

# City of Washington

## Comprehensive Pedestrian Plan



City of  
Washington  
NORTH CAROLINA



City of Washington

Mid-East Commission

December 2016

## ACKNOWLEDGEMENTS

### CITY OF WASHINGTON COMPREHENSIVE PEDESTRIAN PLAN – ADOPTED DECEMBER 12, 2016

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## EXECUTIVE SUMMARY

The City of Washington Comprehensive Pedestrian Plan is an update to the City's existing Pedestrian Master Plan, which was adopted in December of 2006. Updating the Comprehensive Pedestrian Plan will support the City's ongoing efforts to promote sustainable growth and development as well as healthy living habits, and attract individuals, both tourist and potential residents, to the area, all while making it more convenient and safer for people who both enjoy walking or depend on it everyday. The City of Washington desires to improve transportation throughout the City in order to link residential neighborhoods to parks & recreation facilities, schools, health care facilities, shopping/retail areas, and its historic downtown along the Pamlico River.

The City of Washington submitted an application through the Region 10 Active Living Committee of the Community Transformation Grant. The City was awarded \$10,000 to update the Comprehensive Pedestrian Plan. Upon receipt of the grant, the City of Washington acquired the services of the Mid-East Commission to assist with the update of the Comprehensive Pedestrian Plan. The City will continue to use the Pedestrian Plan as a guide for developing a pedestrian-friendly community and will assist when making budget decisions and applying for grant funds from regional, state, federal, and private funding sources.

The City of Washington local government, Beaufort County Health Department, the Washington – Beaufort County Chamber of Commerce, North Carolina Rail-Trails Organization, and many other organizations throughout the City and County support improving Washington's Pedestrian transportation to provide a multi-modal transportation-system.

The City of Washington Comprehensive Bicycle Plan and the Beaufort County Comprehensive Transportation Plan support the vision of developing an updated comprehensive pedestrian transportation planning document that will provide direction in achieving safe transportation and connectivity in Washington.

### **City of Washington Comprehensive Pedestrian Plan Vision Statement:**

*Washington's vision is to develop a pedestrian friendly environment that connects neighborhoods, parks, shopping, and employment destinations, while attracting new residents and businesses with the beautiful natural settings in which these walkway facilities are located.*

Identified themes that came out of Steering Committee discussion include:

*Improved Safety  
Education  
Connectivity and Accessibility*

*Pedestrian Amenities  
Enforcement*

These themes led to the development of the plan's goals and objectives to achieve the vision. These are discussed in further in **Section 1**.

The current conditions within the City of Washington have been inventoried and evaluated as part of the development of the Comprehensive Pedestrian Plan. **Section 2** includes an overview of the City, current usage/user demographics, an inventory and assessment of existing pedestrian facilities and walking compatibility of the local transportation system. The information obtained regarding Washington's current conditions provides the framework for planning pedestrian facilities, programs, and policies based on the community's wants and needs.

In addition to analyzing existing conditions, existing plans, programs, and policies at the Local, Regional, and State level were reviewed. Plans and policies determine the type of development that is encouraged and allowed in a community while programs offer methods to promote, encourage, and educate the public on walking. Therefore, these tools (plans, policies, and programs) are a key component to ensure an environment that is supportive of pedestrians. Existing plans, programs, and policies are highlighted in **Section 3**.

During plan development, several existing projects from the 2006 plan as well as new potential projects were identified that would improve the existing pedestrian network. **Section 4** describes the Strategic Pedestrian Plan, which includes potential project opportunities that were based upon:

- Steering Committee Meetings
- Public Input
- Pedestrian Crash Data
- Field Inventory and Assessment
- Connectivity & Improved Safety

**Section 5** will provide guidance to the City on design standards and guidelines for pedestrian facilities. These standards and guidelines are a critical component of this Plan and for all facility construction and development. The design standards and guidelines mentioned in this section are derived from North Carolina Department of Transportation (NCDOT) *Bicycle Facilities Planning and Design Guidelines*, the American Association of State Highway and

Transportation Officials (AASHTO), and the Federal Highway Association (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD)*.

**Section 6** outlines recommendations for ancillary facilities, programs, and policies aimed at making Washington a pedestrian-friendly community. Addressing engineering, education, encouragement, enforcement, and evaluation and planning, these recommendations will encourage the transformation of Washington into a pedestrian-friendly community. The implementation of programs discussed in the plan will not only encourage pedestrian transportation, but provide education, enforcement, and maintenance opportunities, ensuring Washington has a comprehensive pedestrian network in which users feel comfortable walking in the community.

**Section 7** contains the Recommended Projects. This list is comprised of projects that were recommended as a part of the 2006 plan, as well as potential project locations that were developed based upon input from the Steering Committee, City Staff, and the Public. Projects were also developed through observations taken during field visits conducted by the consultant. All projects should be evaluated to determine whether it is possible to provide the facility recommended in this Plan as part of those projects. Pedestrian considerations should be included as part of all, Local and NCDOT, scheduled road maintenance and improvement processes.

**Section 8** describes how the recommendations for improving Washington's pedestrian conditions will be implemented. This section outlines priorities for projects, programs, and policies as well as potential partners and funding sources. Implementation of this Plan will be a collaborative effort between a variety of City departments and external agencies. The City's various departments should be aware of the Plan recommendations and seek to implement them as part of their regular work. Progress on improving the Plan should be monitored on no less than an annual basis. Almost every transportation project offers an opportunity to implement a piece of this Plan.

## SECTION 1 — INTRODUCTION

The City of Washington Comprehensive Pedestrian Plan is an update to the existing 2006 Pedestrian Master Plan and was funded by a grant from the Community Transformation Grant initiative. Updating the Comprehensive Pedestrian Plan will support the City's ongoing efforts to promote sustainable growth and development as well as healthy living habits, and attract individuals, both tourist and potential residents, to the area, all while making it more convenient and safer for people who both enjoy and rely on walking. The City of Washington desires to improve transportation throughout the City in order to link residential neighborhoods to parks & recreation facilities, schools, health care facilities and shopping/retail areas.

The City of Washington, who in 2004 applied to the North Carolina Department of Transportation for funds to develop a Pedestrian Master Plan, desire to update the Pedestrian Plan that was adopted in 2006. Upon receipt of a grant through the Community Transformation Grant initiative, the City of Washington acquired the services of the Mid-East Commission to assist with the update of the Pedestrian Plan. The City will use the Pedestrian Plan as a guide for developing a pedestrian-friendly community and will assist when making budget decisions and applying for grant funds from regional, state, federal, and private funding sources.

The City of Washington local government, Beaufort County Health Department, Beaufort County Board of Education, the Washington – Beaufort County Chamber of Commerce, North Carolina Rail-Trails Organization, and many other organizations throughout the City and County support improving Washington's bicycle transportation to provide a multi-modal transportation-system.

The City's companion Comprehensive Bicycle Plan (adopted in 2014) and the Beaufort County Comprehensive Transportation Plan (adopted 2014) all support the vision of developing a comprehensive pedestrian transportation planning document that will provide direction in achieving safe transportation and connectivity in Washington.

### PUBLIC INVOLVEMENT

Public input was a driving force behind initial plan development in 2005, as well as the development of Washington's 2016 Pedestrian Plan update. The public involvement strategy involved several components including Steering Committee meetings, Public Open House, and the City's Recreation Advisory Board, Planning Board, and City Council. Media outreach was utilized with press

releases, public notices, and invitations to open houses to announce the project.

A Steering Committee comprised of citizens, City staff, and Mid-East Commission staff met throughout the planning process to discuss goals and objectives, priorities, existing conditions, identify potential pedestrian corridors and destinations, identify recommendations for projects and programs, and to identify project prioritization. See Appendix A for further information regarding Steering Committee meetings.

A Public Open House was held during the development of the updated Pedestrian Plan. The Public Open House was held in October 2015. During the Public Open House, participants were presented the Comprehensive Pedestrian Plan, including proposed projects, programs, and policies; and were provided the opportunity to ask questions and provide any further input. Additional information regarding the Public Open House can be found in Appendix A.

### VISION STATEMENT

During the development of the initial Pedestrian Plan, Steering Committee members discussed their vision for the Pedestrian Plan. The 2006 Plan's vision was looked at and discussed again in 2015. That discussion formulated the final vision for the plan:

***Washington's vision is to develop a pedestrian friendly environment that connects neighborhoods, parks, shopping, and employment destinations, while attracting new residents and businesses with the beautiful natural settings in which these walkway facilities are located.***

### THEMES, GOALS, & OBJECTIVES

There were several overall themes that the plan needed to address that were identified through discussions by the Steering Committee. The following themes were derived:

- *Improved Safety*
- *Education*
- *Connectivity and Accessibility*
- *Enforcement*
- *Health Promotion*
- *Compatibility with Cycling*



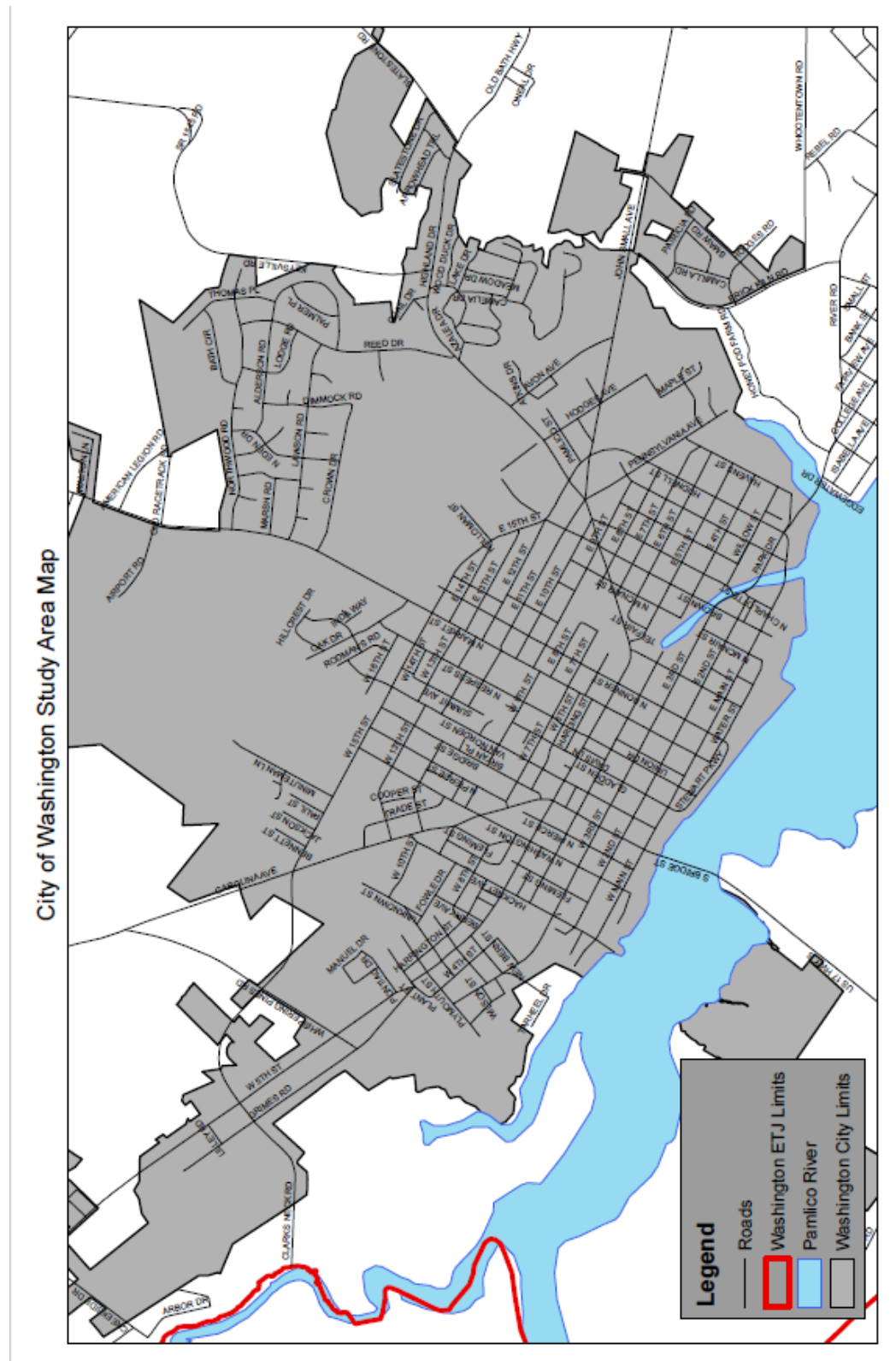
Based off of these themes, goals and objectives were developed for the City of Washington Comprehensive Pedestrian Plan.

#### PURPOSE OF THE COMPREHENSIVE PEDESTRIAN PLAN

The Comprehensive Pedestrian Plan provides a comprehensive approach to pedestrian planning that maximizes Washington's existing infrastructure, identifies new opportunities, and creates an opportunity to develop and foster a more pedestrian-friendly community through planning, design, and regulations, while also addressing pedestrian safety and encouragement.

The Comprehensive Pedestrian Plan Study Area includes Washington's City Limits and extra-territorial jurisdiction (ETJ). Map 1 illustrates the project study area:

Map 1.1 – Study Area Map



## PLANNING PROCESS

The process used for plan development involved four phases: 1) Data Collection, Research and Inventory; 2) Preliminary Recommendation Development; 3) Development and Review of Draft Pedestrian Plan; and 4) Final Plan Development and Approval.

### **PHASE 1 - DATA COLLECTION, RESEARCH AND INVENTORY**

This phase involved data collection, research, and inventory of existing infrastructure and data. Phase 1 contained the following tasks or steps:

- Reviewed existing Pedestrian Master Plan
- Developed a Public Involvement Strategy
- Compiled existing data (relevant plans and ordinances, Census Data, and crash data)
- Conducted interviews with stakeholders to discuss issues, plans and goals as they related to stakeholder groups and to identify existing plans for infrastructure improvement
- Analyzed demographics within the City
- Conducted on-site assessments of current conditions and constraints
- Summarized existing ordinances, programs, and initiatives
- Held Steering Committee Meetings

### **PHASE 2 - PRELIMINARY RECOMMENDATION DEVELOPMENT**

Based on Phase 1, preliminary recommendations were developed. Phase 2 contained the following tasks or steps:

- Developed preliminary recommendations for pedestrian projects, programs; and policies
- Conducted an inventory for the roadways where pedestrian facilities are recommended
- Met with NCDOT representatives to discuss preliminary recommendations
- Held Steering Committee meeting to present preliminary improvements recommendations and to discuss project prioritization

### **PHASE 3 - DEVELOPMENT AND REVIEW OF DRAFT PEDESTRIAN PLAN**

Based upon Phase 1 and Phase 2, a draft plan was developed. Phase 3 contained the following tasks or steps:

- Developed a draft Updated Comprehensive Pedestrian Plan based upon the findings of the previous tasks
- Presented the draft Comprehensive Pedestrian Plan to the Steering Committee for committee feedback and to discuss implementation
- Held a Public Open House to present the draft Comprehensive Pedestrian Plan containing project, program, and policy priorities

#### **PHASE 4 – FINAL PLAN DEVELOPMENT AND APPROVAL**

Based upon comments from the Steering Committee and City of Washington Recreation Advisory and Planning Board review, the Plan was revised and submitted to the City Council for review and approval. Phase 4 contained the following tasks or steps:

- Developed a revised draft Comprehensive Pedestrian Plan based upon the feedback from the Steering Committee, Washington Recreation Advisory Board, and Washington Planning Board
- Final plan with Steering Committee, Recreation Advisory Board, and Planning Board revisions submitted to City for Council's review
- Submitted final plan to City for approval and adoption by the City Council

## BENEFITS OF WALKING

Walking provides numerous benefits capable of promoting healthy, livable, and thriving community. These benefits include, but are not limited to, health, transportation, environmental and economic, all of which contribute to a high quality of life.

### **HEALTH BENEFITS**

The benefits of walking are countless. Walking is one of the easiest forms of physical activity one can participate in. It has the lowest dropout rate of all physical activities. It is simple and is an easy way to improve one's health.

Walking at least thirty minutes a day has been shown to reduce the risk of many diseases and health issues. Coronary heart disease is number one killer but can be reduced by walking. Heart disease occurs when the heart doesn't receive enough oxygen or blood flow, but one who walks increases their blood flow and oxygen to the heart and rest of the body. Walking also helps improve blood pressure by increasing one's systolic, which increase blood flow and oxygen through the arteries and to all the muscles of the body. Walking regularly helps maintain body weight and therefore reduce the risk of obesity, which helps reduce the risk of diabetes and cancers. Another benefit one receives from walking is they decrease their risk of arthritis or osteoporosis. This occurs because when one walks regularly he/she strengthens their muscles and bones. Walking is also a great way to reduce one's stress. When one participates in walking, or any physical activity, endorphins are released, which makes one calmer and more relaxed. Reducing stress is an important part of one's health too, because it can be considered a risk factor for many other diseases, such as heart disease, high blood pressure, etc. Overall, walking is a simple activity but along with the many other benefits it can overall increases one well-being and quality of life. It is said that with walking one is obviously healthier, so there is less stress about health issues, but one also feel better about themselves and has a more positive outlook on life. For such a simple activity there are numerous health benefits one could experience and shouldn't miss out on.

In 2011, Beaufort County's top three causes of death were heart disease, cancer, and chronic lower respiratory diseases. Of the 523 deaths in 2011, 126 were due to heart disease, 125 were due to cancer, and 36 were due to chronic lower respiratory disease. These three causes of death were closely followed in number of deaths by cerebrovascular disease and diabetes mellitus. During the 2011 Beaufort County Community Health Assessment the following question was asked, "In your opinion, which health behaviors do people in your own community need more information about?". 24.9% said exercising/fitness, 22.6% said managing weight, and 17.0% said stress management, all three of which

walking can impact. The following question was asked in the Beaufort County CHA. "During a normal week, other than in your regular job, do you engage in any physical activity or exercise that lasts at least half an hour?". 33.5% answered no. Of those who reported not exercising, 15% said they didn't have access to a facility that has the things they need, 14.7% said it costs too much to exercise, and 3.5% said there is no safe place to exercise

Walking is moderate physical activity which can help control one's diabetes, weight, decrease the risk of heart disease, and decrease the risk of cerebrovascular disease. Walking is a simple task that can make a huge impact on Washington and Beaufort County's health status.

### **TRANSPORTATION BENEFITS**

Given its prominent location just outside of Greenville, Washington is an attractive choice for professionals and families looking to get away from the hustle and bustle of the big city. Washington is not only an attractive community because of its geographical proximity to Greenville, but the community is also situated along the banks of the Pamlico River, making the community highly attractive for individuals looking for recreational opportunities. While portions of Washington are walkable, there are several locations in Farmville that are of importance to its citizens that are located along stretch's that experience higher traffic volume, relatively dangerous roadway conditions, and lack pedestrian-friendly facilities. Of particular concern is the location of prominent destinations in the community (shopping center, restaurants, grocery stores, medical facilities) that currently have no infrastructure connecting residents to them.

The development of a pedestrian-friendly community may alleviate roadway congestion and reduce the number of accidents, both vehicular related and pedestrian/motorist. With a number of Washington's goods and services located along Carolina Avenue (HWY 17BUS), and 15<sup>th</sup> Street, and no existing pedestrian facilities to connect them to residential areas, it is the goal of the pedestrian plan will assist in providing pedestrian infrastructure to provide linkages to the town's destination points as well as increase walking trips.

### **ENVIRONMENTAL BENEFITS**

Walking is an easy way to reduce energy needs and pollution emissions. With traffic volumes likely to continue to grow, the overall air quality in communities will deteriorate from the additional motor vehicles polluting the air. Providing a safe, alternative method of transportation will increase the number of pedestrians; therefore reducing the number of motor vehicles leading to a decrease in emissions.

**ECONOMIC BENEFITS**

Walking is an affordable mode of transportation. Implementation of the plan will lead to increased opportunities for further economic development within the City. Promotion of a more walkable Washington will attract potential residents to locate in the City. Providing well connected pedestrian facilities in Washington may increase visits to local businesses and recreation facilities. Other economic benefits of walking include reduced health care costs and reduced dependency on auto ownership.

## SECTION 2 – CURRENT CONDITIONS

### CITY OF WASHINGTON OVERVIEW

The current conditions of the City of Washington have been inventoried and evaluated as part of the development of the Comprehensive Pedestrian Plan. This section includes an overview of the City, current usage/user demographics, an inventory & assessment of existing pedestrian facilities and the pedestrian compatibility of the local transportation system. The information obtained about the City's current conditions provides the framework for planning bicycle facilities and programs based on the community's wants and needs.

America's first city to be named for General George Washington, the City of Washington's rich history adds to the character of the community. Laid out in 1775 on the northern bank of the Pamlico/Tar River by Colonel James Bonner, Washington was named in honor of his commander-in-chief. The City was incorporated by an act of the North Carolina General Assembly in 1782. It became the county seat of Beaufort County in 1785, an honor previously held by the Town of Bath, North Carolina's oldest town, located 15 miles east. Today, Washington is home to 9,744 people (2010 Census). The City of Washington is one of seven incorporated municipalities within Beaufort County. Beaufort County, an economically distressed Tier 1 community, is located in the mid-eastern portion of North Carolina. The location, geography, and natural features of Beaufort County have shaped the development of the County's municipalities and economy. Beaufort County's business industry includes PotashCorp-Aurora, Flanders Filters, Vidant Hospital in Washington, Beaufort County Community College, and both City of Washington and Beaufort County Governments. Washington is the retail and medical center for Beaufort County. The rural community embraces its historical significance with numerous festivals and events in its historic downtown district, including the annual "Smoke on the Water" festival each fall.



## CURRENT USAGE / USER DEMOGRAPHICS

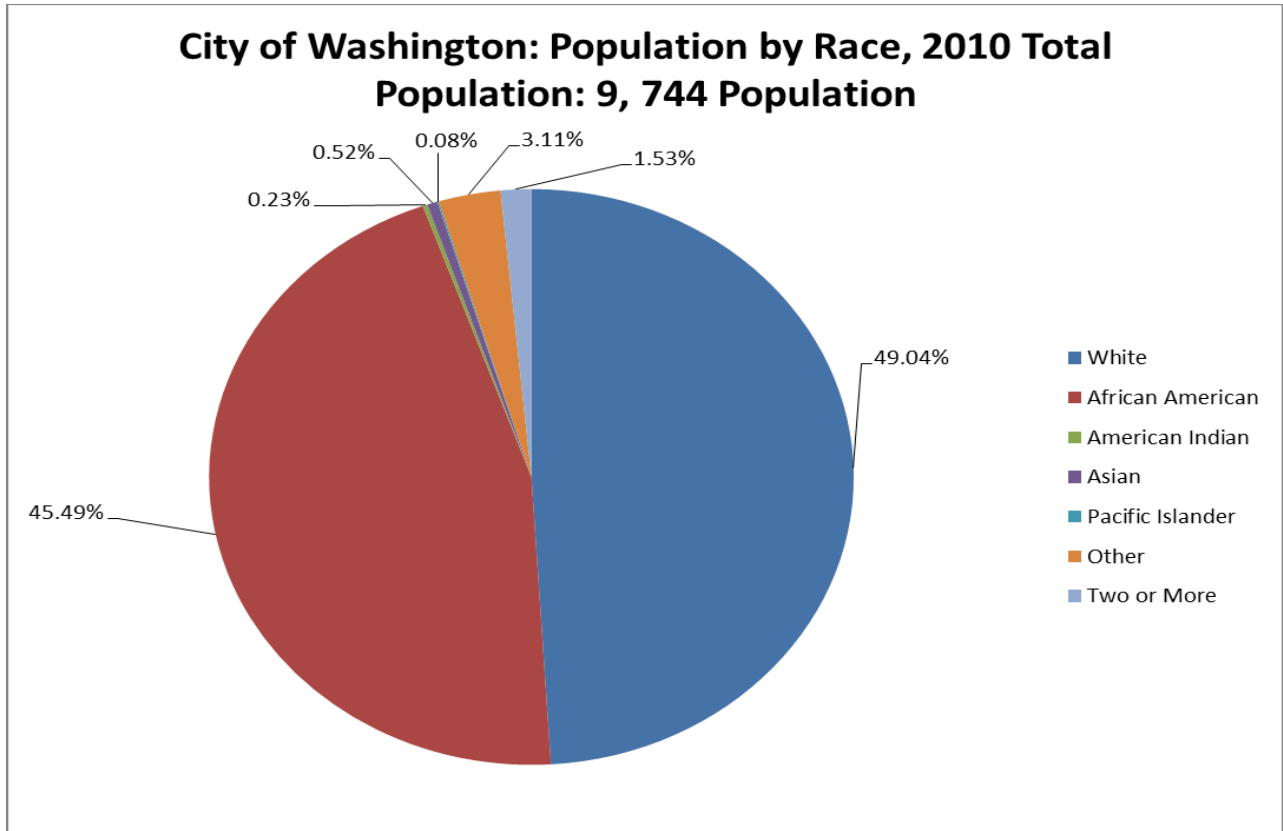
When developing a pedestrian network, knowing the demographic makeup of a community is essential in determining the preferences and travel behaviors of residents. Information regarding the current usage and user demographics was obtained from the US Census Bureau and the NCDOT Bicycle and Pedestrian Division. Analysis of the data received is described in this sub-section.

### **DEMOGRAPHIC ANALYSIS**

A demographic analysis was completed based on data obtained from the US Census Bureau. As of the year 2010, the total population for the City of Washington was 9,744, of which 4,327 were males and 5,417 were females with a median age of 41.6 years. In the same census year, the estimated North Carolina population was 9,535,483 and the US population was 308,745,538. The median age was 37.4 years for North Carolina and 37.2 for the United States.

The racial breakdown of the population of the City of Washington in 2010 was as follows: 45.5% African American, 49% Caucasian, 0.2% American Indian, 0.5% Asian, 0.1% Pacific Islander, and 3.1% from other races and 1.5% from two or more races. Included in those percentages is the Hispanic or Latino community, which makes up 5.5% of the population (4.3% Mexican, 0.4% Puerto Rican, 0.1% Cuban, and 0.7 % other Hispanic/Latino descent). The racial breakdown of North Carolina's population in 2010 included 21.5% African American and 68.5% Caucasian. The racial breakdown of the US population in 2010 included 12.6% African American and 72.4% Caucasian, which indicates that the City of Washington has a greater minority population than the state and national average. Figure 2.2 (next page) reflects the racial breakdown of the population of the City of Washington.

Figure 2.1: City of Washington Population Breakdown – By Race

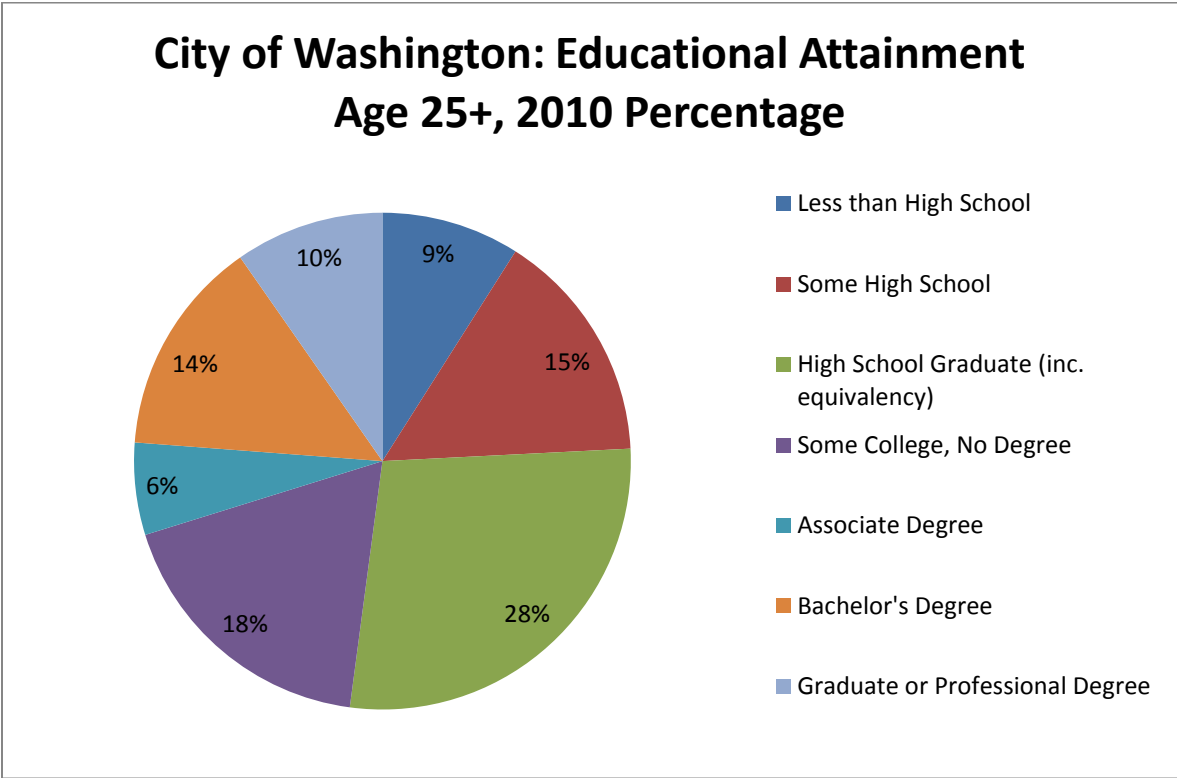


Source: U.S. Census Data

**EDUCATION**

The educational attainment for residents 25 years and over in 2010 was as follows: 9% with less than 9th grade; 15.2% with some high school; 27.9% were high school graduates (includes equivalency); 18.1% with some college, no degree; 6% with an associate degree; 14.1% with a bachelor's degree; and 9.7% with a graduate or professional degree. Therefore, 75.8% of the 2010 population earned an education of high school graduate or higher. Figure 2.2 (next page) reflects the educational attainment for Washington's residents 25 years and over in the year 2010.

**Figure 2.2: City of Washington Educational Attainment**



**Source: U.S. Census Data**

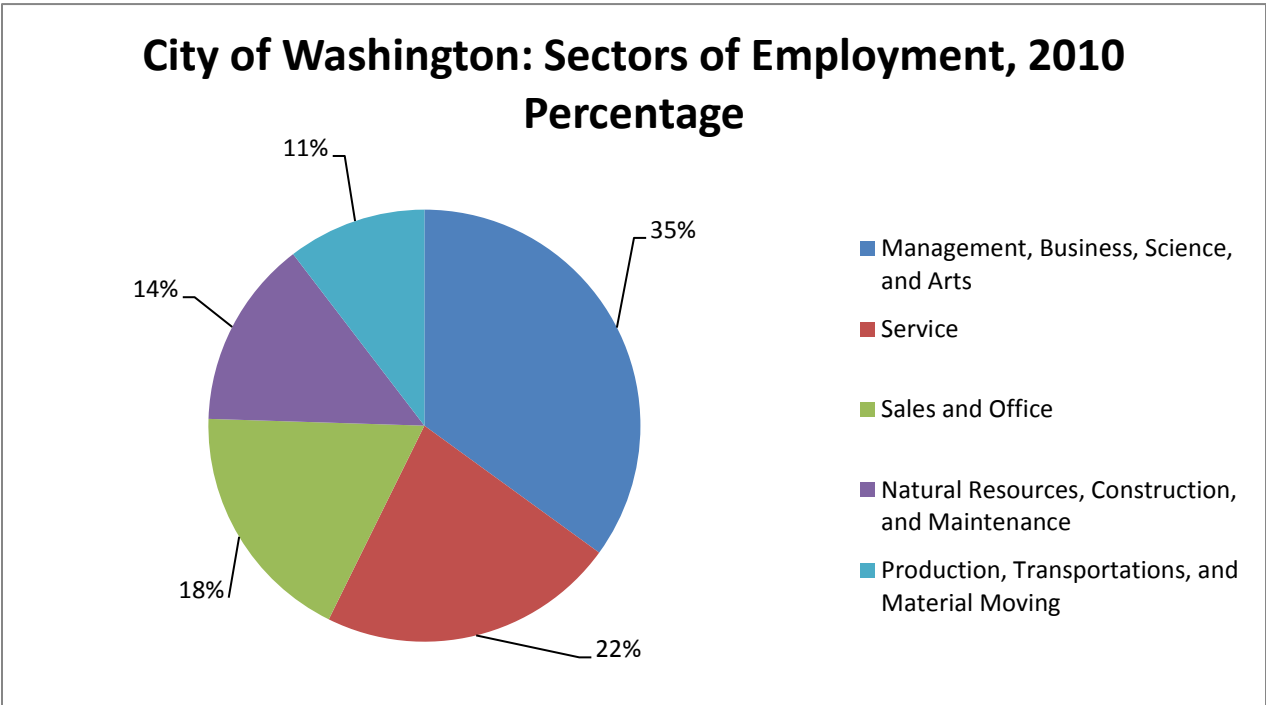
The educational attainment of Washington's population is less than the state and national levels. In 2010, 27.7% of North Carolina's population 25 years and over were high school graduates (including equivalency) and 84.1% of the State's population attained high school graduation or higher. The US population included 28.6% high school graduates (including equivalency) and 85.4% attained high school graduation or higher.

**EMPLOYMENT**

Washington's labor force (population 16 years and over) in 2010 was 7,705 people. The civilian labor force is comprised of 4,186 people (54.3% of total labor force), of which 3,293 (42.7%) are employed and 893 (11.6%) are unemployed. The mean travel time to work was 19.8 minutes.

Employment can be further broken down into sectors of employment, based on the 3,293 employed civilian population 16 years and over. Figure 2.3 (next page) illustrates Washington's sectors of employment.

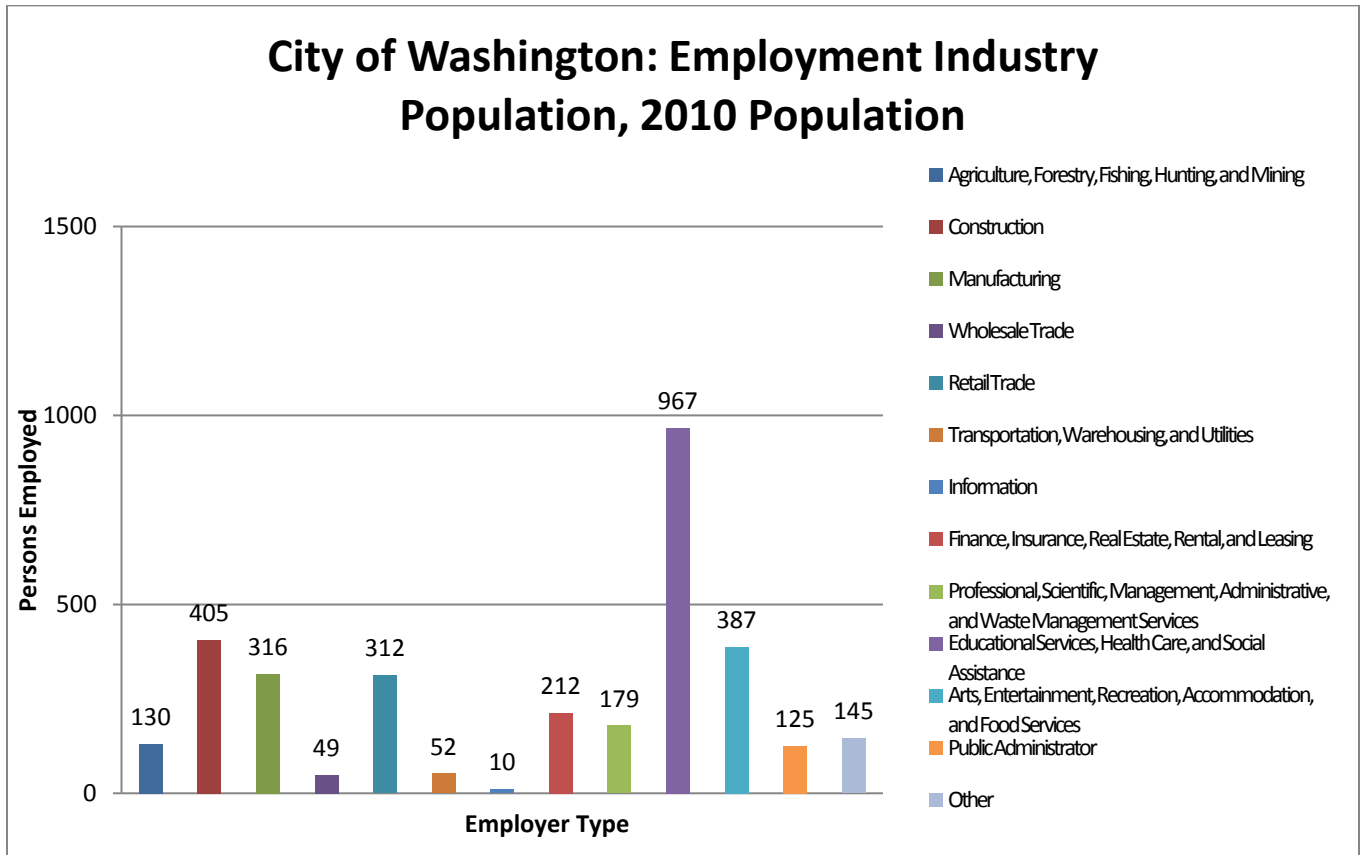
**Figure 2.3: City of Washington Sectors of Employment**



Source: U.S. Census Data

The employment industry for the population of Washington is focused around Education, Health and Social Services and Manufacturing. The majority of employment opportunities are in Education, Health and Social Services. In Washington, 24% of the employed population works in one of these three sectors. Figure 2.4 illustrates Washington's employment industry by population.

**Figure 2.4: City of Washington Employment Industry Population**



Source: U.S. Census Data

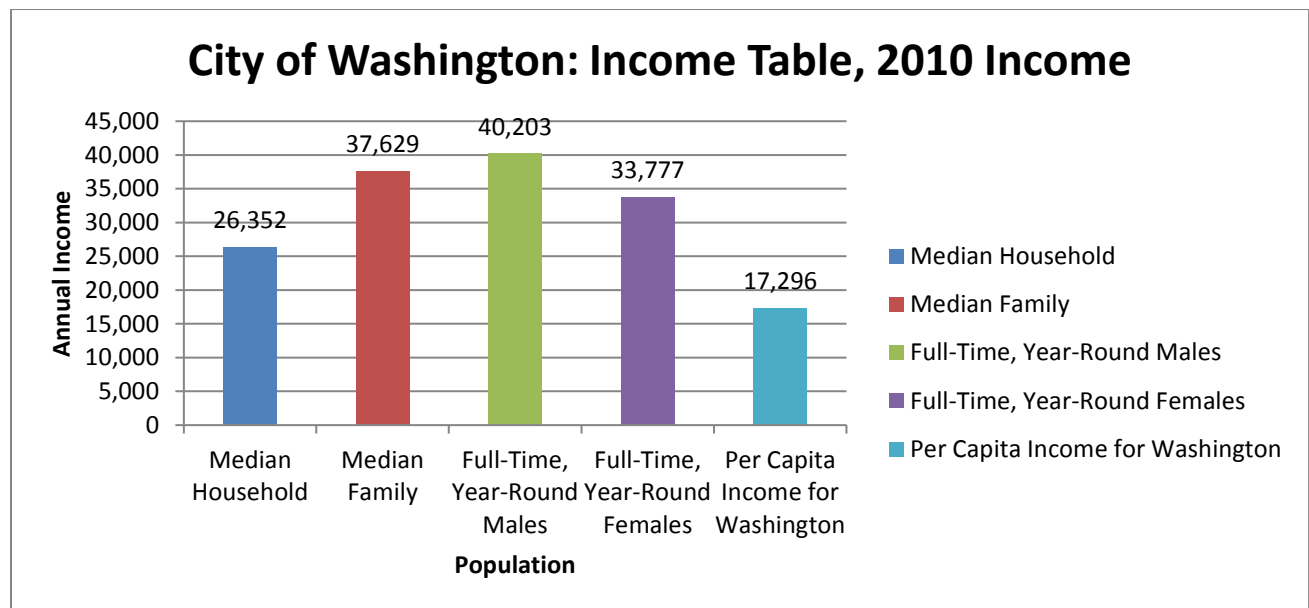
**INCOME**

According to the 2010 Census, Washington's median household income was \$26,352 and the median family income was \$37,629. Washington's incomes are significantly less than the state and national averages. According to the 2010 Census, North Carolina's median household income was \$46,291 and the median family income was \$57,171. During the same year, the US median household income was \$52,762 and the median family income was \$64,293.

Washington's full-time, year-round workers earned the following median incomes: males \$40,203, females \$33,777. The per capita income for Washington was \$17,296. The City's per capita income was less than of the state and national amounts. In 2010, the per capita income in North Carolina was \$25,256 and in the US was \$27,915. In 2010, 25.7% of Washington's families were below the poverty line, including 37% of those with related children under age 18 years and 72.1% with related children under 5 years. The population below the poverty line of the state and nation is significantly less than that of Washington with 11.8% in North Carolina and 10.5% in the United States.

From the given data, there were approximately 4,256 households listed in the City with a median annual household income of \$26,352. Figure 2.5 illustrates incomes for the employed population of Washington.

**Figure 2.5: City of Washington Income**

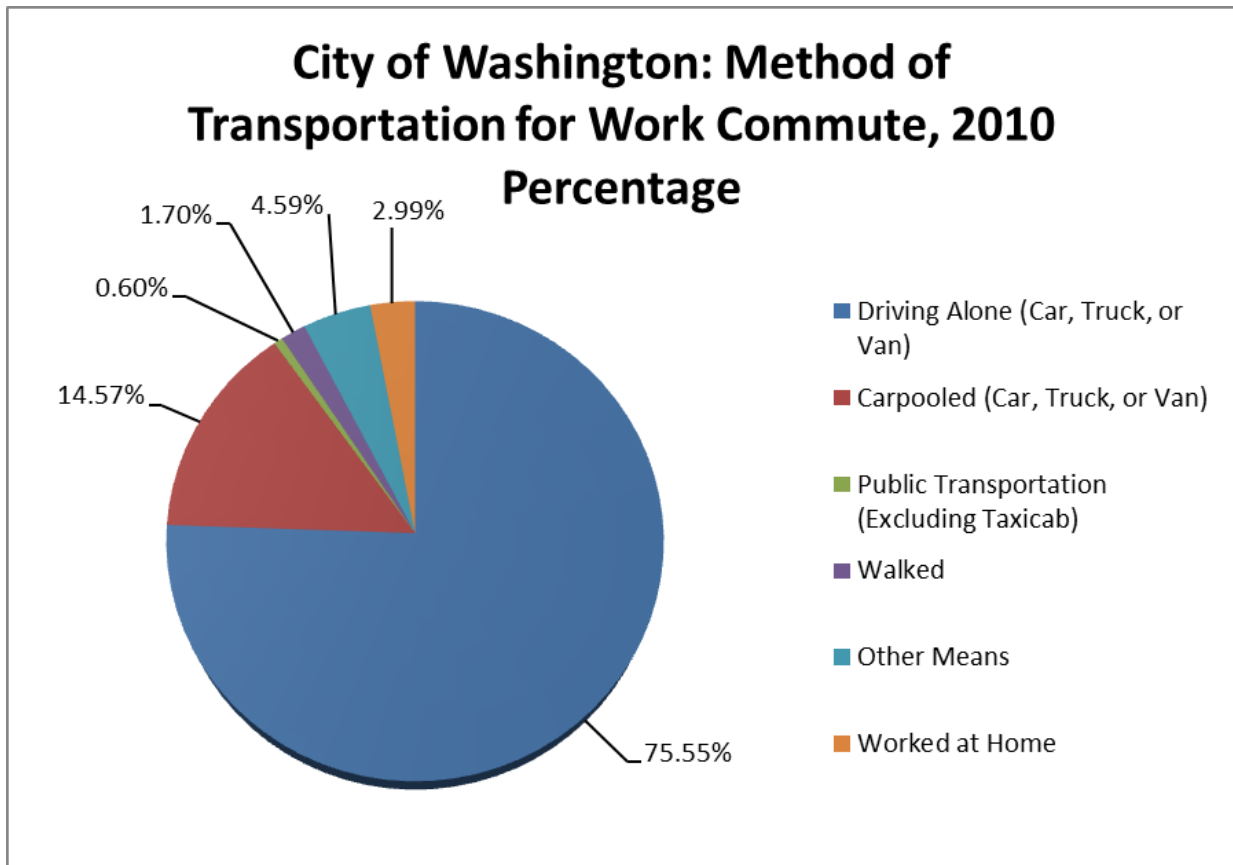


Source: U.S. Census Data

**VEHICLES**

While approximately eighty percent (80%) of Washington's households (total 4,256) have at least one motor vehicle, nearly one fifth (19.9%) do not have access to a vehicle. Given that Washington's population does not rely on mass public transportation, there is large segment of the population that relies on walking.

**Figure 2.6: City of Washington Methods of Transportation to Work**



Source: U.S. Census Data

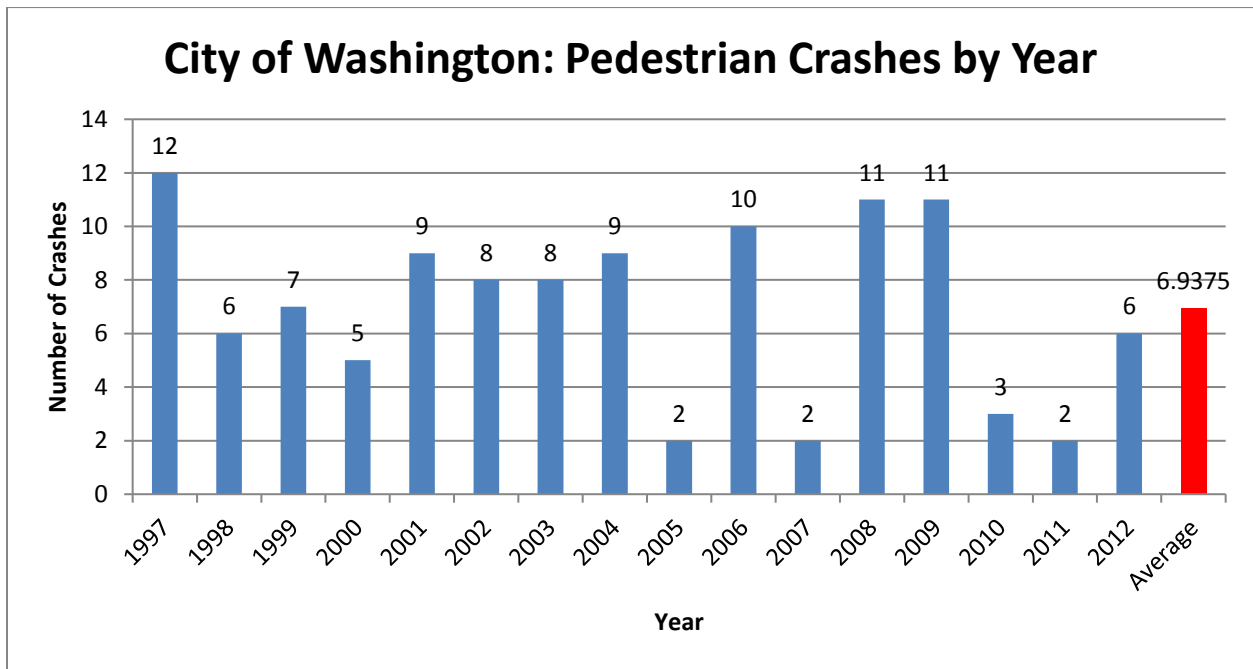
Figure 2.6 illustrates the methods of transportation for working residents (16 years and over) in Washington. This data only represents working commuters and does not take into account those who rely on or enjoy walking for recreational enjoyment, or those under the age of 16. The data supports the notion that Washington is an automobile dependent community, reinforcing the need for safe pedestrian facilities and pedestrian friendly policies to foster a safe relationship between motorist and pedestrians.

**LOCAL PEDESTRIAN CRASH DATA**

The City of Washington pedestrian crash data was analyzed using the NCDOT's web-based Pedestrian crash database. This data was created by the UNC Highway Safety Research Center from all reported pedestrian-motor vehicle crashes within Washington from 1997-2012. The data was analyzed to determine trends and to identify the high-risk areas in Washington.

During the sixteen-year period, The City of Washington experienced 111 reported pedestrian-motor vehicle crashes. 6.93 pedestrian-motor vehicle crashes occurred per year on average. Figure 2.7 shows the distribution of crashes by year from 1997 to 2012.

**Figure 2.7: City of Washington Pedestrian Crashes by Year**



**Source: NC DOT Division of Bicycle and Pedestrian Transportation, Pedestrian Crash Data**

Characteristics of crash data were reviewed to determine locations and results of the crashes.

60% or sixty-seven (67) out of one hundred eleven (111) of the reported pedestrian-motor vehicle crashes occurred on a local street. The crash data indicates the need for additional safety measures such as pedestrian visibility, enforcement, additional signage, and driveway improvements on local streets.



The majority of Pedestrian crashes (93 out of 111) occurred on two-way, not divided roads within the City of Washington. Nine (9) out of one hundred eleven (111) crashes occurred on one way, not divided roads, two (2) on two-way, divided, unprotected median roads, and seven (7) were unknown. The number of crashes on multiple-lane roads indicates a possible need for road narrowing, off-road trails, vehicle speed reduction, sidewalk installation, enforcement /compliance of traffic laws, access management, and lighting. Below is a list of the recoded pedestrian-motor vehicle crash types in the City of Washington from 1997-2012.

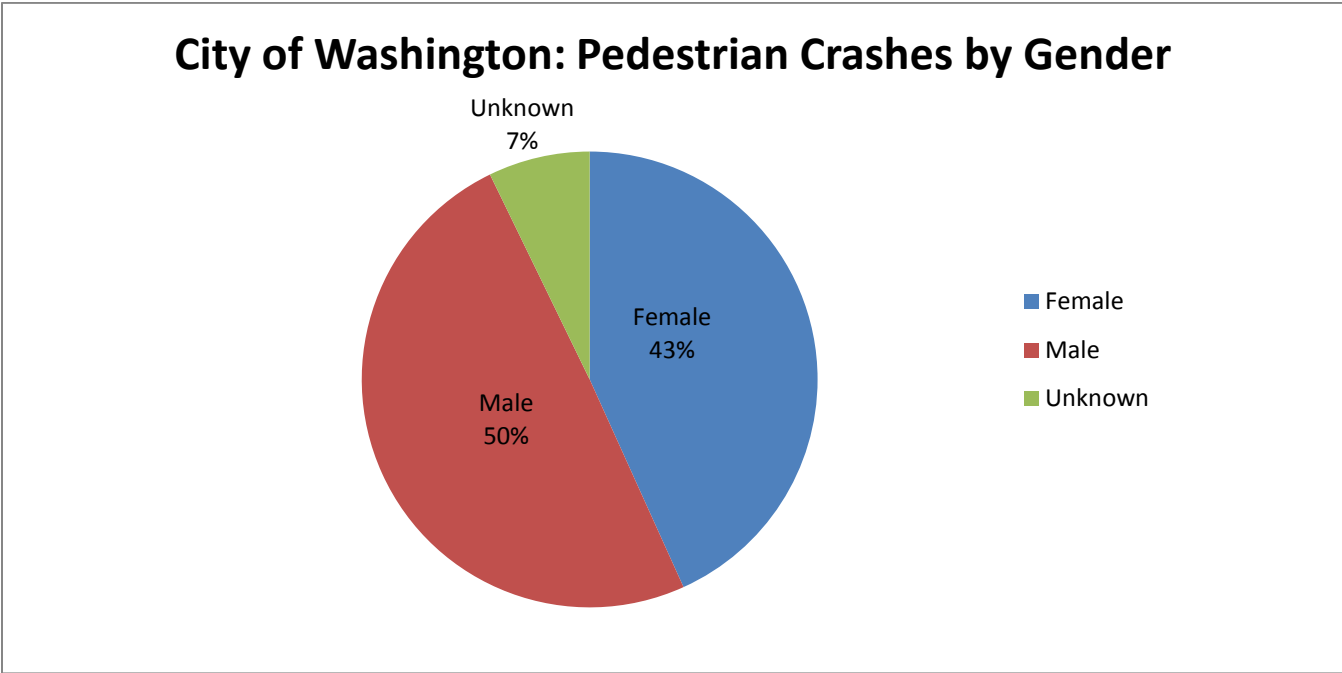
### **Pedestrian-Motor Vehicle Crash Types in the City of Washington 1997-2012:**

<b>Assault with Vehicle</b>	<b>Motorist Right Turn - Perpendicular Paths</b>
<b>Backing Vehicle - Driveway</b>	<b>Multiple Threat</b>
<b>Backing Vehicle - Parking Lot</b>	<b>Non-Intersection - Other / Unknown</b>
<b>Backing Vehicle - Roadway</b>	<b>Off Roadway - Other / Unknown</b>
<b>Dart-Out</b>	<b>Off Roadway - Parking Lot</b>
<b>Dash</b>	<b>Other Unusual Circumstances</b>
<b>Disabled Vehicle-Related</b>	<b>Pedestrian Failed to Yield</b>
<b>Dispute-Related</b>	<b>Pedestrian on Vehicle</b>
<b>Entering / Exiting Parked Vehicle</b>	<b>Play Vehicle-Related</b>
<b>Intersection - Other / Unknown</b>	<b>Right Turn - Same Direction</b>
<b>Left Turn - Opposite Direction</b>	<b>Standing in Roadway</b>
<b>Left Turn - Same Direction</b>	<b>Vehicle-Vehicle / Object</b>
<b>Lying in Roadway</b>	<b>Walking Along Roadway - Direction / Position Unknown</b>
<b>Motorist Entering Driveway or Alley</b>	<b>Walking Along Roadway with Traffic - From Behind</b>
<b>Motorist Exiting Driveway or Alley</b>	
<b>Motorist Failed to Yield</b>	<b>Walking in Roadway</b>
<b>Motorist Left Turn - Parallel Paths</b>	

The likelihood of Pedestrian injury increases with higher speed limits. According to a report by the NC Highway Safety Research Center, a driver traveling at 31 miles per hour needs approximately 200 feet to stop, which usually exceeds the available distance to avoid collision, but a driver traveling at 19 miles per hour is able to stop completely within 100 feet. The City of Washington should consider traffic-calming measures and speed reductions on streets with sidewalks or high pedestrian usage.

Pedestrian-motor vehicle crashes we found to be nearly evenly split between Females and Males. Of one hundred eleven (111) crashes, 43% or forty-eight (48) involved females, 50% or fifty-five (55) involved males, and 7% or eight (8) were unknown. Figure 2.8 shows the distribution of pedestrian-motor vehicle crashes by gender of the pedestrian.

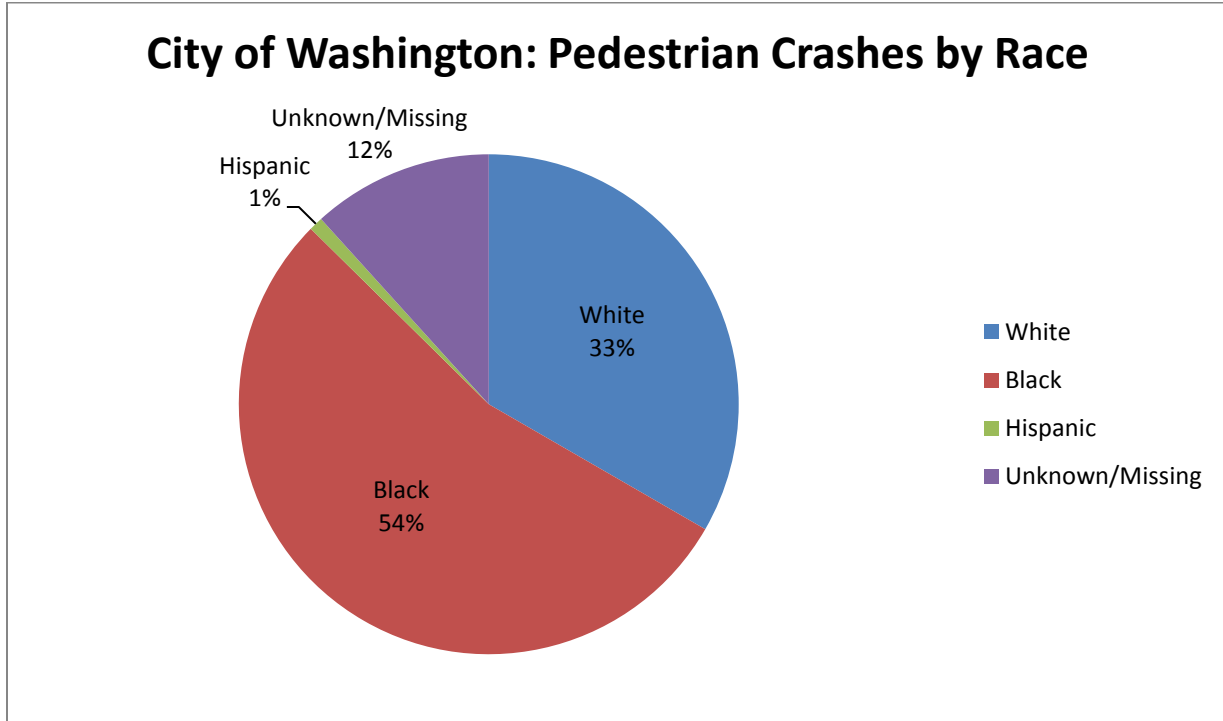
**Figure 2.8: City of Washington: Pedestrian Crashes by Gender of Pedestrian**



Source: NC DOT Division of Bicycle and Pedestrian Transportation, Pedestrian Crash Data

An overwhelming majority of pedestrian-motor vehicle crashes involved an African- American pedestrian. Of one hundred eleven (111) crashes, 54% or sixty (60) involved African-Americans, 33% or thirty-seven (37) involved whites, 1% or one (1) involved a Hispanic, and 12% or thirteen (13) were unknown. Figure 2.9 shows the distribution of pedestrian-motor vehicle crashes by the race of the pedestrian.

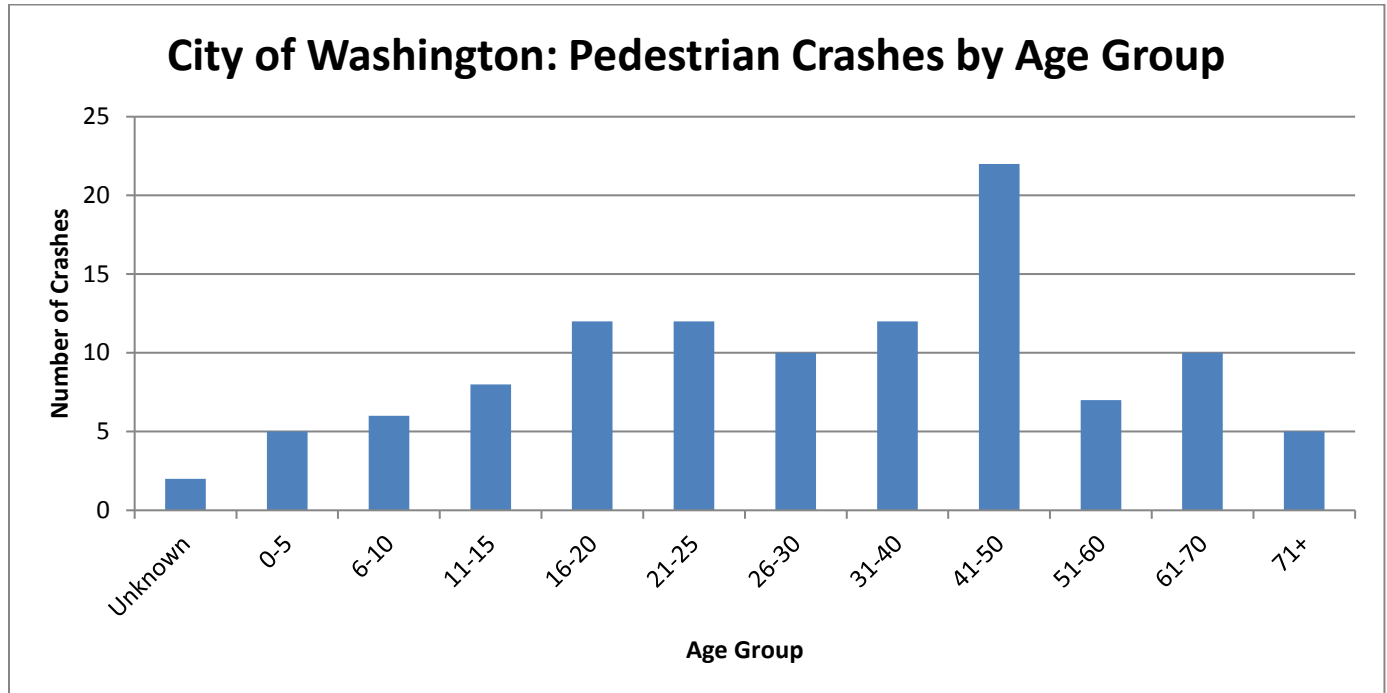
**Figure 2.9: City of Washington: Pedestrian Crashes by Race of Pedestrian**



Source: NC DOT Division of Bicycle and Pedestrian Transportation, Pedestrian Crash Data

Figure 2.10 shows that pedestrian-motor vehicle crashes in Washington involved a significantly higher number of adults than children, specifically in the 41-50 age range. There is an increase in the number of accidents involving teenagers from the 11-15 range to the 16-20 range, perhaps indicating a need for pedestrian education in local Middle and High Schools. Adults also need pedestrian education.

**Figure 2.10: City of Washington: Pedestrian Crashes by Age**

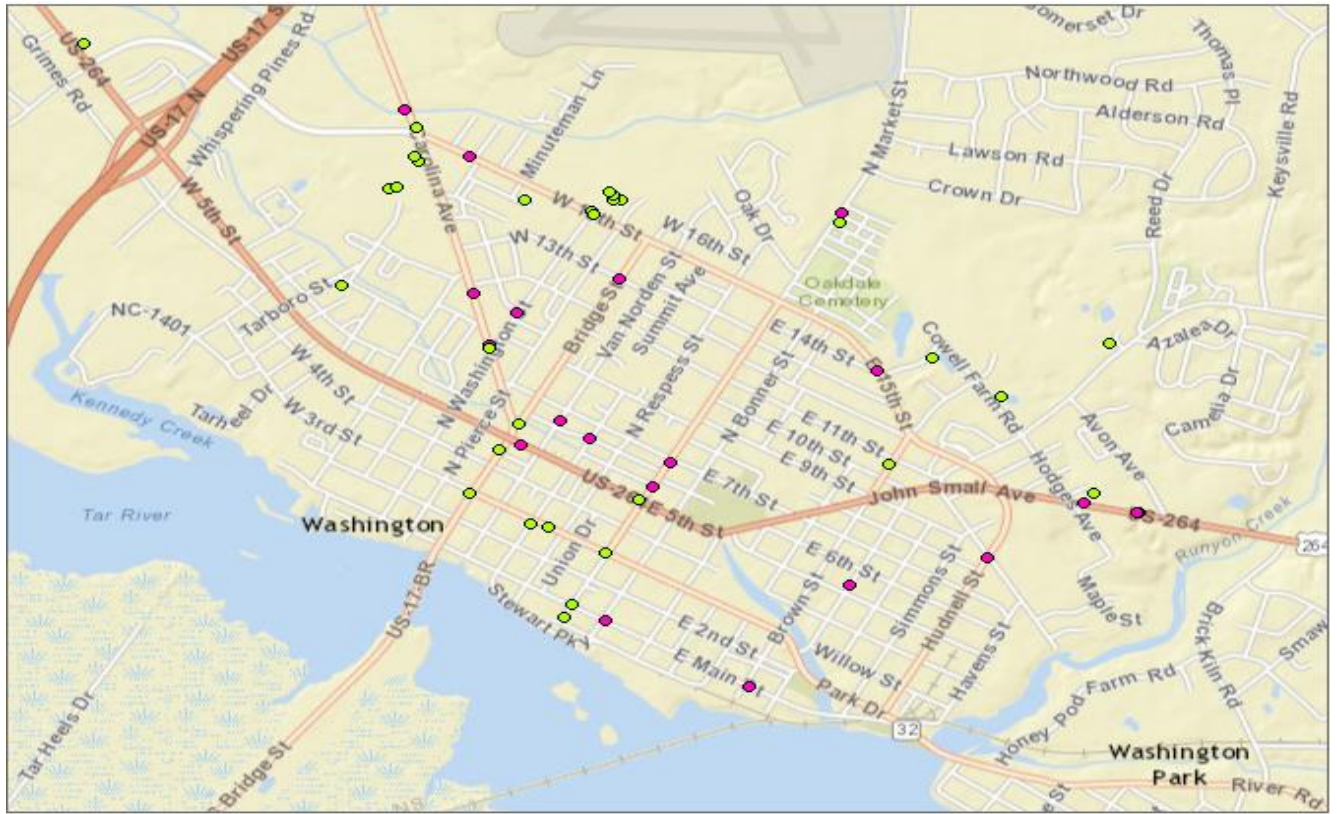


**Source: NC DOT Division of Bicycle and Pedestrian Transportation, Pedestrian Crash Data**

Analysis of Washington's crash data indicates a need for pedestrian-friendly development standards, improved pedestrian visibility along roadways and intersections, traffic and pedestrian enforcement, and additional motorist and pedestrian safety education.

Map 2.1 illustrates the documented Pedestrian and motorist crash sites.

Map 2.1: City of Washington: Pedestrian/Bicycle Crashes



Green – Pedestrian Accidents Pink – Bicycle Accidents

## SECTION 3 – EXISTING PLANS, PROGRAMS, & POLICIES

In addition to analyzing existing conditions, reviewing existing plans, programs, and policies at the Local, Regional, and State level is also important. Plans and policies determine the type of development that is encouraged and allowed in a community while programs offer methods to promote, encourage, and educate the public on using pedestrian facilities. Therefore, these tools (plans, policies, and programs) are a key component to ensure an environment that is supportive of walking.

The following plans, programs, and policies were reviewed in preparation of the Washington Comprehensive Pedestrian Plan:

- City of Washington CAMA Core Land Use Plan (2007)
- City of Washington Comprehensive Plan (2013)
- Parks and Recreation Master Plan for Washington, North Carolina (2013)
- City of Washington Pedestrian Master Plan (2006)
- Beaufort County Comprehensive Transportation Plan (2014)
- City of Washington Comprehensive Bicycle Plan (2014)
- City of Washington Code of Ordinances
- Walk Bike NC – Statewide Pedestrian and Bicycle Plan (2013)
- 2013-2019 State Transportation Improvement Program (TIP)
- State Programs and Initiatives

### RELEVANT PLANS

#### LOCAL PLANS

##### CITY OF WASHINGTON CAMA CORE LAND USE PLAN (2007)

The City of Washington's CAMA Core Land Use Plan serves as a guide to making short-term and long-term land use decisions. Washington has two types of roadways: primary roads and secondary roads. While there is no interstate highway, Washington contains two US Highways (17 & 264) and one North Carolina Highway (32). A bypass on US Highway 17 around Washington was constructed to alleviate congestion created by truck traffic and pass-through vehicles.

The Plan is a data-rich document, providing numerous details on the City's population, economy, and land use patterns, and environmental conditions. The CAMA Plan also documents key growth related issues that were identified through a robust public planning process. The key issues identified in the Plan are:

- Improving the Central Business District
- Managing the development and impacts along the new Highway 17 Bypass
- Developing and improving gateways into the City
- Prioritizing areas for annexation
- Stabilizing and improving neighborhoods

The CAMA plan also includes a number of policies and implementation steps that cover a range of topics. These policy topics include: Public Access; Land Use Compatibility; Infrastructure Carrying Capacity; Transportation; Natural Hazard Areas; Water Quality; and Local Areas of Concern, including cultural, historic, and scenic areas, economic development; downtown revitalization; marinas/shoreline development; and general health and human service's needs.

#### CITY OF WASHINGTON COMPREHENSIVE PLAN (2013)

The Comprehensive Plan for the City of Washington has been prepared to articulate a vision for the community's future, and establish a road map for how to achieve that future. This Plan is an update of the community's last adopted Comprehensive Plan, adopted by the Washington City Council in 2006. Washington's Comprehensive Plan is a strategic document that compiles information, community dialogue, and preferred public policy choices for the City. This plan provides policy guidance on a variety of complementary community issues, including coordinating growth and infrastructure, highlighting economic development pursuits, and protecting environmental resources.

#### PARKS AND RECREATION MASTER PLAN FOR WASHINGTON, NORTH CAROLINA (2013)

Washington's most recent Parks and Recreation Master Plan in updated occurred on 2013. The City of Washington has approximately 144.6 acres of public parkland and centers/offices within its Parks and Recreation system, with the average park size being 5.56 acres. The main purpose of the Plan is to improve the recreational opportunities and the quality of life for all citizens of the City of Washington by identifying potential locations and development of new parks, recreational facilities and programs; in addition to improving and/or expanding existing parks, facilities, and programs. This Plan is intended to serve as a guide for the City to facilitate decision-making and action in further development of a citywide system of parks, facilities, and programs that serve the entire population. The Plan assesses the existing system of parks, facilities, and programs in the City and makes recommendations for the future development. It also identifies goals, objectives, actions, and strategies for making the community's vision a reality.

### CITY OF WASHINGTON PEDESTRIAN MASTER PLAN (2006)

The 2006 Pedestrian Master Plan includes an inventory of existing pedestrian facilities and programs, along with a description of plans for additional facilities. The Plan discusses regulations impacting pedestrian facilities, transportation issues related to public schools, and barriers to walking. Recommendations included improvements to meet Americans with Disabilities Guidelines, (such as installation of ramps, repairing damaged sidewalks, and improving the timing of signalized crosswalks). The Plan also recommends that the City provide incentives to existing businesses to upgrade their properties to include sidewalks that connect the public walkway to the customer entrance of businesses. The Plan calls for regulations that require sidewalks on public streets when properties develop fronting on such streets.

### City of Washington Comprehensive Bicycle Plan (2014)

The 2014 City of Washington Comprehensive Bicycle Plan is a locally adopted document recommending bicycle oriented policies, programs, and projects to improve bicycle transportation throughout the City. Working with the Mid-East Commission to complete the plan, the City will use the Bicycle Plan as a guide for policy and program decisions as well as making budget decisions. With the support of the public and numerous local organizations, both governmental and non-profit, this Plan will assist in ongoing local efforts to promote sustainable growth and development and healthy living habits, while attracting people to the area, be it to live, work, or play. The plan was developed in coordination with the City's existing Pedestrian Master Plan and the Beaufort County Comprehensive Transportation Plan and supports the development of a comprehensive bicycle transportation network that will be incorporated with other modes of transportation to allow cyclist of all ages and skill level the ability to safely ride and connect to all locations in Washington.

### **STATE PLANS**

The State of North Carolina has many planning documents that support bicycling. One of the most important is the newly developed Walk Bike NC - Statewide Pedestrian and Bicycle Plan (<http://www.ncdot.gov/bikeped/planning/walkbikenc/>).

Currently, there are no planned improvements in Washington.



## WALK BIKE NC - STATEWIDE PEDESTRIAN AND BICYCLE PLAN (2013)

NCDOT launched this project to improve walking and bicycling conditions statewide and develop a vision for the future of bicycling and walking in North Carolina. Planning for walking and bicycling – whether for recreation, exercise, or transportation – helps to create a safer, more efficient network everyone can use. Important tasks included reviewing the current status of bicycling and walking in this State, researching appropriate strategies for improvement, and identifying the most efficient avenues to apply those strategies.

## 2013-2019 STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

This program funds transportation projects including new construction, maintenance, and safety of existing infrastructure. Each transportation project is described and its status is listed in this report.

### *RELEVANT PROGRAMS & INITIATIVES*

#### **STATE PROGRAMS AND INITIATIVES**

The State of North Carolina has many programs and initiatives that support walking and pedestrian facility development throughout the State. These programs include:

- Bicycle and Pedestrian Grant Initiative

The NCDOT Division of Bicycle and Pedestrian Transportation and the Transportation Planning Branch created an annual matching grant program – the Bicycle and Pedestrian Planning Grant Initiative – to encourage municipalities to develop comprehensive bicycle plans and pedestrian plans. This program was initiated in January 2004 and is currently administered through NCDOT-DBPT.

<https://connect.ncdot.gov/municipalities/PlanningGrant/Pages/default.aspx>

- Safe Routes to School

Safe Routes to School is a national and international movement to enable and encourage children to walk and bicycle to school. SRTS programs look at ways to make walking and biking to school safer and more appealing through road improvements, traffic reduction and education.

<http://www.ncdot.gov/download/programs/srts/SRTS.pdf>

- Share the Road Initiative

The DBPT has been a leader in educating both cyclists and motorists about their rights and responsibilities in sharing roadway space. The DBPT has also worked closely with the Division of Motor Vehicles within NCDOT to incorporate information for motorists about the law and the proper way to interact with bicyclists and pedestrians on North Carolina's highways. In 1982, the Division undertook its first statewide safety campaign on the theme "Bicycles Are Vehicles." The thrust of this campaign was to increase awareness among motorists that bicycles have an equal right to use the state's roads, with the exception of limited access freeways and interstate highways, while educating bicyclists to the need to ride responsibly as vehicle operators. Therefore, everyone operating a vehicle, whether motorized or non-motorized, must make an effort to safely and responsibly "Share the Road."

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

#### MID-EAST RURAL TRANSPORTATION PLANNING ORGANIZATION

The Mid-East Rural Transportation Planning Organization (RPO) currently does not have any projects identified within the Pedestrian Plan project area. The Mid-East RPO does support Washington's desire to develop a pedestrian-friendly community.

### **LOCAL PROGRAMS AND INITIATIVES**

#### LAW ENFORCEMENT

Pedestrian safety education is an important part in the development of Washington's Comprehensive Pedestrian Plan, a part that the Washington Police Department can play a big role in. Given the limited number of current pedestrian programs that help promote safety and awareness of cyclists in the community, it is recommended that additional safety and promotional programs be created.

One of the biggest concerns that police officers have voiced in Washington in regards to pedestrian is their behavior on the roadway. Currently, citizens can be seen walking against traffic, walking down the middle of the road, and erratically crossing business driveways. Another concern is individuals who walk at night with no reflective lighting at night. The Police Department desires to

increase encouragement of walkers to obey traffic rules set both locally and at the state level.

There are a few streets within Washington that police identified as higher hazard areas, including:

- Highway 264
- 5<sup>th</sup> Street
- John Small Avenue
- Carolina Avenue
- 15<sup>th</sup> Street
- Bridge Street

## PARKS AND RECREATION DEPARTMENT

The City of Washington's Parks and Recreation Department manages the City's public parks and recreation facilities and provides programming throughout the year. The Department strives to offer the people of Washington and surrounding areas the opportunity to develop their leisure time and interests through diverse activities and programs, promoting the enrichment of life and creating outlets for developing physical fitness, sportsmanship, leadership and cultural arts. The interaction of people participating in a common interest enables them to grow and prosper in unity of family and community spirit.

It is for these reasons that it is a goal of the Parks and Recreation Department through this Pedestrian Plan to provide safe walking routes to connect neighborhoods and schools to recreation facilities. Although the Department does not offer walking programs, the City's public facilities are a destination for walkers. Many of the Department's program users are youth who often depend on walking to attend practices, games, and after-school activities. The Recreation Department would like to see routes developed that would provide "across town" connectivity within Washington. Some of the identified hazardous areas for pedestrians include 5<sup>th</sup> Street/US 264, Highway 17 Business/Bridge Street/Carolina Avenue, 15<sup>th</sup> Street, and the railroad tracks near Havens Garden Park.

In addition to parks around town, the Susiegray McConnell Sports Complex serves as Washington's major recreation area having opportunities for people of all ages and abilities. While located along the northern limits of the City outside of the more densely populated areas, there is hope that as long as users commuting here by walking feel safe doing so, accessibility to the complex will increase. In an effort to improve safety to the facility, this plan recommends the widening of the existing sidewalk along Market Street Extension, thus creating a multi-use sidepath, connecting pedestrians and cyclist alike.

## RELEVANT POLICIES & INSTITUTIONAL FRAMEWORK

### **FEDERAL AND STATE POLICIES**

There are numerous State and Federal policies for the development of pedestrian facilities. Through their guidelines, NCDOT has shown their commitment to improving bicycling and pedestrian conditions. This commitment is all the more important as these facilities have become a critical element of the overall transportation system.

#### USDOT POLICY ON BICYCLE AND PEDESTRIAN ACCOMMODATION REGULATIONS AND RECOMMENDATIONS

The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes. USDOT Policy found at: [http://www.fhwa.dot.gov/environment/bikeped/policy\\_accom.htm](http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm) .

#### COMPLETE STREETS POLICY OF 2009

The North Carolina Board of Transportation adopted a Complete Streets policy in July 2009. The policy directs the North Carolina Department of Transportation (NCDOT) to consider and incorporate all modes of transportation when building new projects or making improvements to existing infrastructure. Under the new policy, NCDOT will collaborate with cities, towns, and communities during the planning and design phases of new streets or improvement projects. Together, they will decide how to provide the transportation options needed to serve the community and complement the context of the area.

The policy adopted by the Board of Transportation directed NCDOT to develop planning and design guidelines. Complete Streets elements in projects include ADA-compliant curb cuts, sidewalk improvements, new bicycle lanes, roadside improvements for public transportation, landscape features, and other elements that improve transportation for all users. Policy found at <http://www.completestreetsnc.org/>.

## NCDOT RESOLUTION ON BICYCLING AND WALKING

On September 8, 2000, the N.C. Board of Transportation adopted a Resolution for Bicycling and Walking to make bicycling and walking a critical part in the State's long-range transportation system. More information can be found at [http://www.ncdot.gov/bikeped/download/bikeped\\_laws\\_BOT\\_Mainstreaming\\_Resolution.pdf](http://www.ncdot.gov/bikeped/download/bikeped_laws_BOT_Mainstreaming_Resolution.pdf).

## NCDOT BICYCLE POLICY

The NCDOT Bicycle Policy offers guidelines to provide bicycle accommodations on State highways and specifies standards for planning, design, construction, maintenance, and operations relevant to bicycle facilities. The policy can be found at [http://www.ncdot.gov/bikeped/download/bikeped\\_laws\\_Bicycle\\_Policy.pdf](http://www.ncdot.gov/bikeped/download/bikeped_laws_Bicycle_Policy.pdf)

## NCDOT GREENWAY POLICY

In 1994 the NCDOT adopted administrative guidelines to consider greenways and greenway crossings during the highway planning process. This policy was incorporated so that critical corridors which have been adopted by localities for future greenways will not be severed by highway construction. More information can be found at [http://www.ncdot.gov/templates/download/external.html?pdf=http%3A//www.ncdot.gov/bikeped/download/bikeped\\_laws\\_Greenway\\_Admin\\_Action.pdf](http://www.ncdot.gov/templates/download/external.html?pdf=http%3A//www.ncdot.gov/bikeped/download/bikeped_laws_Greenway_Admin_Action.pdf)

## **LOCAL POLICIES**

There are very few policies or ordinances regarding pedestrian safety or facilities in Washington. The City has acknowledged the need for policies and ordinances to ensure pedestrian or multi-use trail facilities when new development occurs. While these types of recreational facilities can be recommended during the planning and permit approval phases, the City should consider an ordinance to require such facilities. The City would like increased trail or route connectivity and it is recommended that installation of facilities during development will provide greater opportunities for more facilities.

## *RELEVANT PEDESTRIAN STATUTES & ORDINANCES*

There are a few existing policies related to pedestrians at the local, state, and federal levels.

## **STATE STATUTES & LAWS**

State of North Carolina laws regulate a range of safety and operational issues, including the following areas pertaining to pedestrians:

- Compliance with signs and signals
- Yielding right-of-way to pedestrians
- Crashes

More information can be found at

<http://www.ncdot.gov/bikeped/lawspolicies/laws/>

## **LOCAL ORDINANCES**

As was previously mentioned, the City of Washington has very few ordinances regarding pedestrian safety or facilities.

## SECTION 4 – STRATEGIC PEDESTRIAN PLAN

In order to develop a strategic pedestrian plan to make Washington a walk-friendly community, there are a number of issues that will need to be addressed in the development of the plan.

Developing pedestrian facilities for Washington will require considerations for:

- Safety
- Barriers
- Direct and convenient alignment to serve origins and destinations
- Sidewalk Continuity - avoiding abrupt discontinuity
- Pedestrian Crash Reduction
- Traffic volumes and speed
- Intersection conditions/Crossings
- Adequate maintenance commitment
- Policies

This section identifies the overall transportation system, desired corridors of pedestrian travel, special focus areas, and potential projects.

### SYSTEM OVERVIEW

The overall transportation system in Washington is automobile dependent. As a result, intersections and thoroughfares were designed to accommodate automobile travel only. Washington's more recent commercial growth has evolved around the US Highway 17 (Carolina Ave.) and 15th Street corridors through Washington that includes shopping centers with grocery stores, restaurants, and retail establishments. While "urban sprawl" is limited, the pattern of commercial development along the existing thoroughfares is intimidating for pedestrians due to many commercial driveways, intersections that are unsafe to cross, limited access and lack of provisions to accommodate pedestrian travel.

The most pedestrian accessible areas of Washington are its residential areas due to low traffic speeds and short blocks.

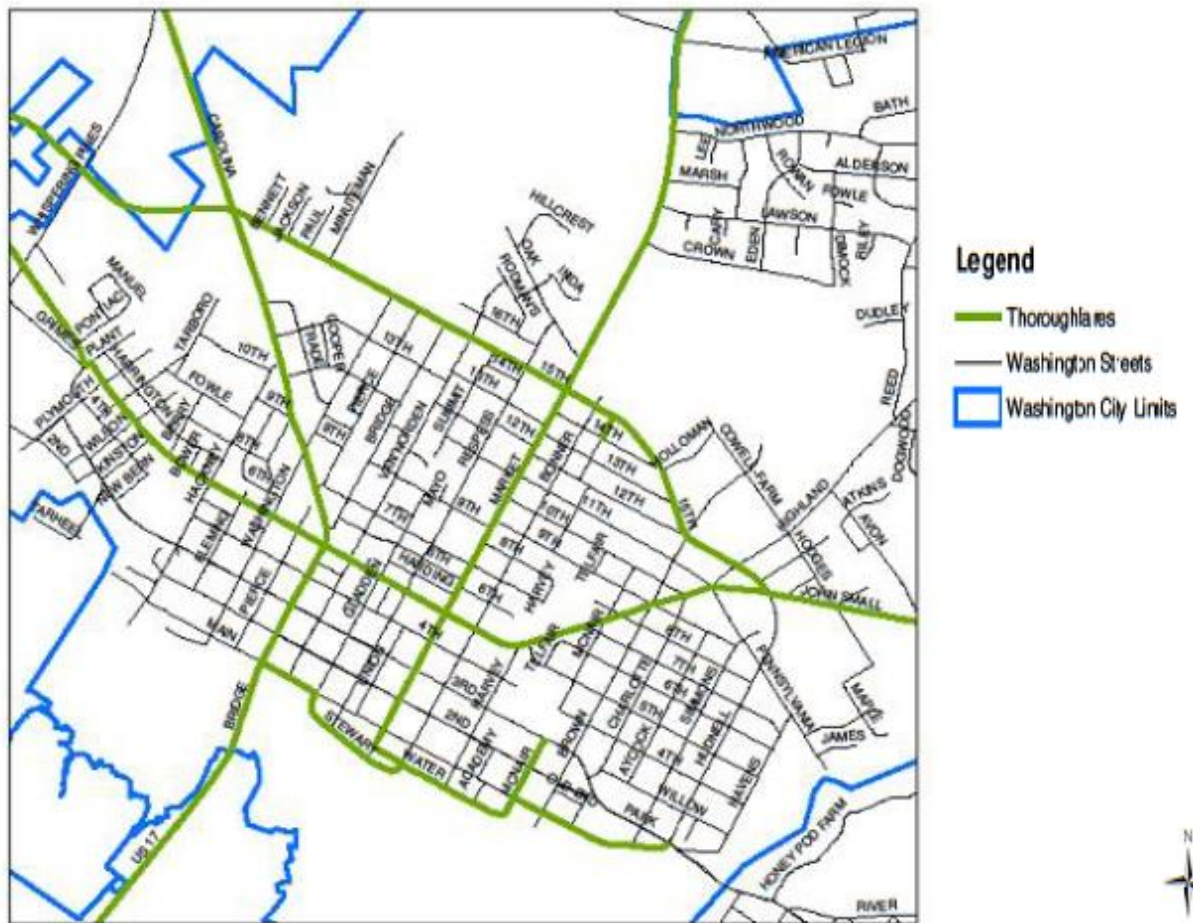
### CORRIDOR IDENTIFICATION

The identification of corridors, origins, and destination points provides an idea on available access to desired routes and pedestrian facilities. The assessment of the conditions of existing pedestrian corridors and desired routes will assist in developing recommendations for pedestrian facilities and improvements. This

subsection will discuss the analysis of the existing conditions for the following in Washington: destinations, origins, and desired corridors of pedestrian travel.

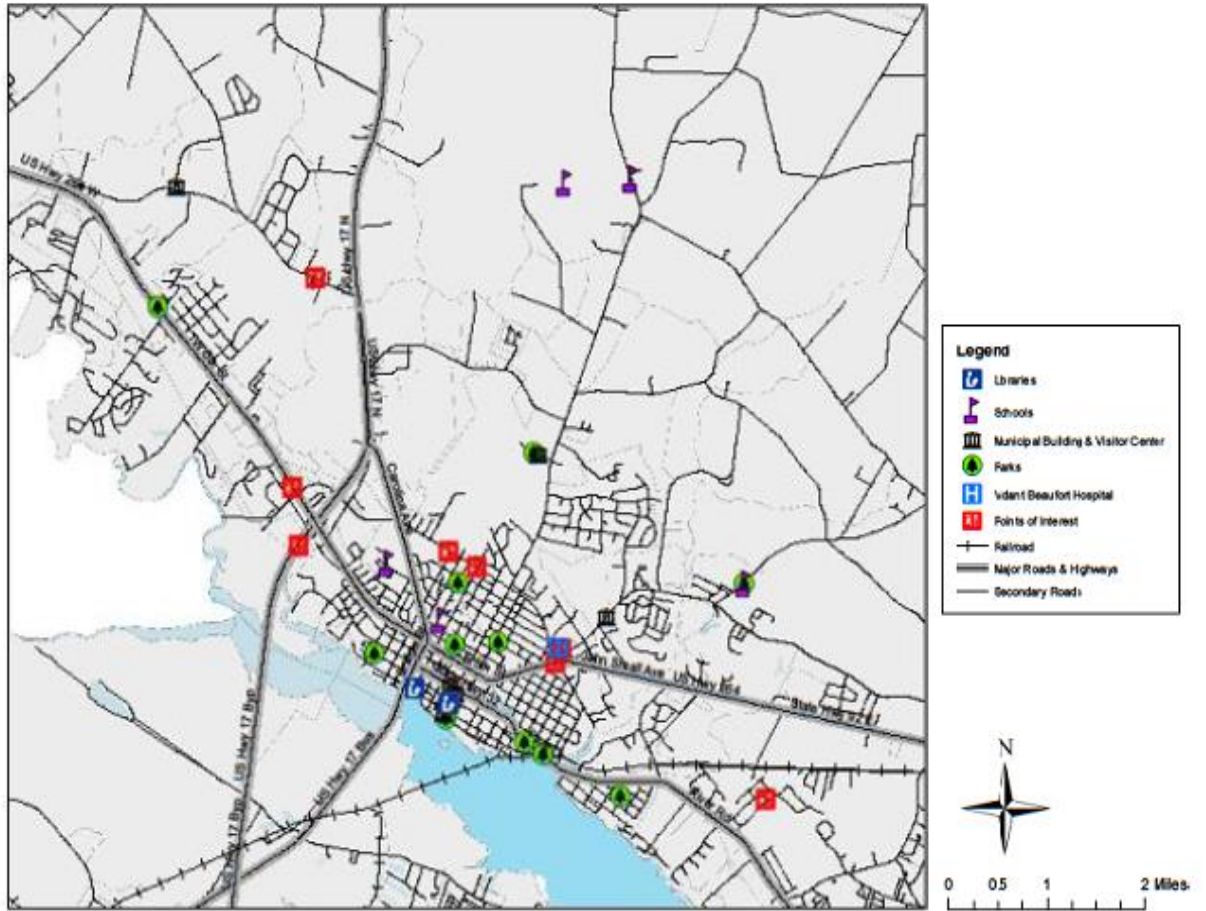
Map 4.1 illustrates the most popular corridors in the City of Washington. Map 4.2 illustrates all identified destinations and points of interest throughout the City of Washington project area.

Map 4.1 – Corridor/Thoroughfare Map





Map 4.2 – Points of Interest Map



## OPPORTUNITIES/POTENTIAL PROJECTS

Potential projects to improve the existing pedestrian network in Washington included in this plan were developed from recommendations that were included in the 2006 Plan, but had yet to be constructed. Input activities, including Steering Committee meetings and a Public Open House, were used to determine what projects remained a priority to the community and should be included in the update. Some projects that were included in the 2006 plan were included in this plan, but were changed from the original recommendation. Twenty-nine (29) project recommendations have been identified, with an additional fifteen (15) crosswalk/intersection improvements recommended.

Maps 4.3 and 4.4 show the potential opportunities, with Map 4.3 showing proposed projects and Map 4.4 showing the proposed crosswalk/intersection improvements. Some projects may require further review and approval by the NCDOT Division 2 Office located in Greenville, NC.

The potential projects were based upon:

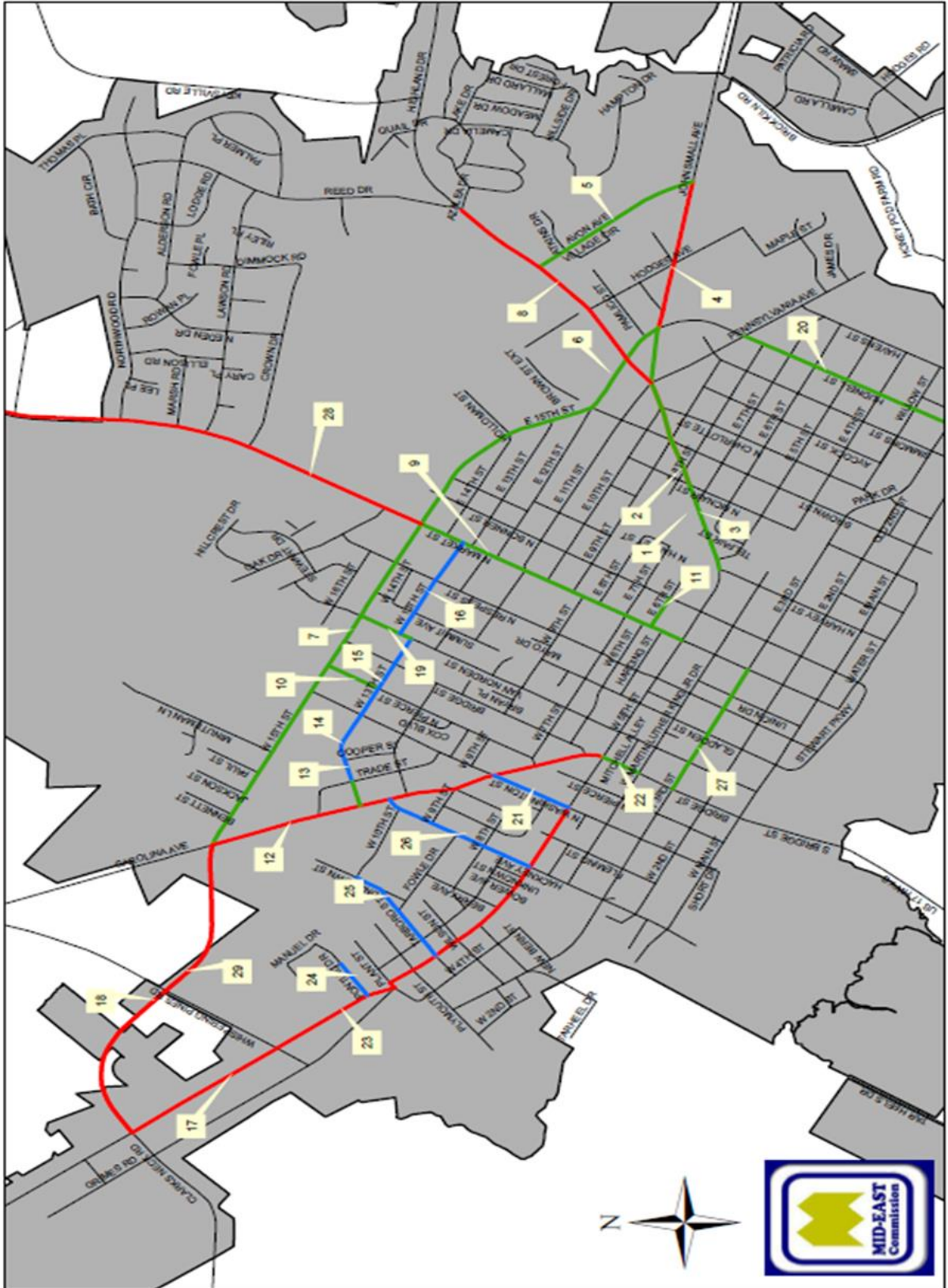
- Inclusion in 2006 Pedestrian Plan
- Steering Committee Meetings
- Public Open House Comments
- Pedestrian/Vehicle Crash Data
- Field inventory and Assessment
- Ability to provide connectivity & improve safety

During their September 2015 meeting, Steering Committee members participated in an exercise discussing existing pedestrian opportunities recommended in the 2006 plan, identifying potential new opportunities related to existing recommendations, and discussing potential opportunities to mesh bicycle and pedestrian needs into multi-use projects. Members were tasked with evaluating the recommended projects and developing a prioritized list of the recommended needs.

Other opportunities that have been offered by citizens and City staff include the use of railroad rights-of-way/corridors and power line easements to create off-road bicycle/pedestrian facilities. The City should also consider its utility easements as opportunities for bicycle/pedestrian corridors. Low-volume streets have been identified as potential bicycle corridors. Opportunities to provide access to parks, residential areas, and other popular destinations were recommended during plan development.

Map 4.3 – Proposed Pedestrian Project Map

City of Washington Pedestrian Plan - Proposed Projects



Map 4.4 – Proposed Crosswalk/Intersection Improvement Map

City of Washington Pedestrian Plan - Proposed Crosswalk Improvements



SIDEWALK ADDITIONS AND IMPROVEMENTS

US 264/John Small Avenue – North Side from McNair to Highland

US 264 Proposed Sidewalk - McNair to Highland



# US 264/John Small Avenue – South Side from Harvey to Hudnell

US 264 Proposed Sidewalk - Harvey to Hudnell



# US 264/John Small Avenue – North Side from Proposed Crosswalk at E 12<sup>th</sup> Street to Avon

US 264 Proposed Sidewalk - E 12th to Avon



# Avon Avenue

Avon Avenue Proposed Sidewalk





# E 12<sup>th</sup> Street – South Side from Highland & Brown to US 264/John Small Avenue

E 12th Street Proposed Sidewalk - US 264 to Highland/Brown





# Highland Drive – West Side from Avon to Beaufort County Health Department/East Side from Vidant Hospital to Avon

Highland Drive Proposed Sidewalk - US 264 to Azalea Drive



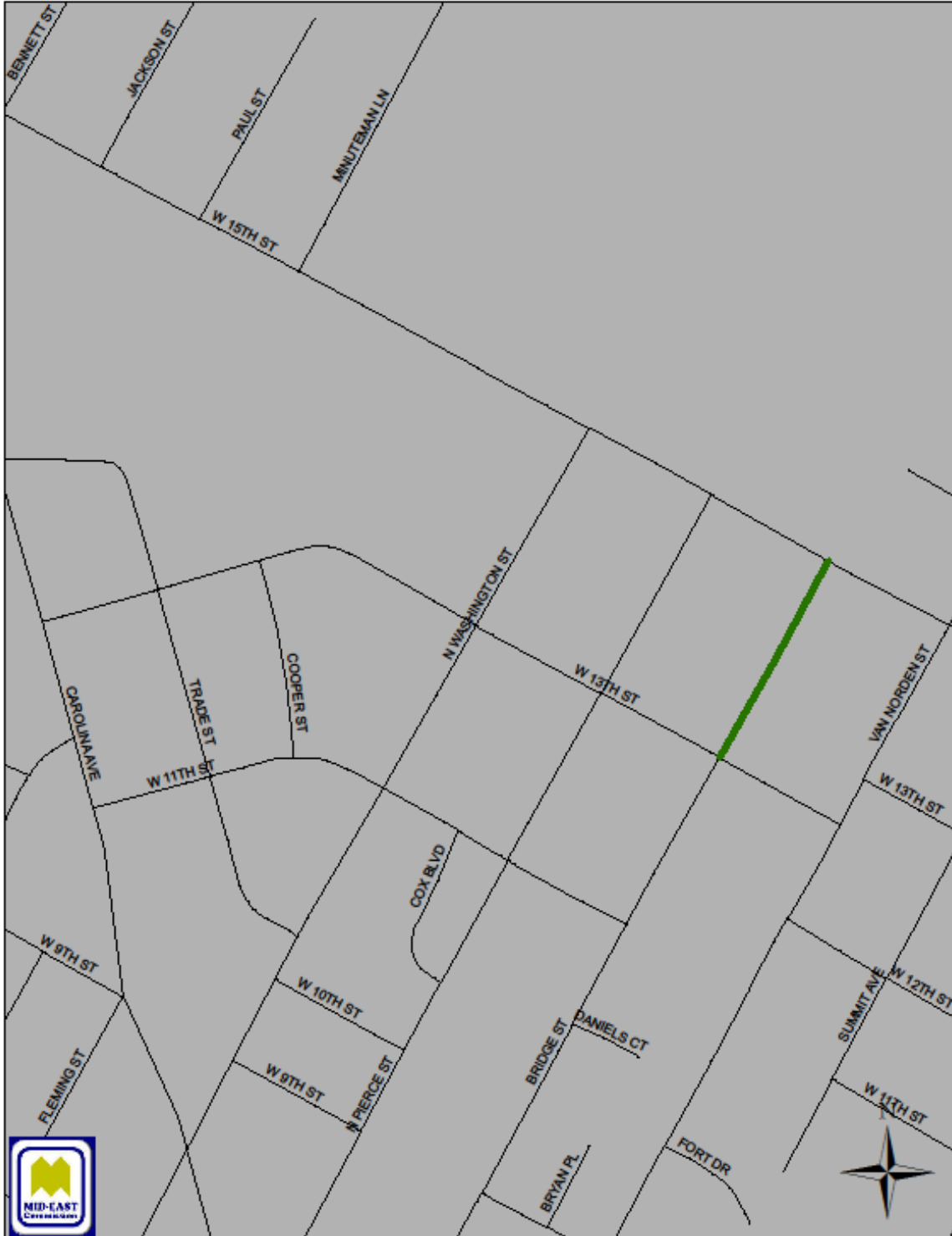
# Market Street – Upgrade/Repair Existing from 5<sup>th</sup> to 15<sup>th</sup>

Market Street Proposed Sidewalk - 15th Street to 5th Street



# Bridge Street – West Side from 13<sup>th</sup> Street to 15<sup>th</sup> Street

Bridge Street Proposed Sidewalk - 13th Street to 15th Street



# 6th Street – South Side from Bonner Street to Market Street

6th Street Proposed Sidewalk - Bonner Street to Market Street



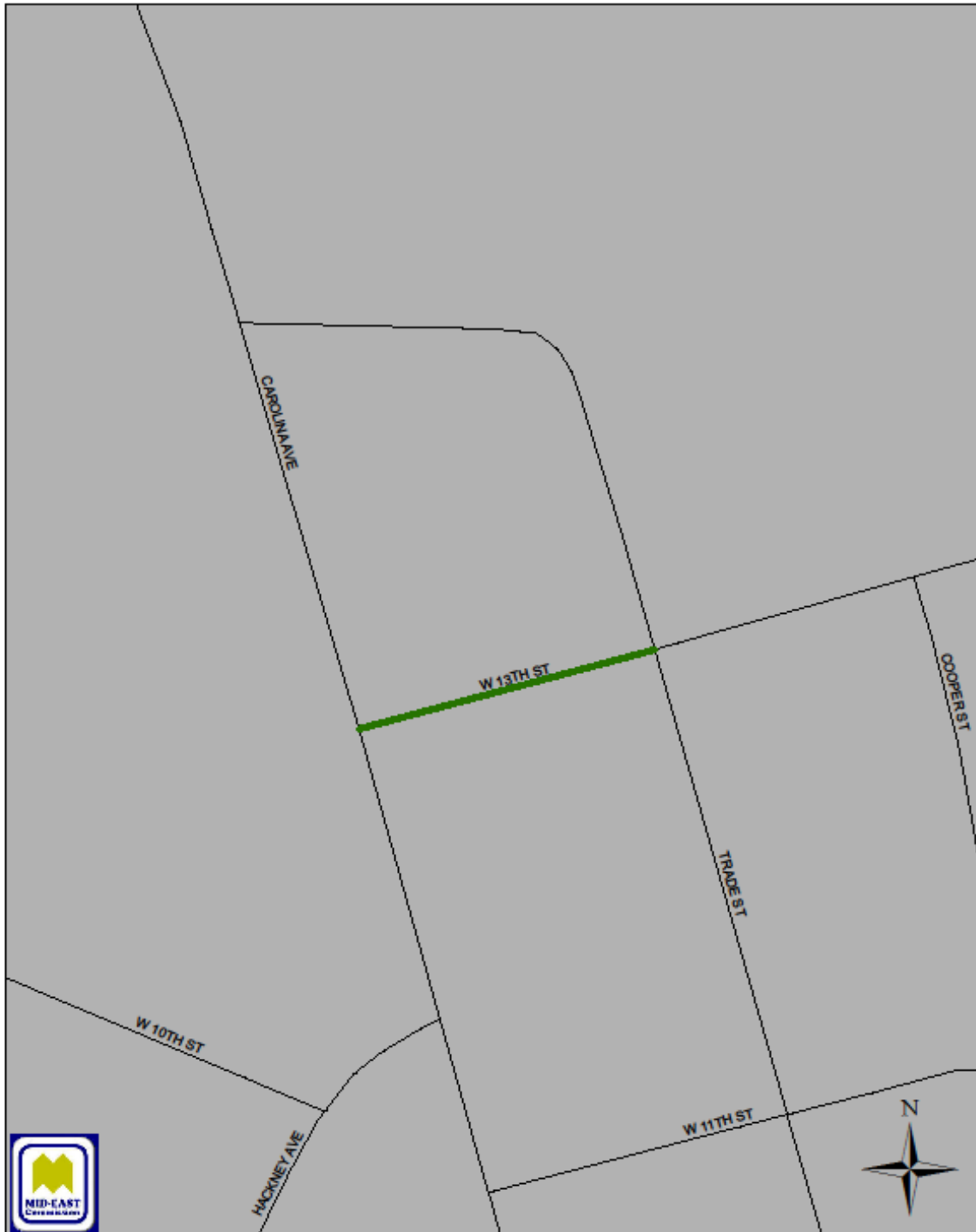
# US 17 Business/Carolina Avenue – 5<sup>th</sup> Street to 15<sup>th</sup> Street

US 17 Business/Carolina Avenue Proposed Sidewalk - 5<sup>th</sup> Street to 15<sup>th</sup> Street



# 13th Street – Both Side from US 17 Business/Carolina Avenue to Trade Street

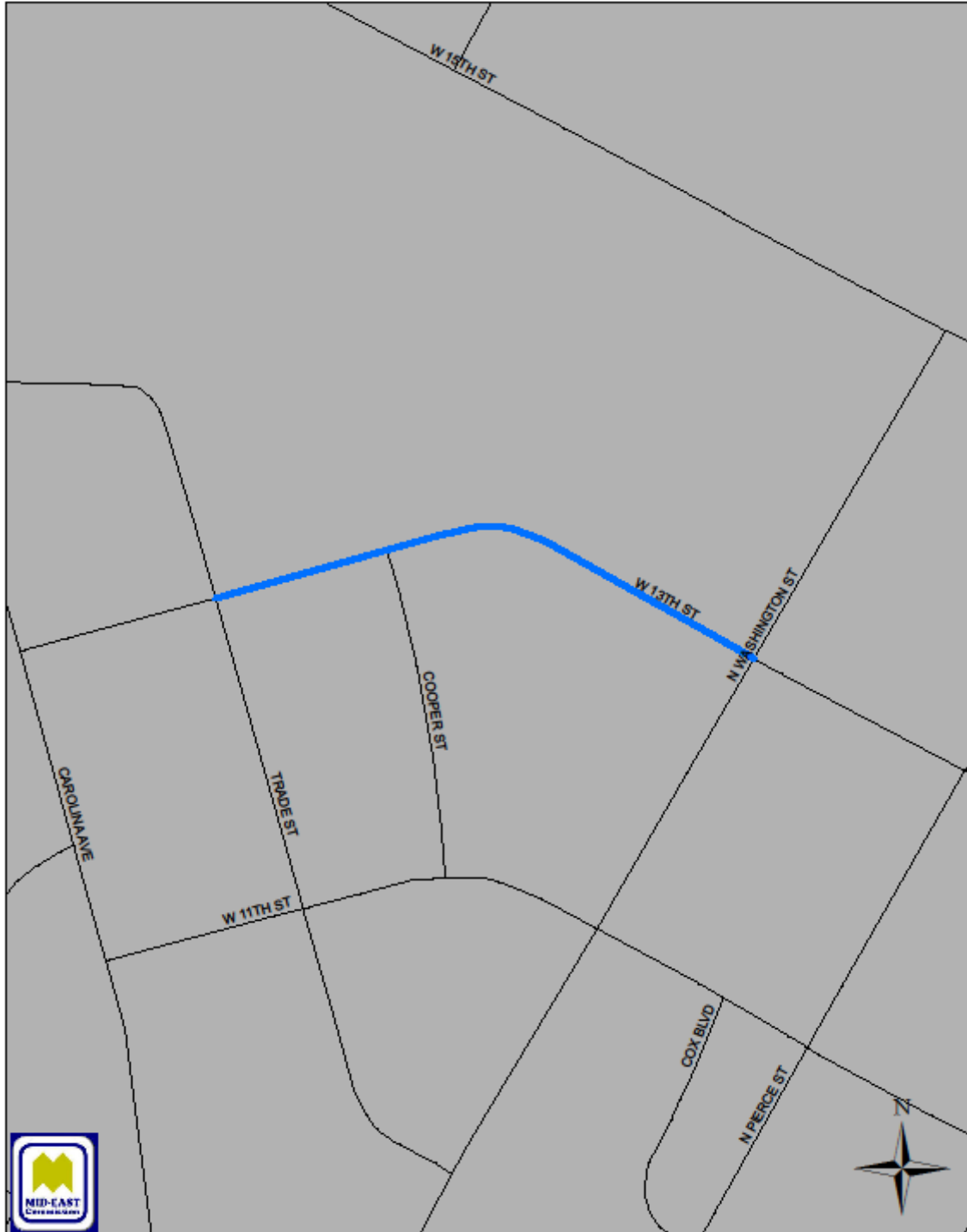
13th Street Proposed Sidewalk - US 17 Business/Carolina Avenue to Trade Street





# 13th Street – North Side from Trade Street to Washington Street

13th Street Proposed Sidewalk - Trade Street to Washington Street



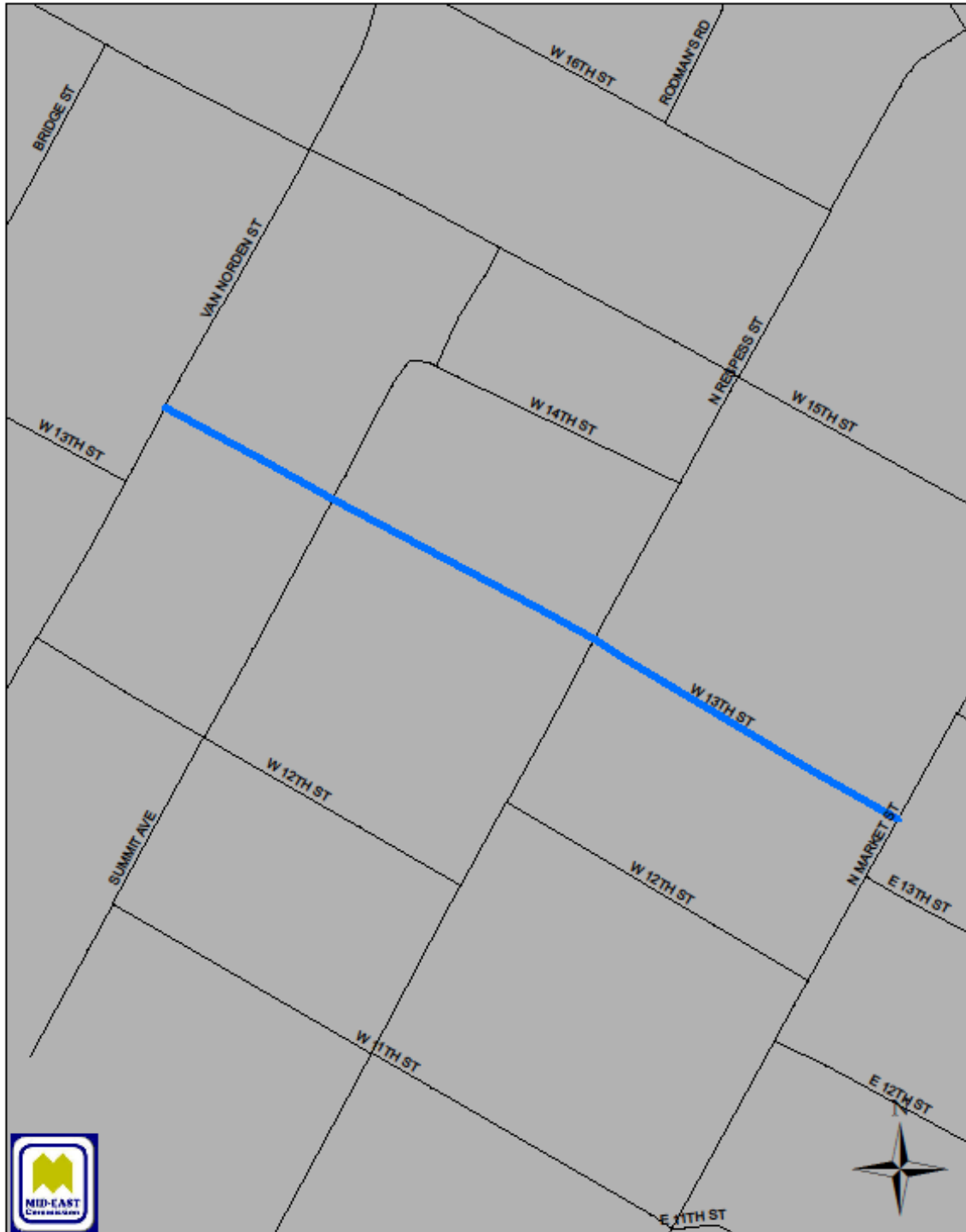
# 13th Street – North Side from Washington Street to Van Norden Street

13th Street Proposed Sidewalk - Washington Street to Van Norden Street



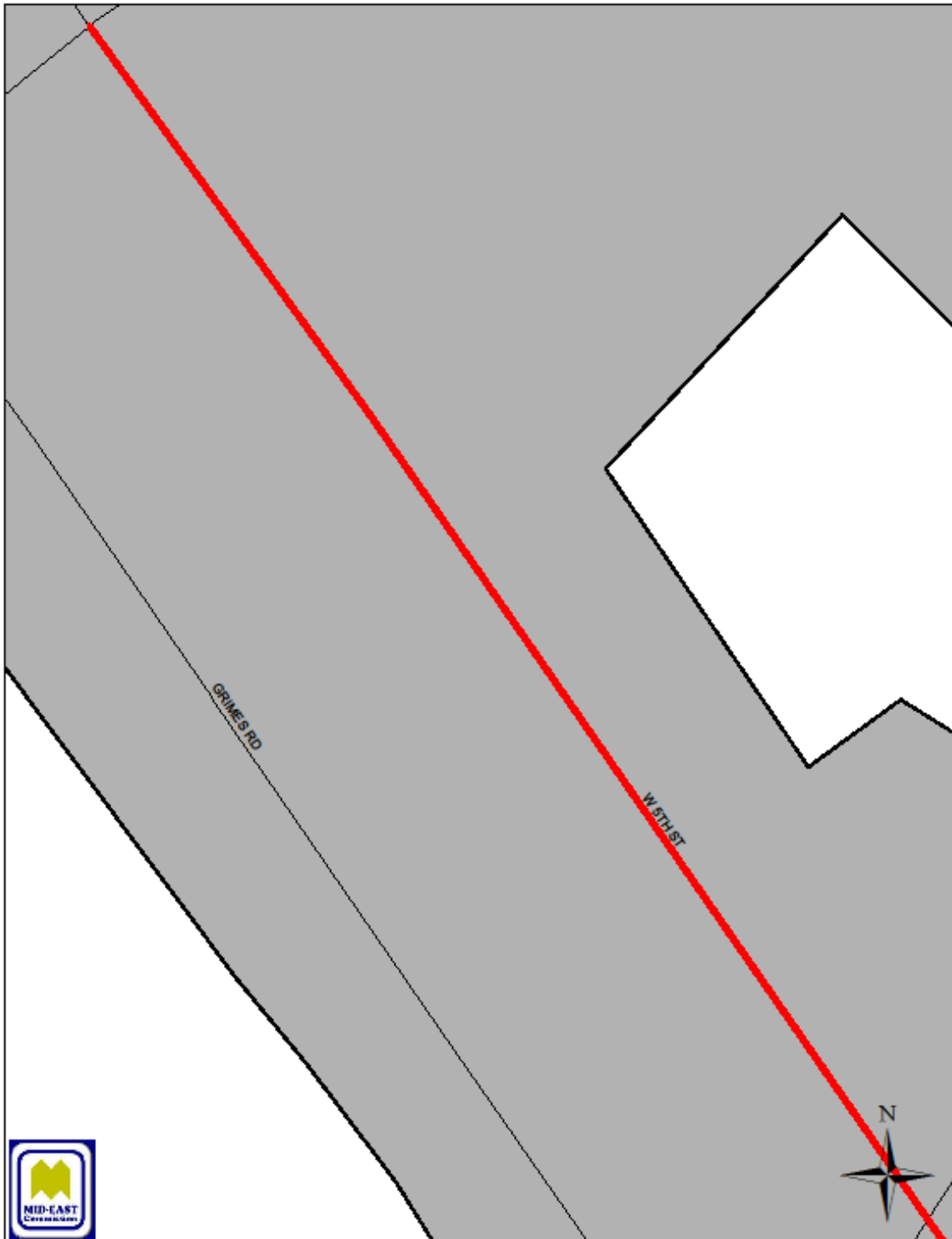
# 13th Street – North Side from Van Norden Street to Market Street

13th Street Proposed Sidewalk - Van Norden Street to Market Street



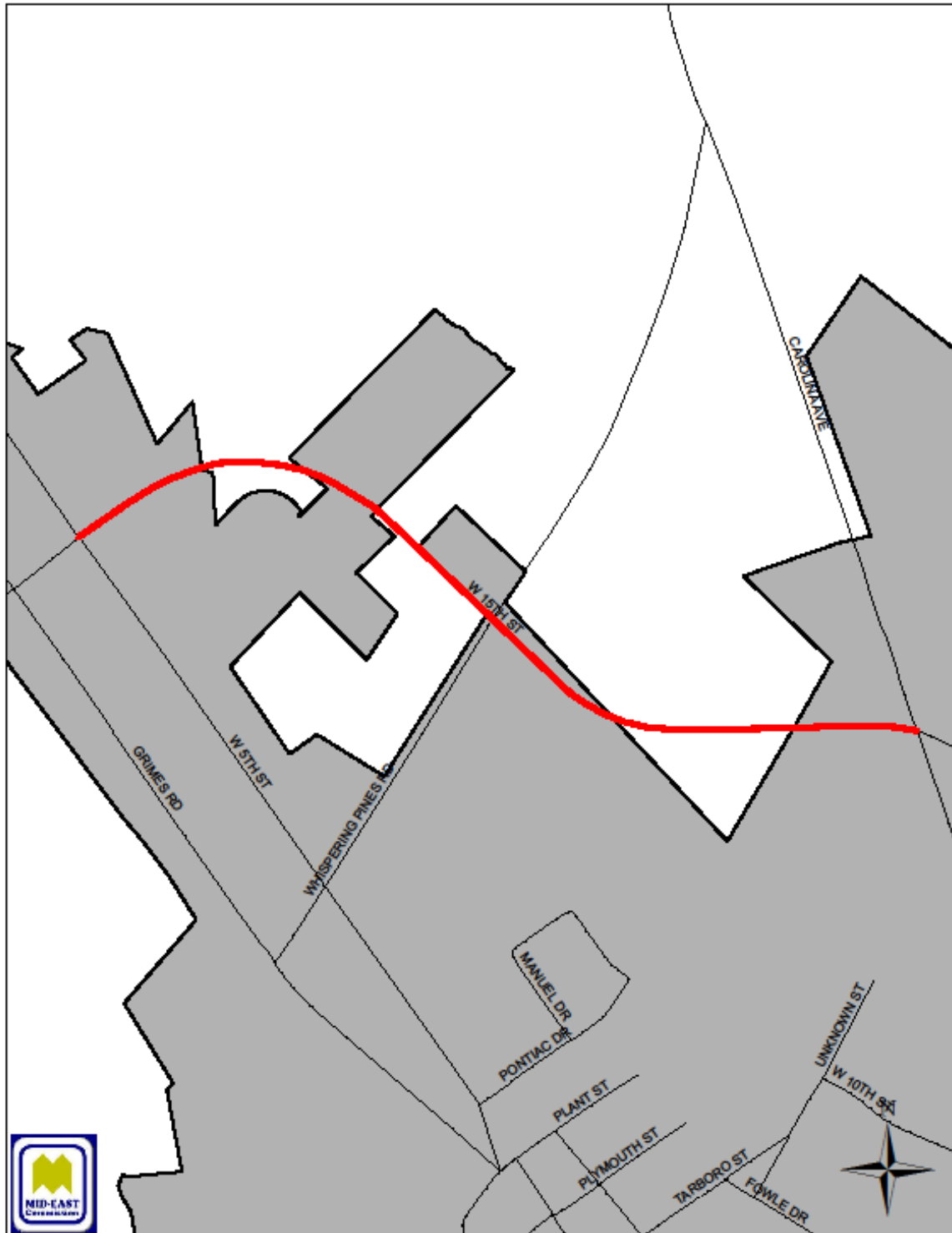
# US 264 – Both Sides under US 17 Overpass

US 264 Proposed Sidewalk - Under US 17 Bypass Overpass



# 15th Street Extension – Both Sides under US 17 Overpass

15th Street Extension Proposed Sidewalk - US 17 Business/Carolina Avenue to US 284



# Van Norden Street – East Sides between 13<sup>th</sup> Street and 15<sup>th</sup> Street

Van Norden Street Proposed Sidewalk - 13th Street to 15th Street



# Hudnell Street – East Side between Main Street and Pennsylvania Avenue

Hudnell Street Proposed Sidewalk - Main Street to Pennsylvania Avenue



# Washington Street – East Side between US 264/5<sup>th</sup> Street to US 17 Business/Carolina Avenue

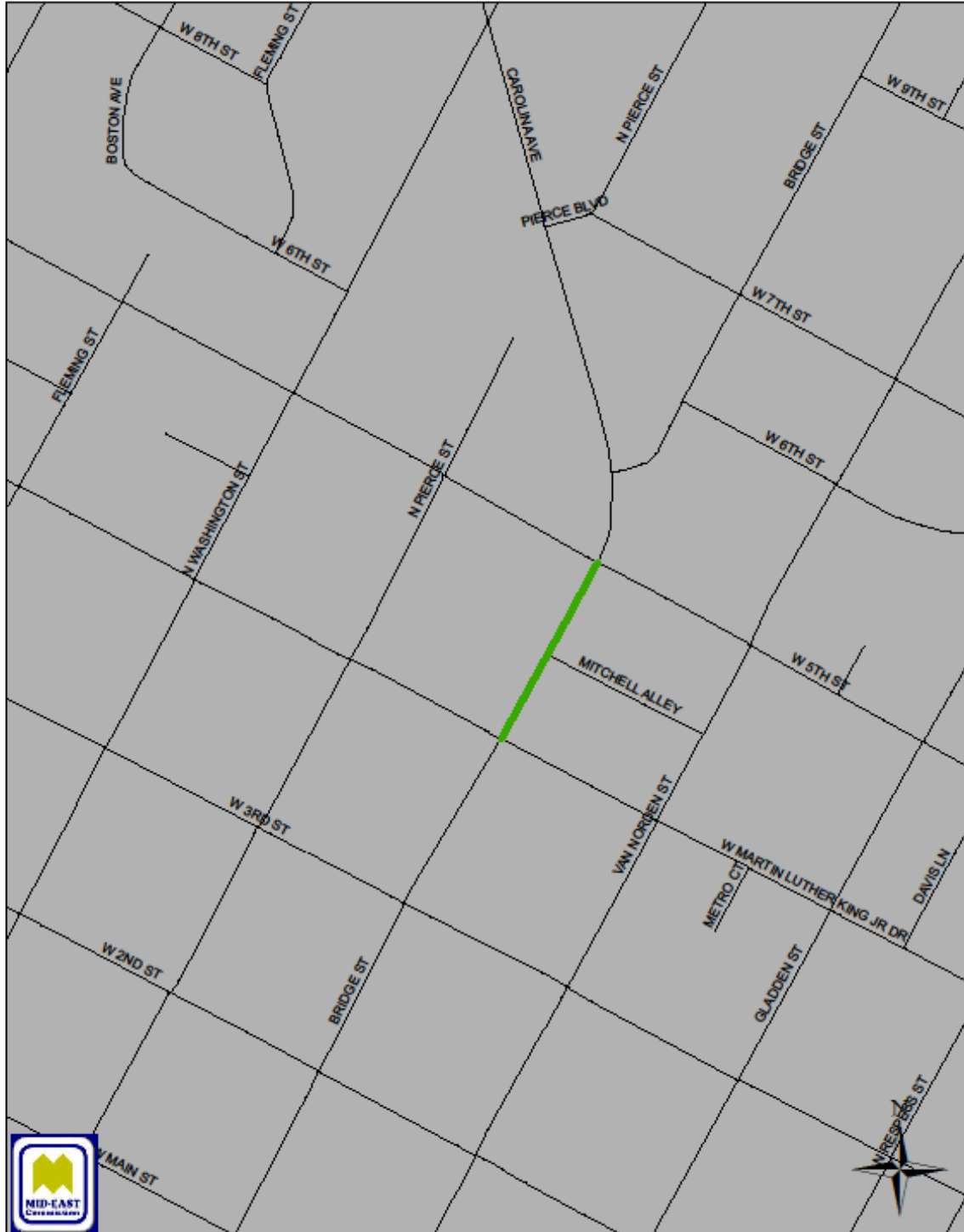
Washington Street Proposed Sidewalk - US 264 to US 17 Buniess/Carolina Avenue





# US 17 Business/Bridge Street – West Side between 4<sup>th</sup> Street and US 264/5<sup>th</sup> Street

US 17 Business/Bridge Street Proposed Sidewalk - 4th Street to US 264



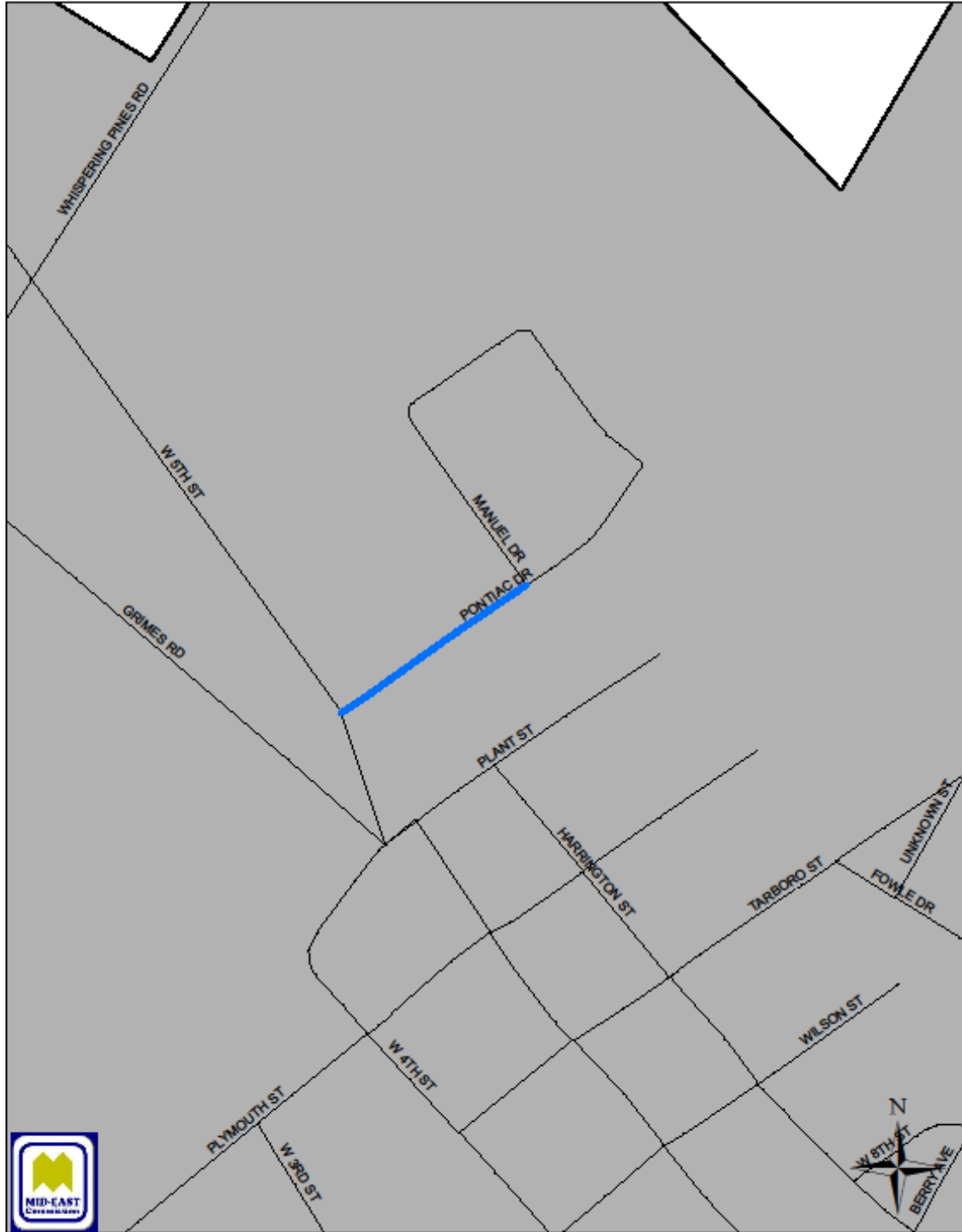
# US 264/5<sup>th</sup> Street – North Side between Washington Street and 15 Street Extension

US 264 Proposed Sidewalk - Washington Street to 15th Street Extension



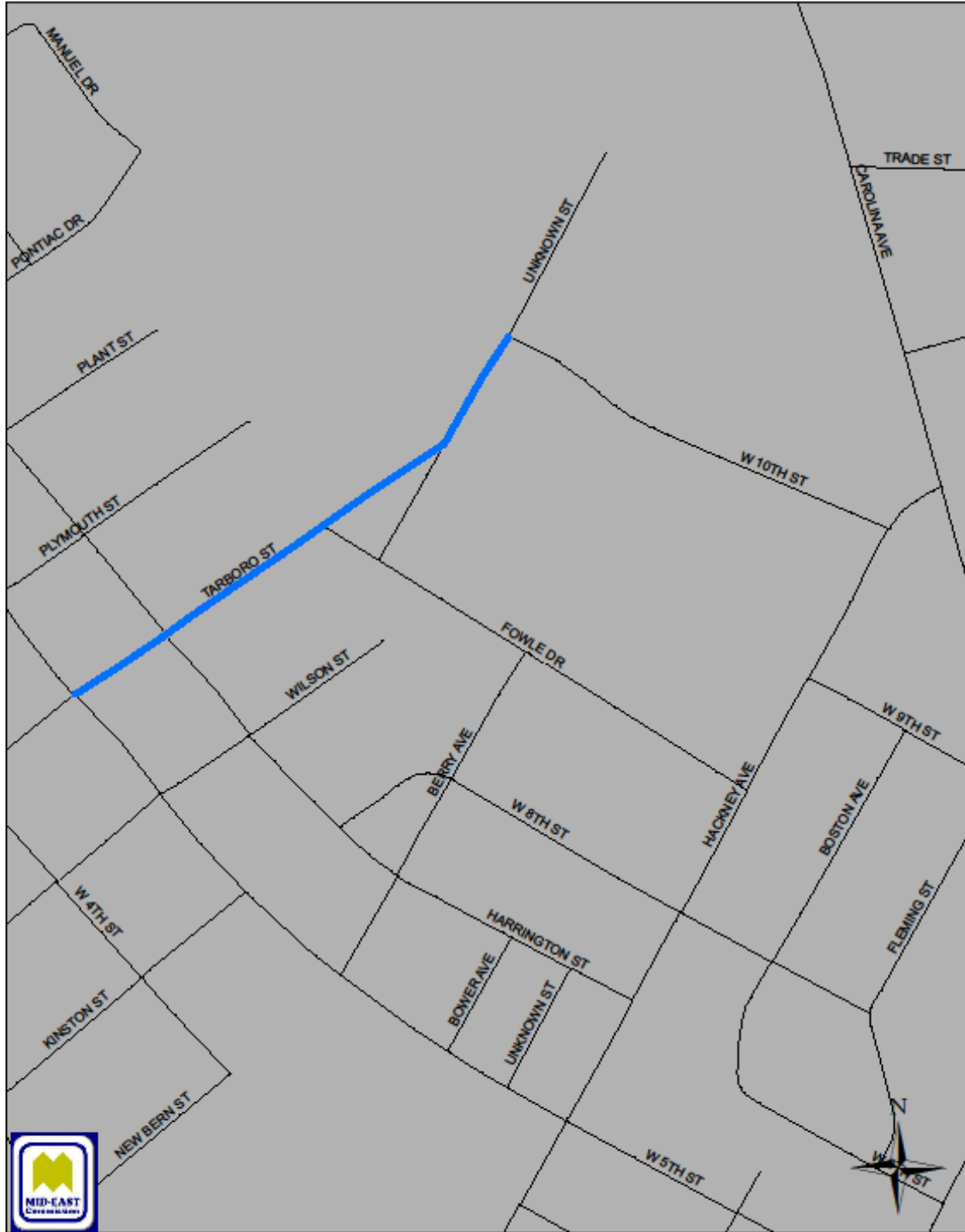
# Pontiac Drive – West Side between US 264/5<sup>th</sup> Street and Manuel Drive

Pontiac Drive Proposed Sidewalk - US 264 to Manuel Drive



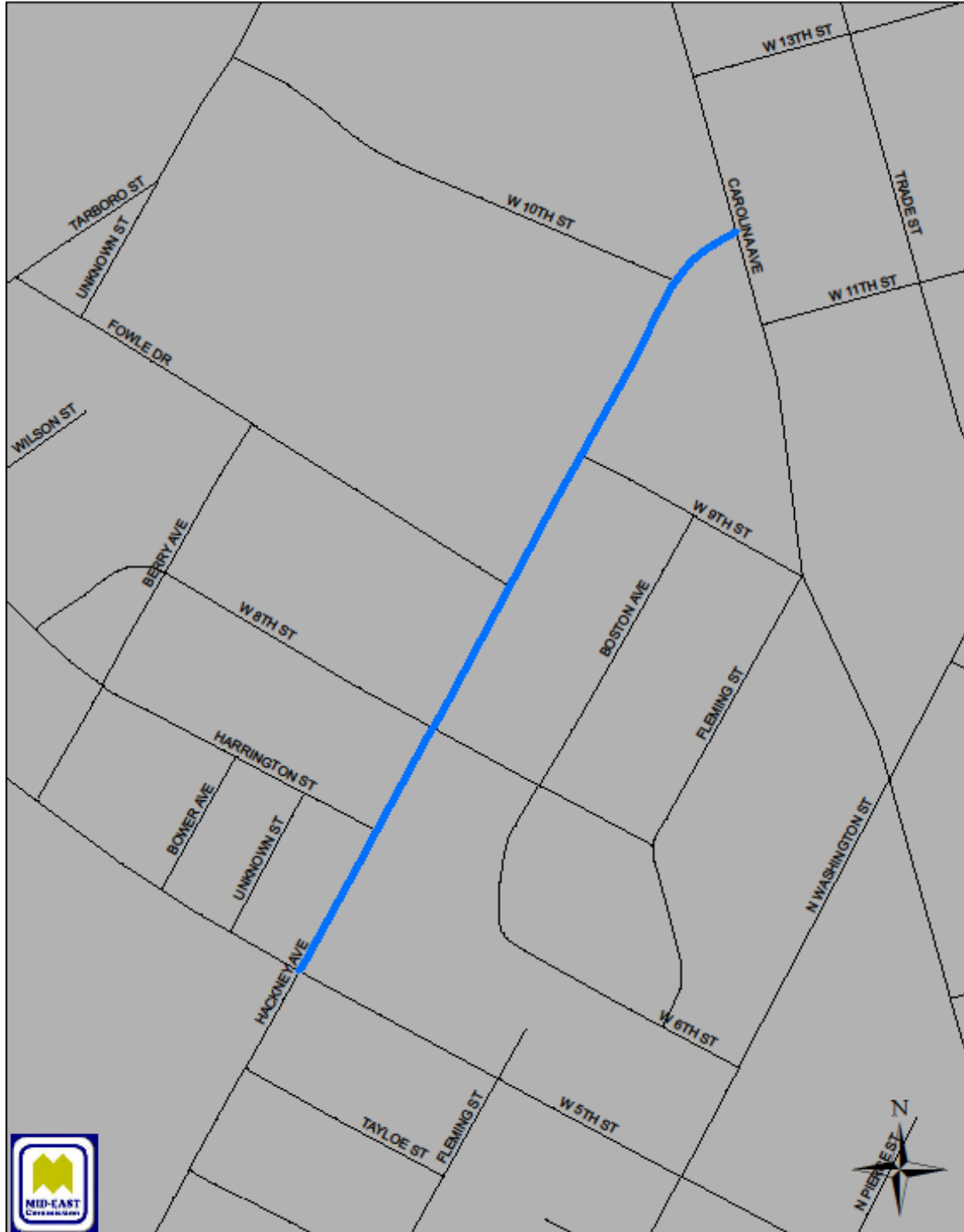
# Tarboro Street – Northwest Side between US 264/5<sup>th</sup> Street and John Cotton Tayloe School

Tarboro Street Proposed Sidewalk - US 264 to John Cotton Tayloe School



# Hackney Avenue – West Side between US 17 Business/Carolina Avenue and US 264/5<sup>th</sup> Street

Hackney Avenue Proposed Sidewalk - US 17 Business/Carolina Avenue to US 264



# 3rd Street – North Side between US 17 Business/Bridge Street and Market Street

3rd Street Proposed Sidewalk - US 17 Business/Bridge Street to Market Street



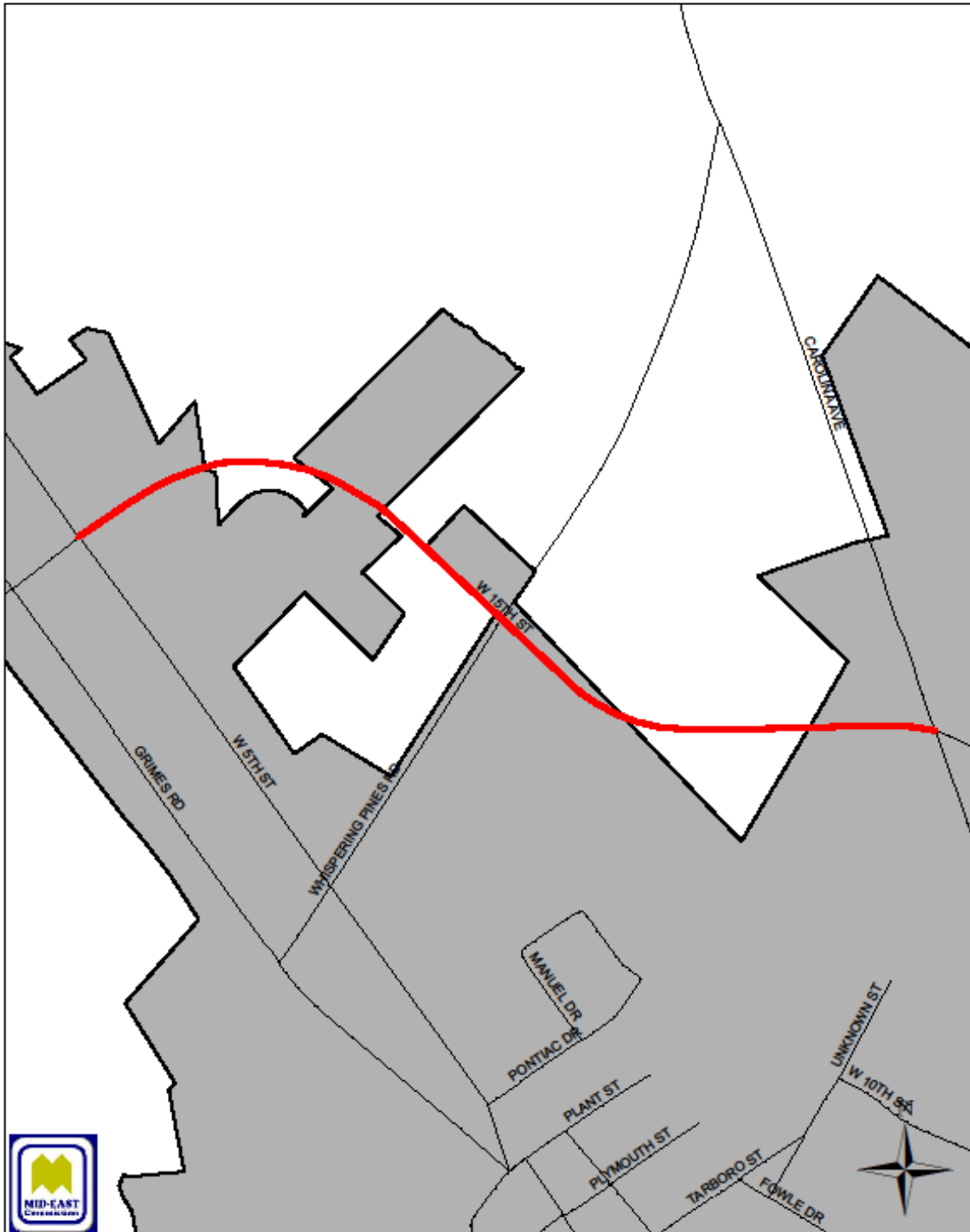
# Market Street Extension – Widen Existing to Shared Use Path from 15<sup>th</sup> Street to Sports Complex

Market Street Proposed Shared Use Path - 15<sup>th</sup> Street to Airport Road



# 15th Street Extension – South Side between US 17 Business/Carolina Avenue to US 264/5th Street

15th Street Extension Proposed Sidewalk - US 17 Business/Carolina Avenue to US 264





## SECTION 5 – PEDESTRIAN FACILITY STANDARDS AND GUIDELINES

These guidelines originate from and adhere to national design standards as defined by the American Association of State Highway Transportation Officials (AASHTO), the Americans with Disabilities Act (ADA), the Federal Highway Administration (FHWA) Pedestrian Facilities Users Guide, the Manual on Uniform Traffic Control Devices (MUTCD), and the NCDOT. Should the national standards be revised in the future and result in discrepancies with this chapter, the national standards should prevail for all design decisions. Likewise, all cost information provided is relevant only at or around the date of this report (September 2006). A qualified engineer or landscape architect should be consulted for the most up to date and accurate cost estimates.

The sections below serve as an inventory of pedestrian design elements/treatments and provide guidelines for their development. These treatments and design guidelines are important because they represent minimum standards for creating a pedestrian-friendly, safe, accessible community. The guidelines are not, however, a substitute for a more thorough evaluation by a landscape architect or engineer upon implementation of facility improvements. Some improvements may also require cooperation with the NCDOT for specific design solutions.

### 5.1 Pedestrian Facility Elements

#### Sidewalks and Walkways

Sidewalks and walkways are extremely important public right-of-way components often times adjacent to, but separate from automobile traffic. In many ways, they act as the seam between private residences, stores, businesses, and the street. They are spaces where children play, neighbors meet and talk, shoppers meander casually, parents push strollers, and commuters walk to transit stops or directly to work. Because of the social importance of these spaces, great attention should be paid to retrofit and renovate areas with disconnected, dangerous, or otherwise malfunctioning walkways.

There are a number of options for different settings, both urban and rural. From a European style promenade to, in the case of a more rural environment, a simple asphalt or crushed stone path next to a secondary road, walkway form and topography can vary greatly. In general, sidewalks are constructed of concrete although there are some successful examples where other materials such as



asphalt, crushed stone, or other slip resistant material have been used. The width of the walkways should correspond to the conditions present in any given location (i.e. level of pedestrian traffic, building setbacks, or other important natural or cultural

features). FHWA (Federal Highway Administration) and the Institute of Transportation Engineers both suggest five feet as the minimum width for a sidewalk. This is considered ample room for two people to walk abreast or for two pedestrians to pass each other.

- A sidewalk located at least 2 ft. from a curb should be a minimum of 5 ft. wide. Exceptions may be made for local conditions, but ADA requirements must be met.
- A sidewalk proposed within 2 ft. of a curb will be placed adjacent to the curb and be a minimum of 6 ft. wide. Exceptions may be made, but ADA requirements must be met.

Often downtown areas, near schools, transit stops, or other areas of high pedestrian activity call for much wider sidewalks.

Sidewalks are typically built in curb and gutter sections. They need to be kept completely free of obstructions such as utility poles. Much like the sidewalk and walkway itself, the form and topography of sidewalk buffers will vary greatly. Native street tree plantings have historically proven to work successfully within these buffer zones. They regulate micro-climate, create a desirable sense of enclosure, promote a local ecological identity and connection to place, and can act as a pleasant integration of nature into an urban environment. In the event that vegetation is not possible, a row of parked cars, bike lane, or street furniture can be used to create this buffer.

Guidelines:

- Concrete is preferred surface, providing the longest service life and requiring the least maintenance.
- Sidewalks should be built as flat as possible to accommodate all pedestrians; they should have a running grade of five percent or less; with a two percent maximum cross-slope.

- Concrete sidewalks should be built to minimum depth of four inches; six inches at driveways.
- Sidewalks should be a minimum of five feet wide; ten feet can also be considered in other areas of heavy pedestrian traffic. When sidewalk abuts storefronts, an additional two feet of space from walls is recommended.
- Motor vehicle access points should be kept to minimum.

### Greenway Trail



A greenway is defined as a linear corridor of land that can be either natural, such as rivers and streams, or manmade, such as abandoned railroad beds and utility corridors. Most greenways contain trails. Greenway trails can be paved or unpaved, and can be designed to accommodate a variety of trail users, including bicyclists, walkers, hikers, joggers, skaters, horseback riders, and those confined to wheelchairs.

Single-tread, multi-use trails are the most common trail type in the nation. These trails vary in width and can accommodate a wide variety of users. The minimum width for two-directional trails is 10', however 12'-14' widths are preferred where heavy traffic is expected. Centerline stripes should be considered for paths that generate substantial amounts of pedestrian traffic. Possible conflicts between user groups must be considered during the design phase, as cyclists often travel at a faster speed than other users. Radii minimums should also be considered depending on the different user groups.

While the vegetative clearing needed for these trails varies with the width of the trail. The minimum width for clearing and grubbing a 14' wide trail is 16'. Selective thinning increases sight lines and distances and enhances the safety of the trail user. This practice includes removal of underbrush and limbs to create open' pockets within a forest canopy, but does not include the removal of the forest canopy itself.

Typical pavement design for a paved, off-road, multi-use trail should be based upon the specific loading and soil conditions for each project. These asphalt or concrete trails should be designed to withstand the loading requirements of occasional maintenance and emergency vehicles.

## Concrete

In areas prone to frequent flooding, it is recommended that concrete be used because of its excellent durability. Concrete surfaces are capable of withstanding the most powerful environmental forces. They hold up well against the erosive action of water, root intrusion and subgrade deficiencies such as soft soils. Most often, concrete is used for intensive urban applications. Of all surface types, it is the strongest and has the lowest maintenance requirement, if it is properly installed.

## Asphalt

Asphalt is a flexible pavement and can be installed on virtually any slope. One important concern for asphalt trails is the deterioration of trail edges. Installation of a geotextile fabric beneath a layer of aggregate base course (ABC) can help to maintain the edge of a trail. It is important to provide a 2' wide graded shoulder to prevent trail edges from crumbling.

## Trail and Roadway Intersections

The images below present detailed specifications for the layout of intersections between trail corridors and roadways. Signage rules for these sorts of intersections are available in the MUTCD as well.

## Marked Crosswalks

A marked crosswalk designates a pedestrian right-of-way across a street. It is often installed at controlled intersections or at key locations along the street (a.k.a. mid-block crossings). Although marked crosswalks provide strong visual clues to motorists that pedestrians are present, it is important to consider the use of these elements in conjunction with other traffic calming devices to fully recognize low traffic speeds and enhance pedestrian safety. In general, "marked crosswalks should not be installed in an uncontrolled environment where speeds exceed 40 mph". Every attempt should be made to install crossings in places where pedestrians are most likely to cross. A well-designed traffic calming location is not effective if pedestrians are using other unmodified and potentially dangerous locations to cross the street.



Marked pedestrian crosswalks may be used under the following conditions: 1) At locations with stop signs or traffic signals, 2) At non-signalized street crossing

locations in designated school zones, and 3) At non-signalized locations where engineering judgment dictates that the use of specifically designated crosswalks are desirable.

There is a variety of form, pattern, and materials to choose from when creating a marked crosswalk. It is important however to provide crosswalks that are not slippery, are free of tripping hazards, or are otherwise difficult to maneuver by any person including those with physical mobility or vision impairments. Although attractive materials such as inlaid stone or certain types of brick may provide character and aesthetic value, the crosswalk can become slippery. Also, as it degrades from use or if it is improperly installed, it may become a hazard for the mobility or vision impaired.

A variety of color or texture may be used to designate crossings. These materials should be smooth, skid-resistant, and visible'. Reflective paint is inexpensive but is considered more slippery than other devices such as inlay tape or thermoplastic. In areas with a high volume of pedestrian traffic, particularly at mid-block crossings, a crosswalk can be raised to create both a physical impediment for automobiles and a reinforced visual clue to the motorist.

An engineering study may need to be performed to determine the appropriate width of a crosswalk at a given location, however marked crosswalks should not be less than six feet in width. In downtown areas or other locations of high pedestrian traffic, a width of ten feet or greater should be considered.

#### Guidelines:

- Should not be installed in an uncontrolled environment where speeds exceed 40 mph.
- Crosswalks alone may not be enough and should be used in conjunction with other measures to improve pedestrian crossing safety, particularly on roads with average daily traffic (ADT) above 10,000.
- Width of marked crosswalk should be at least six feet wide; ideally ten feet or wider in Downtown areas.
- Curb ramps and other sloped areas should be fully contained within the markings.
- Crosswalk markings should extend the full length of the crossings.
- Crosswalk markings should be white per MUTCD.

- Either the 'continental' or 'ladder' patterns are recommended for intersection improvements in Holly Springs for aesthetic and visibility purposes. Lines should be one to two feet wide and spaced one to five feet apart.

### Advance Stop Bars

Moving the vehicle stop bar 15-30 feet back from the pedestrian crosswalk at signalized crossings and mid-block crossings increases vehicle and pedestrian visibility. Advance stop bars are 1-2 feet wide and they extend across all approach lanes at intersections. The time and distance created allows a buffer in which the pedestrian and motorist can interpret each other's intentions. Studies have shown that this distance translates directly into increased safety for both motorist and pedestrian. One study in particular claims that by simply adding a "Stop Here for Pedestrians" sign reduced pedestrian motorist conflict by 67%. When this was used in conjunction with advance stop lines, it increased to 90%.

### Curb Ramps

Curb ramps are critical features that provide 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. In accordance with the 1973 Federal Rehabilitation Act and to comply with the 1990 Federal ADA requirements, curb ramps must be installed at all intersections and mid-block locations where pedestrian crossings exist'. In addition, these federal regulations require that all new constructed or altered roadways include curb ramps. Although the federally prescribed maximum slope for a curb ramp is 1:12 or 8.33% and the side flares of the curb ramp must not exceed a maximum slope of 1:10 or 10.0%, it is recommended that much less steep slopes be used whenever possible.



It is also recommended that two separate curb ramps be provided at each intersection. With only one large curb ramp serving the entire corner, there is not safe connectivity for the pedestrian. Dangerous conditions exist when the single, large curb ramp inadvertently directs a pedestrian into the center of the intersection, or in front of an unsuspecting, turning vehicle.

For additional information on curb ramps see *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*, Parts I and II, by the Federal Highway Administration. Visit: [www.access-board.gov](http://www.access-board.gov) for the Access board's right-of-way report'.

#### Guidelines:

- Two separate curb ramps, one for each crosswalk, should be provided at corner of an intersection.
- Curb ramp should have a slope no greater than 1:12 (8.33%). Side flares should not exceed 1:10 (10%).

#### Raised or Lowered Medians

Medians are barriers in the center portion of a street or roadway'. When used in conjunction with mid-block or intersection crossings, they can be used as a crossing island to provide a place of refuge for



pedestrians. They also provide opportunities for landscaping that in turn can help to slow traffic. A center turn lane can be converted into a raised or lowered median thus increasing motorist safety.

A continuous median can present several problems when used inappropriately. If all left-turn opportunities are removed, there runs a possibility for increased traffic speeds and unsafe U-turns at intersections. Additionally, the space occupied may be taking up room that could be used for bike lanes or other treatments discussed in this chapter. An alternative to the continuous median is to create a segmented median with left turn opportunities.

Raised or lowered medians are best suited for high-volume, high-speed roads, and they should provide ample cues for people with visual impairments to identify the boundary between the crossing island and the roadway.

#### Guidelines:

- Median pedestrian refuge islands should be provided as a place of refuge for pedestrians crossing busy or wide roadways at either mid-block

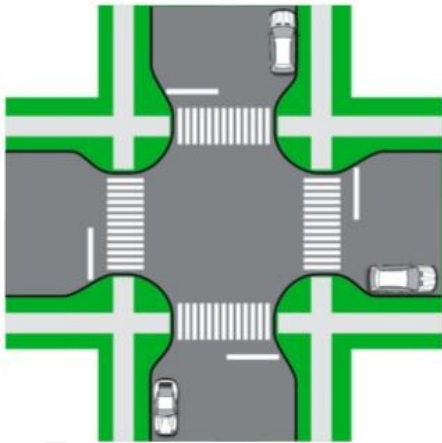
locations or intersections. They should be utilized on high speed and high volume roadways.

- Medians should incorporate trees and plantings to change the character of the street and reduce motor vehicle speed.
- Landscaping should not obstruct the visibility between motorists and pedestrians.
- Median crossings should provide ramps or cut-through for ease of accessibility for all pedestrians
- Median crossings should be at least 6 feet wide in order to accommodate more than one pedestrian, while a width of 8 feet (where feasible) should be provided for bicycles, wheelchairs, and groups of pedestrians Median crossings should possess a minimum of a 4 foot square level landing to provide a rest point for wheelchair users.
- Pedestrian pushbuttons should be located in the median of all signalized mid-block crossings, where the roadway width is in excess of 60 feet.



## Bulb-outs

A bulb-out, or curb extension, is a place where the sidewalk extends into the parking lane of a street. Because these curb extensions physically narrow the roadway, a pedestrian's crossing distance and consequently the time spent in the street is reduced. They can be placed either at mid-block crossings or at intersections.



Sightlines and pedestrian visibility are reduced when motor vehicle parking encroaches too close to corners creating a dangerous situation for pedestrians. When placed at an intersection, bulb-outs preclude vehicle parking too close to a crosswalk. Also, bulb-outs at intersections can greatly reduce turning speed, especially if curb radii are set as tight as possible'. Finally, bulb-outs also reduce travel speeds when used in mid-block crossings because of the reduced street width. Bulb-outs should only be used where there is an existing on-street parking lane and should never encroach into travel lanes, bike lanes, or shoulders.

### Guidelines:

- Bulb-outs should be used on crosswalks in heavy pedestrian areas where parking may limit the driver's view of the pedestrian.
- Where used, sidewalk bulb-outs should extend into the street for the width of a parking lane (a minimum five feet) in order to provide for a shorter crossing width, increased pedestrian visibility, more space for pedestrian queuing, and a place for sidewalk amenities and planting.
- Curb extensions should be used on mid--block crossing where feasible.
- Curb extensions may be inappropriate for use on corners where frequent right turns are made by trucks or buses.

## Pedestrian Overpasses/Underpasses

Pedestrian overpasses and underpasses efficiently allow for pedestrian movement across busy thoroughfares. These types of facilities are problematic in many regards and should only be considered under suitable circumstances or where no other solution is possible. Perhaps the best argument for using them

sparingly is that research proves pedestrians will avoid using such a facility if they perceive the ability to cross at grade as taking about the same amount of time.

The other areas of contention arise with the high cost of construction. There are also ADA requirements for stairs, ramps, and elevators that in many cases once complied with result in an enormous structure that is visually disruptive and difficult to access.

Overpasses work best when existing topography allows for smooth transitions. Underpasses as well work best with favorable topography when they are open and accessible, and exhibit a sense of safety'. Each should only be considered with rail lines, high volume traffic areas such as freeways, and other high volume arteries.

Guidelines:

- Over and underpasses should be considered only for crossing arterials with greater than 20,000 vehicle trips per day and speeds 35 - 40 mph and over.
- Minimum widths for over and underpasses should follow the guidelines for sidewalk width.
- Underpasses should have a daytime luminance minimum of 10 fc achievable through artificial and/or natural light provided through an open gap to sky between the two sets of highway lanes, and a night time level of 4 foot-candle.
- In underpasses, where vertical clearance allows, the pedestrian walkway should be separated from the roadway by more than a standard curb height.
- Consider acoustics measures within underpasses to reduce noise impacts to pedestrians and bicyclists.

## Roundabouts

A roundabout is a circular intersection that maneuvers traffic around in a counterclockwise direction so that cars make a right-hand turn onto a desired street'. Vehicles from approaching streets are generally not required to stop although approaching vehicles are required to yield to motorists in the roundabout. It is believed that this system eliminates certain types of crashes at traditional intersections.

Roundabout design can become quite problematic in dealing with pedestrian and bicycle use. Every effort must be made to prompt motorists to yield to pedestrians crossing the roundabout. A low design speed is required to improve pedestrian safety. Splitter islands and single lane approaches both lend to pedestrian safety as well as other urban design elements discussed in this chapter.

Problems also arise with the vision-impaired because there are not proper audible cues associated with when to cross. Studies are underway to develop and test solutions. Auditory accessible pedestrian signals placed on sidewalks and splitter islands are one solution, but again there is no research to prove their efficacy.

In areas where traffic is low, a roundabout presents little in the way of a barrier for bicyclists. However, in multi-lane roundabouts where speeds are higher, and the traffic is heavy, bicyclists are at a distinct and dangerous disadvantage. Adding a bike lane within such a roundabout has not proven to be effective. A possible solution involves creating a bike lane that completely skirts the roundabout allowing the cyclist to use or share the pedestrian route.

### Guidelines:

- The recommended maximum entry design speed for roundabouts ranges from 15 mph for 'mini-roundabouts' in neighborhood settings, to 20 mph for single-lane roundabouts in urban settings, to 25 mph for single-lane roundabouts in rural settings.
- Refer to roundabout diagram for typical crosswalk placement.
- Please refer to FHWA's report, Roundabouts, an Information Guide, available online through: [www.tfhrc.gov](http://www.tfhrc.gov) The report provides information on general design principles, geometric elements, and provides detailed specifications for the various types of roundabouts.

## Signalization

### Traffic Signals



Traffic signals assign the right of way to motorists and pedestrians and produce openings in traffic flow, allowing pedestrians time to cross the street. When used in conjunction with pedestrian friendly design, proper signalization should allow for an adequate amount of time for an individual to cross the street. The suggested amount of pedestrian travel speed recommended in the Manual on Uniform Traffic Control Devices (MUTCD) is 4ft/sec however this does not address the walking speed of the elderly or children.

Therefore it is suggested that a lower speed of 3.5ft/sec be used whenever there are adequate numbers of elderly and children using an area.

Engineering, as well as urban design judgment, must be used when determining the location of traffic signals and the accompanying timing intervals. Although warrants for pedestrian signal timing have been produced by the MUTCD, each site must be analyzed for factors including new facility and amenity construction (i.e. a popular new park or museum) to allow for potential future pedestrian traffic volume. In addition, creating better access to existing places may in fact generate a higher pedestrian volume'.

Fixed timed sequencing is often used in high traffic volume commercial or downtown areas to allow for a greater efficiency of traffic flow. In such instances, the pedestrian speed must be carefully checked to ensure safety

## Pedestrian Signals

There are a host of possible traffic signal enhancement opportunities that can greatly improve the safety and flow of pedestrian traffic. Some include: international symbols for WALK and DON'T WALK, providing large traffic signals, the positioning of traffic signals 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.



Symbols should be of adequate size, clearly visible, and, in some circumstances, accompanied by an audible pulse or other messages to make crossing safe for all pedestrians. Consideration should be paid to the noise impact on the surrounding neighborhoods when deciding to use audible signals'. For additional information on accessible pedestrian signals, please visit:

[www.wallnginfo.org/aps](http://www.wallnginfo.org/aps).



Audible cues can also be used to pulse along with a countdown signal. Countdown signals are pedestrian signals that show how many seconds the pedestrian has remaining to cross the street. The countdown can begin at the beginning of the WALK phase, perhaps flashing white or yellow, or at the beginning of the clearance, or DON'T WALK phase, flashing yellow as it counts down.

The timing of these or other pedestrian signals needs to be adapted to a given situation. There are three types of signal timing generally used: concurrent, exclusive, and leading pedestrian interval (LPI). The strengths and weaknesses of each will be discussed with an emphasis on when they are best employed.

Concurrent signal timing refers to a situation where motorists running parallel to the crosswalk are allowed to turn into and through the crosswalk, left or right, after yielding to pedestrians. This condition is not considered as safe as some of the latter options, however this type of signal crossings generally allows for more pedestrian crossing opportunities and less wait time. In addition, traffic is allowed to flow a bit more freely. Concurrent signal timing is best used where lower volume turning movements exist.

Where there are high-volume turning situations that conflict with pedestrian movements, the exclusive pedestrian interval is the preferred solution. The exclusive pedestrian intervals stop traffic in all directions. In order to keep traffic flowing regularly, there is often a greater pedestrian wait time associated with this system. Although it has been shown that pedestrian crashes have been reduced by 50% in some commercial or downtown areas by using these intervals, the long wait times can encourage some to attempt a cross when there is a perceived lull in traffic'. These types of crossings are dangerous and may negate the use of the system. A problem is also created for those with visual impairments when the audible cues of the passing parallel traffic is eliminated. Often an audible signal will have to accompany a WALK signal.

A proven enhancement that prevents many of the conflicts addressed under either of the former methods is LPI. An LPI works in conjunction with a concurrent signal timing system and simply gives the pedestrian a few seconds head start on the parallel traffic. An advance walk signal is received prior to a green light for motorists. This creates a situation where the pedestrian can better see traffic, and more importantly, the motorists can see and properly yield to pedestrians. Long-term research has shown that this system has worked well in places like New York City (where it has been used for 20 years) at reducing motorist and pedestrian conflict. As with the exclusive pedestrian interval, an audible cue will need to accompany the WALK signal for the visually impaired.

The use of infrared or microwave pedestrian detectors has increased in many cities worldwide. These devices replace the traditional push-button system. Although still experimental, they appear to be improving pedestrian signal compliance as well as reducing the number of pedestrian and vehicle conflicts'. Perhaps the best use of these devices is when they are employed to extend crossing time for slower moving pedestrians. Whether these devices are used or the traditional push-button system is employed, it is best to provide instant feedback to pedestrians regarding the length of their wait. This is thought to increase and improve pedestrian signal compliance.

Guidelines:

- Pedestrian signals should be placed in locations that are clearly visible to all pedestrians.
- Larger pedestrian signals should be utilized on wider roadways, to ensure readability.
- Pedestrian signal pushbuttons should be well-signed and visible.

- Pedestrian signal pushbuttons should clearly indicate which crossing direction they control.
- Pedestrian signal pushbuttons should be reachable from a flat surface, at a maximum height of 3.5 feet and be located on a level landing to ensure ease of operation by pedestrians in wheelchairs.
- Walk intervals should be provided during every cycle, especially in high pedestrian traffic areas.

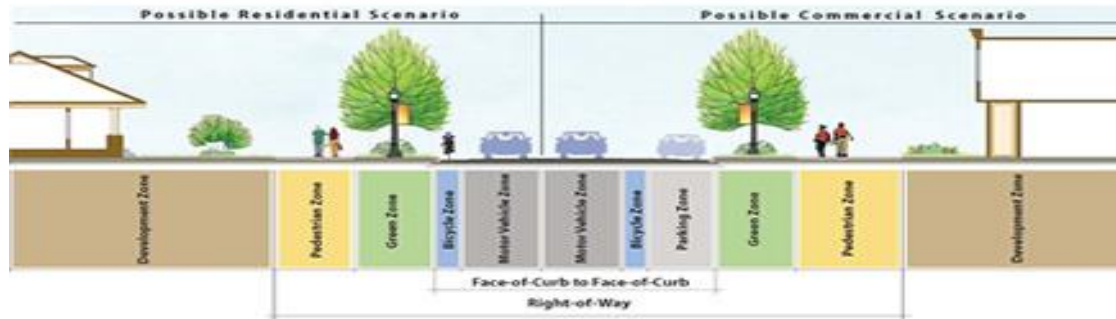
### Right Turn on Red Restrictions

Introduced in the 1970's as a fuel saving technique, the Right Turn on Red (RTOR) law is thought to have had a detrimental effect on pedestrians'. The issue is not the law itself but rather the relaxed enforcement of certain caveats within the law such as coming to a complete stop and yielding to pedestrians. Often motorists will either nudge into a crosswalk to check for oncoming traffic without looking for pedestrians or slow, but not stop, for the red-light while making the turn.

There is legitimate concern that eliminating an RTOR will only increase the number of right-turn-on-green conflicts where all of the drivers who would normally have turned on red, now are anxious to turn on green. As discussed in the prior section, LPI or exclusive pedestrian intervals may help to alleviate this problem. Eliminating RTOR should be considered on a case-by-case basis and only where there are high pedestrian volumes.

### Landscaping

The introduction of vegetation in an urban environment can provide a welcomed intervention of nature into a place that is otherwise hardened from buildings, concrete, and asphalt. It can be used to provide a separation buffer between pedestrians and motorists, reduce the width of a roadway, calm traffic by creating a visual narrowing of the roadway, enhance the street environment, and help to generate a desired aesthetic.



Street trees and other plantings provide comfort, a sense of place, and a more natural and inviting setting for pedestrians. Landscaping and the aforementioned street furniture make people feel welcome. There are also some instances where islands of vegetation are created to collect and filter stormwater from nearby streets and buildings. These islands are referred to as constructed wetlands, rain gardens, and/or bioswales. When these devices are employed, the benefits listed above are coupled with economic and ecologic benefits of treating stormwater at its source. There are many examples of this in Oregon and Washington, particularly Seattle's Green Streets Program. Using thoughtful design to treat stormwater as an amenity rather than waste to be disposed of in an environmentally harmful manner is gaining popularity nationwide.

An issue with this or any landscaping treatment is that of ongoing maintenance. The responsibility often falls on local municipalities although there are instances where local community groups have provided funding and volunteers for maintenance. The best way to address the maintenance issue is to design using native plant material that is already adapted to the local soil and climate. Growth pattern and space for maturation, particularly with larger tree plantings, are important to avoid cracking sidewalks and other pedestrian obstructions.

#### Guidelines:

- Buffer zone plantings should be maintained at no higher than three feet to allow sight distance for motorists and pedestrians.
- Trees with large canopies planted between the sidewalk and street should generally be trimmed to keep branches at least seven feet above the sidewalk.
- Plants and trees should be chosen to match character of area.



## Roadway Lighting Improvements

Proper lighting in terms of quality, placement, and sufficiency can greatly enhance a nighttime urban experience as well as create a safe environment for motorists and pedestrians. Two-thirds of all pedestrian fatalities occur during dusk or at night, when there is limited or no lighting. Attention should be paid to crossings so that there is sufficient ambience for motorists to see pedestrians. To be most effective, lighting should be consistent, adequately spaced, and distinguished, providing adequate light.



In most cases, roadway street lighting can be designed to illuminate the sidewalk area as well. The visibility needs of both pedestrian and motorist should be considered. In commercial or downtown areas and other areas of high pedestrian volumes, the addition of lower level, pedestrian-scale lighting to streetlights with emphasis on crossings and intersections may be employed to generate a desired ambience. A variety of lighting choices include mercury vapor, incandescent, or less expensive high-pressure sodium lighting for pedestrian level lighting'. Roadway streetlights can range from 20-40 feet in height while pedestrian-scale lighting is typically 10-15 feet.

It is important to note that every effort should be made to address and prevent light pollution. Also known as photo pollution, light pollution is "excess or obtrusive light created by humans"<sup>4</sup>. Whenever urban improvements are made where lighting is addressed, a qualified lighting expert should be consulted early in the process. This individual should not only create a safe and attractive ambience, but will do so with the minimum of fixtures, an awareness of the importance of minimizing photo pollution, and with a focus on minimizing future energy use. A thoughtful plan of how and where to light will reap benefits not only in potential reduced infrastructure cost, but future energy costs as well.

### Guidelines:

- Ensure pedestrian walkways and crossways are sufficiently lit.
- Consider adding pedestrian-level lighting in areas of higher pedestrian volumes, Downtown, and at key intersections.
- Install lighting on both sides of streets in commercial districts.
- Use uniform lighting levels.

## Street Furniture and Walking Environment

As part of a comprehensive sidewalk and walkway design, all street furniture should be placed in a manner that allows for a safe, pleasurable, and accessible walking environment. Good-quality street furniture will show that the community values its public spaces and is more cost-effective in the long run. Street furniture includes benches, trash bins, signposts, newspaper racks, water fountains, bike racks, restaurant seating, light posts, and other ornaments that are found within an urban street environment. Street furniture should mostly be considered in the Downtown area and other important pedestrian-active areas.

In addition to keeping areas free of obstruction from furniture, a walking environment should be clean and well maintained. Attention should be given to removing debris, trimming vegetation, allowing for proper stormwater drainage, providing proper lighting and sight angles, and repairing or replacing broken or damaged paving material can make an enormous difference in pedestrian perception of safety and aesthetics. Special attention should be paid to the needs of the visually impaired so that tripping hazards and low hanging obstructions are removed.



### Guidelines:

- Ensure proper placement of furniture; do not block pedestrian walkway or curb ramps or create sightline problems.
- Wall mounted Objects — not to protrude more than 4" from a wall between 27" and 7' from the ground
- Single post mounted Objects - not to protrude more than 4" from each side of the post between 27" and 7' from the ground
- Multiple Post Mounted Objects - lowest edge should be no higher than 27" and no lower than 7'
- Place street furniture at the end of on-street parking spaces rather than in middle to avoid vehicle-exiting conflict.

## Pedestrian Signs and Wayfinding



Signage provides important safety and wayfinding information to motorist and pedestrian residents and tourists. From a safety standpoint, motorists should be given advance warning of upcoming pedestrian crossings or of traffic calming areas. Signage of any type should be used and regulated judiciously. Using an appropriate amount of signage is important, as if there is too much signage, wayfinding

information may be ignored resulting in confusion and possible pedestrian vehicle conflict. Regulations should also address the orientation, height, size, and sometimes even style of signage to comply with a desired local aesthetic.

Wayfinding signage should orient and communicate in a clear, concise and functional manner. It should enhance pedestrian circulation and direct visitors and residents to important destinations. In doing so, the goal is to increase the comfort of visitors and residents while helping to convey a local identity.

Maintenance of signage is as important as walkway maintenance. Clean, graffiti free, and relevant signage enhances guidance, recognition, and safety for pedestrians.

## Bridges

Provisions should always be made to include a walking facility as a part of vehicular bridges, underpasses, or tunnels, especially if the facility is part of the Pedestrian Network. All new or replacement bridges, other than those for controlled access roadways, should accommodate pedestrians with wide sidewalks on both sides of the bridge. Even though bridge replacements do not occur regularly, it is important to consider these in longer-term pedestrian planning.

It is NCDOT bridge policy that within Urban Area boundaries, sidewalks shall be included on new bridges with curb and gutter approach roadways with no controlled access. Sidewalks should not be included on controlled access facilities. A determination on whether to provide sidewalks on one or both sides of new bridges will be made during the planning process according to the NCDOT Pedestrian Policy Guidelines. When a sidewalk is justified, it should be a minimum of five to six feet wide with a minimum handrail height of 42".

It is also NCDOT bridge policy that bridges within the Federal-aid urban boundaries with rural-type roadway sections (shoulder approaches) may

warrant special consideration. To allow for future placement of ADA acceptable sidewalks, sufficient bridge deck width should be considered on new bridges in order to accommodate the placement of sidewalks.

Guidelines:

- Sidewalks should be included on roadway bridges with no controlled access with curb and gutter approach in Urban Areas.
- Sufficient bridge deck width should be considered on new bridges with rural-type shoulder approaches for future placement of sidewalks.
- Sidewalk should be 5' to 6' wide.
- Minimum handrail height should be 42"

## SECTION 6 – RECOMMENDATIONS FOR ANCILLARY FACILITIES, PROGRAMS & POLICIES

This section outlines recommendations for ancillary facilities, programs, and policies to assist in making the City of Washington a pedestrian-friendly community. These recommendations satisfy Engineering, Education, Encouragement, Enforcement, and Evaluation and Planning categories of a pedestrian-friendly community.

Ancillary programs and practices are an important part of establishing a pedestrian-friendly community without necessarily being incorporated with any on-the-ground projects. Facility design, maintenance, traffic calming, education programs, law enforcement, promotion, and offering transportation choices are all necessary to create a community that is walkable. Some of these recommendations could be implemented immediately, while others may need the basic land-use and infrastructure to be incorporated into the defined Pedestrian Oriented Development Districts to be effective.

The implementation of various programs not only encourages walking, but also provides education, enforcement, and maintenance opportunities to ensure Washington has a comprehensive pedestrian network where its users feel comfortable to walk in the community. The recommended programs for Washington include:

- Spot Improvement and Maintenance Program
- Education Programs
- Encouragement & Promotional Programs
- Enforcement Programs
- Alternative Transportation Options that Compliment Walking
- Anti-Litter Programs
- Mapping And Signage Projects

### 6.1. SPOT IMPROVEMENT AND MAINTENANCE PROGRAMS

#### Sidewalks / Walkways

Just as potholes, uneven pavement, and visual obstructions irritate automobile drivers, these do the same to pedestrians. Current sidewalks should be free of cracks, dead-ends, or uneven alignment. All sidewalk/roadway intersections should include curb cuts, ramps, detectable warnings and landing areas that comply with ADA. Funding should be set aside for maintenance of worn

sidewalks and consideration should be given as to which material to use to maximize the sidewalks' lives. The City should apply for any available state or federal funding to correct any gaps in its existing sidewalk network and to retrofit ADA specific accommodations.

It is recommended that the City maintain an up to date pedestrian facilities inventory, including notes on where sidewalks need maintenance or ADA upgrades. A means should also be established by which the City can annually determine where new maintenance issues occur, and continually receive alerts from the public on sidewalk maintenance concerns. These maintenance projects should be compiled and continuously updated as maintenance is completed and additional maintenance needs arise.

Additionally, small gaps in the sidewalk may occur when separate public or private projects do not completely connect. A serious effort must be made to connect these pieces of walkways, and future policy must be created and enforced that ensures that these connections are always created in future projects.

## 6.2. EDUCATION PROGRAMS

### School Safety Patrol Programs

School Safety Patrol Programs across the United States have been responsible for decreased pedestrian/vehicle collisions. The American Automobile Association (AAA), municipalities, and schools have sponsored these important safety programs in the past, and should be continued by Washington's schools. More information can be found at:  
<http://www.schoolsafetypatrol.aaa.com/>

### North Carolina School Crossing Guard Training Program

As traffic continues to increase on North Carolina's streets and highways, concern has grown over the safety of our children as they walk to and from school. At the same time, health agencies, alarmed at the increase in obesity and inactivity among children, are encouraging parents and communities to get their children walking and biking to school. In response, the Division of Bicycle and Pedestrian Transportation decided to establish a consistent training program for law enforcement officers responsible for school crossing guards. According to the office of the North Carolina Attorney General, school crossing guards may be considered traffic control officers when proper training is provided as specified in GS 20-114.1.

Law enforcement agencies interested in participating in the School Crossing Guard Training Program should contact the Division of Bicycle and Pedestrian Transportation by phone at (919) 707-2600 or visit [http://www.ncdot.gov/bikeped/about/training/school\\_crossing\\_guard/](http://www.ncdot.gov/bikeped/about/training/school_crossing_guard/)  
[http://www.ncdot.org/transit/bicycle/safety/programs\\_initiatives/crossing.html](http://www.ncdot.org/transit/bicycle/safety/programs_initiatives/crossing.html)

### Safety Signs on Pedestrian Routes

Pedestrian walkways should have certain amenities to make them comfortable such as benches, water fountains, shelters, waste and recycle cans, restrooms, landscaping, interpretation signs, lockers, boardwalks, bridges, etc. Use these structures to your advantage. Safety messages could be placed on any of the aforementioned amenities in a location where users could clearly read it, and quite possibly abide by its message. Using riddles, rhymes, or stories to make the point increases the public's interest. A local business or family could sponsor each structure and its corresponding safety sign.

### Public Perception Marketing

Although an increase in pedestrian facilities is far more popular than many transportation projects, it is highly recommended that a positive marketing campaign start as soon as possible. Shared-use paths, sidewalks, bikeways, and intersection improvements cost tax dollars, require right-of-way, and sometimes create friction between the impatient driver and the pedestrian. In addition, recent political events concerning the acquisition of right-of-way have created some public uneasiness with sidewalk and other projects that might require land easements.

In reality, shared-use paths such as greenways have shown through studies to occasionally increase property re-sale values, have no increase or actually might decrease neighborhood crime, and result in more positive ecological effects than negative. Once greenways are successfully on the ground in communities, the residents know first hand of their benefits and welcome more. However, communities are sometimes wary as to how these trails might negatively affect them, and false information and negative perceptions may allow for a public relations issue before the walkways are in place.

Plus, designing a community where transportation choices exist has been shown to place communities at an economic advantage over communities that rely solely on the automobile. Tax dollars spent to improve or create pedestrian facilities are tax dollars that place a return on the investment for the community.

The City should first act to create a positive image for future greenways, sidewalks, zoning changes, intersection improvements, traffic calming and other

pedestrian expenditures before any opposition occurs. Circulate the facts concerning these facilities and show the positive benefits.

### Driver Education

Targeting the young generation with this plan is very important. Children aged 5-15 are not yet old enough to drive, are young enough to have the energy and ability to learn new skills and habits, and sometimes have no choice but to walk. Once these children turn sixteen, it should be expected that the majority of these youth are drawn to the automobile. The car is a status symbol, a mode of independence, and a sign that they are becoming an adult.

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

### Pedestrian Education

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

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



## Resources

- The North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation has a wealth of information on their web site: <http://www.ncdot.gov/bikeped/travelingfoot/wheretowalk/#safety>  
This web site includes information on bicycle and pedestrian programs. The web site is also a good source of resources and materials.
- <http://www.walkinginfo.org> also has a great amount of information and program ideas, including design and engineering guidelines, programs, facts, news, outreach and solutions to problems.
- <http://safety.fhwa.dot.gov/> offers ideas for a variety of pedestrian-safety focused curricula.

## 6.3. ENCOURAGEMENT AND PROMOTIONAL PROGRAMS

### Bicycle and Pedestrian Advisory Committee

As a short-term priority, the City should consider establishing a standing Bicycle and Pedestrian Advisory Committee to advocate for bicycle and pedestrian-friendly City policies and actions. Citizens who have in the past served on the Bicycle and Pedestrian Plan Steering Committees, as well as any additional interested citizens, would serve as committee members and City staff would facilitate committee meetings. A Bicycle and Pedestrian Advisory Committee would meet regularly to discuss issues; provide recommendations and/or advise City staff regarding bicycle and pedestrian related concerns and actions. Additionally, the committee may consider coordinating an annual event, generating brochures or marketing materials, and/or reviewing development plans for bicycle and pedestrian friendliness.

### Zoning Ordinance & Subdivision Regulations

Currently, the City can recommend that pedestrian facilities be incorporated into new development projects, but there is no policy to require such facilities. Washington acknowledges the need for regulations requiring pedestrian facilities as development occurs. Washington should consider revising its Zoning Ordinance and Subdivision regulations to set a standard for the City and require pedestrian facilities with certain development requests. Washington should consider an ordinance requiring pedestrian facilities on all arterial and connector roads as development occurs as well as providing connections to neighboring roads and pedestrian facilities.

## Complete Streets Ordinance

As a short-term priority recommendation, Washington should develop and implement a Complete Streets Ordinance to ensure all new and reconstruction of roadways have "complete street" elements (components for all types of transportation) incorporated into the design and construction as appropriate. These elements include:

- ADA-complaint curb cuts
- ADA-compliant sidewalk improvements
- New bicycle lanes
- Pedestrian medians
- Roadside improvements for public transportation; including bus shelters and bus priority traffic signals (as appropriate)
- Traffic calming measures, such as chicanes, curb extensions, and speed humps/tables
- Improved landscaping and streetscape features, such as benches, trees, and street/pedestrian lighting
- Intersection and crosswalk improvements for all non-motorized users
- Other improvements to ensure safety, accessibility, and quality of the roadway

## City Funding

The City should consider allocating resources on an annual basis to establish and maintain a pedestrian network, maintain existing facilities, and fund programs and on-going activities directed towards encouragement, enforcement, and education. The allocation of City funding for pedestrian facilities will be an ongoing need.

## Safe Routes to Schools

The Safe Routes to School Program was established in August 2005 as part of the most recent federal transportation reauthorization legislation, SAFETEA-LU. This law provided multi-year funding for the surface transportation programs that guide spending of federal gas tax revenue.

The **Moving Ahead for Progress in the 21st Century Act** (MAP-21) authorized the Transportation Alternatives Program (TAP), which replaced the funding from pre-MAP-21 programs including the Transportation Enhancement Activities, Recreational Trails Program, and Safe Routes to School Program (SRTS). MAP-21 did not provide specific funding for SRTS, but SRTS projects are eligible for TAP funds and for Surface Transportation Program (STP) funds. TAP provisions and requirements apply to projects using TAP funds

MAP-21 Section 1122 codified the TAP under title 23 United States Code (U.S.C.) sections 213(b) and 101(a)(29). Section 213 of title 23 provides for the reservation of funds apportioned to a State under section 104(b) of title 23 to carry out the TAP. The national total reserved for the TAP is equal to 2 percent of the total amount authorized from the Highway Account of the Highway Trust Fund for Federal-aid highways each fiscal year.

### Walk to Work, Shop, School and Play Days

Designate a day, or preferably even a week or month where people walk to their destinations. This can coincide with International Walk to School Week, or with Bike to Work Week, or with another common "Hike, Bike, and Bus" week that some municipalities sponsor. Advertise these events, have some fun events along common pedestrian routes, and offer prizes and recognition for shining participants. International Walk to School Week typically falls on the first week of October, and their web site with good information can be found at <http://www.walktoschool.org/>

Walk to School events can be as simple as a few kids and parents meeting to walk to school or can be very elaborate celebrations. Event logistics range from a central walking location to people walking from their homes. Successful events have the support and participation of the principal, police and parents, and programs such as this give public agencies and representatives the opportunity to publicly support health, environment and safety initiatives.

### Walking School Bus

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

### Walk a Child to School in North Carolina

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

### Walking Challenge

Have a web page set up where residents can enroll to receive a pedometer (at no cost or at a cost determined by the City) and a map of Washington's

pedestrian routes. Participants record on the web site how much they walk each month, and have the opportunity to win recognition or awards. It is amazing how recording the results from a pedometer can addict users to walking.

### Greenway Events and Street Closings

Once many of the recommended projects are constructed, it would create a perfect opportunity for regular special events. A festival could be set up downtown, at a park, or on a greenway, closing roadways off to vehicular traffic for seasonal festivals, or even on currently low traffic days like Saturdays, spurring a new and desired shopping experience that may draw more business than a typical Saturday.

## 6.4. ENFORCEMENT PROGRAMS

### Enforce the Laws

Continued police enforcement of traffic laws is necessary to protect pedestrians and improve safety for all citizens. Washington's Police Department should be encouraged to promote pedestrian safety through safety programs it may offer. Pedestrians must also be encouraged to follow the law for their own safety, with pedestrian violators also being educated as to the correct behaviors.

### Twenty's Plenty

There is always a need to reduce automobile speeds to accommodate for increased pedestrian traffic. Creating an awareness program that encourages drivers to drive a safe speed in certain areas of town will make it more comfortable for the pedestrian to venture out on foot. The severity of pedestrian / automobile incidents drastically decreases with lower automobile speeds. The name, "Twenty's Plenty" has been used with success in other communities.

### Foot Patrol

The Washington Police Department should assign pedestrian officers to be visible and personal presence, particularly in downtown and other Pedestrian Districts. These officers will therefore get to know business owners, residents, and frequent visitors well, as they would be more reachable to the people of these communities.

## 6.5. ALTERNATIVE TRANSPORTATION OPTIONS THAT COMPLIMENT WALKING

### Bicycle Accommodations and Loaner Programs

Providing bicycle parking throughout Washington, as recommended in the 2014 Comprehensive Bicycle Plan, will give pedestrians an option of using a bicycle for slightly further or quicker trips. In addition, bicycle loaner programs may be an option in areas where pedestrian and bicycle trips might be more common. Although this program is more typical of larger municipalities, Washington may be able to customize a version of this program to suit its needs and realities. Some operational difficulties with this program could be mitigated by issuing any interested person a "Bicycle Loan Card" from the public library for a small fee or no fee. This recommendation was also included in the Comprehensive Bicycle Plan.

## 6.6. ANTI-LITTER PROGRAMS

### Adopt a Road / Adopt a Sidewalk Programs

Adopt a Road programs are common, enabling members of the community to sponsor and help to clean a road of litter. The City of Washington can begin a similar program for its sidewalks and (future) greenways. This program could also be used as a means for the community to alert the City when there is a maintenance issue with a sidewalk, or as a means for a sidewalk to get special attention, funding, and improvements because of the dedication of its community sponsor. In the end, if the number of pedestrians in the City increases, the awareness and sense of pride and ownership should eventually create a cleaner streetscape.

## 6.7. MAPPING AND SIGNING PROJECTS

### Neighborhood and Comprehensive Route Systems

An ideal city transportation system might have neighborhood roads that take residents from their homes to densely developed satellite shopping, employment, and interior schools. Newer residential roads commonly end in cul-de-sacs and some housing developments have only a few exits out of the development. Commercial strip development away from residential areas is far more common than nearby dense commercial development. Realistically, changing the future development patterns is a far more effective planning strategy than most infrastructure additions, but sometimes simple and affordable

solutions need to be implemented to enhance existing conditions. Pedestrian mapping or signing projects are one such tool.

Several pedestrian routes have been identified in this plan, and missing gaps in the connections should be built immediately to ensure that the proposed routes are functional. Once a route is physically connected with pedestrian walkways, it should be named, mapped, and marked. Maps should be printed and distributed, with occasional updates added. The pedestrian structures, waste cans, or sidewalks themselves should have the route name posted on it without the need for additional signage. These marked routes would eventually serve to make the walker less unsure of connection problems. Once a policy-driven street connection system is developed, there will be no need for additional mapped local routes.

<b>Program Name</b>	<b>Implementation Phase</b>
School Safety Patrol Programs	Short-Term (Continuation of Existing)
North Carolina School Crossing Guard Training Program	Short-Term (Continuation of Existing)
Safety Signs on Pedestrian Routes	Mid-Term
Public Perception Marketing	Short-Term
Driver Education	Short-Term
Pedestrian Education	Short-Term
Walk to Work, Shop, School and Play Days	Short-Term (Conjunction with existing Walk to School Week/Events)
Walking School Bus	Short-Term (Continuation of Existing)
Walk a Child to School in North Carolina	Short-Term
Walking Challenge	Mid-Term
Greenway Events and Street Closings	Mid-Term
Twenty's Plenty	Short-Term
Foot Patrol	Short-Term (Continuation of Existing)
Bicycle Accommodations and Loaner Programs	Mid-Term
Adopt a Road/Adopt a Sidewalk Program	Short-Term
Neighborhood and Comprehensive Route System	Mid-Term
<b>Policy Name</b>	<b>Implementation Phase</b>
Bicycle and Pedestrian Advisory Committee	Short Term
Zoning Ordinance & Subdivision Regulations	Short-term
Complete Streets Ordinance	Mid-Term
City Funding	Mid to Long-Term
Enforcement of Laws	Short-Term

## SECTION 7 – PROJECT RECOMMENDATIONS

The initial list of potential project locations was developed based on projects that were included in an earlier Pedestrian Plan. Mid-East staff, working with input from the Steering Committee, City Recreation and Public Works staff, and other means of public input, made changes to existing projects and added new projects and proposed crosswalks to be considered in the plan.

As a part of the Pedestrian Plan Update, the Steering Committee was tasked with prioritizing the proposed projects to be included in the Plan. In order to complete the prioritization exercise, members reviewed the proposed sidewalk and crosswalk projects, along with the brief description of each. Additionally, at their request, Steering Committee members were provided recommended priority scores from the City's Public Works Department and Mid-East prior to their completion. Members assigned a Priority Score of 1, 2, or 3 to each project (1 = Long Term Priority; 2 = Medium Priority; 3 = High Priority). Definitions of each of these categories are as follows:

### *HIGH PRIORITY PROJECTS*

*Short-term opportunities are those that may be completed or implemented in a timeframe of zero to five years (0-5 yrs.).*

### *MEDIUM PRIORITY PROJECTS*

*Mid-term opportunities are those that may be completed or implemented in a timeframe of six to ten years (6-10 years).*

### *LONG-TERM PRIORITY PROJECTS*

*Long-term opportunities are those that may be completed or implemented in a timeframe beyond ten years.*

The colors of the projects on the Map 7.1 correspond with the colors of the final priority score (Long Term = Blue; Medium = Green; High = Red).

A wide range of projects have been identified to make Washington more pedestrian-friendly. Physical improvements including adding sidewalks, multi-use, greenway extension, and shared-use paths are recommended. Forty-four (44) projects are recommended including twenty-seven (27) sidewalk additions, one (1) shared use path, one (1) fence replacement (Completed prior to adoption of this Plan), and fifteen (15) crosswalk improvements. Descriptions of

all projects are found in Table 7.1 (Project Recommendations) and Table 7.2 (Crosswalk Recommendations).

Tables 7.1 and 7.2 include the recommended priority of pedestrian improvement projects. Refer to Maps 7.1 and 7.2 for locations of the sidewalk and crosswalk projects.

Table 7.1: Washington Pedestrian Plan Project Recommendations

Washington Pedestrian Plan - Project Recommendations					
Project #	Project Location	Description	Approx. Linear Feet	Priority Score (Original Plan)	Priority Score (Updated)
1	US 264	Closing Gap in Fence located at E 7th and John Small Avenue	905	COMPLETED	COMPLETED
2	US 264	Sidewalk on north side of US 264 between McNair and Highland (From Bingo Palace, past Paul's Funeral Home, to CVS)	715	3	2.75
3	US 264	Sidewalk on south side of US 264 from Harvey to Hudnell (From Jack's Creek Greenway, past Frank's Pizza, to Eastern Elementary)	715	3	2
4	US 264	Sidewalk on north side of US 264 from crosswalk at E 12th to Avon (From Washington Crab and Seafood Shack, past Food Lion, to Avon)	2045	3	3
5	Avon Avenue	Sidewalk on west side of Avon	2090	3	1.5
6	E 12th Street	Sidewalk on southwest side of E 12th between US 264 crossing Highland & Brown (From Tayloe's Pharmacy, past Walgreens, to US 264/John Small Ave)	1200	3	2
7	15th Street	Sidewalk on south side of 15th between 12th and US 17, including crosswalks at Market, US 17, west side of Washington Street, and east side of Minuteman Lane (From Tayloe's Pharmacy to Burger King)	7550	3	2
8	Highland Drive	Sidewalk on west side of Highland from Avon to Health Department. Sidewalk on east side from Hospital to Avon.	7815	3	2.75
9	Market Street	Upgrade and Repair of Sidewalks on Market between 15th and 5th		3	2
10	Bridge Street	Sidewalk on west side of Bridge Street between 13th and 15th	535	3	1.75
11	6th Street	Sidewalk on south side of 6th between Bonner and Market	437	3	1.5
12	US 17 Business	Sidewalk on US 17 Business (Carolina Avenue) from 5th (Moore Motors Building) to 15th (Burger King); Part of Complete Street Design Concept	7500	3	2.5
13	13th Street	Sidewalks on both sides of W 13th between US 17 and Trade	600	3	1.75
14	13th Street	Sidewalk on north side of 13th Street between Trade Street and Washington Street	1060	3	1.25



Project #	Project Location	Description	Approx. Linear Feet	Rank (Original Plan)	Priority Score
15	13th Street	Sidewalk on north side of 13th Street between Washington Street and Van Norden Street	1254	Not included in Original Plan	1
16	13th Street	Sidewalk on north side of 13th between Van Norden Street and Market Street	1405	1	1
17	US 264	Sidewalk on both sides of US 264 under the US 17 By-Pass Overpass (Between eastbound and westbound entry ramps onto US 17)	4136	3	3
18	15th Street Extension	Sidewalk on both sides of 15th Street Extension under the US 17 By-Pass Overpass (From SECU Entrance to H&R Block Entrance)	2363	1	3
19	Van Norden Street	Sidewalk on east side of Van Norden between 13th and 15th	650	2	2
20	Hudnell Street	Sidewalk on east side of Hudnell between Main and Pennsylvania Avenue (From Stop N' Go Mart to Eastern Village)	2516	2	2.25
21	Washington Street	Sidewalk on east side of Washington Street from US 264 to US 17	890	2	1.25
22	US 17	Sidewalk on west side of US 17 Business (Bridge Street) from 4th to 5th	450	2	2
23	US 264	Sidewalk on north side of US 264 from Washington Street to 15th Street Extension (From Beaufort Co. Social Service Dept. to intersection at Sheetz)	6704	2	3
24	Pontiac Drive	Sidewalk on west side of Pontiac from US 264 to Manuel	382	2	1
25	Tarboro Street	Sidewalk on northwest side of Tarboro from US 264 to John Cotton Tayloe School	1500	2	1
26	Hackney Avenue	Sidewalk on west side of Hackney between US 17 Business and US 264	1700	2	1.25
27	3rd Street	Sidewalk on north side of 3rd Street between US 17 Business (Bridge) and Market	1412	2	2
28	Market Street	Widen Existing Sidewalk from 15th to Sports Complex to create Shared Use Path		Not included in Original Plan	3
29	15th Street	Sidewalk on south side of 15th between US 17 Business and US 264, including crosswalks at Whispering Pines and US 17 (From The Rich Company, past SECU, to intersection at Sheetz)	5090	1	3

Map 7.1: Washington Pedestrian Plan Project Recommendations

City of Washington Pedestrian Plan - Proposed Projects

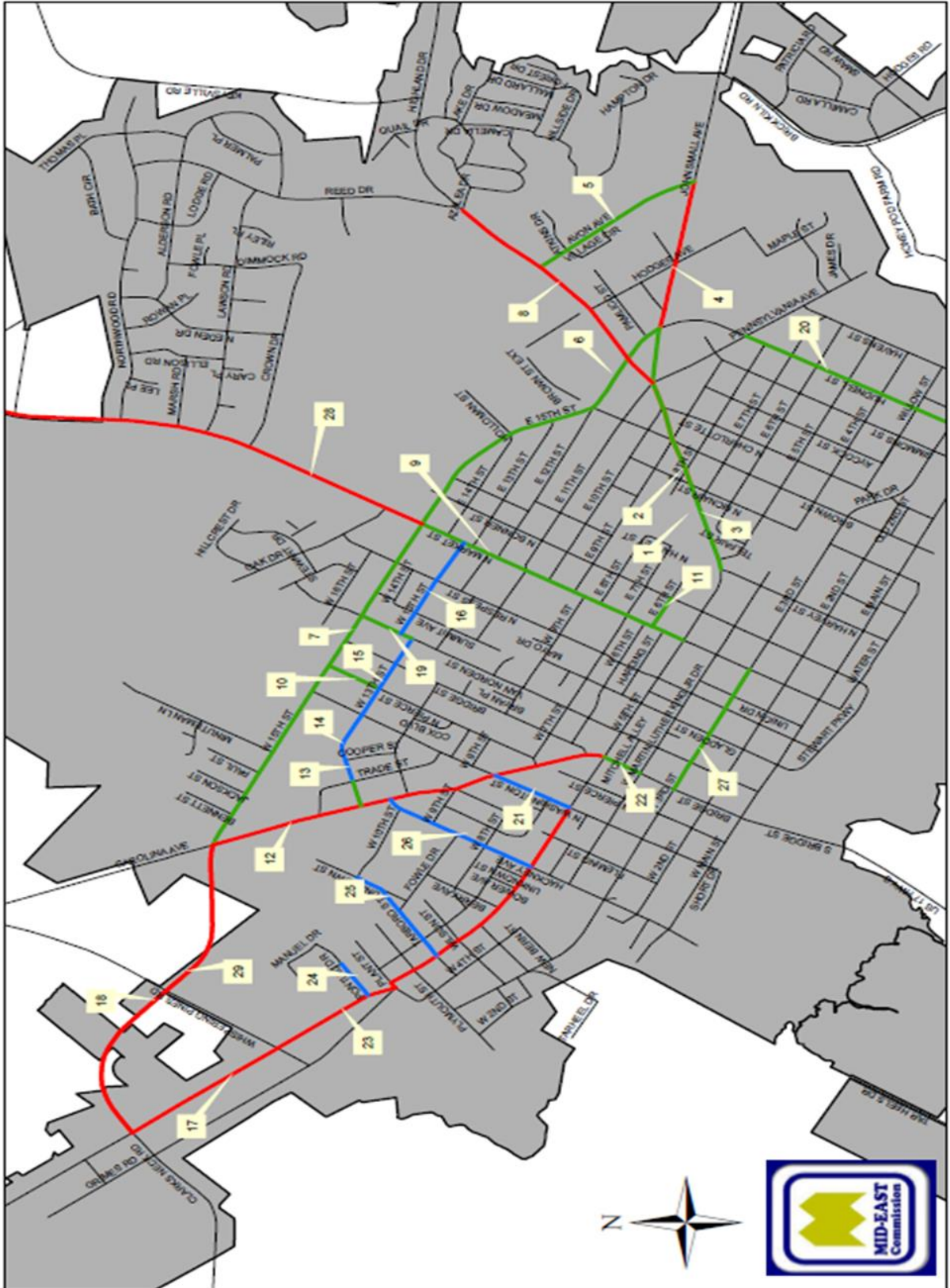


Table 7.2: Washington Pedestrian Plan Crosswalk Recommendations

Washington Pedestrian Plan - Crosswalk Recommendations				
Crosswalk Project #	Project Location	Description	Priority Score (Original Plan)	Priority Score (Updated)
1	15th Street at Whispering Pines Road	Crosswalks at traffic signal, all sides	2	1.25
2	15th Street at Market Street	Existing stoplight needs pedestrian button/signal	2	3
3	Brown Street at 12th Street	Crosswalks at traffic signal, all sides	3	2.5
4	Brown Street at 3rd Street	Crosswalk on North, South, and East sides	3	2.5
5	Market Street Extension at Airport Road	Crosswalk striped across Market Street Extension	Not included in Original Plan	1.5
6	US 17/Bridge Street at Main Street	Additional pedestrian button/signal at SE and SW corner of intersection; Improved signal crossing time	3	2.75
7	US 17/Carolina Avenue at US 264/5th Street	Crosswalks at traffic signal, all sides; Existing stoplight needs pedestrian button/signal	Not included in Original Plan	3
8	US 17/Carolina Avenue at Washington Street	Crosswalk with Median Refuge Island (part of Complete Street Design)	3	1.75
9	US 17/Carolina Avenue at 13th Street	Crosswalk with Median Refuge Island (part of Complete Street Design)	Not included in Original Plan	2
10	US 17/Carolina Avenue at 15th Street	Crosswalks at traffic signal, all sides	Not included in Original Plan	2
11	US 264/5th Street at 15th Street	Crosswalks at traffic signal, all sides; Existing stoplight needs pedestrian button/signal	Not included in Original Plan	1.75
12	US 264/John Small Avenue at Pennsylvania Avenue	Pedestrian button/signal at existing crosswalk	Not included in Original Plan	2
13	US 264/John Small Avenue at Hudnell Street	Crosswalk on North and South sides	Not included in Original Plan	2.25
14	US 264/John Small Avenue at Hodges Street	Crosswalk with Median Refuge Island and flashing signage	Not included in Original Plan	1.5
15	Park Drive at E Main Street	Crosswalk striped across Park Drive	Not included in Original Plan	NA

Map 7.2: Washington Pedestrian Plan Crosswalk Recommendations

City of Washington Pedestrian Plan - Proposed Crosswalk Improvements



## SECTION 8 – IMPLEMENTATION PLAN

### *IMPLEMENTATION STRATEGY*

This chapter describes how the recommendations for improving Washington's pedestrian conditions will be implemented. Priorities are outlined for projects, plans, and policies as well as potential partners and funding sources. Implementation of this Plan will require a collaborative effort between a variety of City departments and agencies. The City's staff should be aware of the Plan recommendations and seek to implement them as part of other regular work efforts. The NCDOT Division of Bicycle and Pedestrian Transportation may provide technical expertise on issues related to pedestrians and ensure that implementation of the Plan moves forward. Progress on improving the Plan should be monitored on no less than an annual basis. Almost every project involving street or transportation improvements offers an opportunity to implement a component of this Plan. Implementation priorities of recommended programs and policies are listed in Table 6.0 Implementation Table.

## INITIATING ACTIONS

The following initiating actions will ensure implementation of the Comprehensive Pedestrian Plan and help the City to meet the goals and objectives of it.

### **Action: Establish a Standing Bicycle and Pedestrian Advisory Committee**

- Establish an on-going committee to monitor progress of the plans implementation. Section 7 of this document includes a comprehensive list of all recommended projects. Projects are listed with priority rank by project type (Sidewalk/Crosswalk).
- Review development plans to identify opportunities for bicycle and pedestrian facilities.

### **Action: Provide Pedestrian Facilities as parts of all existing/proposed roadways**

- Accommodate pedestrian as part of all new roadway projects.
- Incorporate requirements for pedestrian facilities into the City's policies and ordinances.
- Repair surface hazards, sight-distance obstructions and other maintenance problems on a regular basis.

### **Action: All City departments should consult the Comprehensive Pedestrian Plan when implementing projects and conducting plan reviews.**

- Washington's development review process should be modified to include requirements for on-site and off- site pedestrian connections, facilities, and amenities.
- Establish a Bicycle and Pedestrian Committee to review development plans.

### **Action: Develop a Pedestrian Education Program and Enforce Traffic Laws.**

See Section 6 for recommended programs, such as Safe Routes to School and other encouragement programs.

- Develop a pedestrian education program as part of the City's overall communication and education programs.
- Use the City's website, newsletter, and local newspaper as information and educational tools
- Use the Local Public Access Channel to advertise Pedestrian Safety Education Public Service Announcements as well as any events such as safety rodeos and rides.

**Action: Plan and Construct Pedestrian Amenities.**

- Develop and provide maps of pedestrian facilities, routes and popular destinations. See Section 6 for discussion related to route designation, mapping, route signage, and other ancillary facilities.

**Action: Reduce Speed Limits and Use Pedestrian-Friendly Devices.**

The City should consider traffic calming measures and/or speed reductions on roads with sidewalks or high pedestrian activity.

**Action: Update the Comprehensive Pedestrian Plan every 5 - 10 years.**

Updates to the Plan are essential to address the changing needs and priorities in Washington. The plan should be reviewed on no less than an annual basis, with public input serving as an essential piece for future plan updates and reviews.

**Action: Evaluate new pedestrian facility treatments.**

New pedestrian treatments should be evaluated to determine their effectiveness. The results of the evaluations will be used to refine, adjust, and guide future use of these treatments. Pedestrian usage, motorist response, safety, and maintenance needs should be addressed during evaluation of new pedestrian facilities. This includes the evaluation of the following facilities:

- Sidewalk Improvements/Treatments
- Signage
- Roadway Crossing Improvements/Treatments

**Action: Establish partnerships based on their potential interest or involvement in a project.**

The City should look to local agencies, businesses, organizations and governmental departments to provide partnership opportunities to assist them in meeting the goals of the Pedestrian Plan. These partnerships may be utilized to develop bicycle education, enforcement, and encouragement programs.

Washington should consider establishing or strengthening partnerships with the following to achieve the completion of the Plan's projects and recommendations:

- North Carolina Department of Transportation
- Mid-East RPO
- Mid-East Commission Local Government Services Department
- Beaufort County Government
  - Beaufort County Health Department
  - Beaufort County Schools
- Washington Harbor District Alliance
- Washington-Beaufort County Chamber of Commerce
- Local Businesses
- Local Developers
- Local Bicycle Clubs
- Neighborhood Associations
- Elected Officials



## *PERFORMANCE MEASURES*

The City of Washington should continue to monitor performance measures following the adoption of the plan. In doing so, the City can determine the amount of progress being made toward the eventual goal of achieving the plan's vision. These measures should be reviewed and updated every few years to ensure that goals which require the City's resources are being met when the resources are available.

## **EVALUATION/MONITORING PROCESS**

The City, in partnership with the Mid-East Rural Planning Organization, should provide an ongoing evaluation of pedestrian transportation in Washington to determine if the goals and objectives of the plan are being met. These organizations must also continue to monitor if goals and objectives should be modified to reflect changing circumstances or attitudes. It is recommended that this evaluation be conducted biannually with concern towards the goals of the plan. Performance monitoring should be led by the City's Planning Department, with support of a Bicycling/Pedestrian Advisory Committee, and the Mid-East RPO Staff.

Performance measures are used to monitor progress towards the implementation of the Plan. Based on the recommendations made in the plan, Washington can measure success a number of ways, including

- Linear feet of sidewalk and other pedestrians routes created
- Changes in the number of people using pedestrian programs
- Creation/Adoption of multi-modal policies that improve the quality of pedestrian experience
- Connections to surrounding communities/multi-modal facilities
- New linear feet of multi-modal accommodation
- Inclusion of Curb Cuts/Ramps on existing facilities
- Maintaining an up to date pedestrian facilities inventory, including notes on where sidewalks need maintenance or ADA upgrades.

## APPENDIX A – PUBLIC INVOLVEMENT STRATEGY

During the update of the Pedestrian Plan, public input from a range of community members was sought through a variety of means. During the planning process, a Steering Committee was formed and met five times, including a ride along field trip to look at the proposed sidewalk and crosswalk project sites. Additionally, the Steering Committee was responsible for, along with city staff from various departments, assigning a priority to the projects that have been included in this plan. Steering Committee Meeting agendas, as well as e-mails regarding the Prioritization exercise, have been included in this section and can be found beginning on the next page.



In addition to the Steering Committee, a Public Open House was held on October 13, 2015. This meeting allowed the public to provide comments on the proposed projects to be included in the plan. This meeting was held at the Washington Housing Authority, an area that is home to numerous citizens that rely on walking to their destinations. Comments received were taken into consideration when assigning priority to the projects.



*Pedestrian Plan Open House – Washington Housing Authority*



## **City of Washington - Comprehensive Pedestrian Plan**

### **PLAN STEERING COMMITTEE**

April 22, 2015 - 3:30 p.m.

### **MEETING AGENDA**

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- I. **Introductions**
- II. **Purpose of the Comprehensive Pedestrian Plan**
- III. **Discuss Vision Statement**
- IV. **Discussion of Project Recommendations**
  - A. **Projects from 2006 Master Plan**
    - i. **Keep/Discard Recommendations**
  - B. **New Projects**
    - i. **Projects incorporating Comprehensive Bike Plan**
- V. **Distribution of Draft Plan Sections 2, 3, 5, 6, 8**
  - **Review and Provide Comments before next meeting, if necessary**
- VI. **Next Steps**
  - **Meeting Schedule (4<sup>th</sup> Wednesday?)**
  - **Pedestrian Plan Public Participation/Open House**



## **City of Washington - Comprehensive Pedestrian Plan**

### **PLAN STEERING COMMITTEE**

May 27, 2015 - 3:30 p.m.

### **MEETING AGENDA**

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- I. Welcome**
- II. Feedback on Vision Statement/Draft Sections of Plan Document**
- III. Discussion/Distribution of Project Prioritization Assignment**
- IV. Discussion/Distribution of Public Input/Survey**
  - Input Booth at Music in the Street (June 19)
  - Distribute Surveys
- V. Next Steps**
  - Proposed Next Meeting: July 22 – 3:30



## **City of Washington - Comprehensive Pedestrian Plan**

### **PLAN STEERING COMMITTEE**

August 20, 2015 - 10:00 a.m.

### **MEETING AGENDA**

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- I. Welcome**
- II. Discussion/Distribution of revised Project/Crosswalk Prioritization Assignment**
  - Return at September meeting
- III. Next Steps**
  - Pedestrian Plan Open House – September 15 (tentative)
  - Next Meeting: September 17 – 10:00



## **City of Washington - Comprehensive Pedestrian Plan**

### **PLAN STEERING COMMITTEE**

September 17, 2015 - 10:00 a.m.

### **MEETING AGENDA**

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- I. Welcome
  
- II. Discuss Project/Crosswalk Prioritization Assignment
  - Clarification of questions
  - Discuss additional input sources
  
- III. Next Steps
  - Pedestrian Plan Open House – October 13
  - Next Meeting: TBD

**Justin Oakes**

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**From:** Justin Oakes  
**Sent:** Wednesday, January 27, 2016 12:15 PM  
**To:** lynne.anders@gmail.com; janders10@msn.com; ddawson38@campabay.ir.com; liane@innerbanksoufflers.com; kimberly.matthews@bchd.net; Michele Oras (micos@beaufort.k12.nc.us)  
**Cc:** Krist Roberson; Ben Rogers  
**Subject:** Washington Pedestrian Plan - Updated Prioritization Exercise w/ Public Works Comments  
**Attachments:** Washington Pedestrian Plan - Sidewalk Recommendation Prioritization Exercise.pdf; Washington Pedestrian Plan - Crosswalk Recommendation Prioritization Exercise.pdf

Good Morning Everyone,

Hope this e-mail finds you doing well. As you may recall, the group had requested that Mid-East Staff receive input on the proposed Sidewalk Projects and Crosswalk Improvements proposed in the Washington Pedestrian Plan. Additionally, after meeting with Andy, there was a request for information on any changes to projects proposed in the Original Plan, as well as any changes to recommendation priority level that staff had made compared to the Original Plan. Staff has compiled all of this information into an updated Prioritization Exercise Spreadsheet, one for sidewalks and one for crosswalks, to assist you in making your priority recommendations for each Sidewalk Project and Crosswalk Improvement. These spreadsheets are attached.

In addition to the information discussed above, I have added some reference points to help clarify the location of some of the projects that may be difficult to determine the exact location. If you are still uncertain of the exact location of a project, don't hesitate to check with me. Please follow the instructions at the top of the spreadsheet to make your recommendation, selecting either 1.) Long Term; 2.) Medium Priority; or 3.) High Priority.

If you would, please take the next couple of weeks to complete the prioritization exercise. Once complete, please send me your results by E-Mail, or you can drop them off at the Mid-East Offices (see address in E-Mail signature) **by no later than Friday February 19th**. I would be glad to meet with everyone at your next scheduled meeting to discuss the results, but we kindly ask that you go ahead and complete the exercise, so we can move forward in the finalization of the Plan document. Please let me know if you have any questions.

Thanks,

Justin Oakes, MS, CZO  
 Senior Planner  
 Mid-East Commission  
 1385 John Small Avenue  
 Washington, NC 27889  
 252-974-1843

**Justin Oakes**

---

**From:** Justin Oakes  
**Sent:** Friday, February 26, 2016 12:12 PM  
**To:** lynne.anders@gmail.com; janders10@msn.com; ddawson38@tampabay.fl.com; liane@innerbanksoutfitters.com; kimberly.matthews@bchd.net; Michele Oros (moros@beaufort.k12.nc.us)  
**Cc:** Kristi Roberson; Ben Rogers  
**Subject:** Washington Pedestrian Plan - Updated Prioritization Scores  
**Attachments:** Washington Pedestrian Plan - Sidewalk Project Prioritization Scores.pdf; Washington Pedestrian Plan - Crosswalk Project Prioritization Scores.pdf

**Importance:** High

Good Afternoon Everyone,

Thank you to everyone who took the time to complete the Pedestrian Plan Prioritization Exercise. **The results have been tallied, and attached you will find the results of the Updated Project Prioritization.**

Staff would like to meet one more time with the committee to discuss and finalize the groups input before moving forward with taking the Plan to the City's Boards for adoption. I propose that we meet the week of March 21 through March 24. I am available any day that week. Please let me know your availability by no later than **Thursday, March 10<sup>th</sup>**.

Thanks,

Justin Oakes, MS, C2O  
Senior Planner  
Mid-East Commission  
1385 John Small Avenue  
Washington, NC 27889  
252-974-1843

## APPENDIX B – COST ESTIMATES

### SAMPLE COST ESTIMATES

Below are approximate unit costs for the types of projects proposed in this Plan, based on some example project costs that have been recently implemented, along with costs of other projects. Project cost estimations do not necessarily include extra costs involved in the project such as advanced grading issues, land acquisition, land clearing, etc.

#### Shared-Use Paths

- Floodplain paths, such as creek or sewer paths may require more site preparation. Floodplain costs usually involve drainage issues (i.e., need for culverts and bridges, or geotextiles), permitting issues, and boardwalk. Greenways are typically constructed on creek corridors or sewer easements, and whose greenways therefore provide good cost examples for Washington's rail-trail project.
- Rail Trails and sidepaths that have the advantage of being on a relatively cleared alignment with some existing grading and base work already complete can be constructed more economically.

#### Typical Costs Associated with Floodplain Shared - Use Paths on Waterways or Sewer Lines

- \$120 per linear asphalt foot (installation including grading, clearing, construction, and a sub-base with 18" on either side of asphalt for shoulder stabilization) 633,600 per mile +10% administration and design = approximately \$700,000 per mile = \$132 per linear foot
- 10' Concrete walkway: \$300,000 - \$500,000 per mile (with design and administration – add 10%)
- 10' wide prefabricated "Steadfast" type Pedestrian Bridge: \$1,200 per linear foot with design, engineering, installation and administration costs. An 8' wide clearance can reduce this cost.

- 10' paved asphalt path (with two-foot margins and associated improvements): \$100 - \$125 per foot (\$528,000 - \$660,000 per mile.) Add 10% for design and administration.
- Boardwalk: Historically \$200 / linear foot (\$1,056,000 / mile), lately has increased to \$225 - \$250 per linear foot. Unit prices on bids can see boardwalks come in anywhere from \$150 - 350/LF. Boardwalk is 8' clear.
- Converted Culverts and Underpasses: \$60,000 - \$100,000. Varies according to width, lighting needs, if stream restoration is involved, and other circumstances.
- Typical estimate of \$120 per linear foot for construction of path (clearing, grading, subbase -- 14' wide, asphalt trail 10' wide).
- Estimates of \$1,000,000/mile for the design and construction of greenway paths (10' wide asphalt trail). This cost takes into account various factors including need for culverts, drainage and flood studies.

### **Costs Typical with Upland Multi-Use Paths on Rail Beds, Road Corridors, Gas, or Electric Lines.**

- Construction is less expensive in upland areas, especially where grading is already complete or where a subbase is not needed.
- Rail Trail construction can be estimated at \$510,000 per mile, based on other North Carolina Rail Trail projects plus an additional 10% for design and administration. This plan uses \$106 per linear foot to calculate all costs estimations for paths built on roadway and other upland corridors.
- 10' Crushed Rock walkway: \$80,000 - \$120,000 per mile (with design and administration – add 10%). These greenways have high maintenance costs.
- Parking lot: \$18 per square yard. (Parking lots for greenways can typically be shared with shopping areas, parks, or other public destinations and more typically are not needed at all because they are neighborhood access points.)

## Intersections

- Crosswalk/Countdown signal: \$5,000 per intersection (this includes installation and an additional installed post). This cost can be up to \$15,000 per intersection if a retrofit is done with APS devices.
- Curb extensions: \$5,000 - \$25,000
- Simple neighborhood crosswalks with signs and markings: \$500 - \$1,500
- Enhanced crosswalk with special stencils, raised platforms, or special signage: \$5,000
- Raised crosswalks: \$2,000 – \$15,000
- Refuge island: \$10,000 – \$40,000
- In pavement illumination: \$25,000 – \$40,000 per crossing
- Hawk signal: \$40,000
- Mid Block Flashing Crosswalk: \$20,000 for equipment and \$20,000 to install

## Lane Marking

- Bicycle or vehicle lane striping (thermoplastic): \$15,000/mile with design and administration for both sides of the road.
- \$1.20 per linear foot of thermoplastic for line striping
- \$350.00 for each set of performed thermoplastic bike symbols with arrows

## Lighting, Landscaping, and Signage

- Lighting: Varies widely depending on type of light and location. Lighting an underpass could be \$2,000 - \$5,000 for 3 to 4 lights.
- Landscaping: Contractor installed foliage costs around \$400 - \$500 per tree and \$25 - \$50 per shrub.

- Marking a route with signs: \$2,000 per mile with design and administration
- Signs: \$250 – \$350 each

## APPENDIX C – FUNDING SOURCES

When considering possible funding sources for the City of Washington's pedestrian projects, it is important to consider that it is highly unlikely that all construction activities will be accomplished from a single funding source since these projects are expected to be in the millions of dollars. It will be necessary to consider several sources of funding, that when combined, would support full project construction. This paper outlines the most likely sources of funding for the projects at the federal, state, local government level and from the private sector.

### STATE AND FEDERAL

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

#### 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.

#### NC DEPARTMENT OF TRANSPORTATION AND SAFETEA-LU

The most likely source of funding for the 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:



- State Transportation Improvement Program (STIP): The STIP contains funding for various transportation divisions of NCDOT including: highways, aviation, enhancements, public transportation, rail, bicycle and pedestrians, and the Governor's Highway Safety Program. STIP is the largest single source of funding within SAFETEA-LU and NCDOT.
- 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.
- NCDOT Enhancement Funding: Federal Transportation Enhancement funding is administered by NCDOT and serves to strengthen the cultural, aesthetic, and environmental aspects of the State's intermodal transportation system. Transportation Enhancement (TE) funding is awarded through NCDOT. The State typically will make a Call for Projects, and each project must benefit the traveling public and help communities increase transportation choices and access, enhance the built or natural environment and create a sense of place.
- NCDOT Bicycle and Pedestrian Project: Funds for bicycle and pedestrian projects come from several different sources. Allocation of funds depends on the type of project/program and other criteria. Projects can include independent and incidental projects.

#### NC DEPARTMENT OF ENVIRONMENT – RECREATIONAL TRAILS; AND ADOPT-A-TRAIL GRANTS

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

## POWELL BILL FUNDS

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

## COMMUNITY DEVELOPMENT BLOCK GRANT FUNDS

Community Development Block Grant (CDBG) funds are available to local municipal or county governments for projects that enhance the viability of communities by providing decent housing and suitable living environments and by expanding economic opportunities, principally for persons of low- and moderate-income. State CDBG funds are provided by the U.S. Department of Housing and Urban Development (HUD) to the state of North Carolina. Some urban counties and cities in North Carolina receive CDBG funding directly from HUD. Each year, CDBG provides funding to local governments for hundreds of critically-needed community improvement projects throughout the state. These community improvement projects are administered by the Division of Community Assistance and the Commerce Finance Center under eight grant categories. Two categories might be of support to the City of Washington Pedestrian Projects: infrastructure and community revitalization.

## LAND AND WATER CONSERVATION TRUST FUND

The Land and Water Conservation Fund (LWCF) has historically been a primary funding source of the US Department of the Interior for outdoor recreation development and [and 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.

## SAFE ROUTES TO SCHOOL PROGRAM

(MANAGED BY NCDOT, DBPT)

The NCDOT Safe Routes to School Program is a federally funded program that was initiated by the passing of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, which establishes a national SRTS program to distribute funding and institutional support to implement SRTS programs in states and communities across the country. SRTS programs facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. The Division of Bicycle and Pedestrian Transportation at NCDOT is charged with disseminating SRTS funding.

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

### **LOCAL GOVERNMENT**

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

## LOCAL RURAL PLANNING ORGANIZATION

The Mid-East 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 Farmville's transportation infrastructure.

It is suggested that the Town 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 WASHINGTON CAPITAL IMPROVEMENT PROGRAMMING

The City of Washington may have funding available to support some elements of construction or repair. It will be important to meet with City Council members 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

## **PRIVATE SECTOR**

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

## LAND FOR TOMORROW CAMPAIGN

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

## THE ROBERT WOOD JOHNSON FOUNDATION

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

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

For more specific information about what types of projects are funded and how to apply, visit <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/>

#### AMERICAN GREEN WAYS 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](http://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](http://www.americanhiking.org/alliance/fund.html).

#### BLUECROSS BLUESHIELD OF NORTH CAROLINA FOUNDATION (BCBS)

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

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

#### 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 from 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.