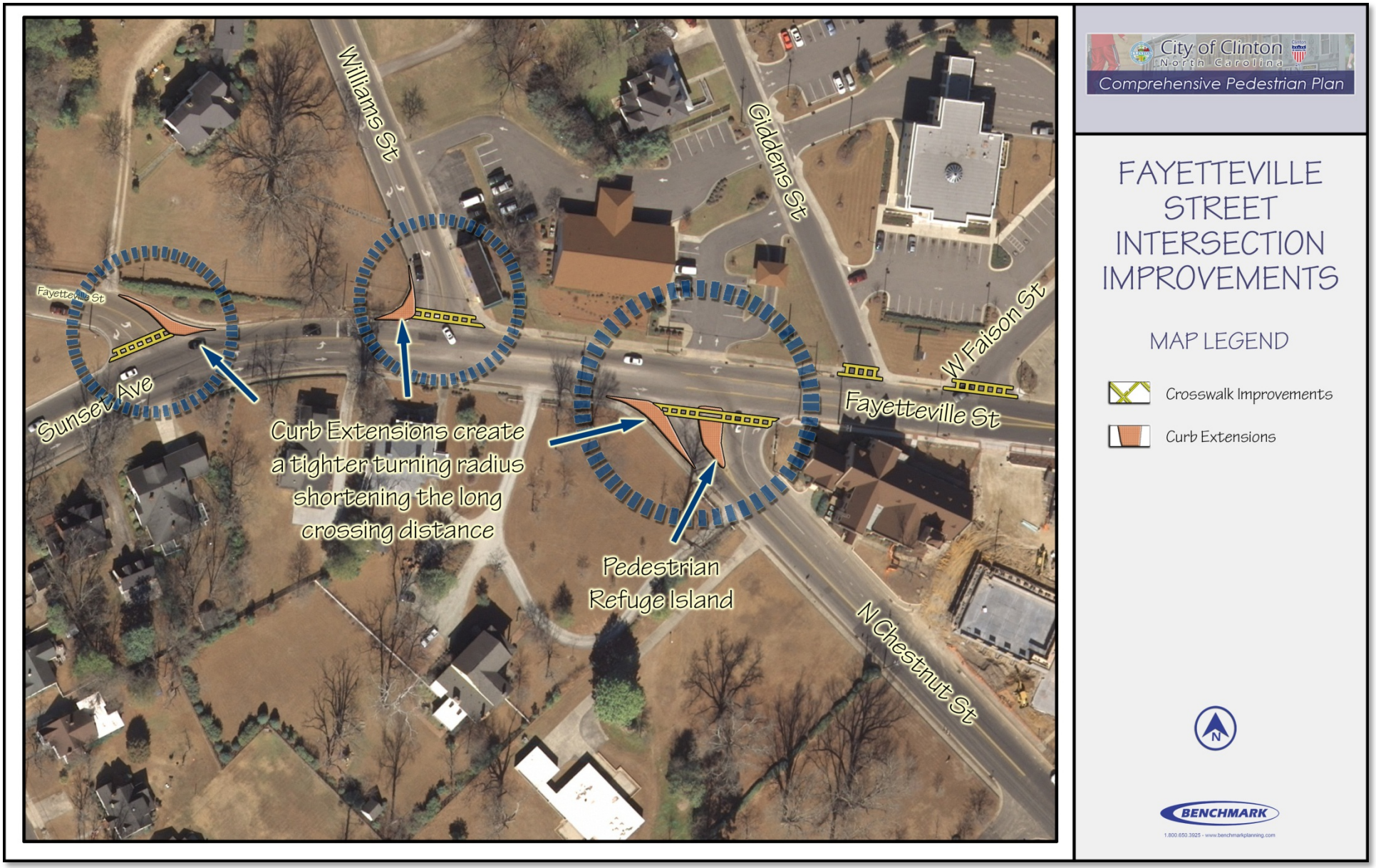


Figure 3-36: Recommended Intersection Improvements from the Pedestrian Plan.


1852
CLINTON
NORTH CAROLINA

Section 4. Programs and Policies

A. Introduction

In addition to planning for the installation or enhancement of physical infrastructure to improve the city's bicycle system, it is also important to identify those programs that can be implemented and policies that can be adopted or modified that will support the physical planning efforts and enhance the effectiveness of the improved system. Without these supporting programs in place to raise community awareness of bicycle opportunities and safety issues, encourage participation from residents as active users of the system and ensure that safety laws are being followed and enforced, or policies to direct the efforts of the city and its various departments as they implement the plan, the city and its funding partners in bicycle facility construction will see a much lower return on their infrastructure investment. If implemented fully, these programs and policy recommendations will help the city to more fully achieve the goals and objectives of the plan and derive a greater benefit from the expenditures that it makes on new or improved infrastructure.

B. Program Recommendations and Resources

In North Carolina and across the country, communities are investing their resources to create safer environments for bicyclists and increase the usage and usability of their bicycle networks through projects and programs that are categorized as follows: 1) education; 2) encouragement; and 3) enforcement. All three activities need to take place concurrently as they all depend on each other to creating a safer bicycling environment.

The City and its department heads have established lines of communication during the study process while serving on the Steering Committee, creating the opportunity to build partnerships with the local schools, Sampson Community College, the Partnership for Children, Sampson County Parks and Recreation, downtown groups, the Center for Health and Wellness, and other organizations that were represented on the steering committee.

It is recommended that this group of stakeholders form an official advisory group for bicycle improvements in Clinton. This group should consider merging its efforts with the pedestrian advisory committee to form a Clinton Bicycle and Pedestrian Advisory Group. Through

this advisory group, members can encourage residents to bicycle and walk more, while helping to educate the broader community regarding bicycle and pedestrian safety. The advisory committee, with help from key city staff, can work together to further biking and walking activities and raise awareness, especially during the first few years following the adoption of the plan. Additionally, the city's website can serve as a vehicle for implementation of the recommended programs, activities, and overall vision of the plan.

Public Education

One of the first steps for consideration by the advisory committee is public education with respect to the issues of bicycle safety and the benefits of biking. Although this plan focuses on bicycle transportation, the committee should consider addressing both bicycling and pedestrian recommendations from the adopted pedestrian plan. Educational materials can be made available to local schools, health agencies and residents that focus on safe bicycle behavior, helmet requirements, rules of safe biking, and the responsibilities of bicyclists and drivers. One resource, "Let's Go NC!", offers pedestrian and bicycle safety skills curriculum that can be utilized as part of this education element (https://connect.ncdot.gov/projects/BikePed/Pages/LetsGoNC.aspx). Also, many bicycle advocacy groups have a web-based presence, offering up-to-date information on safe bicycle travel, rules and regulations to be followed by cyclists, and safe driving habits. Examples include the North Carolina Division of Bicycle and Pedestrian Transportation (i.e.: elementary school-level course), the Pedestrian and Bicycle Information Center and the National Center for Bicycling and Walking. The advisory committee can make the information available through printed brochures, the city's website, newspaper, newsletters, t-shirts, and other advertising and media outlets as determined by the group. The City can also utilize its ability to market to residents and business through the inclusion of literature and notices in its monthly utility bills.

In order to stay current with the most up to date practices regarding their responsibilities, the City Staff on the advisory committee should continue to receive education and training regarding bicycle safety and biking by attending conferences and workshops held by planning and transportation organizations and agencies. NCDOT has numerous experts on its staff that can provide training on particular topics and participate in brainstorming sessions with the advisory group on implementation ideas. In addition, many training programs are available through the internet on bicycle planning and safety topics. City staff, through these resources, will have the opportunity to share new ideas with this committee at its regularly scheduled meetings.

Web based educational resources can be found at: the Federal Highway Administration (http://www.fhwa.dot.gov), the North Carolina Division of Bicycle and Pedestrian Transportation (http://www.ncdot.gov/bikeped), the National Center for Bicycling and Walking (http://www.bikewalk.org), the Centers for Disease Control and Prevention (http://www.cdc.gov), Eat Smart-Move More (http://www.eatsmartmovemorenc.com), the League of American Bicyclists (http://www.bikeleague.org) and many others. Each one of these resources has a variety of program recommendations for bicyclists of all ages and a wealth of materials that can be duplicated for public educational purposes at no cost. The city's website is an ideal place to provide links to these organization's websites, programs and materials.

Encouragement

One of the many ways to encourage people to bike more is to involve them in an organized cycling event, providing a real-world experience to support the educational components of the bicycle program. Programs that may help to encourage people to bike more frequently include cycling clubs, biking events, bicycle rodeos, and biking events associated with annual festivals, holidays or community celebrations. The advisory group can work with the partner organizations that they represent to create opportunities that encourage active participation. It is important for the residents of Clinton, young and old, to experience the benefits of biking first hand. One example would be closing off the streets around courthouse square on a Saturday morning to create a "real world" experience for riders of all ages to learn about bicycle safety and riding the road. The event can have special guests and sponsors to possibly provide free safety equipment for children that attend. The Police Department can work closely with other organizations to teach riders how to navigate the roads and also to educate motorists about the laws concerning bicycle safety on the roads.

Figure 4-1: Bicycle Learning Event

Additional special events that occur on a national basis can be incorporated locally such as Earth Day (http://www.earthday.org), Bike-to-Work Day and National Bike Month (http://www.bikeleague.org/content/naitonal-bike-month). These events present excellent

opportunities for organized biking activities where bicyclists will feel safe while learning how to bike on city streets. In addition, as mentioned earlier, many local events already exist for piggybacking as well as other national holidays and events, including the Fourth of July. Other events can include races and triathlons, which Clinton has taken advantage of previously with the mini-triathlon. These events can help generate revenues for programs throughout the community.

One of the more effective programs that has been established in North Carolina for the development and sustainment of bicycle activity is the Safe Routes to School program (http://www.saferoutesinfo.org), which seeks to support the creation and enhancement of safe pedestrian connections for children to walk and cycle to school. The City and the local schools should partner to join the program in order to leverage the resources that are available for participating communities, including infrastructure grants, educational programming for children and training for parents, school officials and city employees on how to enhance bicycle safety and connectivity. Additional information on this program can be found by contacting:

Ed Johnson, ASLA, RLA
SRTS Coordinator
NCDOT, Division of Transportation Mobility and Safety Traffic Management Unit
1552 Mail Service Center
Raleigh, NC 27699-1552
Email: erjohnson2@ncdot.gov
Phone: 919.707.2604

Figure 4-2: Safe Routes to School

Enforcement

As bicycle activity is encouraged, facilities are enhanced and new connections are made, it will be crucial for the city to establish effective enforcement activities to ensure the safety of bicyclists. If adequate enforcement mechanisms are not in place, bicyclists and motorists may be discouraged due to actual or perceived "bad behaviors" that are observed or experienced with respect to traffic laws and their respective rights and responsibilities. Of particular note, aggressive driving was cited frequently as a response to question #6 in the

community survey, which inquired about conditions that discourage Clinton's residents from biking. Since both bicyclists and motorists have the responsibility to observe traffic safety laws, there should be activities instituted by local law enforcement agencies to target violations by both groups in order to help educate the public and correct behaviors that may lead to accidents. Local law enforcement agencies should also take it upon themselves to provide additional education to their officers in order to ensure that they are familiar with all of the respective laws and regulations, enabling them to be more effective in their enforcement of the law and education of the public. Resources for inclusion in law enforcement training programs include the general NCDOT law resources found online at http://www.ncdot.gov/bikeped/lawspolicies/laws/default.html and, specifically, the bicycle section of the NCDOT Laws Guidebook found at http://www.ncdot.gov/bikeped/download/bikeped_laws_Guidebook-Part-1.pdf. Also, "Watch for Me NC" is a statewide pedestrian safety campaign that provides resources for pedestrians, bicyclists and information about enhanced Law Enforcement training (http://www.watchformenc.org).

Local law enforcement agencies can utilize the bicycle crash data and observed behaviors outlined in the plan to target enforcement activities in areas with high levels of bicycle activity or high risk factors to bicycle safety. Officers can organize awareness campaigns where activities such as motorists speeding, not yielding to bicyclists and similar violations are observed to help educate the motoring public regarding bicycle safety and access issues. Bicyclists should also be targeted when crossing roadways in a dangerous manner, or as they bike facing the wrong direction. Often, many of these seem like minor issues; however, consistent enforcement and awareness will create a safer bicycling environment and in the long run it will help to save lives and reduce the risk of injury from bicycle crashes.

C. Policy Recommendations

In addition to the programs that are recommended for the city to pursue in furtherance of achieving the goals and objectives of the plan, there are a number of policies that are recommended for the city to adopt and follow that will help to ensure a consistent framework within which the plan will be implemented. These policies include some minor modifications to the city's land use and development regulations as well as the formalization of policies, many of which are already in place in an informal capacity, to ensure that bicycle facilities are budgeted for, constructed and maintained to the same standards as comparable vehicular transportation facilities.

The City's Land Development Ordinance, adopted in August of 2010 does not recommend the incorporation of bicycle facilities for new development. Specifically the ordinance can be amended to require new commercial development to provide bicycle storage facilities and access from existing or planned bicycle routes. Also, as plans move forward with the potential complete streets concept along US 701 Business, potential amendments to the ordinance may include reservation of right-of-way and provisions by new development for accommodating bicycle facilities that may be installed along the roadway. The City should consider adopting a Complete Streets policy that supports the City's commitment to developing new and improving existing roadways to accommodate all modes of travel and potential users. The City should also examine its driveway and access management policies to ensure conflict points are reduced along city streets and roads, particularly those that are designated as a bicycle route in the plan. Guidance on bicycle safety and street and driveway access can be found on NCDOTs website at: www.ncdot.org/doh/preconstruct/altern/value/manuals/pos.pdf.

In order to ensure that steady progress is made toward achieving the infrastructure goals outlined in the plan, it is recommended that the city establish and make regular appropriations to a separate capital account that is dedicated to bicycle infrastructure funding. In addition to other potential sources for appropriations, it is recommended that a portion of the funding of this account come from the City's annual Powell Bill distribution. While no specific annual funding level is recommended, it is suggested that the amount of funding be set to a level that is sufficient to make steady progress toward completing the highest priority bicycle infrastructure and safety improvements outlined in the plan. It is also recommended that a dedicated annual funding stream for maintenance be established that is separate from general street maintenance funding in order to ensure that there are annual appropriations and expenditures to support the maintenance of future bicycle infrastructure. The City should also establish maintenance policies to ensure that a regular program of evaluation, prioritization and maintenance is carried out on an annual basis.

To address the need of providing bicycle access to all public facilities, the City should adopt a policy that requires all new city parks, civic buildings and other public facilities to be connected to the City's bicycle network and provide bicycle storage opportunities. If a City funded public facility is sited away from a bicycle network due to unavoidable circumstances, the City's policy should be to prioritize the funding and construction of a bicycle linkage to that facility as soon as practical. The City should also encourage the County to follow similar guidelines when establishing sites for new facilities and work with the County to fund needed connections when necessary.

Section 5. Implementation

A. Introduction

The City of Clinton completed the development of this Comprehensive Bicycle Plan to identify bicycle improvements and the direction that needs to be taken to implement the various improvements. Strategies or action steps were developed as a guide for carrying out the plan over the next five to fifteen years. Many of the actions can and should be completed during the first year after the plan's adoption, while other improvements will require a much greater time period to make them a reality. Following the adoption of the plan, the implementation process will officially begin. City Staff will need to work closely with its Planning Board, other City departments, the community and an advisory committee to continue to build support for the plan as it moves forward.

B. Action Steps

Plan Adoption

Although it may seem obvious, the Comprehensive Bicycle Plan will need to be adopted by the City once it has been reviewed and approved by NCDOT. The Comprehensive Bicycle Plan is a result of a partnership between the City, its Citizens and NCDOT in planning for future bicycle improvements. The plan will serve as a guide for constructing the priority projects and implementing the programs and policies that have been recommended. The Plan will play a key role in obtaining funding for bicycle network enhancements from NCDOT and communicating the cycling needs of the City to NCDOT Officials as roadway improvements are being planned throughout the City, ensuring opportunities to construct identified segments of the bicycle system are not overlooked.

Priority Bicycle Projects

A total of 21 bicycle network projects were identified through this process and included bike lanes, shared use path, shared lane markings and signed routes. While each individual project is of importance to achieving the City's vision, it was determined through the research, public comments, City staff and NCDOT review that seven key projects were the highest priorities for the success of the plan. Although

these projects were identified as the top priorities, as funding and resources become available, other projects within the overall list may be programmed for construction. For example, the City may receive funding to install warning signage in specific areas that were not part of the priority projects, moving that component of the recommended improvements ahead of some of the other priorities.

One of the highest priority projects to clearly define is the recommended ***bicycle lanes along NC 24 West***. This roadway will be under construction within 2014 and there is a brief opportunity to incorporate bicycle lanes into the widening and improvement project. This process did not identify any additional right of way needs to accommodate the bicycle lanes. As noted in the bicycle network section, the proposed lanes would all need to be narrowed to provide enough space for bicycle lanes. However, this recommendation will need to become a formal request to NCDOT as soon as possible to prepare a detailed study of the effects of narrowing the lanes and adding the outside bike lanes. The additional project costs are estimated at just over $30,000.

US Business 701 / Northeast Boulevard complete street project was a priority in the pedestrian plan and is also a priority recommendation of the bicycle plan. It is recommended that a study be completed to analyze the reduction of vehicle travel lanes as part of a comprehensive revitalization strategy for the entire corridor; turning US Business 701 into a complete street with landscaping, and bicycle and pedestrian facilities. This concept will improve the economic vitality of the corridor through an improved appearance and slower traffic; creating a neighborhood business atmosphere to help encourage more business activity. NCDOT Officials have recommended placing this roadway on the corridor study list to ensure funds for projects such as resurfacing are not allocated until the most efficient future use of the roadway is determined. Incorporating the high priority and desired pedestrian improvements will be much more difficult to implement if the road is resurfaced in the interim, prior to a detailed corridor analysis and plan. The RPO coordinator should be engaged in this project as well to ensure that it receives priority consideration for any potential funding that may be available for transportation in the region.

A third priority is ***linking NC 24 West to downtown along Fayetteville Stree***t. Fayetteville Street is a gateway entrance into downtown from the West providing a direct connection from the planned facilities on NC 24. It is recommended that the vehicle travel lanes be marked with “sharrows” that indicated the travel lanes are to be shared with bicycles. The lower speed limits and parallel parking make

this type of facility the most practical. In addition, the improvements, signs and sharrow markings, make this an affordable first step at just under $3,000 to complete.

The fourth priority involves ***completing several shared lane facilities through and around courthouse square***. Entering into the courthouse square from Fayetteville Street, bicyclists will continue straight through on North Wall Street to Elizabeth Street. The circulation pattern will take bicyclists northeast on Elizabeth to Lisbon Street and north back to Main Street. This pattern will encourage bicyclists to move through the courthouse square, avoiding the angled parking hazard between North Wall Street and Lisbon Street along Main Street. This section of the courthouse square loop is dangerous for sharrows due to the angle parking on each side of the street. Once riders approach Main Street from Lisbon Street, bicyclists can then continue on around the courthouse or to other routes by following the proposed shared lane markings. The courthouse square will serve as a "hub" for directing bicycle traffic out to various areas of the city.

As with NC 24, Beaman Street is scheduled for improvements soon as well. Improvements are being planned for the Old Williams Mill Branch Bridge for bridge replacement and for the two lane section of Beaman Street to be turned into three lanes from the bridge north to North Boulevard and Northeast Boulevard (US 701 Bus). The fifth priority recommendation of the bicycle plan is to ***remove the central turn lane along Beaman Street and add bicycle lanes the entire length of the street from College Street to Northeast Boulevard***. This is a well-traveled route for bicycles and pedestrians and will help connect important medical and fitness facilities with neighborhoods, downtown and shopping areas along North Boulevard. This project will eventually provide a loop connector with the complete street improvements planned for Northeast Boulevard and bicycle lane facilities planned for College Street and North Boulevard.

A sixth priority recommendation is to ***complete a bicycle facility from downtown to the middle and high schools along Elizabeth Street***. This project will include a small segment from Lisbon Street to Chestnut Street that is a shared lane facility with the dominant facility from Chestnut to Indian Town Road being the multi-use sidepath. This recommendation will also achieve the goal of the pedestrian plan to install a pedestrian facility to the schools. As a note, the sidepath from Chestnut to the bridge overpass is an addition from the pedestrian plan. Stormwater drainage improvements can make land available on the south side through this section for a sidepath. In addition, students are observed walking in or dangerously close to the travel way on their way to school. This improvement will allow students to

bike and walk more safely, while providing a community wide recreational asset as well. The City should work closely with the RPO and NCDOT to ensure the facility is considered for construction funds and other sources such as safe routes for schools.

Adding bicycle lanes to College Street is the seventh priority recommendation. College Street provides an important link out of downtown to neighborhoods and will serve as a central route for other planned bicycle routes to feed into over the long-term. College Street will also link with Northeast Boulevard and future bicycle and pedestrian improvements that are planned for that roadway.

While the remaining projects are important, the aforementioned projects carry a more significant urgency for implementation since their completion will have the greatest influence on the overall bicycle network and due to scheduled NCDOT improvements, are more urgent from a timing perspective. Some of the lower priority projects are perhaps more achievable than the higher priority projects, and so, as funding becomes available, they should be considered for completion, though they should not supplant the higher priority improvements without further consideration of the impact of delaying the completion of any of those projects.

C. Establishing the Advisory Committee and Staffing Priorities

Following the adoption of the plan, the City should continue with the good work and precedent for cooperation that has been established through the pedestrian and bicycle planning processes by transitioning the steering committee into an advisory and oversight committee for bicycle and pedestrian projects to help ensure the implementation of the bicycle plan and the recently adopted pedestrian plan. The advisory committee does not have to include the entire steering committee, but should include the core group of stakeholders and responsible departments to ensure that the key actors are involved going forward. The committee would most likely need to meet only quarterly, or perhaps biannually, to review the status of projects, make recommendations and monitor progress toward the implementation of the plan. One of the key roles of the advisory committee should be to make recommendations on funding bicycle projects and the allocation of resources for the regular maintenance of those facilities once completed. This could be done as a formal recommendation to the City Manager prior to the preparation of the annual budget recommendation to the City Council. As part of its responsibilities, the committee should also publish an annual report outlining the City's progress toward implementation of the plan and present it to the City Council each spring prior to the consideration of the annual budget. The City should also designate a staff member in

the Planning Department as the manager of the implementation of the plan and give that person the responsibility for coordinating department level communication regarding plan implementation and the duty of serving as staff to the oversight committee.

D. Program and Policy Priorities

Of the programs that are recommended in Section 4, the most important are applying for participation in the ***Safe Routes to School program***, the establishment of a ***bicycle education program*** in the public schools and the implementation of a ***bicycle safety enforcement program*** by the Clinton Police Department. The Safe Routes to School program will allow the City to access additional NCDOT resources and brings the potential for funding priority projects to enhance connectivity and access to schools as well as the improvement of bicycle safety in the immediate vicinity of schools. Enhancing knowledge regarding safe bicycle activity for school children will help to ensure that these young people, who are perhaps the most vulnerable to bicycle crashes and are likely the least informed due to the paucity of opportunities for biking at the present time, grow up with the knowledge to be safe bicyclists. As is often demonstrated through other school based programs, children can have the ability to influence their parents and other family members by transmitting important information to them regarding safe bicycling activity, and thereby having a positive multiplier effect throughout the community. And finally, in order to demonstrate the City's commitment to bicycle safety, the Police Department's targeted enforcement of bicycle laws in high risk areas and enhanced officer training and awareness will ensure that the planned increase in bicycle activity advocated by this plan occurs in an environment that is as safe as practically achievable. Following the successful implementation of these programs, the advisory committee should begin working with the appropriate City Departments and outside stakeholders to follow through with the implementation of the remaining program recommendations.

The top priorities for policy implementation include the ***establishment of a dedicated funding mechanism for capital investments*** in bicycle facilities and the appropriation of adequate annual funding for maintenance once the facilities are constructed. By establishing these as part of the regular budgeting process the City will help demonstrate its commitment to the vision of the plan. While the issue of financial support for this program will entail making difficult choices with respect to other funding priorities, the importance of the provision of financial support for the implementation of the plan cannot be understated. Without the financial backing to achieve the connectivity and safety enhancement goals of the plan, the overall vision of a healthy bicycling network cannot be achieved. This is not meant to diminish the importance of the remaining policy recommendations, which should all be implemented, but rather to emphasize

how crucial the establishment of a standing policy to commit funds to achieve the plan's goals is. The City may also consider establishing a link with an existing or new community non-profit foundation that may create a separate fund specifically dedicated to supplement the implementation of the bicycle and pedestrian plan recommendations. The foundation would receive the donor directed funds for bicycle and pedestrian projects in the City of Clinton and then, pass those funds along to the City to support specific bicycle and pedestrian improvements. The Bicycle and Pedestrian Advisory Group could provide guidance to the City on recommendations from the bicycle and pedestrian plans that needed the additional support from the community foundation donor directed donations.

E. Performance Measures

As part of the preparation of its annual report to the City Council, the advisory committee needs a set of performance measures by which it can review progress towards plan implementation. It is recommended that the committee measure performance and progress toward plan implementation by several means since there are no uniform ways by which all of the plan recommendations can be measured. Simple measures of performance toward implementation include reviewing the number of linear feet of bicycle facilities completed, the number of safety improvements completed, and the level of funding dedicated to bicycle transportation capital projects and maintenance in relation to other transportation funding. This will provide the committee with raw data that it can review annually and compare year to year as the plan is in its implementation stage, providing it with a clear measure of how much progress is being made toward completing and maintaining the City's bicycle network. During the initial years of implementation, the committee should utilize this data from past years which can be provided by the City's Finance and Public Works departments. With regard to the performance of the programming recommendations, the committee should set targets for participation and measure those targets versus the actual results of the programs in terms of how many people are reached through the program efforts or participate in the activities. For example, annual goals for providing bicycle safety education in public schools can be made, and the resulting number of children reached by those programs would be reported each year and measured against the outreach goal. To measure safety, the committee should review annual statistics for bicycle accidents involving vehicles, set targets for reducing the instances of those accidents and measure the annual report versus the target. Goals for the enforcement of bicycle safety laws can also be established, within reason to ensure that officers are not given ticket quotas, perhaps relying on reports from the Police Department on the number of tickets or incidents occurring in high risk areas for bicyclists or the number of hours that officers conduct targeted enforcement activities in high risk bicycle areas, such as around schools,

each month. Taken together, these simple performance measures will provide the committee with a large amount of measurable data that can be utilized to prepare their annual reports and monitor progress toward the full implementation of the plan.

F. Implementation Matrices

The Comprehensive Bicycle Plan reviews existing conditions and considers community values and goals to determine how the bicycle systems, programs and policies move forward. The goals and strategies are an integral part of guiding the future development of these policies, programs and projects, but the City must take steps to achieve those goals if the Plan is to be successful. Without implementation, the goals will never be more than written statements and result in a plan sitting on the proverbial "dusty shelf." The implementation strategies set forth a path towards achievement of the Vision Statement and the plan recommendations. The recommended strategies can and should be reviewed annually as part of the budgeting process.

The goals and implementation strategies were compiled into a separate implementation matrix for policy, programs and projects to be used as a quick and easy reference for city officials, residents, business owners, and others. The matrix goes a step further by assigning priorities, resources, timeframes, and responsible parties to each implementation strategy, to help the City determine the most effective approach to implementing the strategies. Many resources for implementation can be found at the end of this bicycle plan within Appendix C. NCDOT Funding Source Research.

The following are descriptions of each of the categories:

Implementation Action – The implementation actions in the matrix are the specific recommendations for each major area of policy, programs and projects. They are meant to provide action steps to achieve the vision and goals of the plan.

Summary – The summary provides general guidance on issues related to the implementation action, not a full detailed listing of the strategies. Some actions may have several specific notes, all of which will contribute to reaching the established goals.

Responsible Parties – This category identifies parties associated with the City of Clinton that should be responsible for the completion of each strategy. As the City has limited staff, the inclusion of a consultant or other outside party may be necessary to help implement and achieve certain objectives.

Timeframe – This category represents the timeframe in which the implementation strategy should be addressed. Generally, shorter timeframes infer a higher priority. Timeframes are indicated in the matrix as either short term, intermediate, or long term. Recommendations described as short-term should be achieved in less than two years. Recommendations described as intermediate should be achieved in two to five years and with recommendations described as long-term being achieved in more than five years. As the City begins to implement the actions in the following tables, when the tables are updated by City staff and the Advisory Committee, some of the strategies may receive a new designation of "ongoing" due to need for constant efforts toward achieving the goal.

Resources – Resources are primarily related to monetary cost to complete the implementation strategies and can vary depending on methods selected to implement. The tables display an "$" symbol to represent monetary ranges. The ranges are as follows:

- $ - Less than $1,000
- $$ - $1,000-$10,000
- $$$ - More than $10,000.
- Policy – Dollar values are generally not applicable to policy issues

Figure 5-1: Policy Implementation Actions

POLICY Implementation Actions	Summary	Responsible Parties	Timeframe	Resources
Plan Adoption	City Council to hold a public hearing and consider the plan. NCDOT to issue official letter of approval.	City Council with assistance from Staff, NCDOT and Consultant	Short-term	Policy
Adopt Complete Streets Policy	City Council to consider adopting a complete streets policy in support of developing new and improving existing roadways that will accommodate all modes of transportation.	City Council with assistance from Staff, NCDOT and Consultant	Short-term	Policy
Establish Advisory Committee	Interested Bicycle and Pedestrian Plan Steering Committee to form an initial core group to oversee implementation activities of this plan and the pedestrian plan. Council to formally designate.	Steering Committee, Planning Staff formal recommendation to City Council	Short-term	Policy
Planning Staff Priorities	Designate a City staff member to serve as the manager of the implementation and staff to oversight committee.	City Staff	Short-term	Policy

Figure 5-2: Policy Implementation Actions (Continued)

POLICY Implementation Actions	Summary	Responsible Parties	Timeframe	Resources
Land Development Ordinance Updates	The City should consider updates to the ordinance that encourage all types of development to incorporate bicycle facilities, access, and parking in new development and to add connections where new development adjoins an existing or planned bicycle facility.	City Staff, Planning Board	Short-term	Policy
	The City should examine the NCDOT Street and Driveway Access manual to ensure all streets, especially those on designated bicycle segments, have a reduced number of conflict points to create a safer environment for bicyclist.	City Staff, Planning Board	Short-term	Policy
Dedicated Bicycle Infrastructure Funding	Establish a dedicated fund for bicycle facility improvements such as bicycle parking facilities for new and existing development, bicycle lanes, shared lanes, bicycle signage and other improvements recommended in the plan.	City Staff, City Council	Short-term	$$$
Develop Bicycle Facility Maintenance Policies	Develop a regular program of evaluation, prioritization and maintenance that is carried out on an annual basis once bicycle facilities are completed.	Public Works Staff	Mid-term	Policy
Establish a bicycle and pedestrian fund with an existing or new non-profit community foundation for donor directed funds to supplement bicycle and pedestrian projects and programs	Citizens would have the opportunity to donate funds through the community foundation for bicycle or pedestrian projects to help supplement City programmed funds and expedite completion of a particular project.	City Council, City Staff, Existing or new community non-profit foundation	Short-term	Policy
Public Facility Policy	Place priority on the need of providing bicycle access to all public facilities, the City should adopt a policy that requires all new city parks, civic buildings and other public facilities to be connected to the City's planned bicycle network.	City Council, City Staff	Long-term	Policy

Figure 5-3: Program Implementation Actions

PROGRAM Implementation Actions	Summary	Responsible Parties	Timeframe	Resources
Develop and distribute public education materials	Audience: local schools, health agencies and residents that focus on safe bicycling behaviors, rules of safe walking, and the responsibilities of pedestrians and drivers. Printed brochures, the city website, newspaper, newsletters, t-shirts, and other advertising and media outlets as determined.	Advisory Committee, City Staff	Short-term	$
City Staff & Advisory Committee Continuing Education	Continue to receive education and training regarding bicycle safety by attending conferences and workshops. Experts invited to speak.	Advisory Committee, City Staff	Mid-term	$
Organize Biking Events to encourage bicycling	Advisory Committee with local organizations to provide opportunities to gather for bike rides. Ideas include bicycle rodeos, events centered on festivals, and many other encouragement activities.	Advisory Committee, City Staff, Local Organizations	Short-term	$
Apply for Safe Routes to School	NCDOT resources for funding priority projects to enhance connectivity and access to schools and bicycle safety in the immediate vicinity.	Advisory Committee, City Staff	Short-term	Policy
Bicycle Safety Enforcement Program and Enhanced Officer Training	Police Department to consider targeted enforcement of bicycle laws in high risk areas along with enhanced officer training awareness.	Police Department Officers	Mid-term	Policy
Bicycle Education Program in the Public Schools	Design and implement a series of programs to enhance the knowledge regarding safe bicycle activity for school children.	Advisory Committee, Clinton City Schools, City Staff	Mid-term	$$

Figure 5-4: Priority Bicycle System Implementation Actions

BICYCLE PROJECTS Implementation Actions	Summary	Responsible Parties	Timeframe	Resources
NC 24 / Sunset Ave	Add Bicycle Lanes from Coharie Rd to Fayetteville Street. The roadway improvements will be under construction within the year. This project does not require additional right of way and can be incorporated to the current project if immediate action is taken by the City.	City Staff, NCDOT	Short-term	$30,155
US 701 BUS	Bicycle and pedestrian facilities are recommended along both sides of the roadway for the entire city limits. Consider complete streets/ road diet project for entire length of corridor. This will require a detailed corridor study to determine feasibility and costs.	City Staff, NCDOT, Advisory Committee	Mid-term	$75,000 (Corridor Study)
Fayetteville Street	Add shared lane markings or "sharrows" to the travel lanes from Sunset Avenue to North Wall Street. Install recommended shared lane route signage.	City Staff, NCDOT, City Council	Short-term	$2,875
Downtown	Add shared lane markings or "sharrows" to North Wall Street, Elizabeth Street, Lisbon Street, Main Street (portion), Sampson Street and Vance Street to complete a bicycle route through and around courthouse square, which will serve as a "hub" in the bicycle network system.	City Staff, NCDOT, City Council	Short-term	$8,625
Beaman Street	Remove center turn lane and add bicycle lanes the entire length of Beaman Street. Old Williams Mill Branch Bridge is scheduled for replacement and Beaman Street north to US 701 Business is planned to be widened to match the existing three lane pattern. The City should bring this request to NCDOT as soon as possible to ensure consideration.	City Staff, NCDOT, City Council	Short-term	$14,995
Elizabeth Street	Add shared lane markings "sharrows" to the travel lanes from Lisbon Street to Chestnut Street. Pursue the funding to complete the multi-use sidepath from Chestnut Street to Indian Town Road.	City Staff, NCDOT, City Council	Mid-term	$914,250
College Street	Add bicycle lanes from Main Street to US 701 Business.	City Staff, NCDOT, City Council	Mid-term	$12,834
Long-term Projects	Sampson Street, McKoy Street, Northwest Boulevard, Warsaw Road, Morisey Boulevard, Lisbon Street, Butler Avenue, Ferrell Street, SR 5 (new road), Westover Road, Barden Street	City Staff, NCDOT, City Council	Long-term	See Project Sheets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CLINTON
NORTH CAROLINA

Section 6. Design Guidelines

A. Introduction

When constructing the recommended improvements, the facilities should adhere to national design standards for said facilities as determined and defined by the American Association of State Highway Transportation Officials (AASHTO), the Federal Highway Administration (FHWA), the Americans with Disabilities Act (ADA), the Manual on Uniform Traffic Control Devices (MUTCD), NCDOT Complete Street Guidelines (www.completestreetsnc.org) and the North Carolina Department of Transportation (NCDOT). The Pedestrian and Bicycle Information Center (http://www.pedbikeinfo.org) is an additional source of information that can be reviewed on the internet. As with any standards that are referenced, the most current standards should always be utilized as changes may be made to national and state standards in the future. The City should consult with a licensed design professional, such as an engineer, on any future projects to ensure that the standards are up-to-date.

The guidelines presented in this section are intended to be a guide and represent the best practices for bicycle and pedestrian facilities and design; however, they do not substitute for the review of a licensed design professional during the design and construction of recommended facilities. The NCDOT may have specific standards and guidelines as well, depending on the context and parameters of any given project. The design guidelines apply to five broad areas that include:

- Bicycle Facility Design
- Pedestrian Crossing Facility Design (at intersections)
- Signal Design
- Bicycle and Pedestrian Signage
- Traffic Calming

B. Bicycle Facility Design

Bicycle Lanes

The primary bicycle facility recommended in this plan is the bicycle lane. Bicycle lanes typically border the outer most lane of a roadway. The lane is designated by a white stripe, bicycle lane signs, and pavement markings indicating the lane is for the exclusive use of bicyclists. The minimum recommended width for a bicycle lane is four feet; five- and six-foot bike lanes are typical for collector and arterial roads. Existing roadways can often accommodate bicycle lanes by modifications to travel lane widths and restriping. Although not recommended as part of this plan, some cyclists prefer to utilize the striped and paved shoulders of roadways when bicycle lanes are not present.

Figure 6-1: Bicycle Lane

Typical Guidelines and Considerations for Bicycle Lanes

- The minimum width of bicycle lane is 4 feet from the curb face when no gutter pan is present.
- When a gutter pan is present the lane should be 6' from the curb face (or 4' from the edge of the gutter pan)
- Bicycle lanes should be considered strongly on roadways with average daily traffic counts greater than 3,000.
- Bicycle lanes may not be suitable in areas with a high number of commercial driveways.
- Bicycle lanes are most suitable for 2-lane and 4-lane divided facilities.

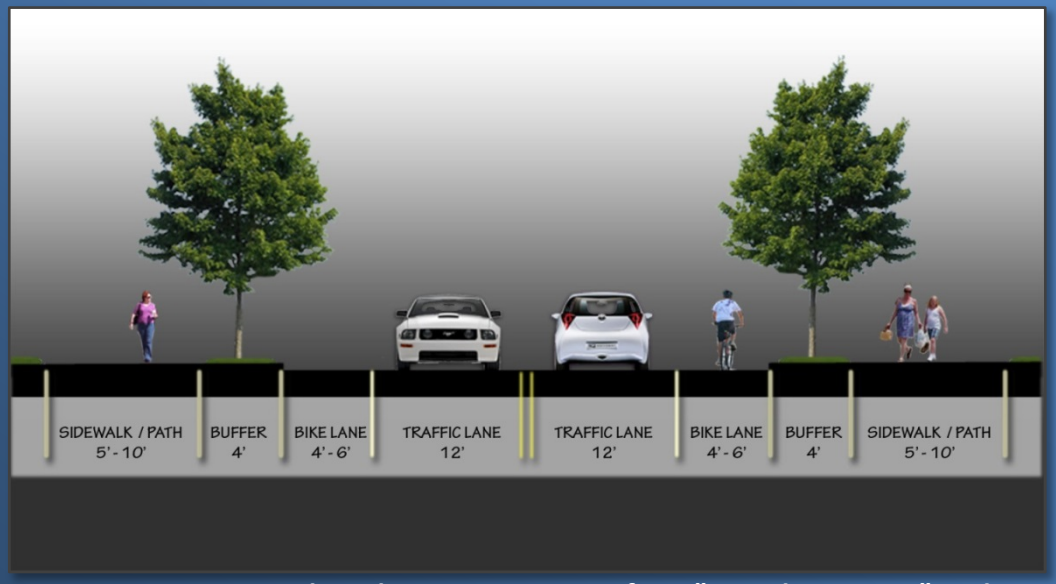


Figure 6-2: Typical roadway cross section for a "complete street" with sidewalks, bike lanes and landscaping.

Shared Lanes

Another primary bicycle facility recommended in this use of shared lane markings, or “sharrows”. The sharrow markings are placed in the travel lane to indicate to drivers that bicyclists share the road with motorists, while providing direction to bicyclists. The sharrows are recommended in areas with parallel parking and placed in a manner to alert cyclists of potential collisions with doors being opened by parked vehicles. The pavement markings are typically placed after intersections and then, every 100 to250 feet.

Typical Guidelines and Considerations for Shared Lane Markings

- Shared lanes work well as an alternative pavement marking when parallel on-street parking is present and / or lanes may be too narrow for bicycle lanes.
- Shared lanes work best where the speed limit is 35 MPH or less.
- Shared lane markings with sharrows should be a minimum of 11’ from the curb face with on-street/parallel parking.
- Shared lane markings shall be placed 4’ from the curb face or edge of pavement without on-street parking.
- Shared lane markings should be spaced 100 to 250 feet apart.

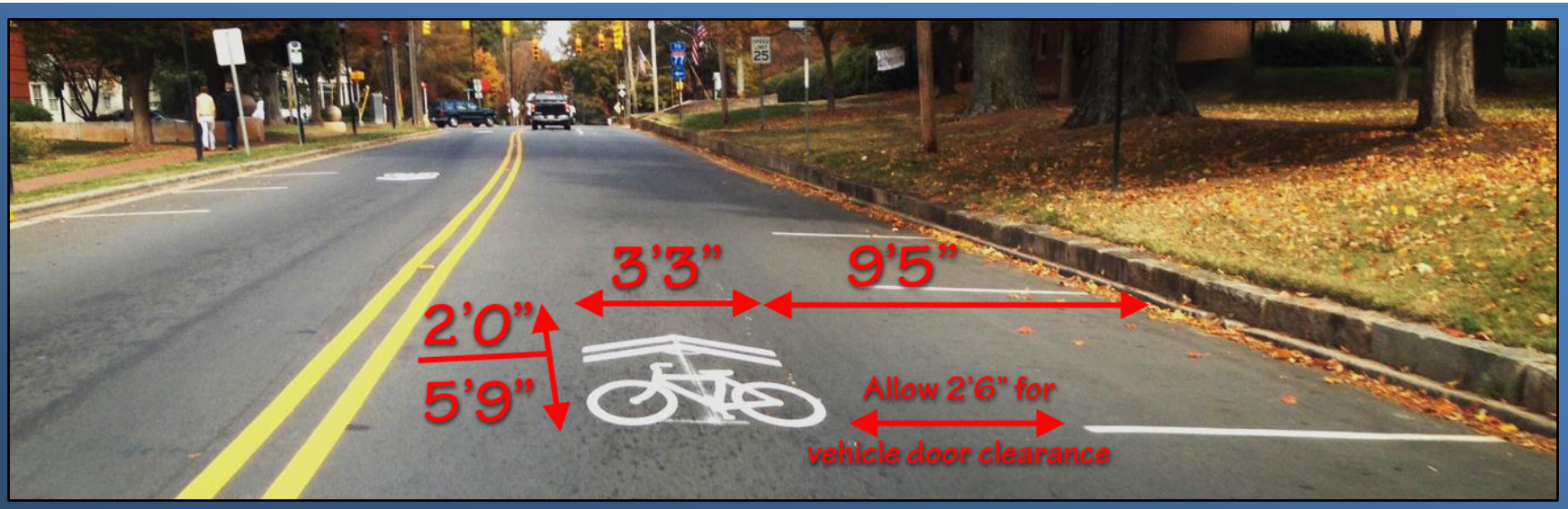


Figure 6-1: Example Shared Lane Markings (See MUTCD Chpater 9C. Markings).

Signed Bicycle Segment

In this plan, Sampson Street is designated as a signed bicycle segment from downtown out to McKoy Street. This signed route connects downtown and neighborhoods where a special bicycle facility is not needed, primarily due to the very low traffic volume and speed. Signs should be located at major intersections, and also at the beginning and the end of the segment (Reference Figure 6-17 for sign design) .

Neighborhood Streets

Although most neighborhood streets are not formally designated as bicycle routes in this plan, bicycle traffic can safely share neighborhood streets with vehicular traffic at low traffic volumes of less than 3,000 cars per day and lower speed limits.

Proposed Signed Segment along Sampson Street

Fisher Drive – Example Neighborhood Street Connecting to downtown and Fisher Drive Park

Figure 6-4: Example Signed Route and Neighborhood Route.

Intersection Configuration

Creating safe intersections for bicycle traffic is an important element in helping create an efficient and safe bicycle network. The Manual on Uniform Traffic Control Devices (MUTCD) provides guidance on lane delineation, intersection treatments, and general application of pavement wording and symbols for on-road bicycle facilities and off-road paths (use most current version). An example from the MUTCD is depicted in Figures 6-5 and 6-6.

Typical Guidelines and Considerations for Intersections

- Most intersections do not provide a designated place for bicycle traffic.
- Multi-lane and wide intersections present difficult obstacles for safe crossing due to multiple traffic patterns and movements and difficult visibility.
- Most traffic signal detection devices do not recognize / detect bicycle traffic.
- When a left turn is required, bicyclist typically must cross several lanes prior to making the turn or either dismount and walk the bicycle across as a pedestrian.
- Right turn lanes often present challenges for bicyclists traveling straight through as vehicles move right.

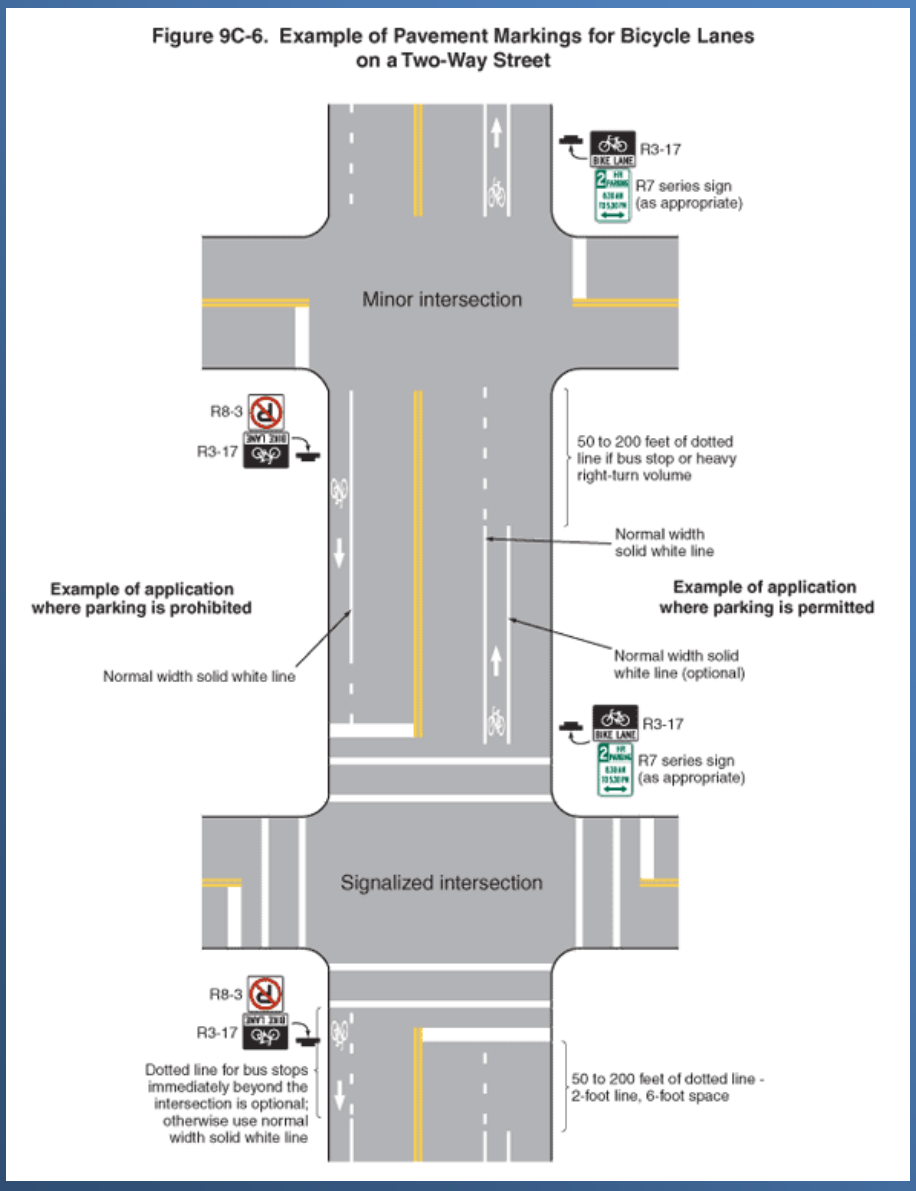
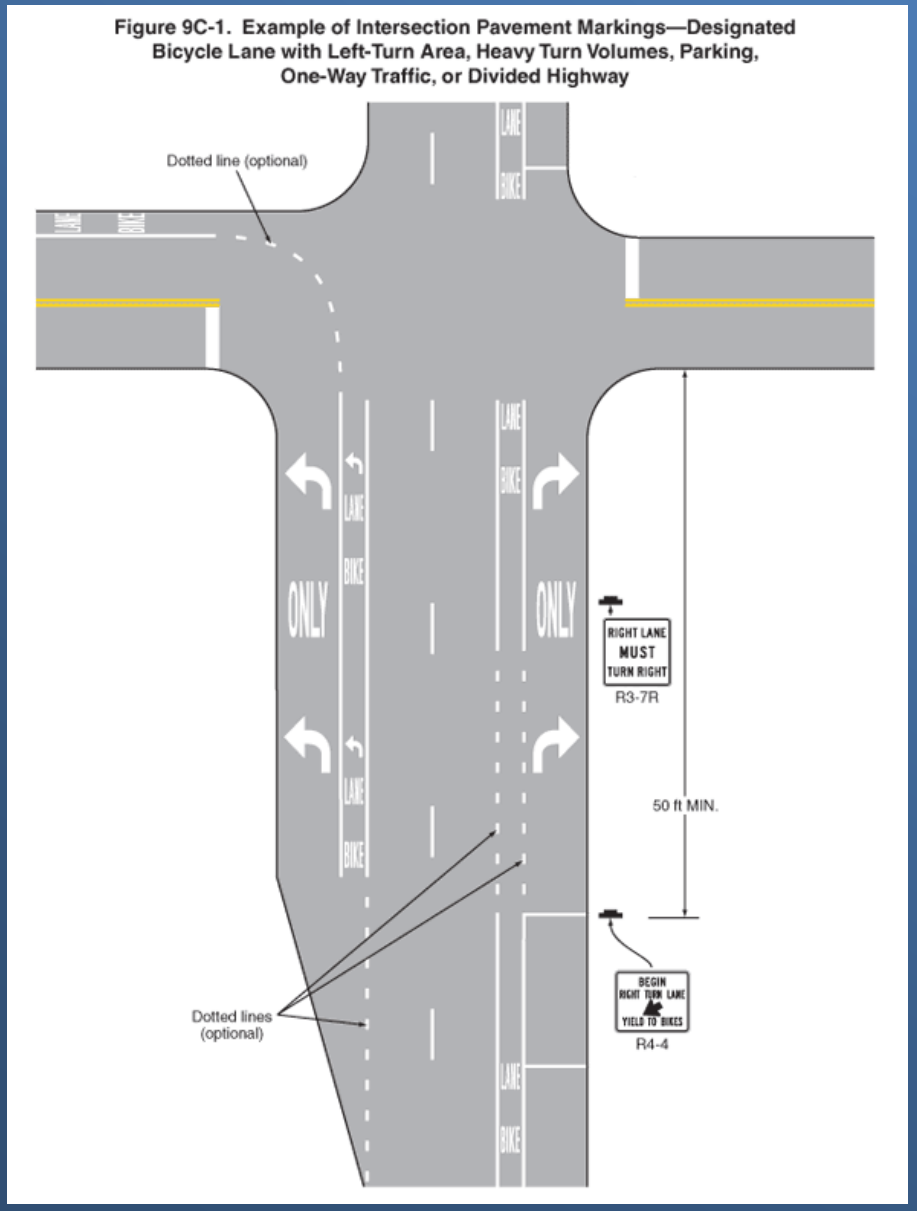


Figure 6-5: Pavement Markings at Intersections (MUTCD)



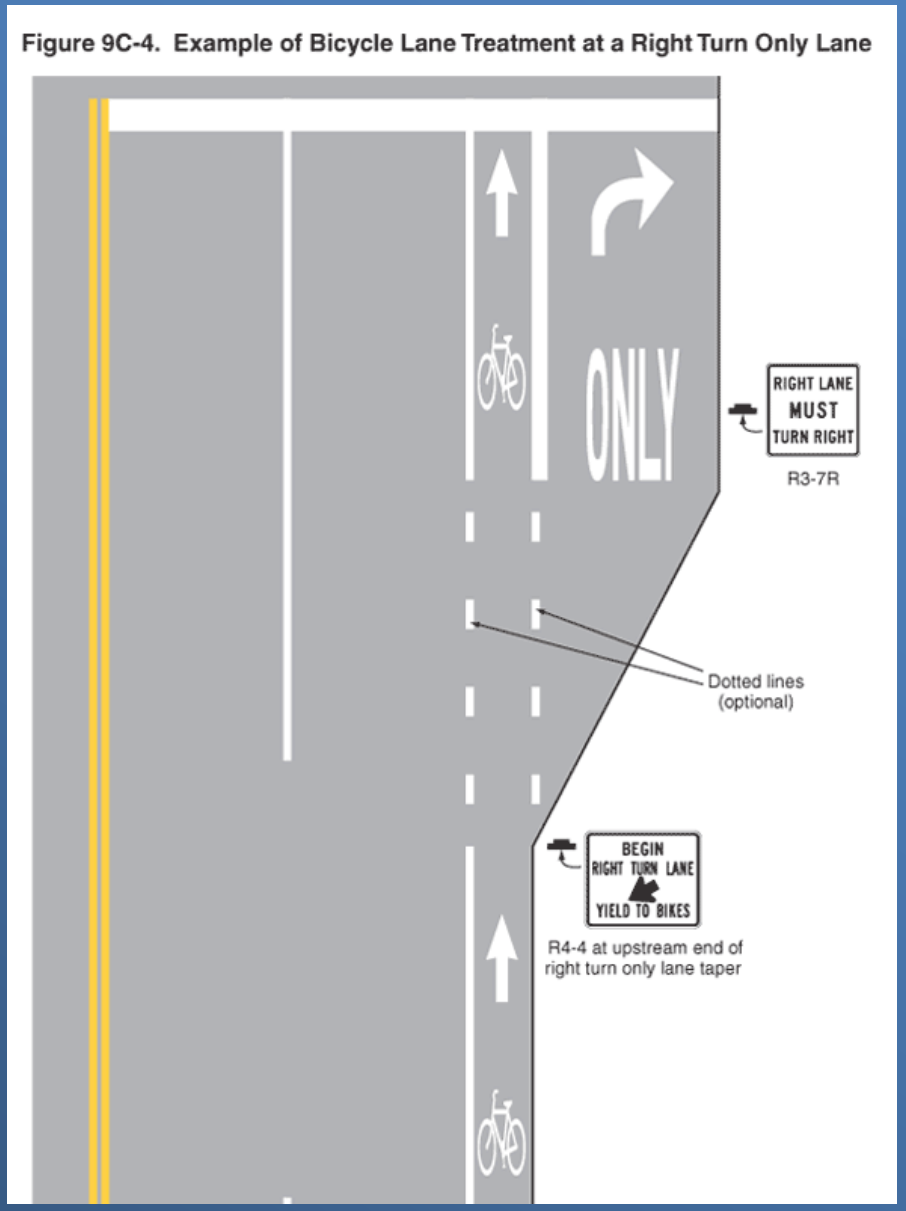


Figure 6-6: Left and Right Lane Intersection Treatments (MUTCD)

Roundabouts

Clinton has one roundabout, which is located at the southern terminus of the proposed Elizabeth Street side path. The one-way circular traffic pattern around the circle helps to lower speeds and reduce crashes with bicycle traffic; however, there are some basic considerations that should be planned for to help bicycle traffic navigate the traffic circle.

Typical Guidelines and Considerations for Intersections

- A one lane roundabout, like the current roundabout at the end of Elizabeth Street is best suited for bicycle traffic.
- It is more safe for bicycle traffic to merge with vehicular traffic at traffic circles than to mark bicycle lanes
- Less experienced bicyclists may dismount and cross roundabouts at the pedestrian crossings.

Figure 6-7: Existing Roundabout at Terminus of Elizabeth Street

Sidepaths

The Elizabeth Street Corridor from Chestnut Street to the Middle and High Schools is recommended as a side path in the Pedestrian Plan and in this Bicycle Plan. This type of facility is multi-use and typically located within the roadway corridor right-of-way, or adjacent to roads where there are few driveways and major intersections. A sidepath is located within the roadway corridor right-of-way, or adjacent to roads, hence the name 'Sidepath'. These sidepaths provide a safe walking space for pedestrians and enables a variety of users / modes to stay out of a busy street. Sidepaths are best utilized along roadways that have limited driveway curb-cuts and are located mostly on one side of the roadway as with the Elizabeth Street project where it is alongside a farm field with only a few curb-cuts and is separated from the roadway by a drainage ditch. It is recommended that sidepaths be at least 10' in width to allow for safe passage of all trail users. As mentioned previously, a planted buffer, a drainage ditch or some other buffer should be incorporated into the design.

Drainage Grates

Many of the streets recommended for bicycle improvements in Clinton have drainage grates. Drainage grates usually occupy portions of streets in areas where bicycles frequently travel. The drainage grates present barriers as they are often poorly maintained or designed, or installed in such a way that may damage a bicycle wheel and could cause a bicyclist to crash. Bicycle traffic will often navigate around drains into vehicular traffic. The replacement of bicycle grates along streets designated as bicycle routes to more bicycle friendly drainage grates will help improve the safety for bicyclists. After a major storm event, public works crews should consider examining drainage grates along bicycle routes as a priority. Although dangerous grates were not identified, an example is displayed below.

Bicycle Friendly Drainage Grate

Dangerous Drainage Grate for Bicycles

Figure 6-8: Example Drainage Grates

Bicycle Parking

As Clinton improves its bicycle network, it is anticipated bicycle use will increase. It will be important for the City to consider incorporating requirements for bicycles and bicycle parking into the planning of public and private buildings and facilities. The guidelines below should be considered as the City moves forward.

Typical Guidelines and Considerations for Bicycle Parking

- A bicycle rack should properly support the frame of a bicycle in two places allowing one or both wheels to be secured in an upright position.
- Bicycle racks should have a minimum clearance of 15" such as an inverted "U" rack.
- Bicycle racks should be positioned in areas that will not impede pedestrian activity.
- Consider bicycle rack locations that are protected from weather to encourage long term parking use.

Figure 6-9: Inverted "U" Bicycle Rack

C. Crossing Facility Design (at Intersections for inexperienced bicyclists)

In addition to the actual sidewalk or trail facility standards and construction, additional facilities are needed to ensure safe crossings and a safe environment for pedestrians. These facilities include crosswalks, mid-block crossings, signage and design details throughout the pedestrian system. The sections that follow cover these facilities.

Crosswalk Facilities (for inexperienced bicyclists)

An important ingredient in creating a walkable community is the installation and maintenance of crosswalks that are well placed and designed, helping to reduce pedestrian crashes. Marked crosswalks designate a pedestrian right-of-way at the point of street crossing. Crosswalks can be designed multiple ways, and may be made of various materials. The basic crosswalk patterns are displayed to the right. This plan has recommended the installation of a ladder style crosswalk across Beaman Street at the hospital, providing greater visibility than the standard parallel line pavement markings. Marked pedestrian crosswalks are primarily utilized at locations with traffic signals or stop signs, at non-signalized street crossing locations in designated school zones, and at non-signalized locations where engineering judgment dictates that the use of specifically designated crosswalks are desirable. The primary style of pavement marking is the standard parallel crosswalk stripping.

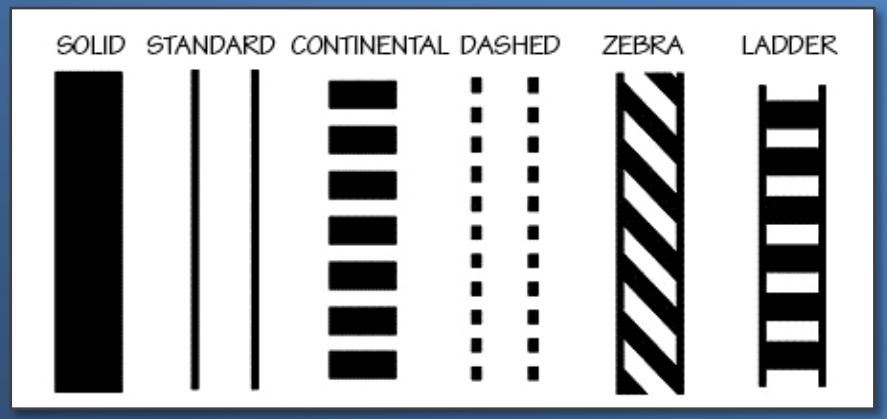


Figure 6-10: Typical Crosswalk Markings

Source: Federal Highway Administration

Other crosswalk possibilities include crosswalks made of decorative paving materials as seen in downtown. These types of crosswalks require additional maintenance and can be expensive to install; however, they are effective in providing key visuals cues to pedestrians and the motoring public. Crosswalks can be slightly raised in elevation as part of a speed hump or speed table and texture or decorative paint can be added as well. Recent trends include thermoplastic inlays that provide texture, color and custom designs. The most important factor to consider with pavements materials is the installation of non-skid, smooth and visible materials. More recent advances in crosswalk include in pavement safety lighting; however, these types of facilities are not recommended for Clinton at this time as the conflicts between pedestrians and motorists are not as high at night in Clinton. Most crosswalks are at least six feet in width, and in downtown Clinton they may need to be slightly wider based on engineering study and analysis.

Typical Guidelines and Considerations for Crosswalk Improvements

- Crosswalks are not encouraged in uncontrolled/signalized environments where speeds exceed 40 mph.
- In addition to crosswalks, it may be necessary to include other pedestrian safety crossing measures, especially on streets with annual average daily traffic (AADT) above 10,000, which are primarily located along NC 24 and US 701 Business.
- Crosswalks need to be at least six feet in width, or larger, based on the width of adjacent sidewalks, pedestrian crossing volumes and intersection design.
- Sidewalk curb ramps and any sloped areas should be included within the crosswalk markings.
- The pavement markings for crosswalks should extend the entire length of the intersection that it crosses.
- MUTCD guidelines should be followed for the crosswalk pavement markings.
- NCDOT requires pedestrian facilities on both sides of the roadway when painted crosswalks are installed.

Stop Bar Markings

Other measures to improve pedestrian safety, while improving crosswalk markings, is to restripe the vehicle stop bars 15–30 feet back from the new pedestrian crosswalks at signalized crossings and mid-block crossings. Moving the stop bar back will increases vehicle and pedestrian visibility. Advance stop bars should be 1 to 2 feet wide and extend across all approach lanes at intersections. Moving the stop bar back allows motorists and pedestrians alike adequate time to determine safe movements. Also, numerous studies have shown that increased distance reduces pedestrian crashes, and when combined with signage, such as “Stop Here for Pedestrians”, vehicular incidents with pedestrians are further reduced.

Curb Ramps

Curb ramps provide access for persons with permanent and temporary disabilities, as well as persons with decreased mobility due to advanced age or other non-disabling factors. The sloped transition provides access between the sidewalk and roadway for wheelchair users, people using walkers, crutches, or handcarts, people pushing bicycles or strollers, and pedestrians with mobility or other physical impairments. Curb ramps must be installed at all intersections and mid-block crossing locations where pedestrian crossings exist as required by the 1973 Federal Rehabilitation Act and the 1990 Federal ADA requirements. Curb ramps should abide by the maximum slope guidelines, striving for less steep slopes as conditions allow. All new construction or altered pedestrian crossing areas along roadways must now include curb ramps.

As the conditions and physical environment allow, two separate curb ramps should be provided at each intersection in place of a single, large curb ramp that provides access to two crosswalks. The single curb ramp, while it may be less expensive to construct, can misdirect pedestrians as they enter into the crosswalk and roadway, potentially directing them into the path of a vehicle. Single ramps should be carefully studied prior to installing versus the dual ramp method.

Detailed information concerning curb ramps can be reviewed in the Accessible Rights-of-Way: A Design Guide, by the U.S. Access Board and the Federal Highway Administration, and Designing Sidewalks and Trails for Access, by the Federal Highway Administration.

Figure 6-11: Curb Ramp and Decorative Crosswalk

Typical Curb Ramp Guidelines

- Carefully review the installation of single curb ramps for safety issues, evaluating traffic volumes and misdirection potential.
- Consider the installation of two separate curb ramps as the typical method, one for each crosswalk, at each corner of the intersection.
- Curb ramp slopes should be no greater than 8 percent with side flares not exceeding 10 percent.

Mid-Block Crossings

Mid-block pedestrian crossings can be installed in locations where there is a great enough distance between intersections and sufficient pedestrian traffic to create a potential safety concern. Typically, such crossings should be at least 300 feet from a signalized crossing or intersection. The installation of warning signs in these situations is required to ensure that the facility is highly visible to motorists. Further information regarding mid-block crossings can be found at http://www.ncdot.org/doh/PRECONSTRUCT/traffic/teppl/Topics/C-36/C-36_pr.pdf.

Medians

Medians provide a barrier in the center of streets and roads to separate lanes of vehicular traffic. Medians provide the opportunity to create pedestrian refuge areas. Medians can protect pedestrians if they are unable to make it all the way across the intersection, or if they need to pause and wait for oncoming traffic. Medians can also be landscaped to provide a sense of enclosure for vehicles as landscaping can help to calm traffic.

For US 701 Business, a median will be appropriate for the traffic-volume, higher-speeds, providing much needed cues for motorist and pedestrians to easily identify the boundary between the crossing island and the street.

Figure 6-12: Landscaped Median, Crosswalk and Curb Ramp

Median Guidelines

- Utilize medians to create pedestrian refuge islands for crossing busy or wide roadways at either mid-block locations or intersections, especially along high speed and high volume roadways.
- If the space allows, medians should include trees and landscape plantings to enhance the visual character of the street, while having a traffic calming effect as well. Landscaping should not impede visibility of the motoring public or pedestrians.
- In designing medians, crossings should incorporate ramps or cut-through pathways increased accessibility and ease of use.
- All median crossings should be at least 6 feet in width to accommodate more than one pedestrian; although a more generous 8 foot width will provide enough space for wheelchairs, larger groups of pedestrians and bicycles.
- Primarily for wheelchair users, median crossings should include a level landing that is at least four feet square, providing a balanced resting point.
- Where streets are in excess of 60 feet, push-buttons for signalized crossings should be installed to operate the signals.
- Crossings in excess of 60 feet in width should be provided with medians or crossing islands and curb extensions.

Curb Extensions

Curb extensions provide increased viewing distance for pedestrians and drivers, while narrowing the distance a pedestrian has to cross. For example, on a 40 foot wide roadway with two traffic lanes and on street parking, through using extensions, also known as bulb-outs, a pedestrian can reduce their travel distance across the roadway by 10 to 14 feet with curb extensions. These pedestrian facilities work best at intersections or mid-block crossings where on street parking is present, and should not impede traffic flow by extending into the travel way.

Figure 6-13: Curb Extension or Bulb-outs

Typical Curb Extension Guidelines

- Curb extension or bulb-outs are most effective to use where parking may limit drivers' view of crossing pedestrians.
- Utilize curb extensions with mid-block crossings as feasible.
- In areas where large truck traffic makes right hand turns, curb extensions should be studied carefully to avoid the frequent destruction of the curb extension facilities.

D. Signal Design

Traffic Signals

It is important that traffic signals in highly traveled pedestrian areas are designed to allow for safe crossing times. In areas where older persons and young children will be walking, signal timings may need be adjusted to increase the length of time allowed for crossing. For example, the Manual on Uniform Traffic Control Devices (MUTCD) suggests 4 feet per second timing in traffic signals for safe pedestrian crossings. The City of Clinton should work closely with NCDOT to determine if traffic signals planned for NC 24 should have longer signal times to allow for older and younger persons to cross safely. A possible solution for these age groups would be to lower the timing speed to 3.5 feet per second.

Pedestrian Signals

Many different tools exist to communicate with pedestrians when it is safe to cross roadways. Some of the methods identified by the Pedestrian and Bicycle Information Center include the international symbols for Walk or Don't Walk, large traffic signals, traffic signals positioned so that those waiting at a red-light cannot see the opposing traffic signal and anticipate their own green-light, installing countdown signals to provide pedestrians information on how long they have remaining in the crossing interval, automatic pedestrian sensors, and selecting the proper signal timing intervals.

Figure 6-14: International "Hand" Symbol for "Don't Walk" and a "Walker" for "Walk"

According to the MUTCD, international pedestrian signal indication should be used at traffic signals whenever warranted. Instead of earlier signalization that featured "WALK" and "DON'T WALK", international pedestrian symbols should be used on all new traffic signal installations as illustrated at right. In order to ensure this transition, existing "WALK" and "DON'T WALK" signals should be replaced with international symbols when they reach the end of their useful life or construction projects take place that affect the intersection.

A new type of pedestrian signal called a HAWK, or High Intensity Active Crosswalk, has been developed to provide an additional level of control at unsignalized intersections to assist pedestrian crossings that would otherwise be dangerous given the level of traffic or design of the roadway. These signals integrate a pedestrian activated traffic signal and pedestrian crossing signal to stop traffic from entering the intersection. Additional information on HAWK signals can be found at http://mutcd.fhwa.dot.gov/htm/2009/part4/part4f.htm.

Audible signals may be used to supplement the lighted pedestrian signals in areas with higher traffic volumes. These signals are important for providing a secondary means of warning to pedestrians who may be distracted as they cross an intersection, or who may have a sight impairment handicap. Countdown timers should be added, in accordance with NCDOT policy, to provide even greater safety to an

intersection by giving additional visual clues to pedestrians about the amount of time remaining before the walk signal is changing. Given the greater expense of adding these features, they should be employed only in areas that have a level of pedestrian traffic that justifies the increased expenditure or in areas that have identified safety issues that could be mitigated with the additional level of signalization.

Going hand in hand with the timing of traffic signals is the timing of pedestrian signals. Signals should be timed and coordinated with the traffic signals in a manner that ensures the greatest amount of safety is provided to both motorists and pedestrians. In establishing timing and signalization patterns at intersection it is important to consider the volume of turning traffic that may conflict with pedestrians, and ensure that pedestrians are given adequate time to cross intersections while limiting the chance of conflict with turning traffic. Various signal timing methods can be employed depending on each particular intersection's needs and traffic volume/pattern, including having signals that allow only pedestrian traffic while holding vehicular traffic, or even giving pedestrians a lead time ahead of parallel vehicular traffic in order to make them more visible in the intersection. The wait time between clear signals for pedestrians also has to be considered since long intervals between signals can lead to an increased chance for illegal crossing against the signal, which actually reduces the safety of an intersection. In high volume locations it is recommended that pedestrians be given a clear signal during each light cycle without needing to activate a signal manually. At lower volume intersections pedestrian activated push-button type signals are a good alternative, while eliminating delays associated with pedestrian signals during times when they aren't needed due to low volumes.

Typical Pedestrian Signal Guidelines

- Pedestrian signals should be sized appropriately for the context that they are placed in.
- Where traffic volumes warrant, clear pedestrian signals should be provided during each light cycle.
- Pedestrian signals should be designed to ensure maximum visibility for both pedestrians and motorists.
- Where pedestrian signals must be manually activated, the push buttons should be adequately signed.
- Countdown timers should be included with all pedestrian signals and should be supplemented with audible signals where needed.

E. Bicycle Signage

Warning and Regulatory Signs

Signs are utilized along sidewalks and roadways to inform bicyclists, pedestrians and motorists of the potential presence of bicycle and pedestrian activity. Specifically, the signs primarily warn motorists of the location of bicycle and pedestrian crossings, restrictions on crossing or certain turning movements for vehicles as well as general regulations about yielding to bicyclists and pedestrians. The primary purpose of these signs are to ensure that motorists are aware of the bicycle and pedestrian activities in certain locations in the hope that they will drive more carefully and be more alert to the presence of each. These signs are also used to direct bicyclists and pedestrians to locations where it is legal and safe for them to cross the street, or where dangers, such as hidden driveways, road obstructions or changes in plane along the sidewalk, are located. The MUTCD is the primary document that regulates the placement, color, height and design of bicycle, pedestrian and vehicular signage, and should be followed strictly in an effort to ensure that all such signage is designed and located in the most appropriate and nationally acceptable manner. One of the primary concerns about signage is over-signing, or the installation of too many signs in a particular location. This type of situation can lead to confusion or may "hide" important regulatory or warning signs due to visual clutter. This is an issue that can be caused by both public and commercial signage, particularly when commercial signs are illegally placed in the right-of-way, or public signs are lost amongst the clutter of a heavily signed roadway. In addition to warning signage, flashing warning signals may operate in conjunction as with the crossing across Beaman Street at the hospital. New LED

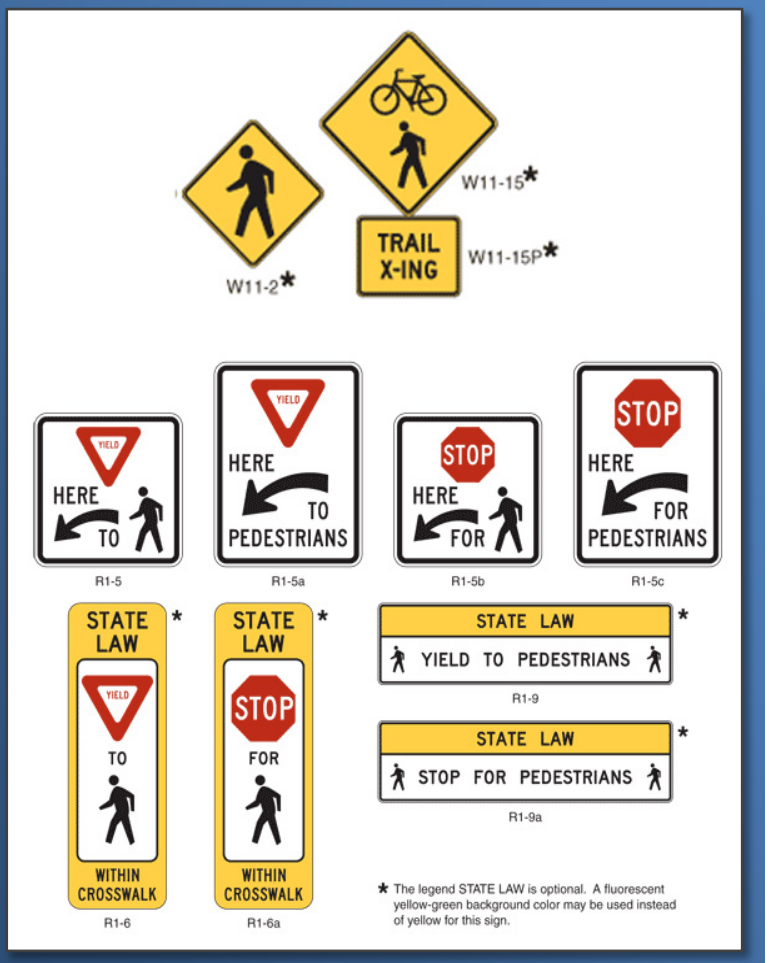


Figure 6-15: Example of BIKE? Warning Signage

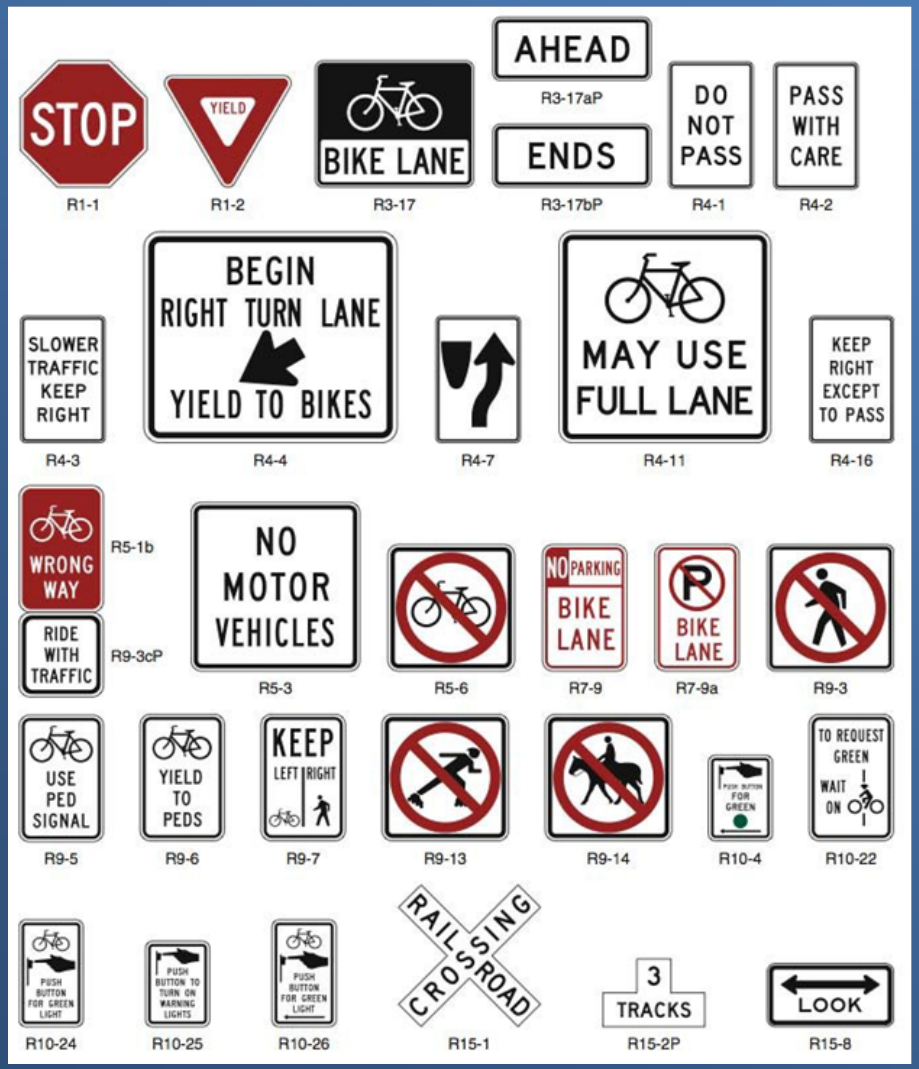
technology has led to the creation of a new generation of flashing warning signals called rectangular rapid flash beacons (RRFB). The RRFBs require state and federal approval for use, and are currently not recommended for use in Clinton's signal system. Rectangular Rapid Flash Beacons (RRFB) can enhance safety by reducing crashes between vehicles and pedestrians at unsignalized intersections and mid-block pedestrian crossings by increasing driver awareness of potential pedestrian conflicts. RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system. RRFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles. The RRFBs require state and federal approval for use, and are currently not recommended for use in Clinton's signal system.

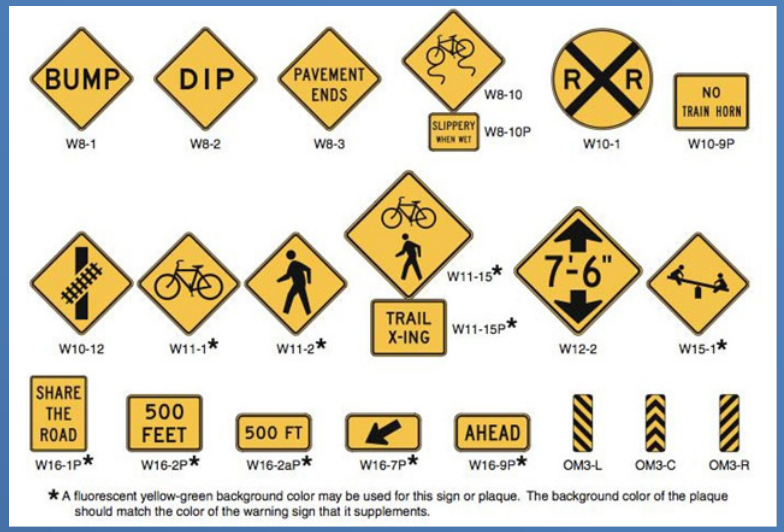
Warning and Regulatory Signage Guidelines

- Warning and regulatory signs should be placed in all locations that have high volume or dedicated pedestrian crossings.
- While adequate signing should be provided, the overuse of signs should be avoided.
- All regulatory and warning signs should be installed in conformance with the MUTCD.

Figure 6-16: Example of Rectangular Rapid Flashing Beacons

http://safetv.fhwa.dot.gov/intersection/resources/techsum/fhwasa0909/





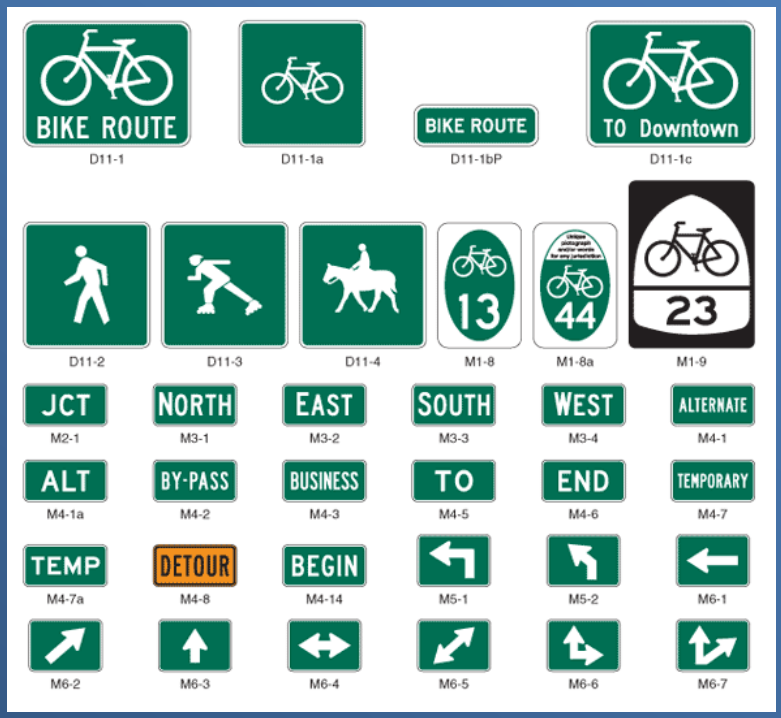


Figure 6-17: Example of Bicycle Related Warning and Directional Signage

Wayfinding Signage

While it may not seem on the surface to be a safety measure, to pedestrians and bicyclists, knowing the location of their destination may help them to stay more focused. Particularly in downtown situations where multiple ways may exist to arrive at a destination, wayfinding signage can help pedestrians and bicyclists find important civic and entertainment destinations. In the City of Clinton, downtown destinations may include government offices, the library, city offices, the park, historic neighborhoods and the planned art installation.

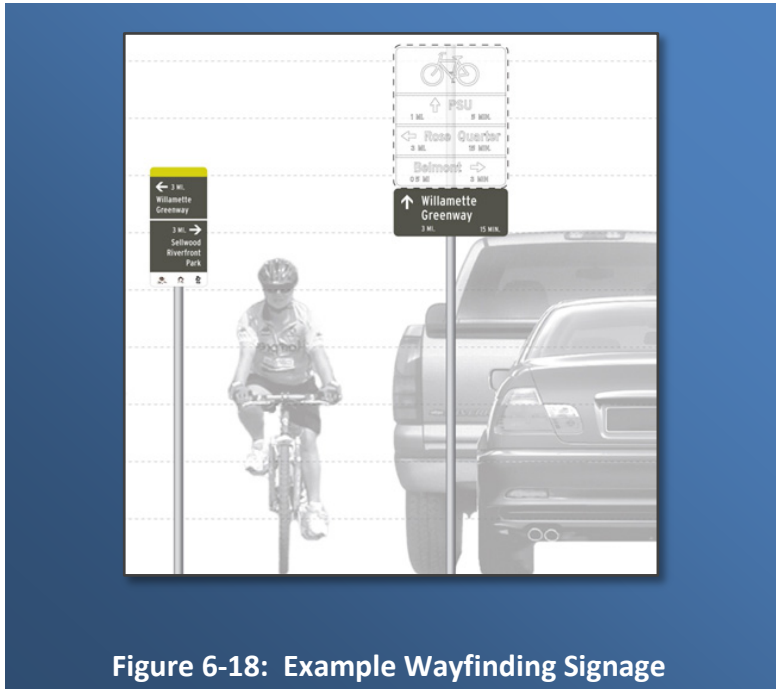


Figure 6-18: Example Wayfinding Signage

Wayfinding Sign Guidelines

- Wayfinding signage should be scaled appropriately for pedestrians and bicyclists, including both the size of the signs and the size of the lettering.
- Signage should be placed in locations that do not interfere with safety or warning signs.
- Signs should be mounted at heights that are appropriate.

F. Traffic Calming

Traffic calming is the purposeful use of design strategies to slow down automobiles and increase the visibility of pedestrians and bicyclists to the motoring public. Many tools are available that have been proven to reduce traffic speeds and, consequently, reduce the number of bicycle and pedestrian deaths. Particularly, methods of calming traffic complement areas that already have well-designed bicycle and pedestrian facilities. In the absence of a bicycle and pedestrian network, riders and walkers can be forced into the path of vehicles, causing potential problems, especially for bicyclists and pedestrians with any disabilities. For example, speed tables and speed humps can force bicyclists and pedestrians to negotiate an elevation change if safe connections are not in place. Also, methods such as neighborhood traffic circles and roundabouts in areas without good crossing facilities can create an unprotected and uncomfortable environment for bicyclists

and pedestrians trying to navigate across. Any installation of traffic calming measures should always include bicycle and pedestrian facilities that allow for safe crossings and connections.

The primary goals of traffic calming according to the Federal Highway Administration are to:

- Apply physical, engineered measures to compel drivers to slow down and to decrease traffic volumes;
- Implement self-enforcing rather than regulatory measures;
- Reduce cut-through traffic;
- Increase the safety of children, pedestrians, bicyclists, and motorists;
- Maximize street life and pedestrian activity;
- Prevent crime; and
- Enhance urban redevelopment

Speed Humps / Speed Tables

When properly designed, speed humps and tables can provide reduced traffic speeds and allow for a safer environment for bicyclists and pedestrians when crossing the street. Speed humps are usually formed from asphalt, concrete or rubber and have longer slopes to avoid the creation of a speed bump. One common criticism of the speed hump is potential for reducing response time for emergency vehicles. Speed humps should be installed in critical areas only to avoid creating barriers for emergency services vehicles. Speed tables or raised intersections have a wider flat surface on top and can serve as an elevated or raised platform for bicyclists or pedestrians to cross safely. At this time, speed humps and tables are not recommended at any particular location within Clinton.

Chicanes and Chokers

Chicanes help reduce traffic speed by creating a horizontal deflection through the use of staggered buildouts, much like curb extensions to form a bend or curve in what normally would be a straight roadway. This bend in the road causes drives to slow the speed of their vehicles. Bicycle facilities and pedestrian crossing can be incorporated if designed properly. Chokers work similarly to Chicanes; however, instead of creating a bend, the chokers narrow the roadway to one lane causing vehicles to allow approaching vehicles to pass through

first. Chicanes and chokers are currently not recommended for any location in Clinton at this time. Although these methods may be important in the future if any specific concerns arise that may warrant the use of a chicane or choker design.

Road Diets

The implementation of "road diets," or reductions in the width and number of vehicular travel lanes on a multi-lane facility, can be an effective tool to calm traffic as well as provide additional accommodation for non-motorized transportation, such as sidewalks and dedicated bicycle lanes. The implementation of a road diet will typically reduce a four or five lane facility to a three lane facility; with one travel lane in each direction and either a center turn lane or a median, depending on the development pattern along the corridor and safety considerations. Of particular benefit to pedestrians and bicyclists is the reduction in the number of lanes of traffic that must be navigated in order to cross an intersection. The narrower roadway also provides opportunities for the installation of pedestrian and bicyclist refuges at intersections and mid-block crossing locations. The reduction in the number of travel lanes also provides a better delineation and separation between all modes of transportation, creating a much safer environment for all.

Curb Radii

When streets intersect at an obtuse angle or have a large curb radius, motorists can make turns at relatively high speeds. By contrast, 90-degree intersections and corners with tight curb radii tend to slow motorists down. The problem with obtuse angles is particularly bad when a vehicle on an arterial street turns onto a residential street. Bicyclists and pedestrians crossing the residential street adjacent to the arterial may not expect high-speed turning traffic, or they may have their backs facing the turning cars, creating a potentially dangerous situation. To counteract this potentially hazardous situation, it is recommended that intersections in areas where bicycle and pedestrian activity is likely, and in all cases where bicycle and pedestrian facilities are present, be designed with 90-degree radii to slow the rate of speed of turning vehicular traffic.

G. Additional Considerations

Bridges

The City of Clinton has several bridges that will be in need of improvement or replacement in the years ahead. In the pedestrian plan, several bridges were identified that create barriers to pedestrian connectivity because they were not designed to allow for safe pedestrian crossings and those bridges may present safety issues for bicyclists who may dismount and walk across a bridge. In particular, the bridge crossing Elizabeth Street will require many improvements before it will be safe, including sidewalks that are a minimum of 5.5 feet wide and a hand rail with a minimum height of 42 inches along the edges of the bridge. These improvements may be expensive and will potentially slow the implementation of a shared use path to the schools. Building the shared use path at this time is an important priority; however, the bridge crossing should be addressed concurrently.

Although current bridge policies address pedestrian and bicyclist access, the City should continue to work closely with NCDOT as new bridges are built in the future and as older bridge facilities are replaced or repaired. Pedestrian and bicyclist use should be an important consideration in the design of the bridge facilities, whether or not the bridge is located along an identified pedestrian route. Providing adequate pedestrian and bicycle facilities now, or at least the space for them on new and improved bridge facilities, will ensure the bridge can accommodate future pedestrian and bicycle improvements as the need may arise. The Old Williams Mill Branch Bridge along Beaman Street should be designed to accommodate pedestrians and bicyclists when it is replaced as part of the Beaman Street improvements.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Appendix A. Public Input Summary

A. Public Input Summary

Introduction

Throughout the planning process, the steering committee worked to gather public input, employing a variety of methods to garner as much input as possible. Among the methods that were utilized, the most fruitful was the public event workshop and focus groups. The committee also utilized an online presence through the use of the interactive project website and survey. Print media, the City's website and word of mouth advertising by steering committee members and City Staff was utilized to inform the public about the bicycle plan process. As part of the outreach efforts, a conscious decision was made to engage as broad a cross section of the community as possible.

Project Website

An important communication tool utilized throughout the process was the www.benchmarkplanning.com/clinton project website. This website was specifically dedicated to the planning process for receiving feedback from the City's residents. The website included information regarding the project background, purpose, upcoming events, presentations and important contact information.

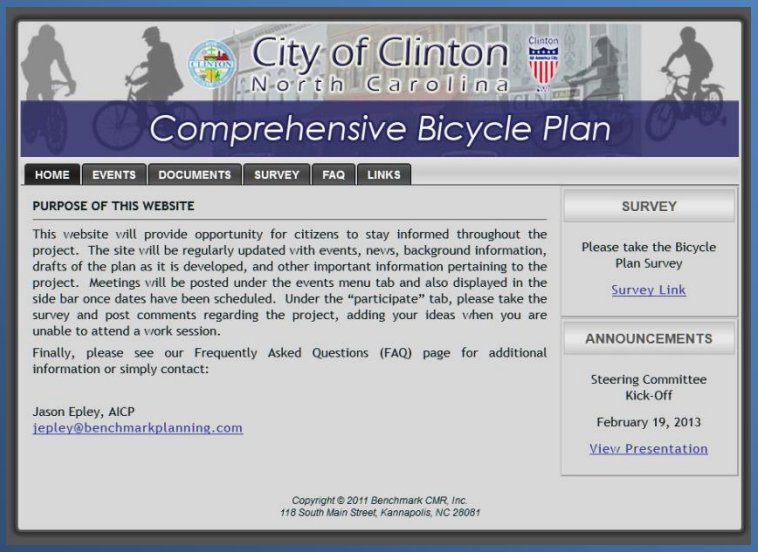

Figure A-1: Project Website

Bicycle Plan Survey

Residents of all ages were invited to complete the bicycle planning survey to provide input into helping make Clinton a more connected city and safer to place to bike. The survey covered the following major topics:

- Bicycling habits
- Barriers to cycling in Clinton
- Desired bicycle opportunities
- Priorities for Bicycle improvements
- General thoughts and ideas

Although the survey did not yield as many responses as the pedestrian plan survey, the responses were utilized by the committee throughout the development of the existing conditions and the plan recommendations. The detailed responses to each question are listed below.

1. Are you a resident of Clinton?		
Answer Options	**Response Percent**	**Response Count**
Yes	65%	26
No	35%	14
If not, what is your ZIP code?		13
		Other Zip Codes
		28328 (5)
		28285 (1)
		28382 (3)
		28441 (1)
		28405 (1)
		28334 (2)

2. What is your age?		
Answer Options	**Response Percent**	**Response Count**
Age		
0 - 15	12.5%	5
16 - 25	7.5%	3
26 - 40	10.0%	4
41 - 55	52.5%	21
56 - 70	15.0%	6
71 and older	2.5%	1
	answered question	**40**

3. How often do you ride a bicycle?		
Answer Options	**Response Percent**	**Response Count**
Every day	5.1%	2
Several days a week	15.4%	6
Several days a month	41.0%	16
Not at all	38.5%	15
	answered question	**39**
	skipped question	**1**

4. What is your main purpose for riding a bicycle?		
Answer Options	**Response Percent**	**Response Count**
Transportation for daily activities (work, shopping, etc)	0.0%	0
Recreation / Fitness	96.7%	29
Interaction with neighbors / Social	3.3%	1
Other (please specify)		20
	answered question	**30**
	skipped question	**10**

5. When you ride a bicycle, where are you going? (Check all that apply)		
Answer Options	**Response Percent**	**Response Count**
Downtown	26.7%	4
Library	0%	0
Shopping	0%	0
School	0%	0
Work	6.7%	1
Park	33.3%	5
Neighbors	46.7%	7
Other (please specify)		14
*Primary responses to other included: neighborhood, recreation, everywhere, and trails.		
	answered question	**15**
	skipped question	**25**

6. What discourages you from biking more frequently? (Check all that apply)		
Answer Options	**Response Percent**	**Response Count**
Lack of bicycle facilities	44.8%	13
Aggressive drivers	41.4%	12
Too much traffic	34.5%	10
Poor road conditions	10.3%	3
Crime / Safety	34.5%	10
Other (please specify)		6
*Primary responses to other included: dogs and no safe place to ride.		
	answered question	**29**
	skipped question	**11**

7. What would make you more likely to ride a bicycle in Clinton? (Check all that apply)		
Answer Options	**Response Percent**	**Response Count**
Map of bicycle routes	21.9%	7
Bicycle lanes	68.8%	22
Off-road bike trails	34.4%	11
Traffic enforcement	12.5%	4
Bicycle racks	9,4%	3
Lower speed limits	9.4%	3
	answered question	**32**
	skipped question	**8**

8. What are the top three roadways needing bicycle facilities? (Write in your top three)

- NC / Sunset Ave
- 701 Business (NE and SE Boulevard)
- Fayetteville Street
- Beaman Street
- Downtown in general (various streets)
- Sampson Street
- Warsaw Road
- Elizabeth Street
- Royal Lane
- Barden Street
- Lisbon Street
- Butler Avenue
- McKoy Street
- College Street
- Johnson Street
- Raleigh Road
- Kimbrough Road
- Barrus Avenue
- Park Avenue
- Grove Street
- Oakland Boulevard
- US 421
- Lee Street

9. What are the top three intersections that should be improved for bicyclists? (Write in your top three)

- NC / Sunset Ave (various major intersections)
- 701 Business (various major intersections)
- Downtown (various intersections)
- Fayetteville Street
- Beaman Street
- Warsaw Road
- Elizabeth Street
- Lisbon Street
- McKoy Street
- College Street
- Johnson Street
- US 421

10. Please provide any comments that you have regarding biking in Clinton?

Respondents most commonly indicated they wanted bicycle lanes to better define routes and increase safety for riding bicycles. Others mentioned they would like to see the development of bicycle and greenway trails throughout the city.

Focus Group Meetings and Public Events

Focus Group meetings were held during the process to allow experts and stakeholders one-on-one time with the consultant team and City staff in discussing the plan and recommendations. The focus group meetings were held with various city departments, public safety, the schools, transportation planners, health and wellness professionals and citizen/neighborhood leaders to learn about desired needs and challenges to implementing a bicycle system in Clinton. A public event workshop was held on July XX at an "Alive After Five" music event in Clinton. This public event generated most of the survey response and general public input. A broad range of ages participated in the survey at the event, asking questions about potential bicycle facilities in Clinton. Participants during the public event were also given the opportunity draw lines on the map and discuss ideas with fellow residents, city staff and the consulting team regarding their ideas for bicycling around the city.

Figure A-2: Residents giving input at the Alive After Five Public Event.


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Appendix B. Prioritization and Cost Estimates

A. Introduction

As the bicycle plan was developed, the public input regarding desired improvements was very important as the steering committee evaluated projects and their prioritization level. The steering committee evaluated the background research, consultant recommendations and the public input to develop a unique ranking system for future bicycle projects from the list of recommended improvements. Specific criteria were developed along with corresponding weights for the recommended network and intersection improvements respectively. Cost estimates were prepared for the top five pedestrian network improvements and the top five intersection improvements.

B. Bicycle Network Priorities

Bicycle Network Improvement Project Criteria

A. US/NC Highway (20 points)
B. Connects with high priority pedestrian improvements (facilities and/or intersections) (15 points)
C. Connects to parks/recreational facilities (10 points)
D. Provides direct access to a school (10 points)
E. Connects with planned bicycle network improvement (5 points)
F. Connects residential neighborhoods with Downtown (5 points)
G. Connects residential neighborhood to commercial / employment centers (5 points)
H. Citizen and/or Steering Committee Priority (25 points)

Figure B-1. Bicycle Network Improvement Prioritization Table

No.	Bicycle Corridor	Location		A	B	C	D	E	F	G	H	Total
1	***NC 24 / Sunset Ave***	N. Coharie Dr	Fayetteville St.	20	15	10	10	5	5	5	25	95
2	***Fayetteville Street***	Sunset Ave.	Wall St.	0	15	0	0	5	5	0	25	50
3	***Vance Street***	Wall St.	Sampson St.	0	15	0	0	5	0	0	25	45
4	***North Wall Street***	Vance St.	Elizabeth St.	0	15	0	0	5	0	0	25	45
5	***Main Street***	Wall St.	College St.	0	15	0	0	5	0	0	25	45
6	***Sampson Street***	College St.	McKoy St.	0	15	0	0	5	5	0	25	50
7	McKoy Street	Sampson St.	Northwest Blvd.	0	0	0	0	5	0	0	0	5
8	Northwest Boulevard	Mckoy St. @ Sampson St.	City Limit	20	0	0	0	5	0	0	0	25
9	North Boulevard	Northeast Blvd.	Beaman St.	0	0	0	0	5	0	5	0	10
10	***Beaman Street***	US 701/Isaac Weeks Road	College St.	0	15	0	0	5	5	5	25	55
11	***College Street***	US 701	Sampson St.	0	15	0	0	5	5	5	0	30
12	Warsaw Road	US 701	College St.	0	0	0	0	5	5	5	0	15
13	Morisey Boulevard	Warsaw Rd.	Ferrell St.	0	0	0	0	5	0	0	0	5
14	***US 701 Bus***	City Limit	City Limit	20	15	0	0	5	0	5	25	70
15	Lisbon Street	Butler Ave.	E. Main St.	0	0	0	0	5	5	0	0	10
16	Butler Avenue	Lisbon St.	Ferrell St.	0	0	10	10	5	0	0	0	25
17	Ferrell Street	Butler Ave.	Elizabeth St.	0	0	10	0	5	0	0	0	15
18	***Elizabeth Street***	Lisbon St.	Sampson	0	15	10	10	5	5		25	70
19	SR 5	Sunset/NC 24	Westover Road	0	0	0	0	5	0	5	0	10
20	Westover Road	SR 5	Elizabeth Street	0	0	0	0	5	0	5	0	10
21	Barden Street	Lane St.	Fayetteville St/ Susnset	0	0	10	0	5	0	0	0	15
22	Johnson Street	Beaman Street	Williams/Fayetteville	0	15	10	0	5	0	0	0	30

Note: The top priority projects are highlighted in orange, while the downtown projects are highlighted in green.

Figure B-2. Priority Bicycle Network Improvement and Estimated Costs

No.	Bike Route	From	To	Distance (in Feet)	Road Width	Recommendation	Construction Method	Estimated Cost
1	**NC 24 / Sunset Ave**	N. Coharie Dr	Fayetteville St.	11,850 (x2)	68 to 104	Bicycle Lanes	Stripe & Signs	$30,153
2	**Fayetteville Street**	Sunset Ave.	Wall St.	1,500	40	Shared Lanes - Sharrows	Stripe & Signs	$2,875
	Downtown Projects							
3	**Vance Street**	Wall St.	Sampson St.	460	30	Shared Lanes - Sharrows	Stripe & Signs	$1,150
4	**North Wall Street**	Vance St.	Elizabeth St.	500	40	Shared Lanes - Sharrows	Stripe & Signs	$1,725
5	**Main Street**	Wall St.	College St.	490	58	Shared Lanes - Sharrows	Stripe & Signs	$1,150
6	**Sampson St. (portion)**	College St.	Vance St.	200	28	Shared Lanes - Sharrows	Stripe & Signs	$1,150
18	**Elizabeth St. (portion)**	S. Chestnut St.	Lisbon St.	1,100	25 to 30	Shared Lanes - Sharrows	Stripe & Signs	$3,450
	Subtotal for Downtown Projects: $8,625							
10	**Beaman Street**	US 701/Isaac Weeks Road	College St.	6,700	36	Road Diet & Bicycle Lanes	Road Diet, Stipe & Signs	$9,511
11	**College Street**	US 701	Sampson St.	4,300	40	Bicycle Lanes	Stripe & Signs	$9,867
14	**US 701 Bus**	City Limit	City Limit	24,000	68 to 92	Complete Street Corridor Study prior to resurfacing. Estimated	Various Methods	TBD
18	**Elizabeth Street**	Lisbon St.	Indian Town Rd.	7,200	20 to 25	Shared Use – Side Path	Side Path	$792,00
							TOTAL	**$844,855**

General Cost Estimates

It is important to note that cost estimates are somewhat difficult to pinpoint under the current economic conditions where prices for raw materials continue to fluctuate and contractor bidding remains more competitive, lowering actual construction costs significantly on almost any project. However, based as closely on recent trends as possible, the cost estimates above are to be considered guides and need to be supported by engineering drawings and more accurate cost figures. Cost estimates will also become dated the further out these projects are actually implemented.

Relevant to the recommendations in this plan, the following general cost estimates were utilized:

- Bicycle Lane Striping $0.60 / Linear Foot
- Share Lane - Sharrows $250 each
- Bicycle Signs (all types) $250 each
- Ladder Crosswalks $2,000 each
- Sidepath (Asphalt) $110 / Linear Foot (cleared, compact subsurface pre-existing)

Appendix C. NCDOT Funding Source Research

A. NCDOT Funding Research

Over the history of the Bicycle and Pedestrian Planning Program, NCDOT has put together an extensive collection of funding resources in the collection of Pedestrian Plans that have been produced by consultants under the direction of NCDOTs Division of Bicycle and Pedestrian Planning Branch. Below, as gathered directly from NCDOTs bicycle and pedestrian plan resources and examples, is a list of those resources for possible funding for Clinton's projects. The Advisory Committee along with assistance from City staff will need to evaluate these resources to see if any of the City's projects can be funded, whether in full or partially, by these grants.

B. State and Federal Resources

In North Carolina, most Federal funding is typically directed through State agencies to local governments either in the form of grants or direct appropriations. State budget shortfalls may make it extremely difficult to accurately forecast available funding for future project development. The following is a list of possible Federal and State funding sources that could be used to support construction of bicycle and pedestrian projects. Since these funding categories are difficult to forecast, it is recommended that the City continue to work with the RPO on getting bicycle and pedestrian projects listed in the TIP (Transportation Improvement Program).

Department of Energy (DOE)

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

Although, this grant period has passed, more opportunities may arise. More information can be found at http://www.eecbg.energy.gov/

MAP-21

The most likely source of funding for the bicycle and pedestrian projects would come from the North Carolina Department of Transportation and the federal funding program MAP-21. Some of the sub-programs within MAP-21 and within NCDOT are listed below:

- Strategic Mobility Formula: The Strategic Mobility Formula component of the Strategic Transportation Investments bill (passed into law in 2013) outlines the general structure of NCDOT's project prioritization process. The formula includes three funding categories – Statewide Mobility, Regional Impact and Division Needs. Bike and pedestrian are only eligible within the Division Needs category. Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), and NCDOT Divisions may submit projects through the prioritization process. Independent bike and pedestrian projects (shared-use paths, bike lanes, sidewalks, intersection improvements, etc.) are comparatively evaluated based on safety, access, demand/density, constructability, and benefit-cost criteria. Bike/pedestrian projects must compete with all other transportation modes with projects across all modes ranked collectively. Projects that score well are selected for programming in the State Transportation Improvement Program (TIP). This process occurs every two years. Priority projects are included in the developmental STIP (years 6 to 10) and the 10-year Program & Resource Plan. Further information on state transportation funding legislation and the prioritization process can be found at https://connect.ncdot.gov/projects/planning/Pages/StrategicPrioritization.aspx.

- NCDOT Discretionary Funds: The Statewide Discretionary Fund consists of $10 million and is administered by the Secretary of the Department of Transportation. This fund can be used on any project at any location within the State. Primary, urban, secondary, industrial access, and spot safety projects are eligible for this funding. The City would have to make a direct appeal to the Secretary of NCDOT to access these funds.

- NCDOT Contingency Fund: The Statewide Contingency Fund is a $10 million fund administered by the Secretary of Transportation. Again, the city would have to appeal directly to the Secretary.

- Incidental Projects: Bicycle and pedestrian accommodations such as bike lanes, sidewalks, intersection improvements, widened paved shoulders and bicycle and pedestrian-safe bridge design are frequently included as incidental features of highway projects.

  In addition, bicycle-safe drainage grates are a standard feature of all highway construction. Most pedestrian safety accommodations built by NCDOT are included as part of scheduled highway improvement projects funded with a combination of federal and state roadway construction funds or with a local fund match. Incidental projects are often constructed as part of a larger transportation project, when they are justified by local plans that show these improvements as part of a larger, multi-modal system.

  More information: http://www.ncdot.gov/bikeped/funding/process/

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

The State Trails Program is a section of the N.C. Division of Parks and Recreation. The program originated in 1973 with the North Carolina Trails System Act and is dedicated to helping citizens, organizations and agencies plan, develop and manage all types of trails ranging from greenways and trails for hiking, biking and horseback riding to river trails and off-highway vehicle trails. The Recreation Trails Program awards grants up to $75,000 per project. The Adopt-A-Trail Program awards grants up to $5,000 per project.

Powell Bill Funds

Annually, State street-aid (Powell Bill) allocations are made to incorporated municipalities which establish their eligibility and qualify as provided by G.S. 136-41.1 through 136-41.4. Powell Bill funds shall be expended only for the purposes of maintaining, repairing, constructing, reconstructing or widening of local streets that are the responsibility of the municipalities or for planning, construction, and maintenance of bikeways or sidewalks along public streets and highways.

Land and Water Conservation Trust Fund

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

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

The Parks and Recreation Trust Fund (PARTF) provide dollar-for-dollar matching grants to local governments for parks and recreational projects to serve the general public. Counties, incorporated municipalities and public authorities, as defined by G.S. 159-7, are eligible applicants.

A local government can request a maximum of $500,000 with each application. An applicant must match the grant dollar-for-dollar, 50% of the total cost of the project, and may contribute more than 50%. The appraised value of land to be donated to the applicant can be used as part of the match. The value of in-kind services, such as volunteer work, cannot be used as part of the match. http://www.ncparks.gov/About/grants/partf_main.php

Safe Routes to School Program

Safe Routes to School (SRTS) is a program that enables and encourages children to walk and bike to school. The program helps make walking and bicycling to school a safe and more appealing method of transportation for children. SRTS facilitates the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. The North Carolina Safe Routes to School Program is supported by federal funds through SAFETEA-LU and MAP-21 legislation. Please note that all SRTS projects "shall be treated as projects on a Federal-aid system under chapter 1 of title 23, United States Code." Although no local match is required and all SRTS projects are 100% federally funded under the SAFETEA-LU, agencies are encouraged to leverage other funding sources that may be available to them, including grant awards, local, state, or other federal funding. SRTS funds can be used for proposed projects that are within 2 miles of a school public or private, K-8, in a municipality or in the county jurisdiction. In response to the Strategic Transportation Investments law of June 2013, proposed SRTS projects will be considered as part of the Bicycle and Pedestrian project input with Strategic Prioritization Office for funding consideration. Most of the types of

eligible SRTS projects include sidewalks or a shared-use path. However, intersection improvements (i.e. signalization, marking/upgrading crosswalks, etc.), on street bicycle facilities (bike lanes, wide paved shoulders, etc.) or off-street shared-use paths are also eligible for SRTS funds. For a more inclusive list, please visit the FHWA SRTS program.

C. Local Government Resources

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

Local Area Rural Planning Organization

The Mid-Carolina Rural Planning Organization (RPO) manages the transportation planning process required by Federal law. The RPO plans for the area's surface transportation needs, including highways, transit, bicycle, and pedestrian facilities. There are two subcommittees of the RPO: the Technical Advisory Committee and the Technical Coordinating Committee. An important part of the transportation planning process is to identify transportation needs and to explore feasible alternatives to meet those needs. Plans and programs are often conducted in partnership with the NC Department of Transportation to identify needs and projects to enhance Clinton's transportation infrastructure.

It is suggested that the City work closely with the RPO on getting these projects listed on the TIP since this may be the primary source of funding for the project. Typically, projects on this list require a 20% local match.

City of Clinton Capital Improvement Programming and Reserve Funds

The City of Clinton may have funding available to support some elements of construction or repair. It will be important to meet with City Council representatives and the City Manager to judge the availability of this funding.

Other Local Funding Options

- Bonds/Loans
- Taxes
- Impact fees
- Exactions

- Tax increment financing
- Partnerships

D. Private Sector Resources

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

Land for Tomorrow Campaign

Land for Tomorrow is a diverse partnership of businesses, conservationists, farmers, environmental groups, health professionals and community groups committed to securing support from the public and General Assembly for protecting land, water and historic places. The campaign is asking the North Carolina General Assembly to support issuance of a bond for $200 million a year for five years to preserve and protect its special land and water resources. Land for Tomorrow will enable North Carolina to reach a goal of ensuring that working farms and forests; sanctuaries for wildlife; land bordering streams, parks and greenways; land that helps strengthen communities and promotes job growth; historic downtowns and neighborhoods; and more, will be there to enhance the quality of life for generations to come. Website: http://www.landfortomorrow.org/

The Robert Wood Johnson Foundation

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

- To assure that all Americans have access to basic health care at a reasonable cost
- To improve care and support for people with chronic health conditions
- To promote healthy communities and lifestyles
- To reduce the personal, social and economic harm caused by substance abuse: tobacco, alcohol, and illicit drugs

For more specific information about what types of projects are funded and how to apply, visit http://www.rwjf.org/applications/.

North Carolina Community Foundation

The North Carolina Community Foundation, established in 1988, is a statewide foundation seeking gifts from individuals, corporations, and other foundations to build endowments and ensure financial security for nonprofit organizations and institutions throughout the state. Based in Raleigh, North Carolina, the foundation also manages a number of community affiliates throughout North Carolina, that make grants in the areas of human services, education, health, arts, religion, civic affairs, and the conservation and preservation of historical, cultural, and environmental resources. The foundation also manages various scholarship programs statewide. Web site: http://nccommunityfoundation.org/

Z. Smith Reynolds Foundation

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

Bank of America Charitable Foundation, Inc.

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

Duke Energy Foundation

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

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

The grant program has three focus areas: Environment and Energy Efficiency, Economic Development, and Community Vitality. Related to this project, the Foundation would support programs that support conservation, training and research around environmental and energy efficiency initiatives. Web site: http://www.duke-energy.com/community/foundation.asp.

American Greenways Eastman Kodak Awards

The Conservation Fund's American Greenways Program has teamed with the Eastman Kodak Corporation and the National Geographic Society to award small grants ($250 to $2,000) to stimulate the planning, design and development of greenways. These grants can be used for activities such as mapping, conducting ecological assessments, surveying land, holding conferences, developing brochures, producing interpretive displays, incorporating land trusts, and building trails. Grants cannot be used for academic research, institutional support, lobbying or political activities. For more information visit The Conservation Fund's website at: www.conservationfund.org.

National Trails Fund

American Hiking Society created the National Trails Fund in 1998, the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting and maintaining foot trails in America. 73 million people enjoy foot trails annually, yet many of our favorite trails need major repairs due to a $200 million backlog of badly needed maintenance. National Trails Fund grants help give local organizations the resources they need to secure access, volunteers, tools and materials to protect America's cherished public trails. To date, American Hiking has granted more than $240,000 to 56 different trail projects across the U.S. for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from $500 to $10,000 per project.

Projects the American Hiking Society will consider include:

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

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

The Conservation Alliance

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

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

The Conservation Alliance Funding Criteria: The Project should be focused primarily on direct citizen action to protect and enhance our natural resources for recreation. We're not looking for mainstream education or scientific research projects, but rather for active campaigns. All projects should be quantifiable, with specific goals, objectives and action plans and should include a measure for evaluating success. The project should have a good chance for closure or significant measurable results over a fairly short term (one to two years). Funding emphasis may not be on general operating expenses or staff payroll.

Web site: www.conservationalliance.com/index.m. E-mail: john@conservationalliance.com.

The Trust for Public Land

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

- Create urban parks, gardens, greenways, and riverways
- Build livable communities by setting aside open space in the path of growth
- Conserve land for watershed protection, scenic beauty, and close-to home recreation safeguard the character of communities by preserving historic landmarks and landscapes.

The following are TPL's Conservation Services:

- Conservation Vision: TPL helps agencies and communities define conservation priorities, identify lands to be protected, and plan networks of conserved land that meet public need.
- Conservation Finance: TPL helps agencies and communities identify and raise funds for conservation from federal, state, local, and philanthropic sources.
- Conservation Transactions: TPL helps structure, negotiate, and complete land transactions that create parks, playgrounds, and protected natural areas.
- Research and Education: TPL acquires and shares knowledge of conservation issues and techniques to improve the practice of conservation and promote its public benefits.

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

Blue Cross Blue Shield of North Carolina Foundation (BCBS)

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

BlueCross BlueShield of NC Foundation
P.O Box 2291
Durham, NC 27702
919-765-7347
http://www.bcbsncfoundation.org/

Local Trail Sponsors

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

Volunteer Work

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

E. Additional State and Federal Resources

Below is a list describing where additional State and Federal Resources are located.

- NCDOT Pedestrian Policy Guidelines http://www.ncdot.gov/bikeped/lawspolicies/policies/
- NCDOT Greenway Policy http://www.ncdot.gov/_templates/download/external.html?pdf=http%3A//www.ncdot.gov/bikeped/download/bikeped_laws_Greenway_Admin_Action.pdf
- NCDOT Board of Transportation Resolution for Bicycling and Walking - http://www.ncdot.gov/bikeped/lawspolicies/policies/
- United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations (March 2010) - http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm
- FHWA Policy for Mainstreaming Nonmotorized Transportation (FHWA Guidance – Bicycling and Pedestrian Provision of Federal Transportation Legislation) - http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm
- TND Guidelines – https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Traditional%20Neighborhood%20Development%20Manual.pdf
- NCDOT Complete Streets Policy - http://www.completestreetsnc.org/
- NCDOT Bicycle Policy – http://www.ncdot.gov/bikeped_laws_Bicycle_Policy.pdf
- NCDOT WalkBikeNC – http://www.ncdot.gov/bikeped/planning/walkbikenc/
    - WalkBikeNC is North Carolina's first statewide master plan to define a vision, goals and strategies for improving walking and bicycling for residents and visitors. The plan highlights the challenges and opportunities for bicycling and pedestrian transportation across the state. Information in the plan will be of great value to the City of Clinton for years to come as it moves forward with implementation of this bicycle plan and the pedestrian plan adopted in 2012.