FINAL REPORT

City of Southport

Comprehensive Pedestrian Transportation Plan

February 2014

Prepared for:

City of Southport Chartered 1792

State of North Carolina Department of Transportation

Division of Bicycle & Pedestrian Transportation

Prepared by:

Kimley-Horn and Associates, Inc.

►Table of Contents◄

Executive Summary

Chapter 1 Introduction

Chapter 2 Existing Conditions

Chapter 3 Network Recommendations

Chapter 4 Implementation

Appendix A Funding Opportunities

Appendix B Design Resources

Appendix C Questionnaire Responses

Appendix D Market Profile

Appendix E Census Profile

Acknowledgements

On behalf of the project team, the City of Southport thanks the diverse group of participants whose input was instrumental to create the *City of Southport Comprehensive Pedestrian Transportation Plan*. This plan is the direct result of a collaborative effort between the City of Southport, the North Carolina Department of Transportation, the Cape Fear Area Rural Planning Organization, and a host of stakeholders. We extend our sincere appreciation to the elected officials, residents, stakeholders, and local staff who participated in the planning process and guided the development of this plan. Everyone's time, input, and energy are greatly appreciated.

►Executive Summary◄

The *Comprehensive Pedestrian Transportation Plan* includes a summary of input provided by the public, an evaluation of Southport's demographic characteristics, and a thorough assessment of the existing pedestrian network. This planning process produced a set of recommendations for policy changes, education opportunities, pedestrian facilities, and priority projects intended to increase walkability in the City of Southport.

The Project Advisory Committee (PAC) was established to provide oversight and direct the planning process. The vision statement and associated goals for the plan were crafted through a series of meetings with members of the Consultant Team, City of Southport Staff, the North Carolina Department of Transportation (NCDOT), and the PAC.

Vision

We envision a city that embraces walkability by connecting our neighborhoods and important destinations with a safe, convenient, accessible, and attractive pedestrian network developed over time based on a clear set of local priorities that make the highest and best use of available resources.

Goals

- **Safe**—Develop a predictable network that integrates and balances the needs of pedestrians with other modes of transportation.
- **Convenient**—Connect homes, parks, historic sites, cultural resources, recreation facilities, shops, restaurants, and the waterfront.
- **Accessible**—Improve access for all residents, visitors, and stakeholders with special consideration for the needs of the disabled population.
- **Attractive**—Support and enhance Southport's historical charm, unique character, and cherished quality of life.

Community outreach played a significant role in the planning process. A public questionnaire and several public workshops provided citizens the opportunity to engage with the project team, resulting in a plan that responds to the needs of the community. More details regarding public outreach, along with background information detailing the benefits of walking, are provided in **Chapter 1**.

As a part of the planning process, the project team reviewed existing conditions to provide the framework for pedestrian recommendations in the City of Southport. Demographic information including population, income, education, land use, and transportation, were all considered, as well as the existing physical condition of the sidewalk network. Notable highlights from the demographic review include:

- Southport's median age is 55.9 years, compared to the county and state averages of 48.6 years and 36.0 years
- 26.2% of Southport residents lack access to a personal vehicle compared to the county and state averages of 5.7% and 6.5%
- Eight out of every ten people who work in Brunswick County also live in Brunswick County

Approximately 10 miles of sidewalks exist in Southport. The majority of the sidewalks are five feet wide or less. Only 0.4 miles of sidewalks are at least 10-feet wide. The sidewalk inventory also assessed the condition of existing sidewalks:

Good	Fair	Poor
8.9 miles	1.3 miles	0.1 miles

Additionally, the PAC and the public identified several key intersections to consider for improvements:

- Howe & Moore
- Howe & Nash
- Howe & W West/E West
- Howe & Bay
- Howe & NC 87
- Atlantic & Nash
- Yacht Basin & Bay
- Yacht Basin & Moore

More detailed information, as well as descriptions of key destinations and obstacles to connectivity, can be found in **Chapter 2.**

This plan recommends a series of policy changes, education opportunities, and a robust pedestrian network including sidewalks, paved shoulders, greenways, and crossing improvements. The plan's prioritization process yielded several projects that the City of Southport should consider to make the best use of available funding while addressing missing links in the pedestrian network and avoiding problematic locations. **Chapter 3** describes these recommendations, as well as policy and program recommendations, in detail.

The Implementation chapter, **Chapter 4**, highlights the highest priority policy, program, and project recommendations from **Chapter 3** and offers a near-term strategy for the City of Southport to advance its goal of providing a safe, convenient, accessible, and attractive pedestrian system. **Table ES.1** and **Table ES.2** list all of the pedestrian facilities recommended as a part of this plan, with the priority projects in bold.

Table ES.1 - Key Intersection Improvements

Project Key	North-South Road	East-West Road
1	Howe Street (NC 211)	Bay Street
2	Howe Street (NC 211)	Moore Street
3*	**Howe Street (NC 211)**	**Nash Street**
4*	**Howe Street (NC 211)**	**West Street**
5	Atlantic Avenue	Nash Street

The City of Southport should consider the following next steps in the short-term:

- Pursue the construction of sidewalks to fill gaps in the existing pedestrian system, repair existing sidewalks, and evaluate new sidewalk recommendations as funds allow.
- Look to partner with NCDOT on widening recommendations on existing planned or future NCDOT projects.
- Continue to explore possible grant funding.
- Amend the City's Unified Development Ordinance to include provisions for pedestrian facilities in new developments.
- Southport Elementary School should participate in National Walk to School Day.
- Construct the priority sidewalk project on N Howe Street (NC 211) from W 9th Street to W 11th Street.
- Work with developers in the area to set aside easements for future construction of the proposed greenway.

Table ES.2 - Network Recommendations

Project Key	Recommendation Type	Roadway	From	To
A	Sidewalk	Caswell Avenue	W Bay Street	W 8th Street
B	Sidewalk	E West Street	Howe Street	N Atlantic Avenue
C*	**Sidewalk**	**Leonard Street**	**N Caswell Avenue**	**N Fodale Avenue**
D	Sidewalk	W 9th Street	Everett Avenue	N Howe Street
E	Sidewalk	N Atlantic Avenue	E Nash Street	E 9th Street
F	Sidewalk	E Moore Street (NC 211)	N Rhett Street	Ferry Road SE (NC 211)
G*	**Sidewalk**	**N Howe Street (NC 211)**	**W 9th Street**	**W 11th Street**
H	Sidewalk	W 11th Street	N Caswell Avenue	N Howe Street (NC 211)
I*	**Sidewalk**	**N Fodale Avenue**	**N Howe Street (NC 211)**	**E Leonard Street**
J	Sidewalk	N Fodale Avenue	E Leonard Street	E Moore Street (NC 211)
K	Sidewalk	N Caswell Avenue	W 11th Street	Cades Trail
L	Sidewalk	Robert Ruark Drive SE	Cades Trail	Shopping Center Driveway
M	Sidewalk	J Swain Boulevard	Southport Supply Road SE (NC 211)	Flank Court
N*	**Paved Shoulder**	**N Howe Street (NC 211)**	**W 11th Street**	**NC 211 Bridge**
O*	**Paved Shoulder**	**Southport Supply Road SE (NC 211)**	**NC 211 Bridge**	**Walgreens Driveway**
P	Paved Shoulder	Jabbertown Road	River Road SE	E Leonard Street
Q*	**Paved Shoulder**	**E Leonard Street**	**N Fodale Avenue**	**Jabbertown Road**
R	Paved Shoulder	E Leonard Street	Jabbertown Road	E Moore Street
S*	**Paved Shoulder**	**E Moore Street**	**Ferry Road SE (NC 211)**	**E Leonard Street**
T*	**Greenway**	**n/a**	**N Caswell Avenue**	**Tidewater Plaza**
U	Greenway	n/a	Maple Leaf Drive	Tidewater Plaza
V	Sidewalk	W 9th Street	N Caswell Avenue	N Howe Street (NC 211)
W	Sidewalk	N Lord Street	W Moore Street	W West Street
X	Sidewalk	Brunswick Street	W West Street	W Moore Street
Y	Maintenance	Throughout Network	n/a	n/a

►Introduction◄

The City of Southport received a grant from NCDOT to develop a comprehensive pedestrian transportation plan. Participants in the process included local planners, project advisory committee members, and the general public. Through a series of activities a vision statement for the plan emerged.

Vision

We envision a city that embraces walkability by connecting our neighborhoods and important destinations with a safe, convenient, accessible, and attractive pedestrian network developed over time based on a clear set of local priorities that make the highest and best use of available resources.

Goals

- **Safe**—Develop a predictable network that integrates and balances the needs of pedestrians with other modes of transportation.
- **Convenient**—Connect homes, parks, historic sites, cultural resources, recreation facilities, shops, restaurants, and the waterfront.
- **Accessible**—Improve access for all residents, visitors, and stakeholders with special consideration for the needs of the disabled population.
- **Attractive**—Support and enhance Southport's historical charm, unique character, and cherished quality of life.

Benefits of Walking

Walking is a key element to a healthy community's transportation system. When a proper pedestrian environment is provided, walking offers a practical transportation choice that provides benefits for both individuals and their communities. The potential for increased walking is enormous since 25% of all trips in the United States are less than one mile in length. Features that contribute to making communities more walkable include a healthy mix of land uses, wide sidewalks, accessibility features such as curb ramps, buffers between the edge of pavement and the sidewalk, and trees to shade walking routes. Slowing traffic, reducing pedestrian crossing distance, and incorporating pedestrian infrastructure (i.e., signage, crosswalks, and adequate pedestrian phasing at signals) into future roadway design plans also ensure walkability.

Early in the process, an effort was made to observe, identify, and inventory existing conditions. The project team focused on information relevant to walkability with an emphasis on demographics, physical features, pedestrian attractions, and barriers. Participants in the plan's various public outreach events discussed the many benefits of walking and how it can contribute to the community. These benefits include:

- **Health benefits** – Walking is a form of physical activity that can be accomplished by most citizens. Regular physical activity helps prevent or reduce the risk of heart disease, obesity, high blood pressure, type 2 diabetes, osteoporosis, and mental health problems such as depression.
- **Transportation benefits** – Walking can help reduce roadway congestion. Many streets and highways carry more traffic than they were designed to handle, resulting in gridlock, wasted time and energy, pollution, and driver frustration. Many of the trips that Americans make every day are short enough to be accomplished on foot or via wheelchair. The 1995 National Personal Transportation Survey (NPTS) found that approximately 40% of all trips are less than two miles in length—which represents a 30-minute walk.

- **Environmental/Energy benefits** - Motor vehicles create substantial air pollution. According to the EPA, transportation is responsible for nearly 80% of carbon monoxide and 55% of nitrogen oxide emissions in the U.S.
- **Economic benefits** – Walking is an affordable form of transportation. Car ownership consumes a major portion of many family incomes. When safe facilities are provided for pedestrians, people can walk more and spend less on transportation, meaning they have more money to save or spend on other things.
- **Quality of life benefits** – The walkability of a community is an indicator of its livabililty. This factor has a profound impact on establishing and growing tourism-related activity as well as attracting businesses and workers. In cities and towns where people can regularly be seen out walking, there is a sense that these are safe and friendly places to live and visit. By providing appropriate pedestrian facilities and amenities, communities enable the interaction between neighbors and other citizens that can strengthen relationships and contribute to a healthy sense of identity and sense of place.
- **Social justice** - Perhaps the most important factor in walking and social justice is choice. When providing pedestrian facilities such as sidewalks and crosswalks, communities allow people to choose how they want to travel. For those who do not have the option to drive, such as adolescents, elderly, those unable to afford a car, and people with certain disabilities, this lack of choice in transportation creates an inconvenient and socially unjust barrier to mobility.

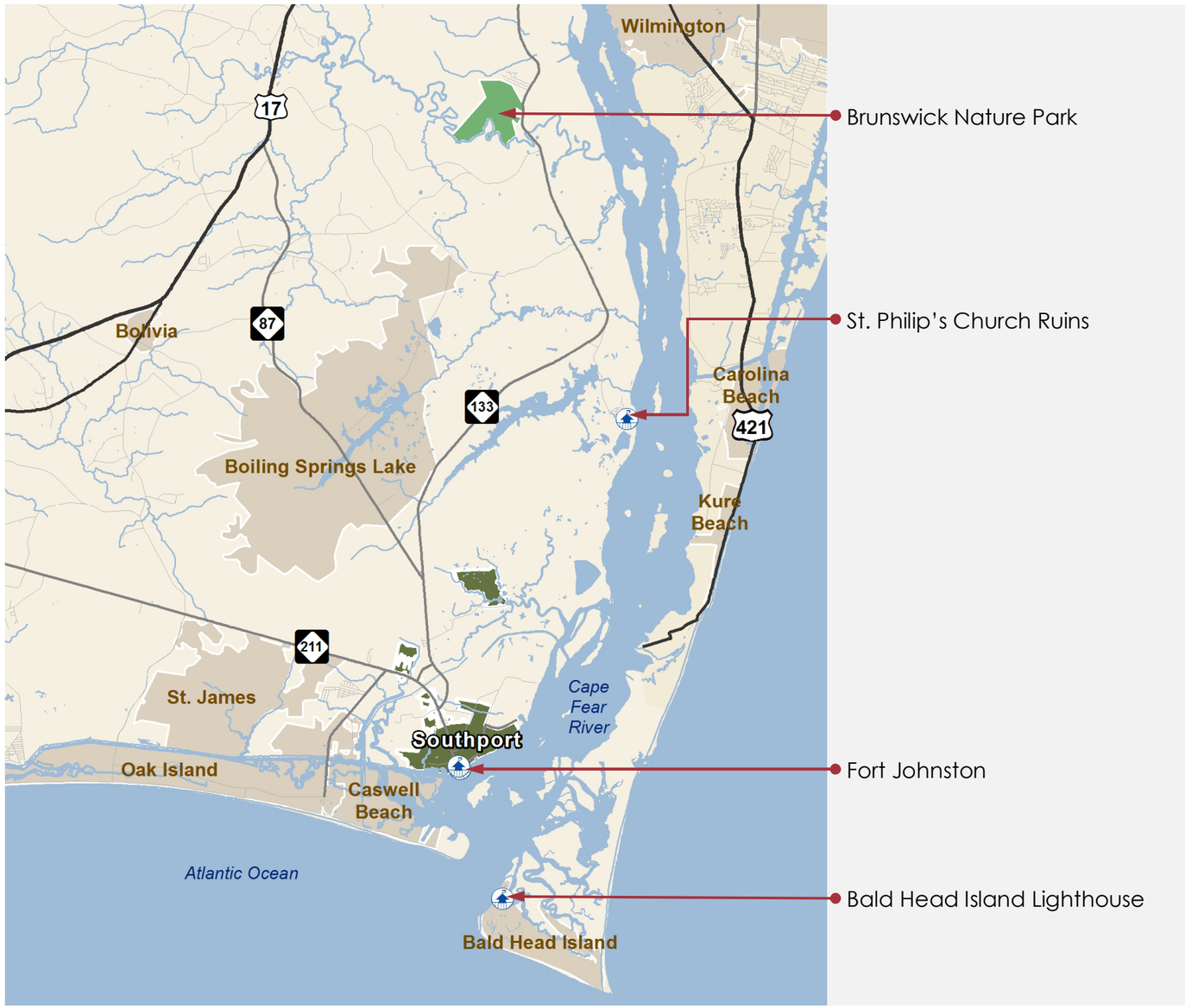
Resources on the topic of walking and its benefits may be found here: www.bikewalk.org/ncbw_pubs.php.

Project Purpose and Process

The purpose of the Comprehensive Pedestrian Transportation Plan is to identify and develop safe amenities that encourage a walkable and pedestrian-friendly community. The process includes an assessment of existing facilities, policies, and procedures that relate to walkability; a review of planned facilities; identification of pedestrian needs and deficiencies, a review of transportation priorities, safety considerations, barriers to walkability, and special population needs; and development of short- and long-term recommendations, cost estimates, and viable funding sources.

Study Area

The study area for the Comprehensive Pedestrian Transportation Plan includes all land within the city limits. The map below shows the City in its regional context. Additional detail within the City of Southport is provided in Chapter 2.



Community Outreach Overview

Transportation planning—particularly when the outcome seeks improved walkability and enhanced safety—is best conducted in a collaborative environment that feeds on the energy of an engaged group of stakeholders and taps into the passion of resident advocates. Community outreach for the Comprehensive Pedestrian Transportation Plan emerged through a platform that gathered, processed, and applied the ideas of residents, business owners, civic groups, staff, and visitors. The Project Advisory Committee endorsed this process as the one most likely to yield a feasible plan championed by the community. Feedback came through the following small- and large-group activities.

Project Advisory Committee

The Consultant Team worked with City Staff and NCDOT to establish a Project Advisory Committee (PAC). The PAC met regularly to provide direct oversight and counsel to the planning process.

Meeting Objectives

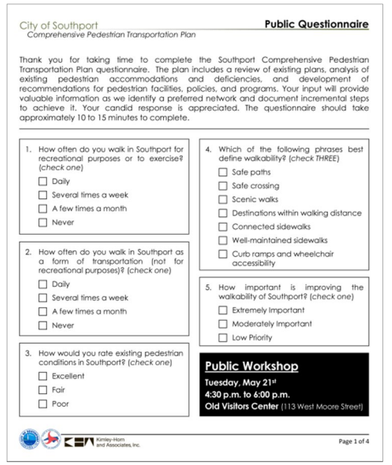
- **Meeting #1**
  March 4, 2013
  Purpose: Introduce the project team and committee members, conduct visioning exercise and develop preliminary goals/objectives, identify data needs, and engage in a mapping exercise.
- **Meeting #2**
  May 21, 2013
  Purpose: Review and approve vision and goals, discuss outreach methods, establish toolbox of potential pedestrian solutions, preliminarily identify where potential solutions can be applied.
- **Meeting #3**
  August 7, 2013
  Purpose: Summarize outreach efforts to date, revise and discuss preliminary recommendations, discuss remaining outreach events and plan documentation.
- **Meeting #4**
  October 2, 2013
  Purpose: Review revised recommendations, gather feedback on the draft plan elements, and discuss project prioritization.

Public Questionnaire

To better understand the city's needs relative to its pedestrian network, a questionnaire was made available online and in hard copy. More than 75 completed questionnaires were collected. The questionnaire asked respondents about how often they walk and for what purposes, how they would assess the existing network and define walkability, which corridors and intersections need improvement, and what factors encourage or discourage them from making trips on foot. General demographic questions helped the project team understand who was completing the questionnaire. The responses were considered as recommendations were developed. Notable highlights from the questionnaire results include:

- Walking is an important mode of transportation for a significant portion of the questionnaire respondents
  - More than three-quarters of the respondents walk for recreation and exercise several times a week
  - More than half walk as a form of transportation several times a week
  - 81% of respondents think that improving the walkability of Southport is extremely important
- None of the respondents would rate Southport's existing pedestrian conditions as excellent, while two-thirds would rate the conditions as poor
- Respondents agree that Howe Street, Moore Street, and Leonard Street need pedestrian improvements

Full results are available in the appendix.


City of Southport
Comprehensive Pedestrian Transportation Plan

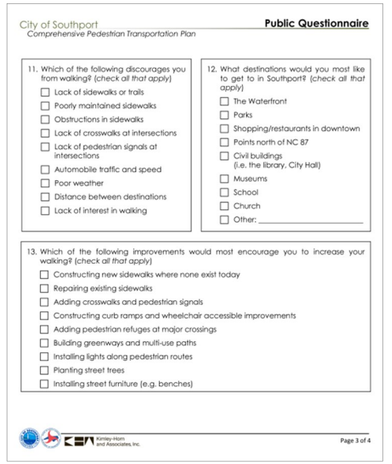
Public Questionnaire

Thank you for taking time to complete the Southport Comprehensive Pedestrian Transportation Plan questionnaire. The plan includes a review of existing plans, analysis of existing pedestrian accommodations and deficiencies, and development of recommendations for pedestrian facilities, policies, and programs. Your input will provide valuable information as we identify a preferred network and document incremental steps to achieve it. Your candid response is appreciated. The questionnaire should take approximately 10 to 15 minutes to complete.

1. How often do you walk in Southport for recreational purposes or to exercise? *(check one)*
   - ☐ Daily
   - ☐ Several times a week
   - ☐ A few times a month
   - ☐ Never
2. How often do you walk in Southport as a form of transportation (not for recreational purposes)? *(check one)*
   - ☐ Daily
   - ☐ Several times a week
   - ☐ A few times a month
   - ☐ Never
3. How would you rate existing pedestrian conditions in Southport? *(check one)*
   - ☐ Excellent
   - ☐ Fair
   - ☐ Poor
4. Which of the following phrases best define walkability? *(check THREE)*
   - ☐ Safe paths
   - ☐ Safe crossing
   - ☐ Scenic walks
   - ☐ Destinations within walking distance
   - ☐ Connected sidewalks
   - ☐ Well-maintained sidewalks
   - ☐ Curb ramps and wheelchair accessibility
5. How important is improving the walkability of Southport? *(check one)*
   - ☐ Extremely Important
   - ☐ Moderately Important
   - ☐ Low Priority

Public Workshop
Tuesday, May 21st
4:30 p.m. to 6:00 p.m.
Old Visitors Center (113 West Moore Street)

Kimley-Horn and Associates, Inc.
Page 1 of 4


City of Southport
Comprehensive Pedestrian Transportation Plan

Public Questionnaire

11. Which of the following discourages you from walking? *(check all that apply)*
    - ☐ Lack of sidewalks or trails
    - ☐ Poorly maintained sidewalks
    - ☐ Obstructions in sidewalks
    - ☐ Lack of crosswalks at intersections
    - ☐ Lack of pedestrian signals at intersections
    - ☐ Automobile traffic and speed
    - ☐ Poor weather
    - ☐ Distance between destinations
    - ☐ Lack of interest in walking
12. What destinations would you most like to get to in Southport? *(check all that apply)*
    - ☐ The Waterfront
    - ☐ Parks
    - ☐ Shopping/restaurants in downtown
    - ☐ Points north of NC 87
    - ☐ Civil buildings (i.e. the library, City Hall)
    - ☐ Museums
    - ☐ School
    - ☐ Church
    - ☐ Other: _____
13. Which of the following improvements would most encourage you to increase your walking? *(check all that apply)*
    - ☐ Constructing new sidewalks where none exist today
    - ☐ Repairing existing sidewalks
    - ☐ Adding crosswalks and pedestrian signals
    - ☐ Constructing curb ramps and wheelchair accessible improvements
    - ☐ Adding pedestrian refuges at major crossings
    - ☐ Building greenways and multi-use paths
    - ☐ Installing lights along pedestrian routes
    - ☐ Planting street trees
    - ☐ Installing street furniture (e.g. benches)

Kimley-Horn and Associates, Inc.
Page 3 of 4

Public Workshops

The residents of Southport have unique experiences traveling the City on foot or in a wheelchair. They understand the strengths and weaknesses of the pedestrian network and are directly affected by the challenges they experience on a given trip. To leverage this knowledge, the Comprehensive Pedestrian Transportation Plan included two workshops: 1) an interactive workshop to identify issues, vet existing conditions, and brainstorm solutions and 2) an open house to view recommendations and pinpoint priorities.

Interactive Workshop

The first public workshop was held May 21, 2013 at the Old Visitors Center. The purpose of this workshop was to increase awareness of the planning process and to help with the identification of barriers, safety concerns, pedestrian attractions, and gaps in the existing network.

Public Open House

The second public workshop was held October 2, 2013 at the Old Visitors Center. Participants were offered an opportunity to review and comment on draft recommendations, and they participated in a priority voting exercise for network recommendations and intersection improvements.

►Existing Conditions◄

Walking is a key element to a healthy community's transportation system. When a proper pedestrian environment is provided, walking offers a practical transportation choice that provides benefits for both individuals and their communities. The potential for increased walking is enormous since 25 percent of all trips in the United States are less than one mile in length. Features that contribute to making communities more walkable include a healthy mix of land uses, wide sidewalks, accessibility features such as curb ramps, buffers between the edge of pavement and the sidewalk, and trees to shade walking routes. Slowing traffic, reducing pedestrian crossing distance, and incorporating pedestrian infrastructure (i.e., signage, crosswalks, and adequate pedestrian phasing at signals) into future roadway design plans also ensure walkability.

Early in this process an effort was made to observe, identify, and inventory existing conditions. The project team focused on information relevant to walkability with an emphasis on demographics, physical features, pedestrian attractions, and barriers. Existing conditions are summarized on the following pages.

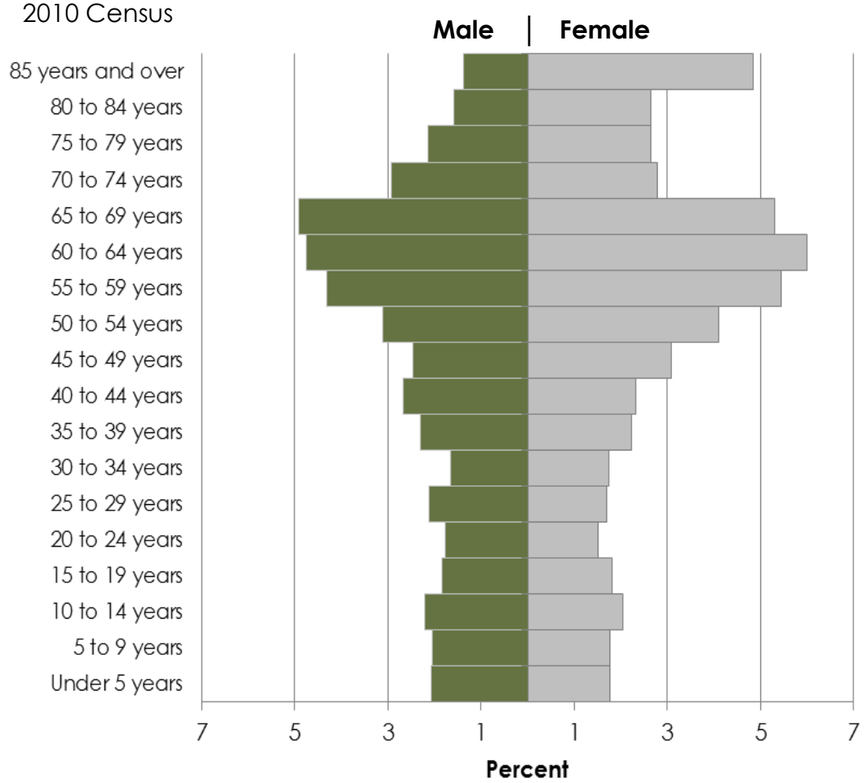
Community Profile

Demographics

Population: In 2011, the North Carolina Office of State Budget and Management (OSBM) estimated the population of Southport to be 2,914, an increase of 2.9% from the 2010 census population of 2,833. Growth in Southport remained relatively flat from 1990 (2,369) to 2000 (2,351), but increased 20.5% between 2000 and 2010.

According to the 2010 Census, the median age for residents of the City of Southport is 55.9 years. This median age indicates the population of the city is older than Brunswick County (48.6 years) and North Carolina (36.0 years). The older population cohort in Southport is further evident when viewing the city's population pyramid. A population pyramid shows the distribution of population by various age groups and by gender. The Southport population pyramid also reflects the city's higher female population.

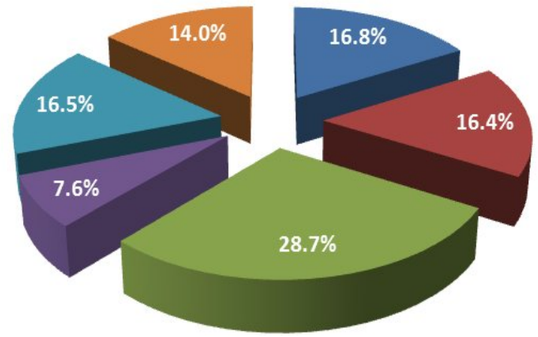
Population Pyramid
2010 Census



Income and Education: The American Community Survey 2011 5-year estimate for median household income in Southport is $37,897, which is less than that for North Carolina ($46,291) and Brunswick County ($45,132). In Southport, a likely contributing factor is the higher percentage of retirees with limited income.

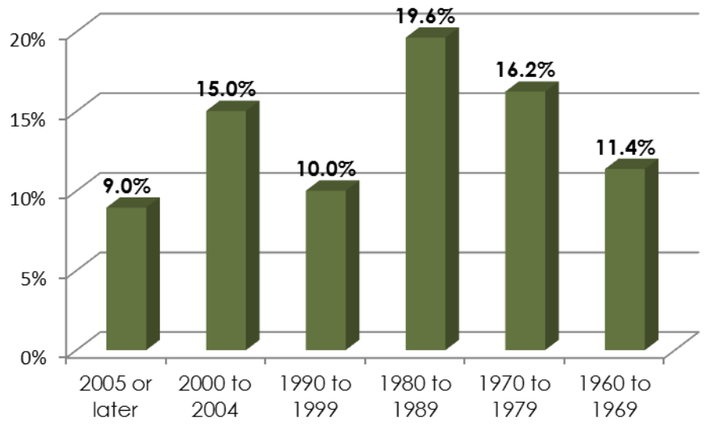
Income levels often are influenced by and relate to educational attainment. Approximately one-third of all residents 25 years and older have a bachelor's degree or higher. Nearly 17% of residents in the city do not have a high school diploma. These statistics mirror those of the state, in which one-third of the residents possess a degree from an institution of higher learning and 18% lack a high school diploma.

Education Attainment
2010 Census



Land Use: Southport as a municipality dates back to 1792 when the town of Smithville was founded. By the time the name was changed to Southport in 1887, many of the features that make the city core walkable today were taking shape. The city's mixture of established, tree-covered neighborhoods, active downtown, historic and cultural resources, fishing camps, and waterfront restaurants enhances walkability. The charts on this page illustrate the established nature of the homes and neighborhoods in the city.

Year Structure Built
2011 American Community Survey

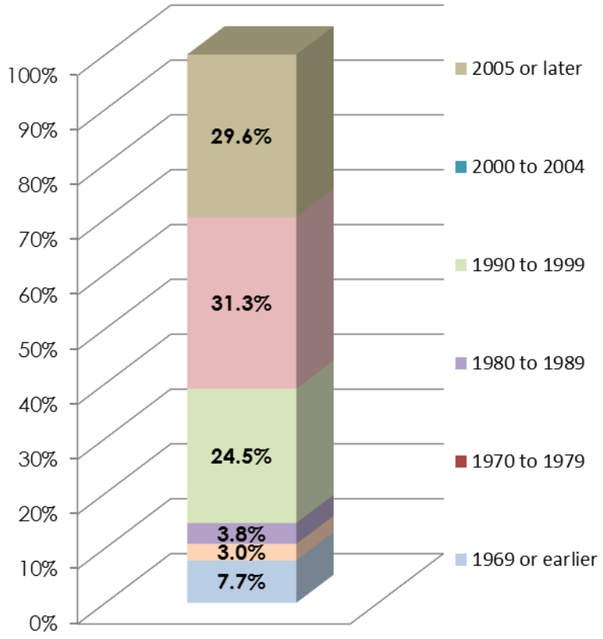


Transportation: Many factors influence the rate people make trips on foot. Not surprisingly, access to a personal vehicle is a key reason someone may walk. According to the 2011 American Community Survey 5-year estimate, 26.2% of Southport residents lack access to a personal vehicle. This rate is much higher than Brunswick County (5.7%) and the state (6.5%). The number of households in Southport without access to a vehicle reflects the demand for walking and need for safe paths and crossings.

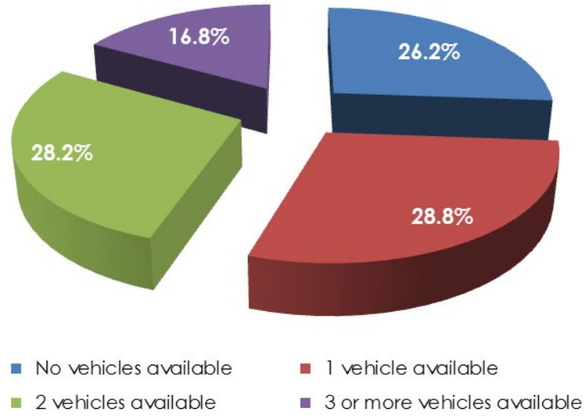
The time it takes to commute to work also influences how many people may commute on foot. In Southport, the average commute time is 19.1 minutes, which is less than Brunswick County (23.6) and North Carolina (23.4). It's no surprise that the majority of workers commute via car, truck, or van.

Almost two-thirds of Brunswick County's residents work in Brunswick County, and a quarter of the residents work in New Hanover County. Conversely, eight out of every ten people that work in Brunswick County also reside in Brunswick County. One out of every ten workers in Brunswick County lives in New Hanover County.

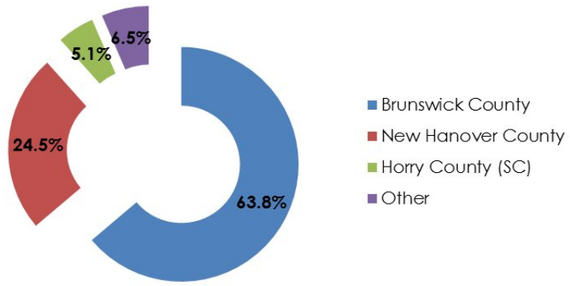
Year Householder Moved In
2011 American Community Survey



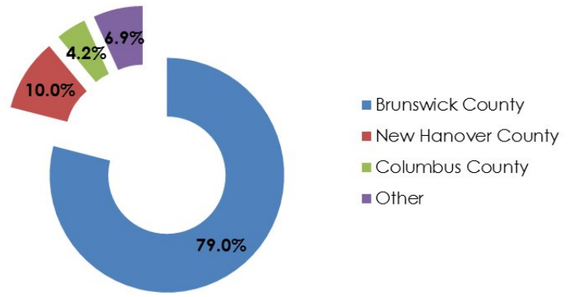
Vehicle Availability
2011 American Community Survey



Brunswick County Residents by Workplace Geography
2010 American Community Survey



Brunswick County Workers by Residence Geography
2010 American Community Survey



System Profile

Planning Southport's future pedestrian network requires an understanding of physical features that define the city today.

Physical Features

Sidewalk Network: Based on a sidewalk inventory completed in 2012, approximately 9.8 miles of sidewalks exist in Southport. These sidewalks mostly are located in the core of Southport, loosely defined as being between St. George Street and the water and between Yacht Basin Drive and Atlantic Avenue. The majority of the sidewalks (7.1 miles or 72.0%) are five feet wide or less. Only 0.4 miles (3.8%) of sidewalks are at least 10-feet wide. The sidewalk inventory also assessed the condition of existing sidewalks:

Good	Fair	Poor
8.9 miles	1.3 miles	0.1 miles

Several corridors have sidewalks on both sides of the street. These include portions of Howe Street, Moore Street, Nash Street, Bay Street, St. George Street, and Lord Street. In general, the sidewalk network is fragmented with gaps between sections. Several segments were observed during field review and noted during outreach events as having cracked and lifted due to tree roots. Accessibility in some locations is challenged due to a lack of ADA-compliant curb ramps. Along some corridors, trees, shrubs, and landscaping are growing onto or over sidewalks. Finally, the pedestrian network is vulnerable to flooding conditions during normal tide events in some locations, notably along Yacht Basin Drive. The existing sidewalk conditions are shown on **Figure 2.1**.

Intersections: The limited number of signalized intersections in the City of Southport forces pedestrians to cross without the protection of pedestrian signals. As a result, many pedestrians choose to cross at midblock locations. Crosswalks are provided at limited intersections in the City, most notably Howe Street at Bay Street and Howe Street at Moore Street. The PAC, together with the public, identified numerous intersections in need of pedestrian improvements. These key intersections (discussed in detail in Chapter 3) included:

- Howe & Moore
- Howe & Nash
- Howe & W West/E West
- Howe & Bay
- Howe & NC 87
- Atlantic & Nash
- Yacht Basin & Bay
- Yacht Basin & Moore

City of Southport

Comprehensive Pedestrian Transportation Plan

Figure 2.1 - Existing Sidewalks

Destination / Activity Center

Southport City Limit

Sidewalk Condition

Good

Fair

Poor

0 400 800 1,600 Feet

Kimley-Horn and Associates, Inc.

Destinations

A primary goal of this plan is to connect people with significant places of activity. With its historical charm and natural beauty, Southport itself is a destination for visitors and retirees and plays host to numerous events throughout the year, including the North Carolina 4th of July Festival. Specific destinations were identified by the Project Advisory Committee and through public outreach. Generally, these destinations fall into the following categories:

Schools: Southport Elementary School is located on West 9th Street northwest of the urban core of Southport. The school serves approximately 700 students through Grade 5.

Parks: The City of Southport includes six city parks of various sizes. These parks include Waterfront Park, Franklin Square Park, Lowe-White Memorial Park, Kingsley Street Park, Alvin C. Caviness Park, and Keziah Park. Each park offers unique features, such as the public fishing pier at Waterfront Park and the gazebo and stage at Franklin Square.

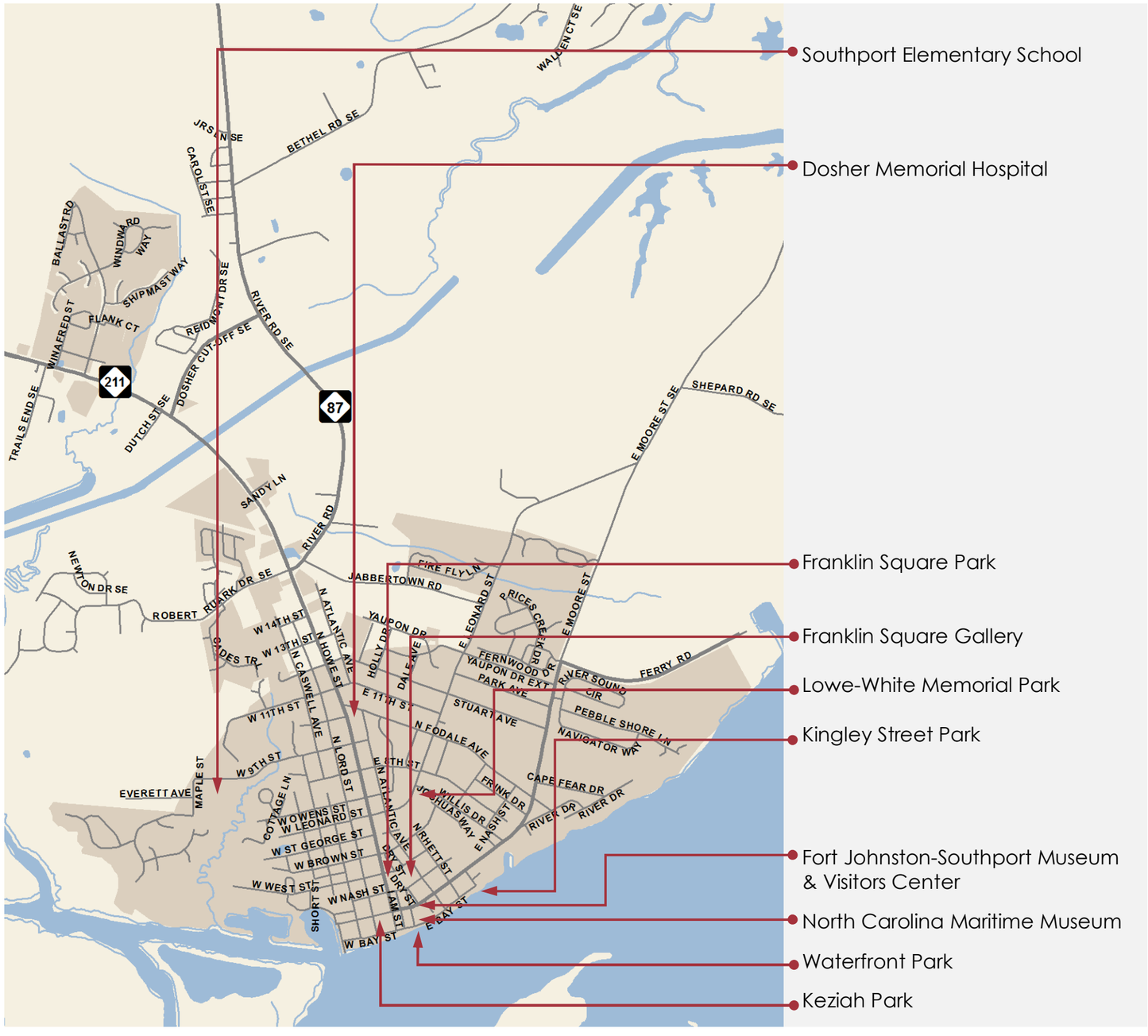
Shops/Restaurants: Howe Street is the heart of Southport and numerous shops and restaurants line the corridor. Several restaurants also are located along Yacht Basin Drive near the waterfront.

Franklin Square Gallery: The Franklin Square Gallery is home to the Associated Artists of Southport, a non-profit organization dedicated to the community's cultural enrichment. In addition to displaying works by local artists, the gallery hosts numerous events throughout the year and holds instructional workshops.

Historic Sites: The Southport Historic District is on the national registry and noted as an excellent example of 19th to early 20th Century maritime town. The district includes numerous historic landmarks, including the Old Brunswick County Courthouse, Fort Johnston, the Harper-Northrup Building, and the Smith Building.

North Carolina Maritime Museum: The North Carolina Maritime Museum houses memorabilia reflecting the nautical history of the Lower Cape Fear area. Self-guided tours and tours led by local historians are available.

Medical Facilities: Dosher Memorial Hospital, located near the intersection of Howe Street and Fodale Avenue, is a non-profit community hospital with 25 inpatient beds. The hospital provides a variety of general medical and surgical services.



Obstacles to Connectivity

The pedestrian network in Southport has developed organically over many years, which has created narrow sidewalks, numerous gaps in the network, and a lack of safe crossings. Over time, manmade barriers and maintenance and design concerns have become an increasing concern for those who travel by foot, wheelchair, or motorized scooter.

Narrow Sidewalks. The necessary width of a sidewalk depends primarily on the number of pedestrians who are expected to use the sidewalk at a given time. Areas with greater pedestrian activity should have wider sidewalks. Also, areas with benches, plantings, sidewalk signs, and newspaper racks should be wider. In general, a sidewalk width of five feet is needed for two adults to comfortably walk side-by-side. Wider sidewalks also contribute to a safer environment for persons in wheelchairs. According to the 2012 Sidewalk Inventory, nearly one-third of the City's sidewalks are 4-foot wide or less. Narrow sidewalks in Southport were noted on Bay Street, Fire Fly Lane, and Caswell Avenue.

Gaps in Network. Southport has a mix of development patterns, including traditional patterns in the historic core and more suburban patterns in the northwest portion of the City. As with most suburban development patterns, access primarily is designed to accommodate automobiles. Expansive parking lots, large setbacks, and limited connectivity severely reduce the opportunities for walking to and from these destinations. The separation of land uses and piecemeal construction of sidewalks has created numerous gaps in the existing network. These gaps vary in size from several blocks in length to short segments of only a few feet.

Lack of Safe Crossings. The NCDOT Bicycle and Pedestrian Division and the UNC Highway Safety Research Center collects statistics on bicycle and pedestrian crashes, including crash numbers, severity, cause, and time of day. According to data provided by NCDOT, seven pedestrian-related crashes occurred in Southport between 2007 and 2011. A total of 98 crashes occurred in Brunswick County. Countywide, the highest frequency of the crashes occurred in travel lanes. The second highest concentration occurred in parking lots.

Manmade Barriers. Several man-made barriers affect walkability in Southport. Portions of Howe Street are a physical and psychological barrier due to a lack of pedestrian accommodations, obstacles within the pedestrian-way, and vehicular traffic. As a result, the corridor often deters residents and visitors from walking. Where sidewalks exists, some facilities are blocked by the misplacement of utility poles, sign posts, drainage grates, parked cars, fire hydrants, benches, newspaper racks, and other obstructions. These obstructions are common in communities that have had the pedestrian system develop over time.

Maintenance and Design. Various maintenance and design issues that make using sidewalks difficult or impossible were observed during field review or expressed during public outreach activities. These issues include:

- Tree roots or other issues have caused sidewalks to lift, buckle, or crack.
- Trees, shrubs, and landscaping are blocking sidewalks.
- Sidewalks lack curb ramps at various street corners, crosswalks, and driveways.
- Some driveway cross-slopes are steep and difficult to cross.

These situations can make walking difficult or impossible, especially for people pushing carts or strollers, older pedestrians, those with impaired vision and people with mobility difficulties who may be using walkers, canes, wheelchairs, and crutches.

Isolated Nodes

Collectively, the narrow sidewalks, gaps in the network, lack of safe crossings, and other design concerns create areas in the city that are difficult to reach on foot or otherwise isolated. These areas include homes, businesses, medical facilities, parks, community centers, historic sites, and tourist attractions. Given the City's older population and the high occurrence of persons with disabilities, it is critically important that these destinations be accessible to people of all abilities—older adults with limited mobility, persons in wheelchairs, and those with vision loss. The images on the following pages illustrate some of the obstacles to connectivity in Southport.

Narrow Sidewalks

Gaps in Network

Lack of Safe Crossings

Manmade Barriers

Maintenance and Design

Past and Ongoing Efforts

Plans and Policies

The City of Southport continues to partner with Brunswick County, NCDOT, regional entities, and other agencies to proactively address growth and the implications thereof. Table 2.1 highlights the efforts most applicable to the Comprehensive Pedestrian Transportation Plan.

Roadway and Pedestrian Projects

Only a few roadway and pedestrian projects are planned for Southport at this time. The largest project consists of widening a 7-mile segment of NC 211 between Midway Road (SR 1500) and NC 87. This project is identified by NCDOT as R-5021. The preferred alternative consists of widening the road from a 2-lane facility to a 4-lane facility with a 30 foot median and signalized full movement intersections. No pedestrian facilities are provided. A new bridge would be constructed over Dutchman Creek. An interchange was considered at the intersection of NC 211/SR 1500 but was not included in the project. The project will require the purchase of additional right of way and the relocation of homes and businesses. The project is in the design phase but no funds have been allocated for construction.

As of February 2014, the City is moving forward with the construction of sidewalks along Howe Street from 9th Street to St. George Street. This project is a Safe Routes to School initiative.

Table 2.1 – Past and Ongoing Efforts

Agency	Plans/Policies/Ordinances	Date Completed	Plan Purpose
City of Southport	Unified Development Ordinance	2004	The UDO, revised in 2009, establishes regulations to the development and use of all land and structures within the City.
	CAMA Core Land Use Plan	2007	This plan addresses the plan elements required in Rule .0702 of Section 7B (Elements of CAMA Core and Advanced Core Land Use Plans). This type of plan is the standard CAMA Land Use Plan required for all 20 coastal counties.
	Parks and Recreation Master Plan	ongoing	The Parks and Recreation Department is actively working on the completion of the 2015-2020 Parks, Recreation, and Open Space Master Plan for the City. This plan will support immediate and long-term needs related to the provision and operation of parks, recreation, and open space programs.
NCDOT	Brunswick County Comprehensive Transportation Plan	2010	The CTP seeks to establish and document a community vision and goals related to an integrated transportation system for the County. The plan includes a set of maps that document recommendations for roadways, bicycle facilities, pedestrian accommodations, and public transportation services.
Brunswick County	Brunswick County Hazard Mitigation Plan	2011	This plan documents efforts to incorporate hazard mitigation principles and practices into the government activities of Brunswick County and its participating jurisdictions and partners. The plan recommends specific actions, including policies, to address hazard vulnerability and to protect residents from losses.
Cape Fear Council of Governments	City of Southport Sidewalk Inventory	2012	The goal of the inventory was to collect and present up-to-date data on sidewalk locations and conditions in the spirit of improved bicycle and pedestrian planning in the city.

►Network Recommendations◄

To achieve a well-rounded pedestrian system, it is important to evaluate the performance of infrastructure, guidance, and supporting facilities and programs. The needs of pedestrians are best served when these elements complement each other. The recommendations for the City of Southport Comprehensive Pedestrian Transportation Plan seek to achieve this balance. This chapter describes physical improvement projects, including on and off-road facilities as well as intersection-level improvements. Policies and guidelines currently in place have been reevaluated in an effort to strengthen demand. Education, encouragement, and enforcement measures also are discussed.

The City of Southport Comprehensive Pedestrian Transportation Plan was developed based on feedback from the project advisory committee, City staff, NCDOT, and the public. Draft recommendations were presented and reviewed at a public workshop on October 2nd, 2013 where participants were asked for their feedback and comments related to the draft project recommendations, guidelines, and policy measures. The recommendations discussed in this chapter represent the culmination of these outreach efforts.

Network Recommendations

Pedestrian network recommendations were developed based on field review; collaboration with existing planning efforts and ongoing multimodal improvements; public input; and validation by City staff and NCDOT. The vision for the plan was referenced throughout this process, serving as a backbone for establishing these recommendations.

Overview of Facility Types

Facility recommendations have been developed for the following areas: sidewalks, multi-use trails, and shoulder improvements. Areas warranting further study also were identified. It is important for these recommendations to function as a cohesive system. Additional information on the design of sidewalks, multi-use trails, and shoulder improvements can be found in **Appendix B**.

Figure 3.1 documents the pedestrian network recommendations and illustrates how the different recommendation types will interface with each other. This figure also includes an inventory of the major destination points and activity centers within the City to demonstrate how recommended pedestrian facilities serve these locations.

Recommended Facilities

As mentioned previously, facility recommendations were developed for sidewalks, multi-use trails, and shoulder improvements. This section discusses the recommended facilities and includes recommendations mapping. **Table 3.1** lists each of the recommended facilities and their associated costs. A number of improvement projects noted in the following tables involve NCDOT right of way and will require cooperation between the City and NCDOT. Additionally, constraints may be encountered during the project development process. Constraints such as right-of-way or space limitations, easements, grade issues, and structural barriers may all impact the plan recommendations. Care should be taken to minimize impacts and avoid constraints.

Sidewalks

The purpose of the sidewalk recommendations is to create a more cohesive network through infill and also provide connections on heavily traveled routes lacking pedestrian accommodations. Generally, it is recommended to construct sidewalks on both sides of the street if possible. However, infill projects should be constructed to maintain consistency with the existing facilities they connect.

Sidewalks in Southport currently exist near the downtown area, as well as within some newer developments. The recommended infill projects connect and enhance these existing facilities. Infill sidewalks are recommended on Howe Street up to 11th Street, providing a consistent set of pedestrian facilities through downtown and the water tower district. Extension of sidewalks along one side of Caswell Avenue will provide a parallel north-south route that ultimately can link with the proposed greenway facility, discussed later in this chapter.

New sidewalk connections also are recommended to better serve the city's residential population centers. Sidewalks along Fodale Avenue, Leonard Street, and Moore Street link residents with critical destinations such as downtown Southport, J Arthur Dosher Memorial Hospital, the new City Hall, and Lowe-White Memorial Park.

Construction costs of sidewalks are estimated at approximately $40/LF. With a 5' sidewalk width and sidewalks on one side of the road, this equates to $200,000 per mile. Additional right-of-way, utilities, and environmental mitigation costs were not included.

Greenways

Greenways provide a wide, inviting facility that can be used by both pedestrians and cyclists. Greenways easily facilitate connections to desired activity nodes by using existing roadway corridors. The City of Southport does not currently have any greenway facilities. This plan proposes a greenway that would link important destinations such as the Southport Senior Center, retail fronting Howe Street, and Tidewater Plaza. The greenway alignment was designed to minimize impacts to the surrounding environment, avoid obstacles, and provide maximum connectivity. For example, the alignment was moved from behind the Southport Senior Center to the front of the center to provide improved accessibility. This greenway would provide the following significant benefits:

- Connecting several existing and planned residential neighborhoods
- Providing a safer and more appealing alternative for pedestrians, bicyclists, and wheelchair users for north-south travel (instead of using N Howe Street)
- In combination with recommended sidewalk improvements, providing a dedicated travel route for pedestrians extending between downtown Southport and the Walmart area.

Construction costs of greenways are estimated at $600,000 per mile, excluding consideration for right-of-way, utilities, and environmental mitigation.

Shoulder Improvements

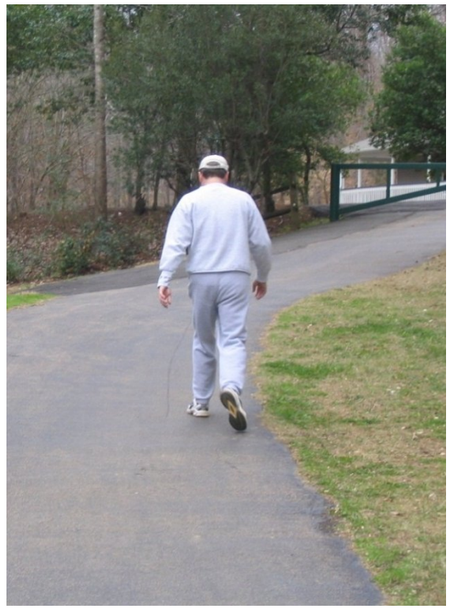
Paved shoulder space improves the safety and comfort of pedestrians and cyclists. While no minimum width for paved shoulders exists, a width of 4 feet is preferred. Even wider shoulders provide greater levels of safety and comfort for users. On many roadways, motor vehicle travel lanes can be narrowed to provide more shoulder space. Although unmarked paved shoulders generally are acceptable for roadway sections without frequent intersections, where intersections are frequent appropriate lane markings should be applied.

Wide paved shoulder areas provide a refuge for pedestrian, bicycle, or wheelchair travel. Paved shoulders also have the added benefit of serving as an emergency breakdown area for vehicles and helping roads with significant freight traffic resist edge pavement degradation. While paved shoulders are not the preferred pedestrian facility, they can be used on heavily traveled roadways or roadways with low residential and commercial density as a safer travel path for potential pedestrian users. The ability to serve the needs of multiple travel modes also make paved shoulders more cost-effective treatments where low pedestrian travel volumes are anticipated.

Shoulder improvements are proposed along both sides of Howe Street from 11th Street through the northernmost Southport city limits. While the recommended sidewalk and greenway improvements aim to draw pedestrians away from this road, the proposed shoulder will provide a protected travel area for users needing to travel across the canal to the northernmost portions of the City.

Other significant paved shoulder recommendations include Jabbertown Road and portions of Leonard Street and Moore Street. The shoulder recommendations on Leonard Street and Moore Street are an extension of the recommended sidewalk network and provide a refuge for pedestrians and bicyclists on these roads. The shoulder improvements recommended on Jabbertown Road not only serve pedestrian travel but also address growth in freight truck traffic along the corridor.

Construction costs of shoulder improvements are estimated at $300,000 per mile.



Example Greenway – Cary, NC

Priority Projects

Priority projects were identified by the project team along with the outcome of the voting exercises conducted during PAC Meeting #4 and Public Workshop #2. Each participant was asked to select three network recommendation priorities and one intersection improvement priority. The project team's project prioritization included the consideration of a range of facility types to best take advantage of the funding sources from the City and NCDOT, the identification of missing links in the pedestrian network, and avoidance of problematic locations. The identified priority projects are shown in bold in **Table 3.1** and **Table 3.2**.

Sidewalk priority projects include:

- **Leonard Street**:
  N Caswell Avenue to N Fodale Avenue
- **N Howe Street (NC 211)**:
  W 9th Street to W 11th Street
- **N Fodale Avenue**:
  N Howe Street (NC 211) to E Leonard Street

Greenway priority projects include:

- **Proposed greenway**:
  N Caswell Avenue to Tidewater Plaza

Shoulder improvement priority projects include:

- **N Howe Street (NC 211)**:
  W 11th Street to NC 211 Bridge
- **Southport Supply Road SE (NC 211)**:
  NC 211 Bridge to Walgreens Driveway
- **E Leonard Street**:
  N Fodale Avenue to Jabbertown Road
- **E Moore Street**:
  Ferry Road SE (NC 211) to E Leonard Street

The Safe Routes to School projects along N Howe Street are committed by NCDOT and as such are displayed as priority projects for this effort.

The priority projects are also illustrated in **Figure 3.2**.

Table 3.1 - Network Recommendations

Project Key	Recommendation Type	Roadway	From	To	Length	Cost per Mile	Project Cost[1]
A	Sidewalk	Caswell Avenue	W Bay Street	W 8th Street	0.52	$200,000	$104,000
B	Sidewalk	E West Street	Howe Street	N Atlantic Avenue	0.2	$200,000	$40,000
C*	**Sidewalk**	**Leonard Street**	**N Caswell Avenue**	**N Fodale Avenue**	**0.62**	**$200,000**	**$124,000**
D	Sidewalk	W 9th Street	Everett Avenue	N Howe Street	0.74	$200,000	$148,000
E	Sidewalk	N Atlantic Avenue	E Nash Street	E 9th Street	0.54	$200,000	$108,000
F	Sidewalk	E Moore Street (NC 211)	N Rhett Street	Ferry Road SE (NC 211)	1.13	$200,000	$226,000
G*	**Sidewalk**	**N Howe Street (NC 211)**	**W 9th Street**	**W 11th Street**	**0.24**	**$200,000**	**$48,000**
H	Sidewalk	W 11th Street	N Caswell Avenue	N Howe Street (NC 211)	0.13	$200,000	$26,000
I*	**Sidewalk**	**N Fodale Avenue**	**N Howe Street (NC 211)**	**E Leonard Street**	**0.4**	**$200,000**	**$80,000**
J	Sidewalk	N Fodale Avenue	E Leonard Street	E Moore Street (NC 211)	0.49	$200,000	$98,000
K	Sidewalk	N Caswell Avenue	W 11th Street	Cades Trail	0.36	$200,000	$72,000
L	Sidewalk	Robert Ruark Drive SE	Cades Trail	Shopping Center Driveway	0.18	$200,000	$36,000
M	Sidewalk	J Swain Boulevard	Southport Supply Road SE (NC 211)	Flank Court	0.23	$200,000	$46,000
N*	**Paved Shoulder**	**N Howe Street (NC 211)**	**W 11th Street**	**NC 211 Bridge**	**1.18**	**$300,000**	**$354,000**
O*	**Paved Shoulder**	**Southport Supply Road SE (NC 211)**	**NC 211 Bridge**	**Walgreens Driveway**	**0.8**	**$300,000**	**$240,000**
P	Paved Shoulder	Jabbertown Road	River Road SE	E Leonard Street	0.78	$300,000	$234,000
Q*	**Paved Shoulder**	**E Leonard Street**	**N Fodale Avenue**	**Jabbertown Road**	**0.58**	**$300,000**	**$174,000**
R	Paved Shoulder	E Leonard Street	Jabbertown Road	E Moore Street	0.94	$300,000	$282,000
S*	**Paved Shoulder**	**E Moore Street**	**Ferry Road SE (NC 211)**	**E Leonard Street**	**0.88**	**$300,000**	**$264,000**
T*	**Greenway**	**n/a**	**N Caswell Avenue**	**Tidewater Plaza**	**0.56**	**$ 600,000**	**$336,000**
U	Greenway	n/a	Maple Leaf Drive	Tidewater Plaza	0.05	$600,000	$30,000
V	Sidewalk	W 9th Street	N Caswell Avenue	N Howe Street (NC 211)	0.2	$200,000	$40,000
W	Sidewalk	N Lord Street	W Moore Street	W West Street	0.09	$200,000	$18,000
X	Sidewalk	Brunswick Street	W West Street	W Moore Street	0.29	$200,000	$58,000
Y	Maintenance	Throughout Network	n/a	n/a	n/a	Varies	Varies

[1]Estimated cost does not include consideration for right-of-way, utilities, or environmental mitigation
*Projects highlighted in **bold** represent priority projects

City of Southport
Comprehensive Pedestrian Transportation Plan

Figure 3.1 - Recommendations

- Recommended Crossing Improvement
- Existing Sidewalk
- Existing Shoulder
- Recommended Sidewalk
- Recommended Shoulder
- Recommended Greenway
- Safe Routes to School Project
- Destination / Activity Center
- Southport City Limit

0 400 800 1,600 Feet

Kimley-Horn and Associates, Inc.

Inset 1

Inset 1

City of Southport
Comprehensive Pedestrian Transportation Plan

Figure 3.2 - Priority Projects

- Priority Crossing Improvement
- Priority Sidewalk
- Priority Shoulder
- Priority Greenway
- Safe Routes to School Project
- Southport City Limit

0 400 800 1,600 Feet

CITY OF SOUTHPORT CHARTERED 1792

Kimley-Horn and Associates, Inc.

Inset 1

Inset 1

Intersection Improvements

The City of Southport has worked with NCDOT to provide intersection crossing amenities for pedestrians throughout the City. Today, crosswalks currently exist at two major intersections. In general, these amenities were installed during a time with less rigorous design standards. As a result, many of the markings have worn over time and need to be replaced. Consideration for replacement of the worn crosswalks with high visibility markings is recommended.

The network recommendation map (**Figure 3.1**) shows the location of intersections recommended for pedestrian enhancements. Potential pedestrian facility upgrades at these intersections may include high-visibility crosswalks (to reduce maintenance costs, thermoplastic is preferred over paint); pedestrian-level lighting and signage; push button pedestrian signal heads; and/or bulb-outs with ADA curb ramps. These intersection improvements support recommended sidewalk, greenway, and shoulder improvements and enhance existing sidewalks by providing a consistent pedestrian travelway. More information regarding recommended design details can be found in **Appendix B**.

At the outset of this project, it was determined that some intersections need more intensive study. The project consultant, City staff, and members of the PAC considered existing deficiencies at intersections with heavy pedestrian use and selected five key intersections (one signalized and four unsignalized) for more detailed analysis. The PAC collaborated with the project consultant to identify issues and deficiencies for each location. Preliminary recommendations were developed and vetted by the PAC and members of the public before being finalized.

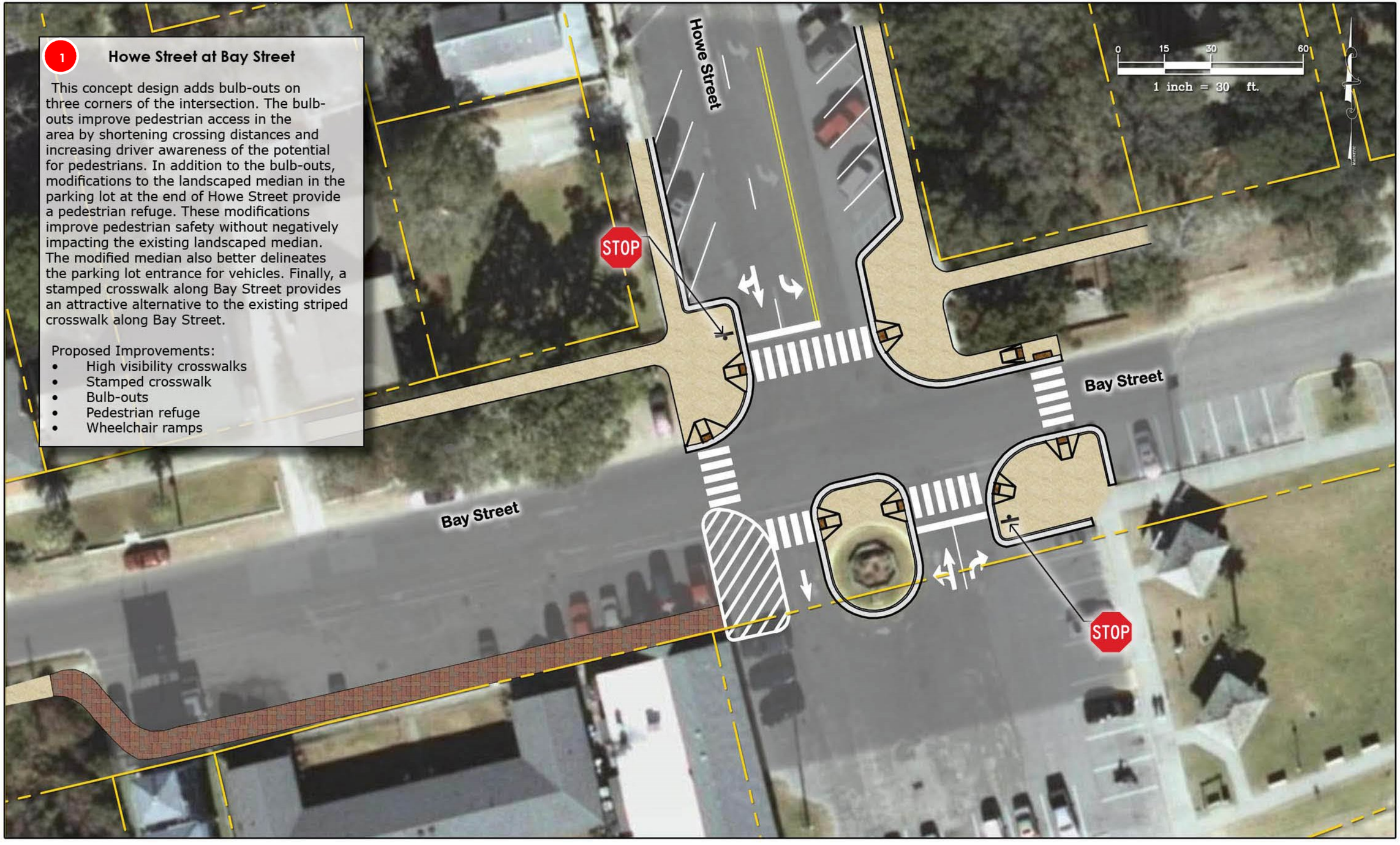
Three additional intersections were originally considered for detailed recommendations. These intersections included Howe Street at NC 87, Yacht Basin at Bay Street, and Yacht Basin at Moore Street. Due to the presence of a preferred alternate route via the proposed greenway, detailed recommendations for the intersection of Howe Street at NC 87 were not developed. Although the intersections along Yacht Basin were also studied, it was determined the pedestrian issues there are a result of the poor drainage system. Any specific pedestrian recommendations would be ineffective due to the drainage problems.

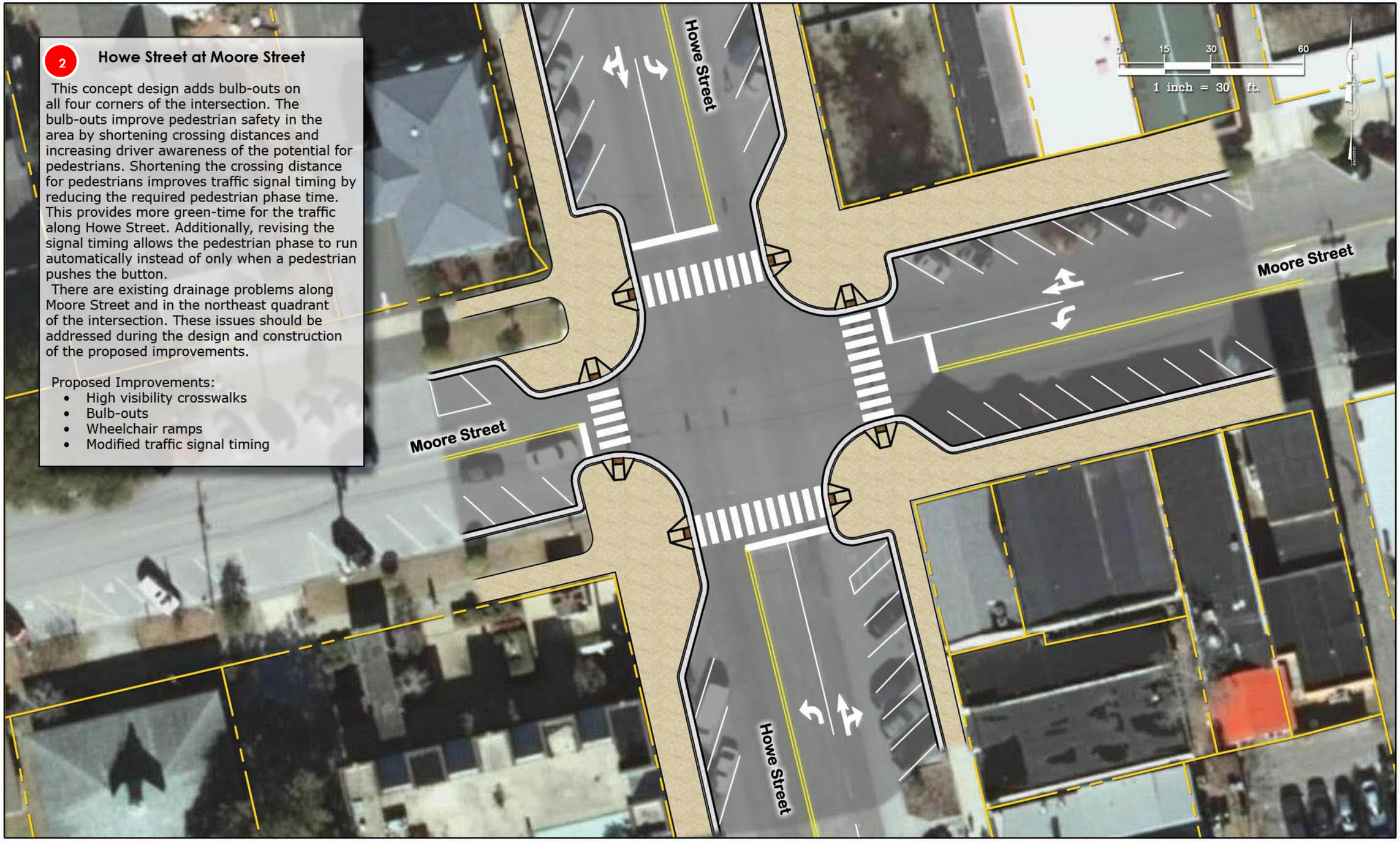
The following pages illustrate the recommended improvements for each key intersection. The intent of these designs is to provide additional detail where pedestrian and vehicle conflicts are most likely. Descriptions of current issues and recommended enhancements are provided on each project sheet. Improvements are overlaid on aerials to demonstrate how the enhancements interface with existing conditions. **Table 3.2** lists each of the key intersections and their estimated costs. Following the review of these intersections by the public, the intersections of Howe Street at Nash Street and Howe Street at West Street were identified as the highest-priority locations. Specific recommendations and design considerations are included on each image. In general, the addition of the proposed crosswalks will necessitate a review of all existing stop bar locations.

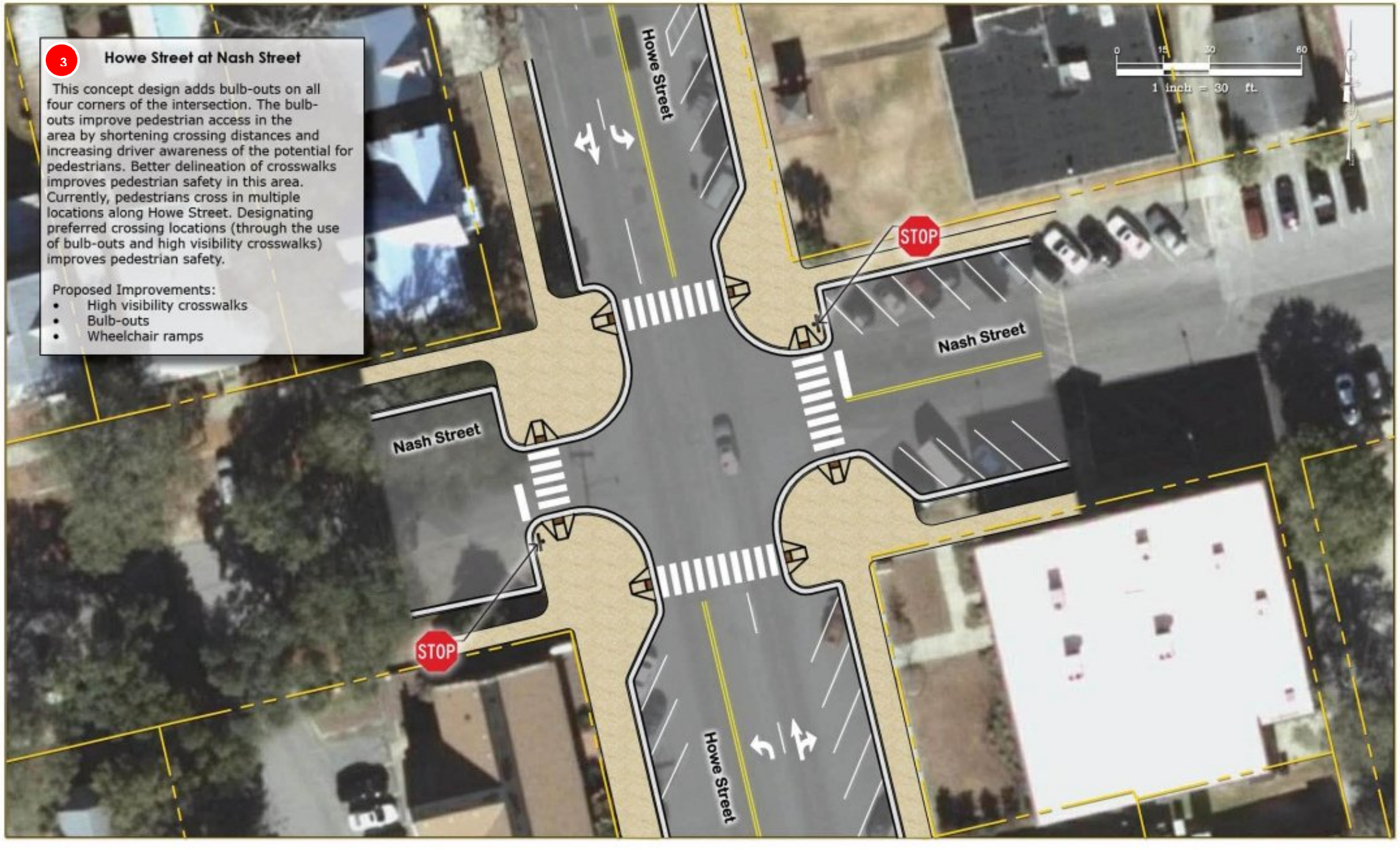
Table 3.2 - Key Intersection Improvements

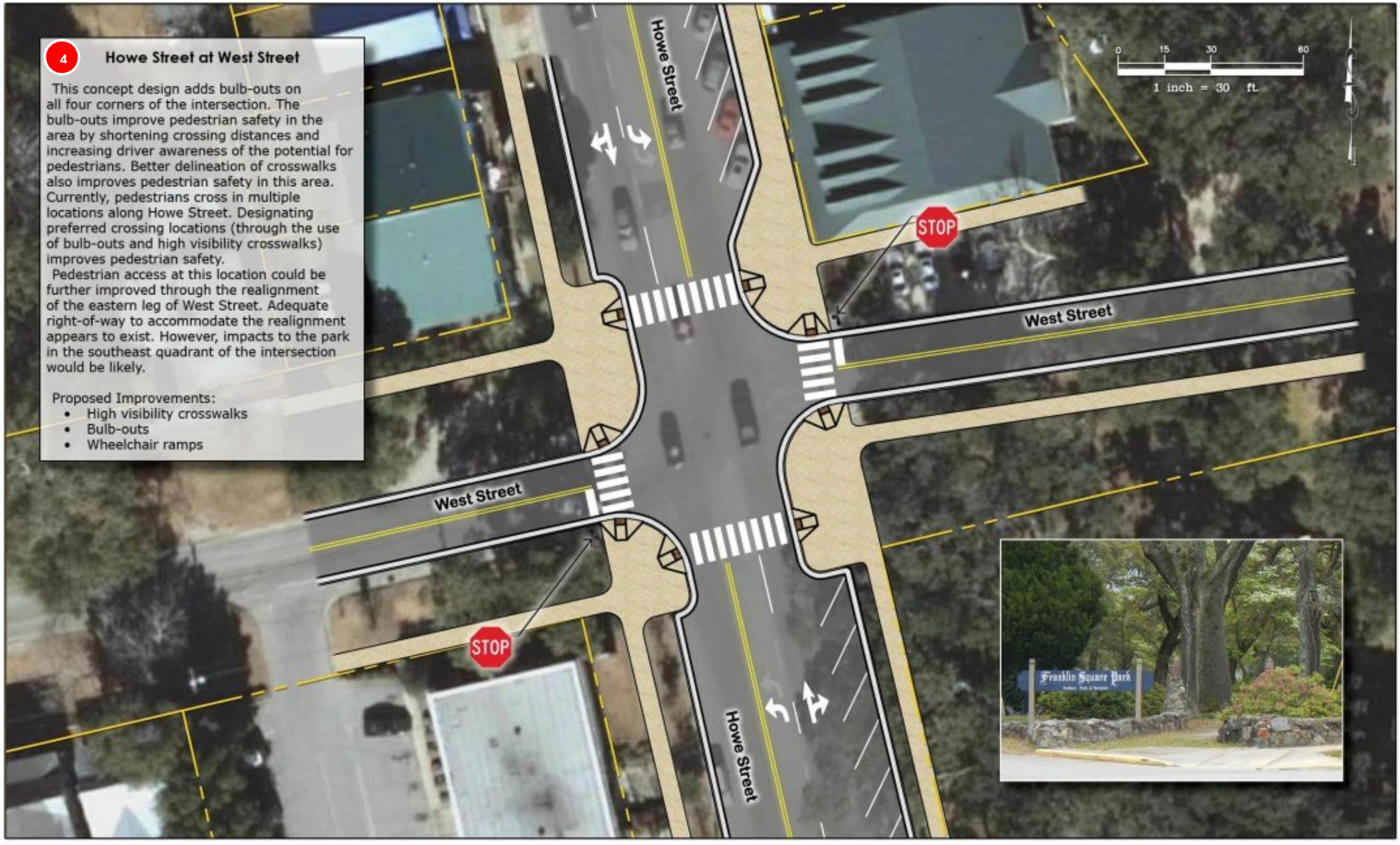
Project Key	Recommendation Type	North-South Road	East-West Road	Project Cost[1]
1	Intersection	Howe Street (NC 211)	Bay Street	$179,000
2	Intersection	Howe Street (NC 211)	Moore Street	$298,000
3*	**Intersection**	**Howe Street (NC 211)**	**Nash Street**	**$238,000**
4*	**Intersection**	**Howe Street (NC 211)**	**West Street**	**$244,000**
5	Intersection	Atlantic Avenue	Nash Street	$168,000

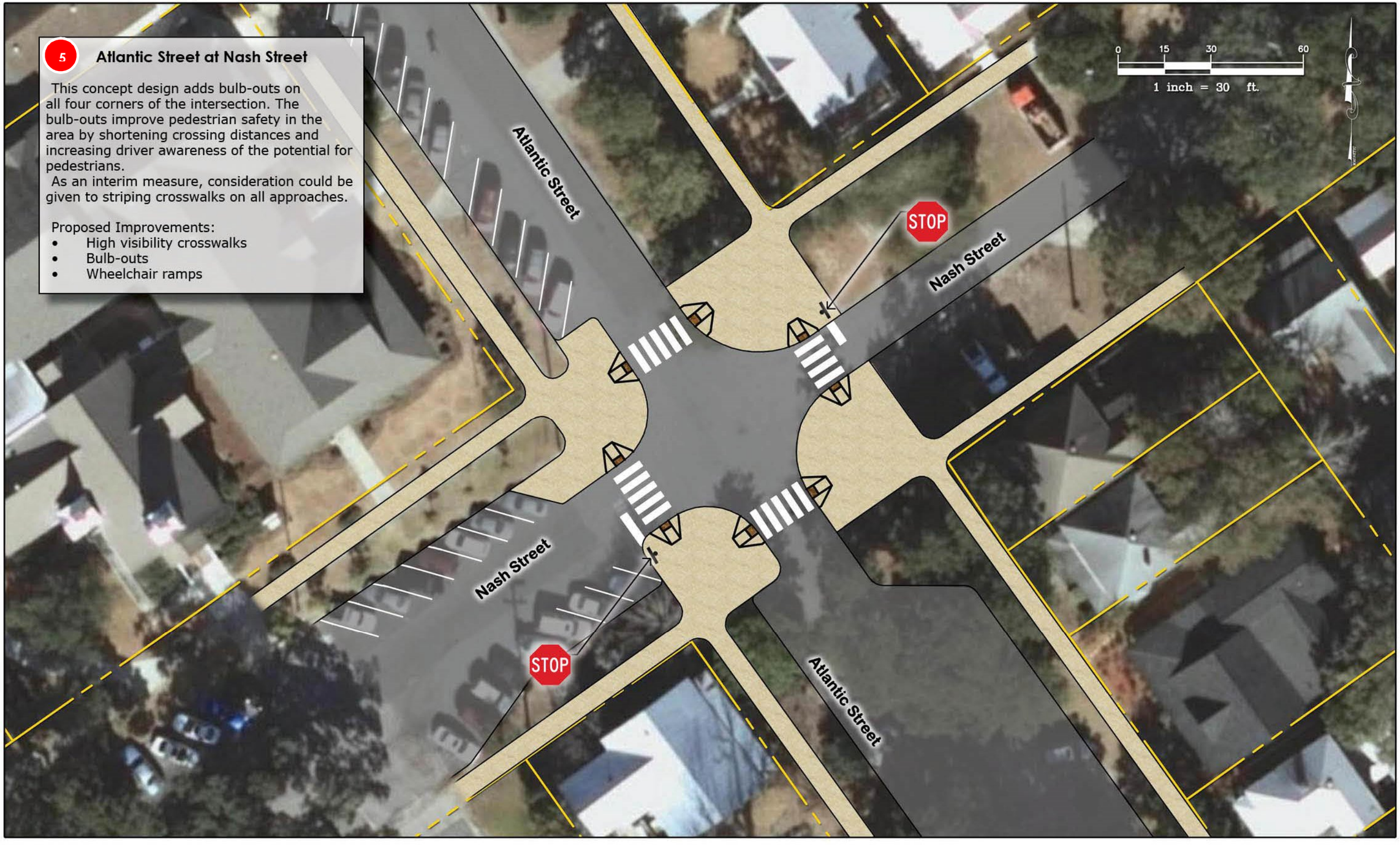
[1]Estimated cost does not include consideration for right-of-way, utilities, or environmental mitigation
*Projects highlighted in **bold** represent priority projects


1
Howe Street at Bay Street
This concept design adds bulb-outs on three corners of the intersection. The bulb-outs improve pedestrian access in the area by shortening crossing distances and increasing driver awareness of the potential for pedestrians. In addition to the bulb-outs, modifications to the landscaped median in the parking lot at the end of Howe Street provide a pedestrian refuge. These modifications improve pedestrian safety without negatively impacting the existing landscaped median. The modified median also better delineates the parking lot entrance for vehicles. Finally, a stamped crosswalk along Bay Street provides an attractive alternative to the existing striped crosswalk along Bay Street.
Proposed Improvements:
• High visibility crosswalks
• Stamped crosswalk
• Bulb-outs
• Pedestrian refuge
• Wheelchair ramps
Howe Street
STOP
Bay Street
Bay Street
STOP
0
15
30
60
1 inch = 30 ft.


2
Howe Street at Moore Street
This concept design adds bulb-outs on all four corners of the intersection. The bulb-outs improve pedestrian safety in the area by shortening crossing distances and increasing driver awareness of the potential for pedestrians. Shortening the crossing distance for pedestrians improves traffic signal timing by reducing the required pedestrian phase time. This provides more green-time for the traffic along Howe Street. Additionally, revising the signal timing allows the pedestrian phase to run automatically instead of only when a pedestrian pushes the button.
There are existing drainage problems along Moore Street and in the northeast quadrant of the intersection. These issues should be addressed during the design and construction of the proposed improvements.
Proposed Improvements:
• High visibility crosswalks
• Bulb-outs
• Wheelchair ramps
• Modified traffic signal timing
Howe Street
Moore Street
Moore Street
Howe Street
0
15
30
60
1 inch = 30 ft.


3
Howe Street at Nash Street
This concept design adds bulb-outs on all four corners of the intersection. The bulb-outs improve pedestrian access in the area by shortening crossing distances and increasing driver awareness of the potential for pedestrians. Better delineation of crosswalks improves pedestrian safety in this area. Currently, pedestrians cross in multiple locations along Howe Street. Designating preferred crossing locations (through the use of bulb-outs and high visibility crosswalks) improves pedestrian safety.
Proposed Improvements:
• High visibility crosswalks
• Bulb-outs
• Wheelchair ramps
Howe Street
Nash Street
STOP
0 15 30 60
1 inch = 30 ft.
Nash Street
STOP
Howe Street


4
Howe Street at West Street
This concept design adds bulb-outs on all four corners of the intersection. The bulb-outs improve pedestrian safety in the area by shortening crossing distances and increasing driver awareness of the potential for pedestrians. Better delineation of crosswalks also improves pedestrian safety in this area. Currently, pedestrians cross in multiple locations along Howe Street. Designating preferred crossing locations (through the use of bulb-outs and high visibility crosswalks) improves pedestrian safety.
Pedestrian access at this location could be further improved through the realignment of the eastern leg of West Street. Adequate right-of-way to accommodate the realignment appears to exist. However, impacts to the park in the southeast quadrant of the intersection would be likely.
Proposed Improvements:
• High visibility crosswalks
• Bulb-outs
• Wheelchair ramps
Howe Street
West Street
STOP
0 15 30 60
1 inch = 30 ft.
West Street
STOP
Howe Street
Franklin Square Park


5
Atlantic Street at Nash Street
This concept design adds bulb-outs on all four corners of the intersection. The bulb-outs improve pedestrian safety in the area by shortening crossing distances and increasing driver awareness of the potential for pedestrians.
As an interim measure, consideration could be given to striping crosswalks on all approaches.
Proposed Improvements:
• High visibility crosswalks
• Bulb-outs
• Wheelchair ramps
0 15 30 60
1 inch = 30 ft.
Atlantic Street
STOP
Nash Street
Nash Street
STOP
Atlantic Street

Programs and Opportunities

With a well-connected downtown, numerous destination points, and activities and events throughout the year, the City of Southport is well suited for pedestrian travel. Implementing the facility recommendations discussed previously in this chapter will lead to an improved pedestrian experience. However, the cost associated with these projects likely will result in a slow and piecemeal implementation process. This section introduces a series of programs and opportunities that can provide low- or no-cost solutions to enhance pedestrian travel in the City of Southport.

Policies, Programs, and Guidelines

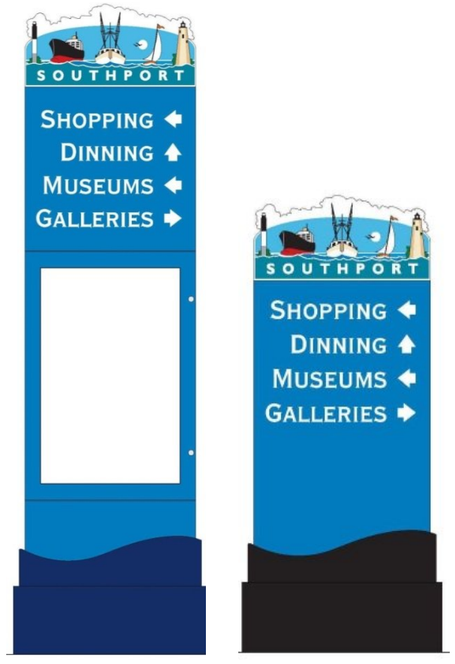
Through a series of policies, programs, and guidelines that take the needs of pedestrians into consideration, the City of Southport can demonstrate a continued commitment to pedestrian travel while also creating a safer, more predictable system. The project consultant worked with City staff and the PAC to understand current pedestrian policies and identify the following policies and guidelines that could be implemented.

- Hold regular meetings (biannual) with City staff and the NCDOT Division office to review priority pedestrian needs, including high-priority maintenance areas for existing facilities.
- Coordinate with NCDOT on the maintenance of all sidewalk and greenway facilities and schedule maintenance activities to coincide with annual events, i.e. repair sidewalks near Southport Elementary School in advance of school semesters.
- Review recently adopted NCDOT Complete Streets Guidelines. **Appendix B** provides more details on preferred pedestrian facility design.
- Consult NCDOT's "A Guide to North Carolina Bicycle and Pedestrian Laws," available at http://www.ncdot.gov/bikeped/download/bikeped_laws_Guidebook-Part-2.pdf.
- Adhere to the agreed-upon set of priorities to ensure funds are directed toward these projects. Funding opportunities are limited, so conforming to the vetted methodology is a good way to allocate money where it is most needed.
- Integrate pedestrian needs directly into the mission of the City's Traffic and Transportation Committee.
- Include a link on the City's website to report pedestrian maintenance issues and request small improvements (e.g. curb ramps, crosswalks, etc.).
- Identify and create an inventory of cracked and lifted sidewalks to repair as funding becomes available.
- Review and amend Unified Development Ordinance to include provisions for pedestrian facilities in new developments.

Wayfinding Program Integration

The City of Southport currently is developing a wayfinding plan for the downtown area. This wayfinding plan will use decorative signage developed in collaboration with a local artist to help identify points of interest. Plans already are underway to install several of these signs in the downtown area. The timeframe for completion is based on the availability of funds.

As facility improvements identified in this plan are considered for implementation, close coordination should take place with the ongoing wayfinding effort. If pedestrian infrastructure is upgraded at the same time wayfinding signage is installed, there may be some cost savings recognized for one or both efforts.



Education, Enforcement, Encouragement

Improvements to pedestrian infrastructure and enhanced local policies will result in a better walking environment. However, the positive impacts of these improvements can be further expanded by complementing them with a set of encouragement, enforcement, and education programs.

- Southport Elementary School should participate in the National Walk to School Day each year. This program offers encouragement to children, parents, faculty, and staff to walk to school and provides an opportunity to educate students about safe practices and the benefits of walking. The next National Walk to School Day is on October 8, 2014. More information can be found at http://www.walkbiketoschool.org/.
- Coordinate with Southport Elementary School to promote the idea of walking school buses where parent volunteers walk with groups of neighborhood children to school.
- Consider participating in World Carfree Day, which occurs annually at the end of September. The purpose of this event is to get people out of their cars for the day, thereby promoting alternate modes of travel. More information can be found at http://www.worldcarfree.net/wcfd/.
- Work with the Southport-Oak Island Area Chamber of Commerce and local businesses to expand the concept of Walk to School Day by also including walk/bike to work days.
- Use local events such as Winterfest and the 4th of July Festival to distribute information about pedestrian travel options.
- Work with area scout troops to identify potential pedestrian maintenance or improvement opportunities as service projects (e.g. Eagle Scout projects, merit badges, etc.).
- Monitor driving speeds on local roads and actively ticket speeders when problems are identified, as a way to enhance pedestrian crossing safety. Additionally, monitor motorist behavior at intersections and crosswalks.
- Participate in the North Carolina School Crossing Guard Training Program, offered by the Division of Bicycle and Pedestrian Transportation, to properly train law enforcement officers who are responsible for training crossing guards. More information can be found at http://www.ncdot.gov/bikeped/about/training/school_crossing_guard/.
- Promote "Watch for Me NC", a pedestrian education and enforcement campaign to help decrease the amount of pedestrians injured in accidents involving vehicles. More information can be found at http://www.watchformenc.org/.

Funding Considerations

Appendix A provides details on many of the funding options available for the design and implementation of pedestrian projects. These include funding sources currently in use within the City as well as potential new funding sources that could be leveraged. To best leverage these funding programs, the following information should be considered.

- The new MAP-21 legislation included changes to pedestrian funding programs. Most notably, the Safe Routes to School program is now a subcomponent of the newly created Transportation Alternatives Program. The City of Southport should coordinate with NCDOT to understand how this shift may affect opportunities for further project funding.
- The City should explore enhanced funding opportunities through grant applications and other initiatives. Grants and programs (identified in **Appendix A**) dedicated specifically to bicycle and pedestrian travel are effective ways to fund smaller scale projects.

►Implementation◄

This Comprehensive Pedestrian Transportation Plan offers an implementation strategy for the City of Southport to carry forth its vision of embracing walkability and to accomplish its goal of providing a safe, convenient, accessible, and attractive pedestrian system. This chapter serves as a compass to guide the City in implementing policies to maintain and connect its pedestrian network, participating in programs to encourage walking, and funding and constructing the priority projects detailed in Chapter 3.

Priority Policies

- Hold biannual meetings with City staff and the NCDOT Division 3 office to review priority pedestrian needs, including high-priority maintenance areas for existing facilities.
- Schedule sidewalk and greenway maintenance through coordination with NCDOT.
- Enable Southport citizens to report pedestrian maintenance issues or request small improvements via the City's website.
- Amend the City's Unified Development Ordinance to include provisions for pedestrian facilities in new developments.

Priority Programs

- Southport Elementary School should participate in National Walk to School Day, a program that promotes walking and educates children, parents, faculty, and staff about safe practices and the benefits of walking.
- World Carfree Day aims to promote alternative modes of travel by getting people out of their cars for the day. The City of Southport can plan citywide events on this day to encourage non-vehicular travel.
- Properly train Southport law enforcement officers to be crossing guards via the Division of Bicycle and Pedestrian Transportation's North Carolina School Crossing Guard Program.
- Engage in "Watch for Me NC", a pedestrian education and enforcement campaign that seeks to decrease pedestrian accidents involving vehicles.

Priority Projects

This Plan has identified several priority projects to be considered by the City of Southport. These priority projects consist of three sidewalks projects, four paved shoulder projects, one greenway project, and two intersection projects totaling $2.1 million worth of pedestrian improvements. The priority projects, which were shown in Figure 3.2, are:

- Sidewalks on:
  - **Leonard Street**:
    N Caswell Avenue to N Fodale Avenue
  - **N Howe Street (NC 211)**:
    W 9th Street to W 11th Street
  - **N Fodale Avenue**:
    N Howe Street (NC 211) to E Leonard Street

- Paved shoulders on:
  - **N Howe Street (NC 211)**:
    W 11th Street to NC 211 Bridge
  - **Southport Supply Road SE (NC 211)**:
    NC 211 Bridge to Walgreens Driveway
  - **E Leonard Street**:
    N Fodale Avenue to Jabbertown Road
  - **E Moore Street**:
    Ferry Road SE (NC 211) to E Leonard Street

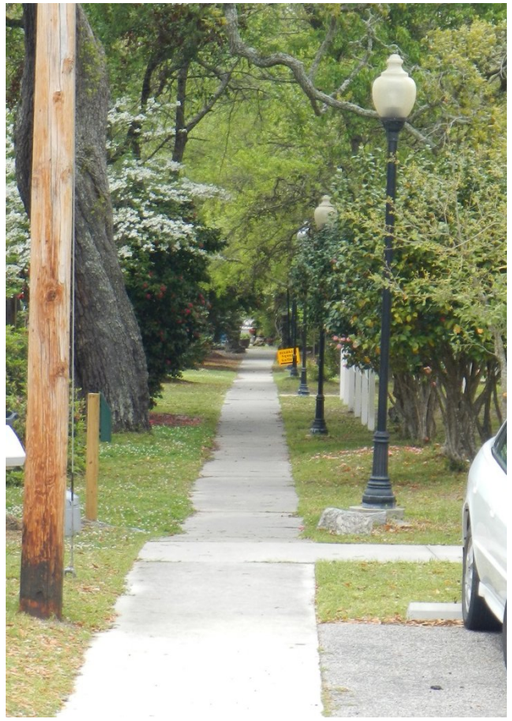
- A proposed greenway from N Caswell Avenue to Tidewater Plaza

- Crossing improvements at the intersections of:
  - Howe Street and Nash Street
  - Howe Street and West Street

Next Steps

The City of Southport should consider the following next steps in the short-term:

- Pursue the construction of sidewalks to fill gaps in the existing pedestrian system, repair existing sidewalks, and evaluate new sidewalk recommendations as funds allow. Consider future Powell Bill funding for these improvements.
- Look to partner with NCDOT on widening recommendations on existing planned or future NCDOT projects.
- Continue to explore possible grant funding in an increasingly competitive climate.
- Amend the City's Unified Development Ordinance to include provisions for pedestrian facilities in new developments.
- Southport Elementary School should participate in National Walk to School Day.
- Construct the priority sidewalk project on N Howe Street (NC 211) from W 9th Street to W 11th Street.
- Work with developers in the area to set aside easements for future construction of the proposed greenway.



►Appendix◄

Appendix A	Funding Opportunities
Appendix B	Design Resources
Appendix C	Questionnaire Responses
Appendix D	Market Profile
Appendix E	Census Profile

Items in the Technical Appendix represent components that have been developed outside the process of creating the Comprehensive Pedestrian Transportation Plan. The placement of *Funding Opportunities* (Appendix A) and *Design Resources* (Appendix B) in this section is done to keep the narrative of the summary workbook specific to the City of Southport allowing for ease of use by a broad spectrum of readers. The appendix, therefore, serves as a technical resource for practitioners and staff.

►Funding Opportunities◄

The construction of a comprehensive connected pedestrian network and ancillary facilities can occur through incremental adoption of local policies and programs and state programs, as well as through the receipt of private contributions. With this in mind, it will be important for the City of Southport to identify funding sources to implement the recommendations of this plan. While some projects and programs will be funded by the City, alternatives are available to provide financial support for improving the local pedestrian network. Since funding at the state and federal levels has decreased and become more competitive, the City of Southport should pursue the projects with the highest levels of public and agency support.

Local and Regional Programs

Local funds should be used for projects not on major state routes. Usually these are most successful when a state-funded incidental project — such as a road widening — has already been programmed. Local funding sources tend to be flexible, and include general revenue expenditures as well as proceeds from bond programs. An exception to this policy may include high priority connections along roads unlikely to be developed.

Capital Improvement Program

As mentioned in Chapter 4, the City of Southport does currently have an established capital improvement program. This program provides the City with a formalized way to allocate their resources and stick to their vetted prioritization methodology.

Powell Bill

Powell Bill funds are collected by the state in the form of a gasoline tax. The amount of these funds distributed to a municipality is based on the number of street miles to be maintained and the municipality's population. These funds are most often used for maintenance of existing or construction of new sidewalks.

Transportation Bonds

Transportation bonds have been instrumental in the strategic implementation of local roadways, transit, and non-motorized travel throughout North Carolina. Voters in communities both large and small regularly approve the use of bonds in order to improve their transportation system. Improvements to the pedestrian system in Southport could potentially be a type of project that could be funded using a transportation bond program if public support is evidenced.

State and Federal Programs

In comparison with local funds, state and federal funds are not as flexible in terms of their use. Usually these projects focus on the needs of vehicles, either in terms of capacity or safety — for example, widening projects. It can be difficult, however, to secure sidewalk and pedestrian crossing facilities in state construction projects.

MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law by President Obama on July 6, 2012. Funding surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization enacted since 2005. MAP-21 is a milestone for the U.S. economy and the Nation's surface transportation program. By transforming the policy and programmatic framework for investments to guide the system's growth and development, MAP-21 creates a streamlined and performance-based surface transportation program and builds on many of the highway, transit, bike, and pedestrian programs and policies established in 1991.

Funds for pedestrian and bicycle projects come from several different sources that are described in this section; however, allocation of those funds depends on the type of project or program and other criteria. The information provided in this section is intended to present a basic overview of the process.

Transportation Alternatives Program

The Transportation Alternatives Program (TAP) is a new funding program contained within MAP-21's legislation. It replaces the Transportation Enhancement Program, Recreational Trails Program, and Safe Routes to School Program (SRTS), included in previous transportation authorizations. While these funds may be used on projects for nonmotorized forms of transportation and nondrivers, community improvement activities, and environmental mitigation,

bicycle and pedestrian improvements are the best candidates for TAP funding. TAP funding will be administered through a data-driven process included in the Strategic Transportation Investments (STI) formula which was signed into law in June 2013. For more information, visit http://www.fhwa.dot.gov/map21/factsheets/tap.cfm and https://www.fhwa.dot.gov/environment/transportation_alternatives/.

NCDOT uses a strategic prioritization process to rank and program all types of transportation projects, including bike and pedestrian projects. Bike and pedestrian projects are comparatively evaluated based on criteria including safety, access, demand/density, constructability, and benefit-cost. Projects that score well are selected for programming in the State Transportation Improvement Program (STIP). Prioritization and STIP updates occur every two years. The City of Southport will need to coordinate with the Cape Fear Rural Planning Organization (RPO) to submit projects for prioritization. Further information on state transportation funding legislation and the prioritization process can be found at https://connect.ncdot.gov/projects/planning/Pages/ResourcesMPO-RPO.aspx/.

Safe Routes to School

Safe Routes to School (SRTS) is a program that enables and encourages children to walk and bike to school. The program helps make walking and bicycling to school a safe and more appealing method of transportation for children. SRTS facilitates the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. The North Carolina Safe Routes to School Program is supported by federal funds through SAFETEA-LU and MAP-21 legislation. Although SRTS previously received 100% funding through the federal SAFETEA-LU legislation, SRTS is not specifically funded under MAP-21. SRTS activities are eligible to compete for funding alongside other programs, including the Transportation Enhancements program and Recreational Trails program, as part of a new program called Transportation Alternatives. Agencies are encouraged to leverage other funding sources that may be available to them, including grant awards, local, state, or other federal funding. SRTS funds can be used for proposed projects that are within 2 miles of a school public or private, K-8, in a municipality or in the county jurisdiction. In response to STI, proposed SRTS projects will be considered as part of the Bicycle and Pedestrian project input with Strategic Prioritization Office for funding consideration. Most of the types of eligible SRTS projects include sidewalks or a shared-use path. However, intersection improvements (i.e. signalization, marking/upgrading crosswalks, etc.), on street bicycle facilities (bike lanes, wide paved shoulders, etc.), or off-street shared-use paths are also eligible for SRTS funds.

SRTS provides a mechanism for individual schools to create route plans or develop facilities that create a safer walking and biking environment for their students. North Carolina has a yearly application program for which any school, school district, municipality or other governmental body, or non-profit association may apply. The City of Southport is encouraged to partner with local schools in pursuing funding from this source. For more information, visit http://www.fhwa.dot.gov/environment/safe_routes_to_school/ and http://www.saferoutesinfo.org/.

Recreational Trails Program

The Recreational Trails Program, now part of the Transportation Alternatives Program under MAP-21, is a federal initiative assisting with the development of non-motorized and motorized trails. RTP was reauthorized as a setaside from TAP. Grant recipients must demonstrate conformity with North Carolina's Statewide Comprehensive Outdoor Recreation Plan (SCORP). This program is administered for North Carolina through the NC Division of Parks and Recreation. For more information, visit http://www.fhwa.dot.gov/environment/recreational_trails/ and http://www.ncparks.gov/About/trails_RTP.php.

Land and Water Conservation Fund (LWCF)

The Land and Water Conservation Fund was developed in 1965 with the objective of encouraging the creation of local parks and recreation facilities. This fund is now the primary source of federal money for land acquisition for open space, parks, and natural areas. Grants from the LWCF can be used for a range of recreational facilities, including trails and greenways. For more information, visit http://www.ncparks.gov/About/grants/lwcf_main.php.

Community Development Block Grant

Federal funding for pedestrian projects can come from sources outside the transportation and environmental realms. The Community Development Block Grant program is administered by the U.S. Department of Housing and Urban Development (HUD). The intent of this grant is to serve the needs of moderate or low-income

areas through activities such as neighborhood revitalization, economic development, and facilities improvements. These grants have successfully been used for the development of pedestrian facilities in the state of North Carolina. For more information, visit http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs.

Hazard Elimination and Railway-Highway Crossing Programs

These funds are an additional subset of the State Transportation Improvement Program (STIP) funding, constituting 10% of a state's funds. This program is intended to inventory and correct the safety concerns of all travel modes. These funds can be used to construct corridor or intersection-level improvements that focus on safety enhancements.

NCDOT Division Funds

NCDOT separates the state into 14 divisions. Brunswick County is in Division 3. Division funds are another resource that provides allocations or discretionary funding for special projects within each division.

North Carolina's Clean Water Management Trust Fund (CWMTF)

At the end of each fiscal year, 6.5 percent (or a minimum of $30 million) of the unreserved credit balance in North Carolina's General Fund is placed in the CWMTF. The revenue of this fund is allocated as grants to local governments, state agencies, and conservation nonprofits to help finance projects that specifically address water pollution problems. CWMTF funds may be used to establish a network of riparian buffers and greenways for environmental, educational, and recreational benefits. For more information, visit http://www.cwmtf.net/.

North Carolina Parks and Recreation Trust Fund (PARTF)

The NC Parks and Recreation Trust Fund provides funding to acquire park lands and to build and maintain park facilities. This program, managed by the North Carolina Division of Parks and Recreation, offers grants to local communities that can be used for programs such as trail construction or maintenance. For more information, visit http://www.ncparks.gov/About/grants/partf_main.php.

North Carolina Conservation Tax Credit

The North Carolina Conservation Tax Credit was developed with the intent of preserving natural or rural areas by incentivizing conservation. Through this program, open spaces or natural areas can be set aside for future use as greenways or trail facilities. For more information, visit http://www.onencnaturally.org/pages/conservationtaxcredit.html.

Governor's Highway Safety Program (GHSP)

The Governor's Highway Safety Program is committed to enhancing the safety of the roadways in North Carolina. To achieve this, GHSP funding is provided through an annual program, upon approval of specific project requests, to undertake a variety of pedestrian and bicycle safety initiatives. Communities may apply for a GHSP grant to be used as seed money to start a program to enhance highway safety. Once a grant is awarded, funding is provided on a reimbursement basis and evidence of reductions in crashes, injuries, and fatalities is required. For more information, visit www.ncdot.org/secretary/GHSP.

North Carolina Adopt-A-Trail Grant Program

The North Carolina Division of Parks and Recreation oversees this grant program with the intent of funding trail construction and maintenance projects. Grant amounts typically do not exceed $5,000. For more information, visit http://www.ncparks.gov/About/trails_AAT.php.

Public/Private Initiatives

Active Living by Design (ALbD)

Active Living by Design is a program sponsored by the Robert Wood Johnson Foundation. ALbD seeks to bring together the health care and transportation communities to create an environment that encourages residents to pursue active forms of transportation such as walking and bicycling. Grants are awarded each year to a selected number of communities that are then required to produce a local match. These grants can be used to create plans, change land use policies, institute education policies, and develop pilot projects. For more information, visit www.activelivingbydesign.org.

Fit Together

Fit Together is a partnership of the NC Health and Wellness Trust Fund and Blue Cross and Blue Shield of NC. The grant initiative "recognizes and rewards North Carolina communities' efforts to support physical activity and healthy eating initiatives in the community, schools, and workplaces, as well as tobacco-free school environments." This program awards up to nine partnerships

with up to $30,000 annually for a two year period. For more information on the Fit Together grant initiative, visit www.healthwellNC.com.

The Trust for Public Land

Founded in 1972, the Trust for Public Land (TPL) is the only national nonprofit working exclusively to protect land to enhance the health and quality of life in American communities. TPL works with landowners, government agencies, and community groups to create urban parks and greenways as well as to conserve land for watershed protection. For more information on the Trust for Public Land, visit www.tpl.org.

National Trails Fund

The National Trails Fund was established by the American Hiking Society in 1998. This privately-funded grant program awards money for the construction and maintenance of hiking trails. Awards range between $500 and $5,000, and are targeted for non-profit organizations. For more information, visit http://www.americanhiking.org/.

Developer Contributions

Through diligent planning and early project identification, regulations, policies, and procedures can be developed to protect future pedestrian corridors and require contributions from developers when the property is subdivided. The City of Southport does a good job with its coordination with developers on the construction of pedestrian facilities. This collaboration has allowed the City to benefit from new pedestrian facilities, which are also viewed as an asset to the new development to prospective residents and businesses

Impact Fees

Developer impact fees and system development charges are another funding option for communities looking for ways to pay for transportation infrastructure. They are most commonly used for water and wastewater system connections or police and fire protection services, but they have recently been used to fund school systems and pay for the impacts of increased traffic on existing roads. Impact fees place the costs of new development directly on developers and indirectly on those who buy property in the new developments. Impact fees free other taxpayers from the obligation to fund costly new public services that do not directly benefit them. Although other states in the country use impact fees, they have been controversial in North Carolina and only a handful of communities have approved the use of impact fees. The use of impact fees requires special authorization by the North Carolina General Assembly.

Corporate Partnerships

Involvement between public and private entities does not have to be strictly financial in nature. By providing area businesses with information on the benefits of walking and bicycling, along with material on the infrastructure available in the community, employees may be encouraged to pursue alternate forms of transportation. These collaborative relationships can also be used when building support for new infrastructure projects.

Volunteer Participation

When considering the development of off-road trail systems, volunteer participation is a definitive way to express community buy-in and build a case for financial support. Much of the clearing and natural-surface trail building work can be completed through volunteer efforts. The Town should collaborate with local interest groups and organizations such as the Chamber of Commerce to gather volunteers. Volunteer input is also a great way to emphasize the desire for priority projects to potential funding agencies.

►Design Resources◄

The Comprehensive Pedestrian Transportation Plan isn't intended to be a substitute for feasibility analysis or engineering design. However, the provision of best practices regarding design and placement is intended to aid planners and decision makers as incremental implementation occurs. The information contained within this appendix represents an assemblage of information collected by the project team and NCDOT. Over time these standards may change as new techniques evolve. Therefore, it's important to reference new reference material when published by industry leaders including Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), and Institute of Traffic Engineers (ITE).

Sidewalks

Sidewalks 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. Sidewalks 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 sidewalks.

The Federal Highway Administration (FHWA) defines sidewalks as "walkways that are parallel to a street or highway" and walkways as generally being "pedestrian paths, including plazas and courtyards."

Sidewalk Widths

NCDOT's Division of Bicycle and Pedestrian Transportation (DBPT) recommends a minimum travel path width of 5 ft. for a sidewalk or walkway, in accordance with the American Association of State and Highway Transportation Officials (AASHTO), the Federal Highway Administration (FHWA), and the Institute of Transportation Engineers (ITE). A sidewalk width of 5 feet is considered ample room for two people to walk abreast or for two pedestrians to pass each other.

Often downtown areas, near schools, transit stops, or other areas of high pedestrian activity call for much wider sidewalks. Sidewalks are typically built with curb and gutter sections. The division recommends that areas with significant pedestrian traffic should feature eight- to ten-foot wide sidewalks. Where sidewalks align with the edge of an angled or 90-degree parking lot, a minimum of 30 inches of parked car overhang obstructing the sidewalk shall be taken into account in order to maintain the minimum travel path width.

AASHTO recommends the construction of sidewalks on all city or town streets, including those in rural areas. The Institute of Transportation Engineers (ITE) recommends sidewalk installation on both sides of the street whenever possible for new urban and suburban streets, especially in commercial areas, residential areas with 4 or more units per acre, or residential areas on major arterials and collectors. If sidewalks on both sides of the road are not possible, lower density rural residential or suburban areas might adequately serve its pedestrians with a sidewalk on only one side. Under certain low-traffic, low-density situations, a wide paved shoulder can serve as an adequate pedestrian path.

It is important to note the potential for conflict between pedestrians and bicyclists on paved shoulder. Both bicyclists and pedestrians must exercise caution in order to avoid potential crashes on paved shoulders.

Construction Materials and Methods

Improvements for new, retrofitted, and repair to sidewalks throughout the municipality should be constructed using the following methods and materials:

Materials — Sidewalks should be constructed of Portland Cement Concrete (PCC) with a 14-day flexural strength that is not less than 3,000 pounds per square inch (psi).

Subgrade Preparation — Subgrade should be thoroughly compacted and finished to a smooth, firm surface, and should be moist at the time the concrete is placed.

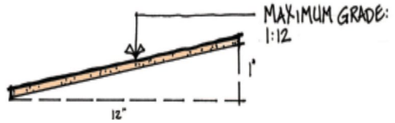
Subgrade Compaction — In areas where it is impractical to use standard type rollers, compaction should be by means of vibratory hand compactors.

Final Finish — Surface finish for sidewalks should be completed by brushing (with brooms) or by another approved method to provide a uniform non-skid surface.

Inspections and Performance — Sidewalk forms should be inspected by municipal staff prior to the placement of concrete. Concrete that does not meet minimum mixture and strength standards or settles after placement should be removed and replaced by the installer.

Alternative Materials Usage — Use of materials for sidewalks other than concrete and the construction methods used therewith must be approved by the city or town engineer or designated representative on a case by case basis. There are some successful examples where other materials such as asphalt, crushed stone, granite fines, or other slip resistant material have been used. Concrete is the preferred surface, providing the longest service life and requiring the least maintenance.

Grade

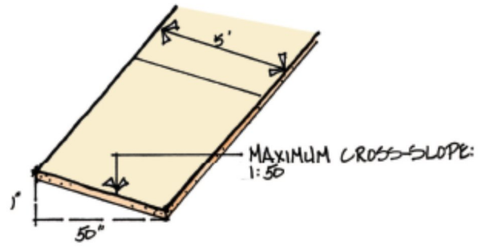


AASHTO recommends the following grades for sidewalks: Continuous sidewalk grades should not exceed 5% (1:20). However, in areas where the existing topography or the adjacent street cause grades of more than 5%, sidewalk grades of up to 8.33% (1:12) may be used for a rise of no more than 2.5 feet, provided that level landings (grades less than 0.5%) are provided at the end of such grades and are at least 5 feet long.

In cases where grades greater than 8.33% (1:12) must be negotiated, switchbacks or other approved ramping techniques must be provided and will conform to ADA requirements. Additional right-of-way and/or easements necessary to accommodate these features will be obtained by the applicant and legally dedicated to the city or town.

Cross-Slope

Sidewalks and walkways should be designed such that grades and cross slopes are minimized to allow those with mobility impairments to negotiate with greater ease. The maximum allowable cross-slope for sidewalks is 2% (1:50). At driveways, curb cuts, and both marked and unmarked crosswalks, the maximum allowable cross-slope must be maintained for a minimum width of 3 feet. Cross-slope should be oriented toward the adjacent roadway and sufficient to provide storm water runoff without creating standing water on the walkway.

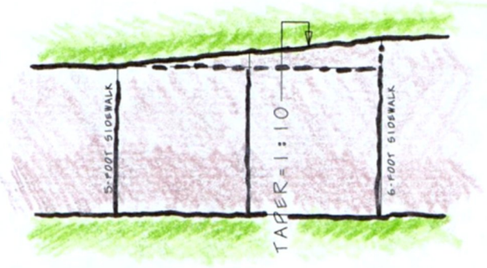


Sidewalk Thickness

A minimum thickness (or depth) of 4 inches of concrete is required for all new sidewalks except as noted. To accommodate the additional loading caused by pedestrian density or by vehicles crossing a sidewalk, a thickness of 6 inches is required where sidewalks intersect at wheelchair/crosswalk ramps, and at driveways that use a ramp or apron-type access to cross the sidewalk from the adjacent public street.

Transitions

Wheelchair ramp and driveway transitions to or crossing sidewalks must conform to current ADA requirements.



Tapers

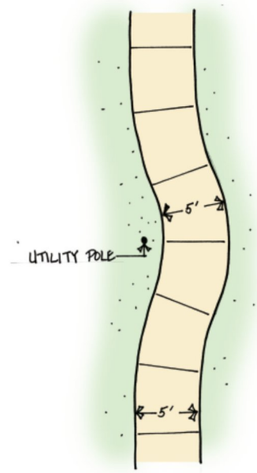
Transitional tapers to and from sidewalks of different widths are to be at a maximum rate of 1-foot of width per 10 feet of length (1:10) except as approved by the Town.

Sidewalk Alignment

Sidewalks should parallel the roadway. Typical exceptions include:

Horizontal Curve Sections on Roadways — In situations where a roadway curves at an angle greater than 60 degrees (and where right-of-way permits), the designer is permitted to adjust the curve of the sidewalk to more easily accommodate pedestrians.

Presence of Natural and Manmade Features — The 5-foot minimum width of the travel path must be free of obstructions. The designer may be permitted to alter the sidewalk path to avoid significant obstructions including but not limited to: transformers, utilities, fire hydrants, and traffic signal hardware. Sidewalk path exceptions should be evaluated and approved on a case-by-case basis by the City. Care should also be used to ensure that the travel path does not interfere with the integrity of trees or of historic features.



Meanders — Sidewalk meandering is encouraged providing it complies with ADA and AASHTO standards. People generally prefer to walk in a straight line, particularly when walking for utilitarian purposes. Meanders must meet minimum ADA requirements unless otherwise approved by the Town.

ADA: *Dealing with Cross-Slope from Driveways*

The figures at right indicate the preferred (top), conditionally acceptable (middle), and unacceptable (bottom) design solutions for new driveways as they interface with sidewalks. The intent is to make wheelchair travel safe along the sidewalk without directing the user into traffic through angled (cross) slope designs. Cross-slope on sidewalks should not exceed 2%, preferably not 1.5% where possible.

Sidewalk Buffers

Buffer zones between pedestrian paths and vehicular traffic provide a sense of security to those on foot or in wheelchairs and give the path a comfortable scale and clear definition. Buffers can also provide other benefits to pedestrians depending on the type used. Buffer zones may either be paved, providing space between the pedestrian and traffic, or they may involve a planting strip with trees and shrubs, but is not recommended for high- traffic pedestrian areas.

Table B.1 Sidewalk and Planting Strip/Buffer Widths

Type	Sidewalk Width	Planting Strips/ Buffer	
		With Street Tree	No Street Tree
Local residential	5 ft.	4 - 6 ft.	3 - 5 ft.
Thoroughfares/ Collectors	6 - 8 ft.	6 – 10 ft.	5 - 6 ft.
Downtown or business districts	*10 - 15 ft.	n/a	n/a

Much like the sidewalk itself, the form and topography of a buffer may vary greatly. AASHTO recommends a buffer width of two to four feet for local or collector streets, and a buffer width of five to six feet for arterial or major streets, whether for a paved buffer zone or a planting strip.

Planting Strips

Continuous zones of landscape, located between the sidewalk and the street curb or the edge of road pavement, perform a multitude of essential tasks. Planting strips contribute to the walkability of a street by providing shade. In addition to providing shade, street trees - along with turf and other plantings - help reduce urban temperatures, improve water quality, lower stormwater management costs, and add beauty to the street for the pedestrian, the driver, and the adjacent land use.

The recommended planting width to permit healthy tree growth is 4 to 10 feet measured from the back of curb. Planting strips, or tree lawns, are the preferred means of providing a buffer, but are not feasible or appropriate in all pedestrian situations.

The width of the planting strip shall increase with a greater plant density and potential as the intensity of development increases. This separation from motorized traffic decreases road noise while increasing a pedestrian's sense of security and comfort. Added benefits of this separation include space for signage, utilities (fire hydrants), and vegetation.

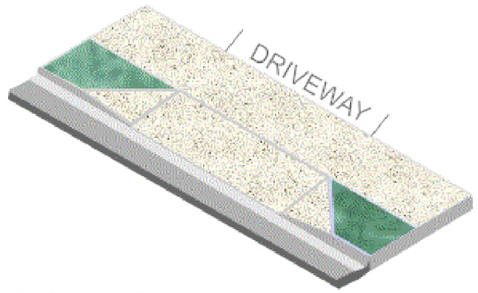
Paved Buffer Zones

In some situations, continuous planting strips are not feasible, particularly where there is a high degree of foot traffic between the sidewalk and the street. As such, these planting strips are typically used in downtown or commercial areas. In these cases, a paved buffer zone should be provided between the travel path of the sidewalk and the curb. Though a constant width is preferred for this buffer zone, the width may vary as long as the buffer does not interrupt the pedestrian travel path. Items located in the buffer zone can include street furniture, planters, trees planted with tree grates, streetlights, street signs, fire hydrants, etc. Such items are placed in the buffer zones so as not to restrict pedestrian flow in the travel path.

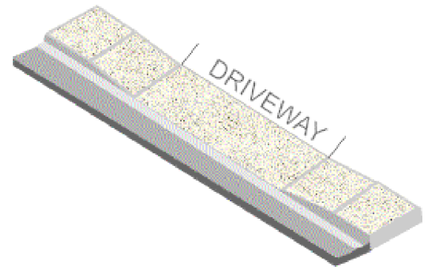
Street tree plantings in tree pits with grates and guards have historically proven to work successfully within these buffer zones. They regulate micro-climate, create a desirable sense of enclosure, promote a local ecological identity and connection to place, and can act as a pleasant integration of nature into an urban environment. For healthy trees, attention should be given to amending the soil and providing drainage within the tree pits. In the event that a paved or vegetative buffer zone is not possible, a row of parked cars or a bike lane can be used to create this buffer.

- Planting strip or tree pit would be located within sidewalk width.

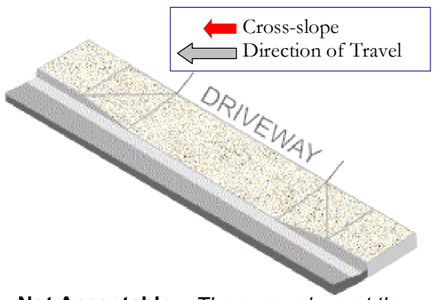
A different type of paving from the sidewalk paving could be considered for the buffer zone for various reasons. Textured pavements, pavers or pervious pavement can be used to add significant aesthetic value and help define a unique place. Using pervious materials for parking, sidewalk furniture areas, and for



Preferred – *The sidewalk is set behind the driveway apron and planting strip.*



Conditionally Acceptable – *The "dip" at the driveway apron allows for safer passage with no cross-slope.*



Not Acceptable – *The cross-slope at the driveway apron provides a difficult challenge for a person using a wheelchair or cane.*

frontage zones could reduce environmental concerns. A change in paving type can help distinguish the pedestrian buffer zone from the pedestrian travel path. Sand-set pavers are recommended in the buffer zone for ease of utility maintenance. In designing sidewalk buffers, it is important to provide adequate clearance from potential obstructions.

Additional Considerations

Though the buffers described above each provide some sort of physical barrier from moving vehicular traffic, it is vital for pedestrians on the sidewalk to have a clear view of drivers and vice-versa. This is a particularly important consideration in designing and maintaining planting strips. It is important to eliminate both high and low contact points with tree branches, mast-arm signs, overhanging edges of amenities or furniture. In addition, it is necessary to provide two feet of clear space from store fronts to accommodate shy distance from walls and the opening and closing of doors.

Paths/Greenways

Shared-Use Paths

Shared-use paths are paved road-like facilities designed to be used by pedestrians and bicyclists as well as others, including those on roller blades, skateboards and other alternative modes of transportation. Paths can be paved or unpaved, can be along creeks or streams, and can be designed to accommodate a variety of path users.

The alignment of these corridors should avoid road right-of-way whenever possible to minimize intersection and driveway crossings. Because these paths typically do not cross roads at signalized intersections, they should include pedestrian crosswalks, underpasses, culverts, or overpasses at each road crossing for safety.

Design Criteria

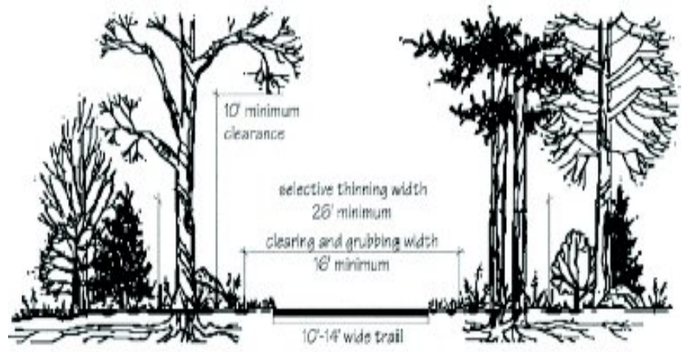
Shared-use paths shall be designed with clearance requirements, minimum radii, stopping sight distance requirements, and other criteria — similar to the criteria for roadway design. High standards should be observed when designing these paths.

Shared-use paths shall be a minimum of 10 feet wide; with minimum 2 foot wide graded shoulders on each side (AASHTO recommends 5 foot shoulders) to protect users from grade differences. These shoulders can be grass, sand, finely crushed rock or gravel, natural groundcover, or other material. Sections of the path where shoulders cannot be provided because of stream crossings or other elevated grade issues should have protection such as rails, fences, or hedges.

Paths of 12'-14' in width are preferred for areas where high volumes of users are expected. If it is not possible to increase the width, including a divider line down the center for bi-directional traffic can be helpful as a means of increasing safety for path users. Width of a path may be reduced to 8 feet, depending upon physical, environmental or right-of-way constraints and topography.

These paths should keep the contour of the land for aesthetic and environmental reasons, but for practicality reasons should not be unnecessarily curved. The minimum radii or curvature recommended by AASHTO is 30-50 feet, and the cross slope should typically be less than 2%. The grade should not be more than 5%, but could reach 11% for short distances according to ADA and AASHTO guidelines. Right angles should be avoided for safety reasons, especially when considering bridge and road crossings.

Vegetation clearing guidelines for path



Vertical and Horizontal Clearance

Selective thinning of vegetation along a path increases sight lines and distances and enhances the safety of the path 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. A total of 8 to 10 feet of vertical clearance should be provided.

Pavement Types

Each path is unique in terms of its location, design, environment, and intended use. For each segment of the path, care should be given to selecting the most appropriate pavement type, considering cost-effectiveness, environmental benefit, and aesthetics.

Typical pavement design for a paved, off-road, shared-use paths and greenway paths should be based upon the specific loading and soil conditions for each project. These paths should be designed to withstand the loading requirements of occasional

maintenance and emergency vehicles. Pavement types may vary between conventional or pervious concrete, asphalt, crusher fines, dirt or boardwalk.

Conventional Concrete – In areas prone to frequent flooding, it is recommended that concrete be used because of its excellent durability. Concrete surfaces are capable of holding up well against the erosive action of water, root intrusion and subgrade deficiencies such as soft soils. Of all surface types, it is the strongest and has the lowest maintenance requirement, if it is properly installed. Installation of concrete is the most costly of all surface types, but, when properly installed, requires less periodic maintenance than asphalt or crusher fines. It is recommended to install 4-inch thickness on compacted 4-inch aggregate base course.

Pervious Concrete – This concrete is a recent invention which allows storm water to percolate, reducing pollutants included in the stormwater runoff, when used over permeable soils, superior traction, unfavorable to rollerblading and skateboarding, higher installation cost.

Asphalt – Asphalt is a flexible pavement and can be installed on virtually any slope. Asphalt is smooth, joint free and softer than concrete, preferred by runners, rollerbladers, cyclists, handicap users, and parents pushing baby buggies. In most cases, construction costs significantly less. Standard installation calls for a minimum of 2-inch I-2 asphalt thickness with 4-inch aggregate base course. Installation of a geotextile fabric beneath a layer of aggregate base course (ABC) can help to maintain the edge of a path. Asphalt pavement is also helpful in supporting a path in poor soils. Asphalt pavement can last up to 20 years with periodic maintenance. One important concern for asphalt paths is the deterioration of path edges. It is important to provide a 2' wide graded shoulder to prevent path edges from crumbling.

Crusher fines – Excellent for running paths, as well as walking, mountain bike and equestrian use. Can be constructed to meet ADA requirements. Paths must be smoothed out and graded several times per year. Constructed of small, irregular and angular particles of rock, crushed into an interlocking tight matrix. It does require additional maintenance.

Dirt – Recommended for hiking trails, mountain bike tracks, and equestrian uses. It is important to grade swells on steep slopes to avoid erosion.

Boardwalk – A structure made of wooden planks constructed for pedestrians or cyclists along beaches or through wetlands, coastal dunes and other sensitive environments.

Environmental Issues

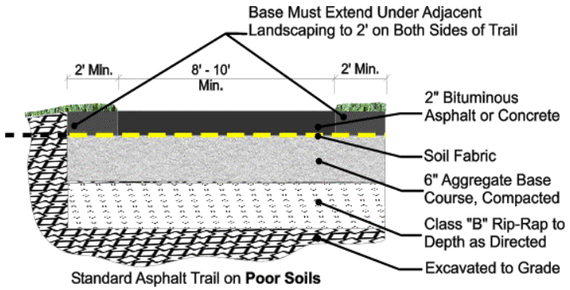
Environmental protection should be a priority with the planning and construction of a path. Path design, construction type, and construction schedule should all reflect environmental considerations. For example, a path offers some leniency with its alignment compared to a sidewalk, offering opportunities for selective clearing of vegetation. Also, asphalt may not be considered a good surface material in wet areas because of its petroleum base and its tendency to float when flooded.

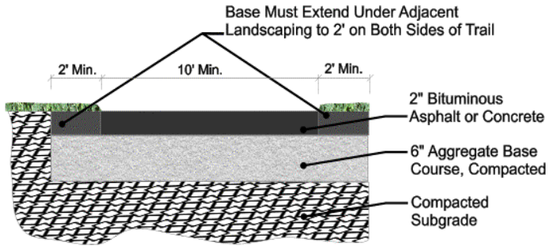
Greenway paths improve water quality by establishing buffers along creeks and streams. These buffers provide habitat for a diversity of plant and animal species. They serve as natural filters, trapping pollutants from urban runoff, eroding areas and agricultural lands. Stream buffers also reduce the severity of flooding by releasing storm water more gradually, giving the water time to evaporate, or percolate into the ground and recharge aquifers, or be absorbed and transpired by plants. In addition, paths provide more transportation choices for people who wish to walk or bicycle. By doing so, they help to decrease dependence upon automobiles and thus contribute to improved air quality. All proposed paths and other improvements should be designed, constructed and maintained with their ecological value in mind. Any disturbance of natural features should be kept to a minimum and conform to all jurisdictional environmental policy and ordinances.

The protection of streams by easement and the creation of paths along this greenway easement can help to ensure that no dumping occurs in the waterway, as users of this facility would report dumping to authorities. There is a need to help preserve these resources by ensuring that there is sufficient space between the greenway path and the waterway, by avoiding building adjacent to trees, and by avoiding constructing on rock features, such as escarpments.

Path Amenities and Accessibility

Though paths should be thought of as roadways for geometric and operational design purposes, they require much more consideration for amenities than do roadways. Shade and rest areas with





benches and water sources should be designed along shared-use paths. Where possible, vistas should be preserved. Way finding signs (e.g., how far to the library or the next rest area, or directions to restrooms) are important for non-motorized users.

Path amenities should be just as accessible as the paths themselves. Periodic rest areas off to the side of accessible paths are important features as well, and should be level and placed after a long ascent.

Sidepath/Wide Sidewalk

A sidepath is essentially a shared-use path that is oriented alongside a road. The AASHTO *Bike Guide* and *North Carolina Design Guidelines* strongly caution those contemplating a sidepath (or wide sidewalk) facility to investigate various elements of the roadway corridor environment and right-of-way before making a decision. AASHTO provides nine cautions/criteria for designing sidepaths.[1]

In addition to the AASHTO cautions, research from the US and abroad confirm that bicycle/ motor vehicle crash rates are higher for bicyclists riding on a sidepath than on a roadway.[2,3,4,5,6]

Consequently, designers are advised to be very careful when choosing to design sidepaths. There are some high-volume, high-speed roadways where sidepaths are the only bicycle facility that can be provided without very costly changes to the roadway corridor. In these cases, a sidepath may be the preferred alternative. This decision must consider the magnitude of intersecting driveway and roadway conflicts. If possible, sidepaths should be provided on both sides of the roadway to encourage bicyclists to ride in the same direction as adjacent traffic. Finally, the long-term strategy on these roadways should be to widen the road or narrow the lanes to provide additional space for bicyclists in on-road bike lanes or shoulders.

One recently completed research study suggests that there may be ways to mitigate some of the safety risks associated with sidepaths.[7] This research effort found that crashes occur less often when the speed of the trail user is reduced. This means some sort of "traffic calming" treatment for the trail may be appropriate at intersections. At signalized intersections, it is best to treat the path roadway crossings as crosswalks, bringing the pathway close to the adjacent roadway so its signals can be incorporated into the overall signalization plan. Additional treatments to the typical pedestrian heads may be desirable at these intersections. At unsignalized intersections it is best to move the sidepath out of the area of the side street intersection with the adjacent roadway. This allows motorists to deal with one intersection at a time. Additionally, bicyclists are only required to scan in two directions.

Roadway Features

Raised or Lowered Medians

Medians are barriers in the center portion of a street or roadway. Medians allow for less interaction between cars and bicycle and pedestrians, and make more opportunities for bicycle lanes. A center turn lane can be converted into a raised or lowered median thus increasing motorist safety. Travel lanes may be narrowed to accommodate the placement of a median. Raised or lowered medians should provide ample cues for people with visual impairments to identify the boundary between the crossing island and the roadway. According to AASHTO guidelines, the length of a median should be a least 20 feet.

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

[1] AASHTO, pp. 34-35.

[2] Kaplan, J. "Characteristics of the Regular Adult Bicycle User." FHWA, U.S. Department of Transportation, 1975.

[3] Moritz, W. "Adult Bicyclists in the United States - Characteristics and Riding Experience in 1996." Transportation *Research Record 1636*, TRB, Washington, DC, 1998

[4] Wachtel, A. and D. Lewiston. "Risk Factors for Bicycle-Motor Vehicle Collisions at Intersections." *ITE Journal*, September, 1994.

[5] Räsänen, M. "How to decrease the number of bicycle accidents? A research based on accidents studied by road accident investigation teams and planning guides of four cities." Finnish Motor Insurer's Centre, Traffic Safety Committee of Insurance Companies. VALT. Finland, 1995.

[6] Summala, H., E. Pasanen, M. Räsänen, and J. Sievänen, J. "Bicycle Accidents and Drivers' Visual Search at Left and Right Turns." *Accident Analysis and Prevention*. Elsevier Science Ltd., 1996/03, 28(2), pp.147-53, 1996.

[7] Petritsch, Landis, Huang, Challa. "Sidepath Safety Model - Bicycle Sidepath Design Factors Affecting Crash Rates," submitted to TRB for publication, July 2005.

room that could be used for bike lanes or other treatments. An alternative to the continuous median is to create a segmented median with left turn opportunities.

Sensitivity to large vehicles (buses, trucks and fire equipment) dictates some elements of the median design, curb style, and placement. Median-controlled roadways reduce the number of turning conflicts and are generally preferred for both pedestrians and cyclists over a two-way, left-turn lane (TWLTL) roadway.

Landscaping

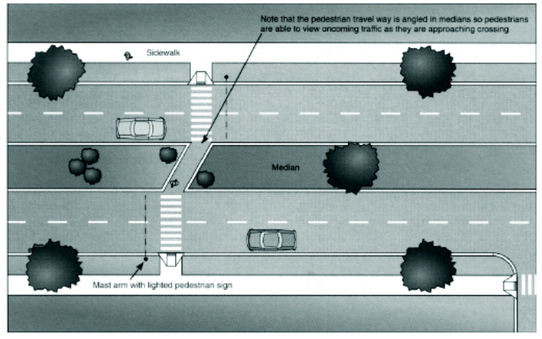
Medians provide opportunities for landscaping that in turn can change the character of the street and help to slow traffic. Landscaping should not obstruct the visibility between motorists and pedestrians.

Median Pedestrian Refuge Islands

When used in conjunction with mid-block or intersection crossings, medians can be used as a crossing island to provide a place of refuge for pedestrians. Pedestrian refuge islands should be designed along roadways with fewer lanes and pedestrian signals that will allow the pedestrian enough time to cross the street.

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. 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.

The graphic below indicates the design and markings associated with refuge islands. Note that pavement markings delineate the approach to the islands and that the islands are "split" to allow for a level platform for wheelchair use. Median crossings should possess a minimum of a 4 foot square level landing to provide a rest point for wheelchair users. In cases where there are wide roads and high traffic volumes, a push-button pedestrian signal may be mounted in the refuge area to allow pedestrians to split their trip into two halves as they cross the street. Note that the crosswalk on the right side of the diagram is configured at a skewed angle as it crosses the median. This allows pedestrians to have a better angle of sight as they approach and cross each side of the street. In all cases, a minimum 10-foot travel lane is maintained for pedestrians.



Median Pedestrian Refuge Island

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). A study should be completed prior to placing crosswalks to determine the need and the best type and location of that crosswalk.

North Carolina state law permits crossing at all intersections whether the intersection is marked with a crosswalk or not. 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 not difficult to maneuver by any person including those with physical mobility or vision impairments.

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.

Width - 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.

An engineering study may need to be performed to determine the appropriate width of a crosswalk at a given location.

Paint - Reflective paint is inexpensive but is considered more slippery than other devices such as inlay tape or thermoplastic. A variety of

patterns may be employed as detailed in the figure above. Crosswalk markings should be white, per MUTCD. Crosswalk markings should extend the full length of the crossings. Crosswalk lines of 10-12 inches of width are the recommended minimum. Curb ramps and other sloped areas should be fully contained within the markings.

Pavement Treatment

A variety of colors or textures may be used to designate crossings. These materials should be smooth, skid-resistant, and visible. 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.

Raised Crosswalk

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. Raised crosswalks are typical on two-lane streets with a speed limit of less than 35 mph. In conjunction with raised crosswalks, it is necessary to use detectable truncated dome warnings at the curb lines. Visible pavement markings are necessary for the roadway approach slopes.

Mid-Block Crossings

Midblock crossings can help pedestrian access by supplementing crossing options. Midblock crossings may be used in areas where there are substantial pedestrian generators or where intersections along a roadway are spaced far apart. Mid-block crossings pose special problems for many state and local departments of transportation, since pedestrians will often choose to cross at the location that is the most convenient for them to do so, not necessarily where it is the safest. As a result, engineers and planners have developed guidelines for mid-block crossings.

Below are some general guidelines on mid-block crossings:

- Provide only on roads with a speed limit of less than 45 MPH.
- Do not install within 300 feet from another signalized crossing point.
- Base installation of a mid-block crossing on an engineering study or pedestrian route placement.
- These crossings are recommended near schools, pedestrian routes, retail areas, recreation, and residential areas.
- Require advance auto-warning signs and good visibility for both the driver and the pedestrian.
- Providing a safe crossing point is necessary since pedestrians tend not to walk far for a signalized intersection.
- Provide an audible tone.
- Include a pedestrian refuge island on wide streets that:
    - Have fast vehicle speeds, or with large vehicle or pedestrian traffic volumes.
    - Where children, people with disabilities, or elderly people would cross.
    - Have complex vehicle movements.

For more information, refer to NCDOT's Policy on Mid-Block Crossings (Unsignalized).

Advance Stop Bars

Vehicle and pedestrian visibility is increased by placing a vehicle advance stop bar 4 to 10 feet back from the pedestrian crosswalk at signalized crossings and mid-block crossings. In certain situations, a larger setback of the advance stop bar may be required. 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%.

Advance stop bar

Source: Pedestrian and Bicycle Information Center Image Library

Pedestrian 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, a longer crossing time may be necessary to accommodate 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.

Pedestrian Signals & Intersections

International Pedestrian Symbols - According to the MUTCD, international pedestrian signal indication should be used at traffic signals whenever warranted. As opposed to early signalization that featured "WALK" and "DON'T WALK", international pedestrian signal symbols should be used on all new traffic signal installations. Existing "WALK" and "DON'T WALK" signals should be replaced with international symbols when they reach the end of their useful life. Symbols should be of adequate size, and clearly visible to make crossing safe for all pedestrians.

Countdown Signals - 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.

Audible Signals - Audible cues can be used to pulse along with a countdown signal. The signals are used for visually and audibly impaired individuals. Consideration should be paid to the noise impact on the surrounding neighborhoods when deciding to use audible signals.

Pedestrian Signal Timings - 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 crossing 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 interval stops traffic in all directions. In order to keep traffic flowing regularly, there is often a greater pedestrian wait time associated with this system.

A proven enhancement that prevents many of the conflicts addressed under either of the former methods is Leading Pedestrian Signal (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. 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.

Passive pedestrian detection equipment is becoming more common, and can be recommended in high-volume locations where many pedestrians are crossing a five-lane (or greater) street cross-section.

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

A low cost sign that restricts right-hand turns at a red light.
Source: Pedestrian and Bicycle Information Center

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. Consider elimination on case by case basis and only where there are usually high pedestrian volumes.

R10-11

R1-5

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 (or "sidewings" as listed in the graphic) 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. The minimum width for the curb ramp is four feet. 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. To provide a tactile warning to the visually impaired, raised truncated domes with a color contrast to the background material (typically concrete) should be used.i Two separate curb ramps, one for each crosswalk, should be provided at each corner of an intersection.

For additional information on curb ramps see the Federal Highway Administration and Designing Sidewalks and Trails for Access, Parts I and II, by the Federal Highway Administration.

Curb Extensions ("Bulb Outs," "Chokers," "Neckdowns") and Curb Radii

A curb extension, or bulb out, is an extension of the sidewalk 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. In addition, curb extensions may encourage motorists to drive slower by narrowing the travel lane and reducing vehicular speeds during turning movements at intersections. Curb extensions can be placed either at mid-block crossings or at intersections. Curb extensions at midblock locations are known as "chokers." Curb extensions at intersections can also be referred to as "neckdowns."

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, curb extensions preclude vehicle parking too close to a crosswalk. Also, curb extensions at intersections can greatly reduce turning speed, especially if curb radii are set as tight as possible. Finally, curb extensions also reduce travel speeds when used in mid-block crossings because of the reduced street width. Curb extensions should only be used where there is an existing on-street parking lane and should never encroach into travel lanes, bike lanes, or shoulders. Also, engineers should assess the presence of turning truck traffic when considering curb extensions.

Table B.2 illustrates the relationship between posted speeds and curb (often called "corner") radii. Motorists will travel more slowly around corners with smaller curb radii even without the use of curb extensions.

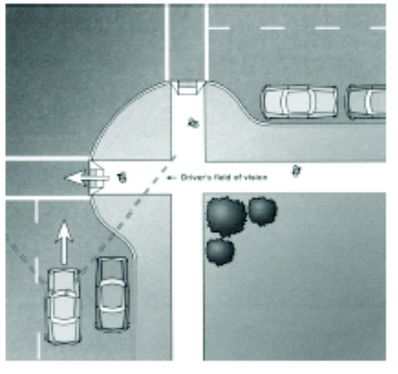
Table B.2 Minimum Curb Radii

Posted Speed Limit (mph)	Minimum Curb Radius (Feet)
Residential Street, 15-25 mph	5
Residential Street, 25-35 mph	10
Collector Street, 30-45 mph	20

Lighting

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 low-light conditions. Attention should be paid to lighting walkways and crossings, so that there is sufficient ambience for motorists to see pedestrians. Pedestrian lighting should be considered for areas of higher pedestrian volume, including downtown and key intersections. Lighting in commercial areas should be provided on both sides of the street.

In most cases, roadway street lighting can be designed to illuminate the sidewalk area as well. The visibility needs of both pedestrian and



By reducing a pedestrian's crossing with a bulb out, less time is spent in the roadway, and pedestrian vehicle conflicts are reduced.

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 ambiance. Lighting for sidewalks and off-street paths should be provided where considerable pedestrian traffic is expected at night, where there is insufficient available light from the surrounding area, and at all designated road crossings.

Each lighting situation is unique and must be considered on a case-by-case basis. Average maintained horizontal illumination levels of 5 lux (0.5 foot candles) to 22 lux (2 foot candles) should be considered. Sometimes, higher levels are advisable in special areas where security problems might exist. Light poles should generally be 12 to 15 ft. high for lighting pedestrian areas. Luminaries and poles should be at a scale appropriate for pedestrian use.

Source: Pedestrian and Bicycle Information Center

Light fixtures, as well as other on-street facilities, like street furniture, can add a great deal in terms of street aesthetics and reinforce community identity. It is recommended that the community adopt a particular style of street lighting fixture appropriate for the municipality's identity and coordinate this choice with stylistic choices in other street facilities.

Sophisticated lighting needs to be directional and focused upon the street. A flat lens light is the best choice in lighting the street. Fixtures that produce glare should be avoided, as they produce diffused light, and sometimes make visibility difficult. The pedestrian-level lighting that is preferred includes mercury vapor, metal halide, or incandescent. Although low-pressure sodium lights may be energy-efficient, they are less desirable due to the color distortion they create. High-pressure sodium lights are preferable, as they create less color distortion.

Lighting should be sufficient so that pedestrians can see cars, and cars can see pedestrians. However, overlighting of an area can produce an environment that is unattractive to pedestrians, and the resulting glare becomes an environmental issue.

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." 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 ambiance, 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.

Signage

Signage can be an effective tool to alert drivers to reduce speeds and allow pedestrians to exercise extra caution. It is important not to cause "clutter" when using a variety of signage. This can cause complacency and noncompliance with signs in general. Signs, and the sign text, should be large enough to be seen from a distance. It is imperative that all signs be properly located so as not to obstruct the pedestrian and visibility triangles of motorists.

Signage is governed by the MUTCD, which provides specifications on the design and placement of signage on the right-of-way. There are three types of signage: 1) *Wayfinding* signage 2) *Regulatory* and 3) *Warning signs*. Maintenance of signage is as important as walkway maintenance. Clean, graffiti free, and relevant signage enhances guidance, recognition, and safety for pedestrians.

Wayfinding

Wayfinding or guide signs give notice of traffic laws or regulations that pedestrians, cyclists, and motorists are required by law to follow. 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. Regulations should also address the orientation, height, size, and sometimes even style of signage to comply with a desired local aesthetic.

It is recommended that municipalities adopt consistent and descriptive graphics to identify pedestrian routes. This signage system would assure pedestrians that they are safe and will not encounter gaps in facilities along these routes. A map should be incorporated into each route illustrating the entire pedestrian system and their location. Bus stops, destinations, and mileage should also be identified on the signs.

Regulatory Signs and Warning Signs

Regulatory signs give notice of traffic laws or regulations that pedestrians, cyclists and motorists are required by law to follow. Warning signs call attention to unexpected conditions on, or adjacent to, a roadway, bike or pedestrian facility that can be potentially hazardous to users.

Pedestrian-related signage serves primarily to notify motorists and others of the presence of pedestrians. The intended effect is to cause motorists drive more cautiously and reduce their speeds, thereby improving the safety for pedestrians in the given area. Signs can be used in a variety of places, including at crosswalks, at intersections, in-street, and near schools. National standards for sign placement and use can be found in the Manual for Uniform Traffic Control Devices (MUTCD). The MUTCD provides guidance for warning signs which can be used at both crosswalks, or along the roadway:

The following are some recommended signs which municipalities should consider installing. For more signs and more detailed guidelines for sign installation and use, the municipality should consult the MUTCD. The S4-3/R1-6 as well as the W11-2 signs are regulatory, while the sign furthest to the right is a wayfinding signs. The remaining signs directly below are warning signs.

The first sign is usually installed within the street to warn motorists to yield to pedestrians in a crosswalk. The "school" sign (MUTCD S4-3) is added to the in-street sign for placement near a school. The second and third signs are commonly used pedestrian warning signs, while the fourth and fifth signs notify motorists of specific instances to watch for pedestrians. The fourth sign, "Turning Traffic", is usually placed at intersections to warn motorists that are turning right or left to yield to pedestrians in crosswalks. The sign at the far right is an example of typical wayfinding signage to help direct cyclists at major decision points along a route. For the fifth sign, the top sign can either be combined with the smaller "ahead" sign or the arrow symbol to indicate the presence of a crosswalk to motorists in a school zone.

School Zone Treatments / School Routes

Section 7 of the MUTCD is entirely devoted to "Traffic Controls for School Areas" and is the dominant guidance available to municipalities for installing signs and markings in school zones. The section provides valuable additional guidance for school crossing treatments that can be utilized for the planning and design of schools that should be considered when making safety improvements.

Street Trees

Street trees enhance the landscape for pedestrians, creating an attractive and comfortable environment for walking. Street trees also act as a traffic calming device, encouraging drivers to drive more slowly. In addition, a large line of leafy street trees can absorb engine noise, providing enough of a buffer to block street traffic noise from reaching private yards and homes. Trees also improve air quality by consuming carbon dioxide and emitting oxygen.

Street trees may also increase real estate values by increasing curb appeals of homes. This Plan strongly recommends that municipalities adopt a tree ordinance to give direction for tree installation and maintenance.

Planting requirements - All street trees should be selected according to the standards described in the American Standard for Nursery Stock of the American Nursery and Landscape Association. Install and maintain trees according to the International Society of Arboriculture (ISA) guidelines. A landscape architect should be consulted to select the proper tree and planting technique.

Visibility - Street trees should never be allowed to obscure the line of sight between pedestrians and drivers. A clear view should be maintained between 30" and 72" above street. This area must be free of limbs and foliage for safe cross visibility. Other plantings should also follow this rule within 50 ft. proximity of street corners and other designated crossing points. In order to maintain visibility, provide shade, and a comfortable pedestrian corridor, street trees

should primarily be vase shaped, columnar, or oval in form (habit) with large spreading crowns.

Roots - Avoid trees with aggressively invasive roots adjacent to pavement or buildings.

Size - Large trees (growing over 35 ft. in height at maturity) are preferred as street trees except near overhead utility lines. Small trees (growing less than 35 feet in height at maturity) should be used in areas directly adjacent to or under utility lines.

Spacing – typically, large trees should be spaced approximately 40 – 50 feet on center when planted in a line, and small trees spaced at approximately 30 ft. The spacing of street trees in a planting strip will depend upon the size of the tree and upon the demand for sidewalk furniture and parking.

Tree Pits and Tree Grates - Street trees should generally be located in open planting strips. However, tree pits with tree grates may be a practical, although expensive, alternative in very high pedestrian traffic areas. Tree grates should generally not encroach upon the travel path. For optimal pedestrian safety and comfort, all tree grates used should meet the ADA standards for "accessible pathway".

Maintenance - Trees and landscaping require ongoing maintenance. Local municipalities typically take responsibility for maintenance of these amenities, although there are instances where local community groups have provided funding and volunteers for maintenance. In order to reduce the amount of maintenance necessary, it is helpful to use 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 causing a pedestrian obstruction.

Pedestrian Overpass/Underpass

Pedestrian overpasses and underpasses efficiently allow for pedestrian movement across busy thoroughfares. These types of facilities typically feature very high construction costs.

These facilities are problematic in many regards and should only be considered when no other solution is expected to be effective. Research shows that pedestrians will avoid using such a facility if they perceive the ability to cross at grade as taking about the same amount of time. ADA requirements for stairs, ramps, and elevators often require the construction of an enormous structure that is visually disruptive.

Overpasses and underpasses should only be considered with rail lines, high volume traffic areas such as freeways, and other high volume arteries.

In addition, they 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 these structures should follow the guidelines for sidewalk width. Underpasses should have a daytime illuminance 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.

Attempting to separate pedestrians from the street is often problematic. As shown here, given the opportunity, many choose to cross at street level.

Transit Stop Treatments

To accommodate as many users as possible, a transit system must include well-planned routes and safe, accessible stops. Bus stops should be designed to accommodate the appropriate number of users and should be highly visible to pedestrians and motorists.

Bus or other transit stops should be located in places that are most suitable for passengers. For example, stops should be provided near higher density residential areas, commercial or business areas, and schools, and connected to these areas by sidewalk.

As with any human scale design element discussed, safety is an important factor to consider when locating bus stops. In the case of a bus stop, special attention should be paid to the number of lanes and direction of traffic when deciding to locate a stop on the near or far side of an intersection. Also special consideration must be paid to the wheelchair lifts in terms of how and where the mobility impaired will exit and enter the bus. It is good practice to construct a transit stop just beyond an intersection, which encourages riders to cross the intersection behind the bus and in full view of approaching motorists. The location also should be set back enough from the roadway to buffer users from traffic without impeding pedestrian activity.

Safety and comfort at a bus stop is determined by the amenities offered to users. Bus stop signage including route information, shelter with seating, trash cans, and bicycle parking encourage

transit use. Pedestrian-level lighting improves the visibility of pedestrians to motorists and increases the level of safety for users. At a minimum, marked crosswalks (especially at mid-block stops), curb ramps, and proper sidewalk widths should be considered.

Bridges

Provisions should be made to include a walking facility as a part of vehicular bridges, if there is an indication that pedestrians would use the facility. It is important to consider the needs of pedestrians when planning for a bridge replacement or the construction of a new bridge. Sidewalks on bridges should be a minimum of 5 feet wide, with a minimum handrail height of 42."

Traffic Calming Techniques

Traffic Calming Devices (TCDs) are physical measures in street design that cue drivers to slow down. The effectiveness of TCDs does not depend upon a driver's compliance with traffic signs and signals, or police enforcement, though they may be used effectively in conjunction with them. In coordinated combinations, TCDs reduce speeds, alert drivers to pedestrians, and reduce the severity of collisions. TCDs listed below are generally recommended for consideration on a project-by-project basis. These include traffic circles, roundabouts, speed humps, speed tables, textured pavements and curb extensions (bulbouts). Curb extensions are discussed in detail earlier in this section.

Neighborhood Traffic Circles - a small, raised circular island positioned in the center of an intersection, designed to slow traffic by requiring traffic to maneuver around the island.

Roundabout –circular intersection with raised circular islands in the center, with "yield on entry" and deflecting islands on all approaches designed to slow traffic. Traffic proceeds in a counterclockwise direction. Roundabouts are highly engineered to accommodate specific traffic types, volumes and speeds.

Speed Humps - raised sections of a roadway. They are similar to a speed bump in their application, but a speed hump is wider and has a sloping side taper so they are easy to navigate at slower speeds. They are placed across residential streets to control chronic speeding problems where other methods of slowing traffic have not been effective. They are designed to calm traffic in residential areas, particularly near parks and schools. The physical impact on passing vehicles is less severe at slower speeds than at higher speeds. Studies indicate that speed humps reduce speeds by approximately six miles per hour. A standard speed hump has a length of approximately 22 feet and a height of 3 and 5/8 inches at its center.

Speed Tables – flat-topped speed humps typically long enough for the entire wheelbase of a passenger car to rest on the flat section. They are often constructed with brick or other textured materials on the flat section.

Textured Pavements - stamped pavement or alternate paving materials to create an uneven surface for vehicles and pedestrians to traverse. Textured street pavement provides both a visual and tactile cue for drivers that they are driving in an area of high pedestrian usage. Similarly, they cue pedestrians that they are entering a vehicular zone, and are a particularly effective treatment to warn visually impaired pedestrians. Textured street pavements should be used in areas of substantial pedestrian activity and where noise is not a major concern.

Curb Extensions –rounded extensions of the curb which slow vehicles by alerting drivers to potential pedestrians, visually tightening the vehicular path, and physically reduces turning radii, thereby encouraging a decrease in vehicle speeds. Curb extensions also increase safety for pedestrians by shortening the road crossing distance. Curb extensions are covered in more detail earlier in this section.

Images Right: standard DOT bridge with sidewalk and railing
Bottom High quality bus station amenities

Temporary Work

Temporary work should be accessible. Where construction blocks a public sidewalk for more than a short time, an alternate accessible route should be provided that is cane-detectable. Sidewalk barriers should be continuous and cane-detectable as well. Temporary events and facilities should also meet accessibility criteria.

Additional Resources

Complete Streets Policy
http://www.completestreetsnc.org/

NCDOT Pedestrian Policy Guidelines
http://www.ncdot.gov/bikeped/download/bikeped_Ped_Policy.pdf

NCDOT Greenway Policy
http://www.ncdot.gov/_templates/download/external.html?pdf=http%3A//www.ncdot.gov/bikeped/download/bikeped_laws_Greenway_Admin_Action.pdf

NCDOT Board of Transportation Resolution for Bicycling and Walking
http://www.ncdot.gov/bikeped/download/bikeped_laws_BOT_Mainstreaming_Resolution.pdf

Bridge Policy
https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Bridge%20Policy.pdf

United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations (March 2010)
http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm

---

[i] Vanguard Company, accessed November, 2005 (http://www.vanguardonline.com/downloads.asp)

[ii] City of Durham Public Works "Reference Guide for Development," Table of Minimum Design Requirements for Public and Private Residential Streets. Rev. October, 2003. Page 154. (http://www.ci.durham.nc.us/departments/works/handbook/reference_guide.pdf)

Top left: neighborhood traffic circle
Bottom left: raised crosswalk
Top right: modern roundabout
Bottom right: Speedbump

►Questionnaire Responses◄

City of Southport
Comprehensive Pedestrian Transportation Plan

Public Questionnaire

Thank you for taking time to complete the Southport Comprehensive Pedestrian Transportation Plan questionnaire. The plan includes a review of existing plans, analysis of existing pedestrian accommodations and deficiencies, and development of recommendations for pedestrian facilities, policies, and programs. Your input will provide valuable information as we identify a preferred network and document incremental steps to achieve it. Your candid response is appreciated. The questionnaire should take approximately 10 to 15 minutes to complete.

1. How often do you walk in Southport for recreational purposes or to exercise? (*check one*)
   - ☐ Daily
   - ☐ Several times a week
   - ☐ A few times a month
   - ☐ Never

2. How often do you walk in Southport as a form of transportation (not for recreational purposes)? (*check one*)
   - ☐ Daily
   - ☐ Several times a week
   - ☐ A few times a month
   - ☐ Never

3. How would you rate existing pedestrian conditions in Southport? (*check one*)
   - ☐ Excellent
   - ☐ Fair
   - ☐ Poor

4. Which of the following phrases best define walkability? (*check THREE*)
   - ☐ Safe paths
   - ☐ Safe crossing
   - ☐ Scenic walks
   - ☐ Destinations within walking distance
   - ☐ Connected sidewalks
   - ☐ Well-maintained sidewalks
   - ☐ Curb ramps and wheelchair accessibility

5. How important is improving the walkability of Southport? (*check one*)
   - ☐ Extremely Important
   - ☐ Moderately Important
   - ☐ Low Priority

Public Workshop
Tuesday, May 21st
4:30 p.m. to 6:00 p.m.
Old Visitors Center (113 West Moore Street)

Kimley-Horn and Associates, Inc.

City of Southport
Comprehensive Pedestrian Transportation Plan

Public Questionnaire

6. What is Southport's greatest asset to encourage walkability?

   _____
   _____
   _____
   _____
   _____
   _____

7. What is the biggest obstacle standing in the way of enhancing Southport's walkability?

   _____
   _____
   _____
   _____
   _____
   _____

8. Do the following corridors need pedestrian improvements?

	Yes	No	No opinion
Howe Street	☐	☐	☐
Moore Street	☐	☐	☐
Leonard Street	☐	☐	☐
West 9th Street	☐	☐	☐
Fodale Avenue	☐	☐	☐
Stuart Avenue	☐	☐	☐

9. Do the following intersections need pedestrian improvements?

	Yes	No	No opinion
Howe and Moore	☐	☐	☐
Howe and Nash	☐	☐	☐
Howe and West	☐	☐	☐
Howe and Bay	☐	☐	☐
Howe and NC 87	☐	☐	☐
Atlantic and Nash	☐	☐	☐
Yacht Basin and Bay	☐	☐	☐
Yacht Basin and Moore	☐	☐	☐

10. How important are the following factors in determining whether you will choose to walk in Southport?

	Very Important	Somewhat Important	Not Important
Safe, well-maintained sidewalks or pedestrian paths	☐	☐	☐
Desire to exercise	☐	☐	☐
Weather	☐	☐	☐
Scenic routes	☐	☐	☐
Distance to destination	☐	☐	☐
Availability to drive	☐	☐	☐
Other: _____	☐	☐	☐

Kimley-Horn and Associates, Inc.

City of Southport
Comprehensive Pedestrian Transportation Plan

Public Questionnaire

11. Which of the following discourages you from walking? (*check all that apply*)
- ☐ Lack of sidewalks or trails
- ☐ Poorly maintained sidewalks
- ☐ Obstructions in sidewalks
- ☐ Lack of crosswalks at intersections
- ☐ Lack of pedestrian signals at intersections
- ☐ Automobile traffic and speed
- ☐ Poor weather
- ☐ Distance between destinations
- ☐ Lack of interest in walking

12. What destinations would you most like to get to in Southport? (*check all that apply*)
- ☐ The Waterfront
- ☐ Parks
- ☐ Shopping/restaurants in downtown
- ☐ Points north of NC 87
- ☐ Civil buildings (i.e. the library, City Hall)
- ☐ Museums
- ☐ School
- ☐ Church
- ☐ Other: _____

13. Which of the following improvements would most encourage you to increase your walking? (*check all that apply*)
- ☐ Constructing new sidewalks where none exist today
- ☐ Repairing existing sidewalks
- ☐ Adding crosswalks and pedestrian signals
- ☐ Constructing curb ramps and wheelchair accessible improvements
- ☐ Adding pedestrian refuges at major crossings
- ☐ Building greenways and multi-use paths
- ☐ Installing lights along pedestrian routes
- ☐ Planting street trees
- ☐ Installing street furniture (e.g. benches)

City of Southport
Comprehensive Pedestrian Transportation Plan
Public Questionnaire

14. Do you live in Southport? (*check one*)
- ☐ Yes
- ☐ No

a. If yes, how long have you lived in Southport? (*check one*)
- ☐ Less than one year
- ☐ 1 to 5 years
- ☐ 6 to 10 years
- ☐ More than 10 years

b. If yes, do you live in Southport year-round? (*check one*)
- ☐ Yes
- ☐ No

15. Which of the following categories describes your age? (*check one*)
- ☐ Under 18 years old
- ☐ 18 to 24 years old
- ☐ 25 to 34 years old
- ☐ 35 to 44 years old
- ☐ 45 to 54 years old
- ☐ 55 to 64 years old
- ☐ 65 years old or older

Please use the space below to provide additional comments relative to improving the pedestrian transportation system in Southport.

_____
_____
_____
_____
_____
_____
_____
_____
_____

If you would like to stay informed about the pedestrian plan, please provide your contact information below.

Name: _____

Email address:

_____

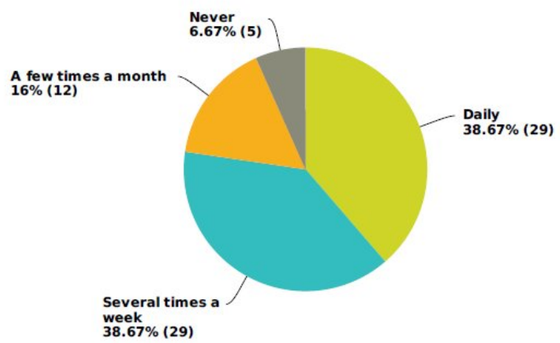
Mailing address:

_____
_____
_____

Thank you for completing the questionnaire! Your participation is greatly appreciated and is critical to the plan's success. Please join us at a public workshop son **Tuesday, May 21st** from **4:30 p.m. to 6:00 p.m.** at the **Old Visitors Center** (113 West Moore Street).

Q1 How often do you walk in Southport for recreational purposes or to exercise? (check one)

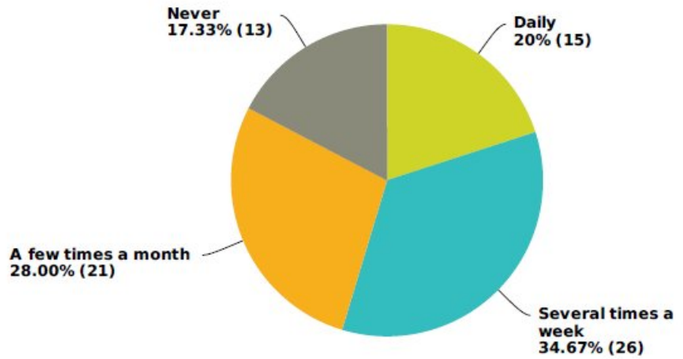
Answered: 75 Skipped: 0



Answer Choices	Responses	
Daily	**38.67%**	29
Several times a week	**38.67%**	29
A few times a month	**16%**	12
Never	**6.67%**	5
Total		75

Q2 How often do you walk in Southport as a form of transportation (not for recreational purposes)? (check one)

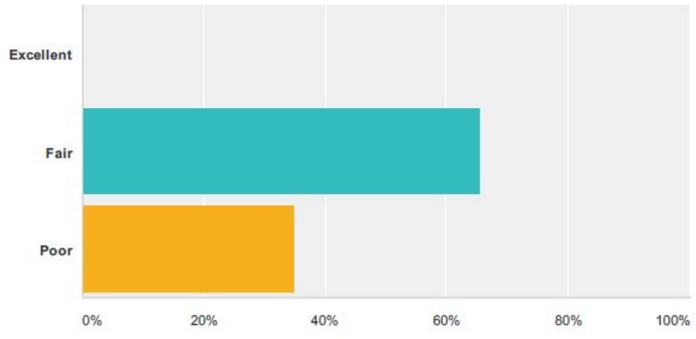
Answered: 75 Skipped: 0



Answer Choices	Responses	
Daily	**20%**	15
Several times a week	**34.67%**	26
A few times a month	**28.00%**	21
Never	**17.33%**	13
Total		75

Q3 How would you rate existing pedestrian conditions in Southport? (check one)

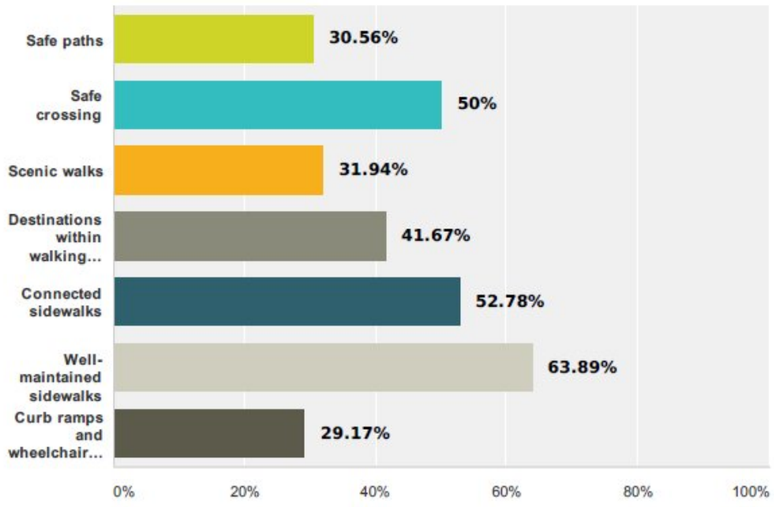
Answered: 75 Skipped: 0



Answer Choices	Responses	
Excellent	**0%**	0
Fair	**65.33%**	49
Poor	**34.67%**	26
Total		75

Q4 Which of the following phrases best define walkability? (check THREE)

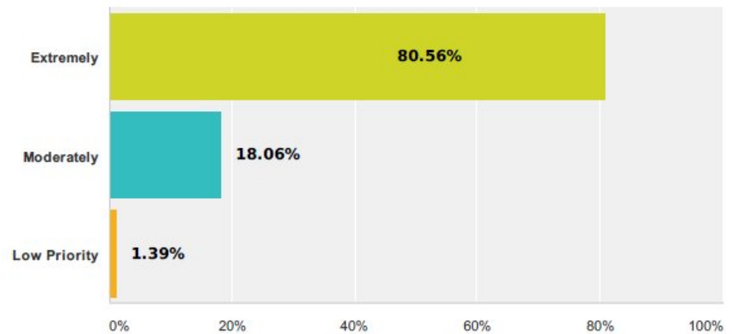
Answered: 72 Skipped: 3



Answer Choices	Responses	
Safe paths	**30.56%**	22
Safe crossing	**50%**	36
Scenic walks	**31.94%**	23
Destinations within walking distance	**41.67%**	30
Connected sidewalks	**52.78%**	38
Well-maintained sidewalks	**63.89%**	46
Curb ramps and wheelchair accessibility	**29.17%**	21
Total Respondents: 72		

Q5 How important is improving the walkability of Southport? (check one)

Answered: 72 Skipped: 3



Answer Choices	Responses	
Extremely	**80.56%**	58
Moderately	**18.06%**	13
Low Priority	**1.39%**	1
Total		72

Q6: What is Southport's greatest asset to encourage walkability?

- Wide streets
- Views, parks
- Grocery store
- Tourism is paramount to Southport's viability as a successful town. We must ensure that those who are encouraged to come here are able to walk about and cross streets safely. Pedestrian safety should be our main priority at all times of the year.
- Scenic views
- Shopping
- Natural beauty, small town with friendly people. Not sure what you mean by "encourage walkability".
- Ambiance
- Unique, charming shops and restaurants. Enhance tourism. Encourage local residents to patronize local businesses. I
- Compact business district and adjoining waterfront with tree lined walks.
- Sidewalks. I live on Fodale Av at Northwood Cem. a well-travelled road for auto traffic & foot traffic . Lots of walking going on but it has to be done on the road as there are so sidewalks. Cars travel very fast here so it is not safe walking.
- Most shopping/dining areas within the city limits are within walking distance.
- The entire downtown
- Concentrated business area
- Scenic routes, good weather
- To connect underutilized areas.
- The waterfront
- Waterfront
- Waterfront scenery
- Flat surfaces, beautiful scenery.
- A vibrant downtown
- Small size scenic streets
- Neat houses, shops, and views
- Destinations within walking distance
- Variety of shops and eateries
- Pleasant scenic atmosphere
- Waterfront
- Waterfront
- Scenic views, safe routes
- The convenience of shops and restaurants
- Scenic history and nice area to exercise, shop and do business
- Size, convenience of business center though that will change when city hall moves, riverfront view and breeze
- A few nice shops to hold one's interest. The small size of the downtown area.
- The charming shops, restaurants and galleries encourage walking.
- Families like to take scenic walks, but walks that are poorly marked and not accessible are a hindrance.
- I am wheelchair bound and there is only ONE accessible sidewalk intersection and it's not safe. It is not clearly marked and it's dangerous. I have to often go out of my way by two blocks in order to get off of a curb and then I am in the roadway. Southport needs to recognize that it is a tourist town as well as a town that is a retirement community. NO one knows when or how they may become wheelchair bound. There are numerous violations in our city and the worst one is the sidewalk issues. I am not the only one in a wheelchair or on a walker. I have seen children, adults and the elderly trip and often fall because of huge cracks in the sidewalk. I plan to help make the changes we need in our town. Our town needs to get up to speed on the pedestrian issues as well as all the code violations they do face.
- Beauty
- Beautiful scenery, interesting shops
- We are a small town where walking can be transportation. We should declare Southport a pedestrian friendly town and mean it.
- Beautiful views. Scenic streets with charming houses and live oaks.
- It's flat.
- Cleanliness of businesses and yards that are clean of junk cars and debris, plus well maintained yards
- Safe access to distance-separated shopping areas. I cringe when I see pedestrians, bicyclists and wheel-chair bound people having to detour (because of discontinuity in sidewalks and/or minuscule road shoulders) onto areas meant only for motor vehicles.

- Southport is compact enough that one could potentially walk just about anywhere if the facilities and safety were adequate.
- Sidewalks on Howe Street will improve access to more businesses, restaurants located north of 8th Street which currently have no sidewalk access. Weather permits walking year rounds in many cases. Tourists want to walk when then come to town. More sidewalks encourage this and encourage access to businesses along the streets that have sidewalks. Shaded sidewalks from legacy age oaks encourage walking.
- It should be a town where I can honestly tell friends from where I used to live that in Southport I can walk to everything. What a plus a town like that is.
- Places of interest close to one another
- The fact that the downtown area is small with the waterfront close to downtown encourage walking.
- The reserved path along Moore St. But it is sometimes overgrown forcing the walker or bike rider to veer into the motor path.
- Retail shops
- Downtown businesses; waterfront.
- Small town; town center
- Shops & river views
- The view, shops and houses.
- The shops and restaurants
- The variety of businesses within a small walking distance that encourages visitors and locals to stroll the streets.
- The views and connected side streets to avoid heavy traffic. However, crossing Howe Street to get to the west side of town (Lord St) for walking safely (versus Leonard or Moore) can be difficult and dangerous.
- Attractive views & structures & shade
- The scenic view from almost anywhere within Southport.
- Destinations - restaurants, bars, retail, professional services, city offices, etc. Would love for the Library to be open on weekends.
- The waterfront and access to friendly downtown shopping destinations/activity nodes such as Franklin Park, Visitor's Center, City Hall, Library, etc.
- More sidewalks throughout the city that are free of broken areas
- Close proximity of many sights and historical sites
- Lots to do
- Shopping, filming and history

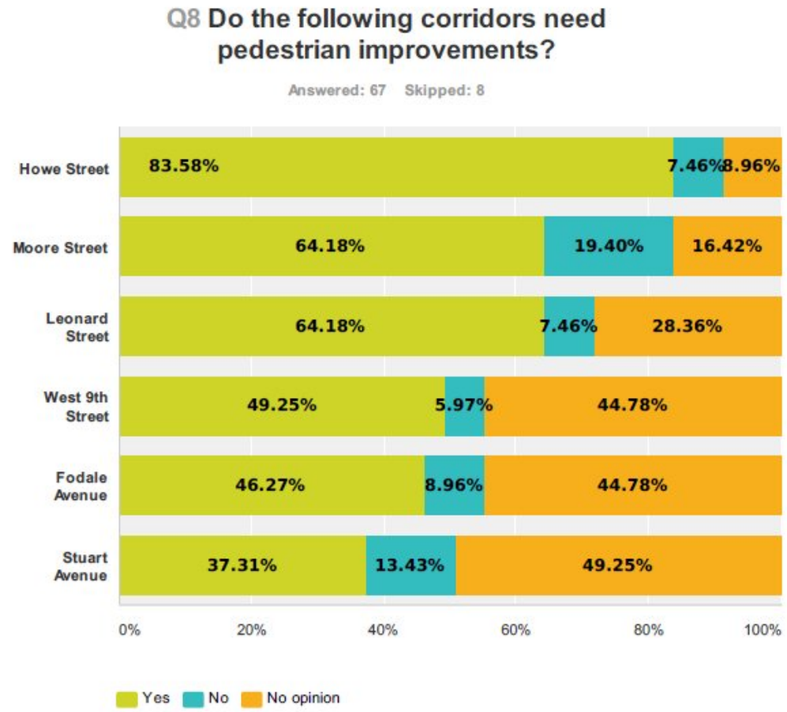
Q7: What is the biggest obstacle standing in the way of enhancing Southport's walkability?

- Broken sidewalks
- Could have connection from Waterway Park to Yacht Basin
- Pavements
- Slowing traffic down upon entering downtown Southport proper (just before the water tower) would improve street crossing conditions. Living downtown as I do, I perfectly understand the need to get in and out of town in a car. But slowing traffic to say (20 or 25 mph) from Memorial Day to Labor Day on Howe and Moore streets shouldn't be hard. It would only involve changing out a very few speed limit signs twice per year. This may require approval from our city leaders but I can't believe anyone would vote against safety.
- Too many obstacles especially around the restaurants area on waterfront
- No sidewalks no curb cuts.
- Poor condition of sidewalks, no sidewalks. It is impossible to walk from Bay Street all the way to the hospital via use of a sidewalk; they simply disappear or are in such poor repair that to walk here in town is treacherous and hazardous in many places.
- Lack of sidewalks, poorly maintained sidewalks
- Poorly maintained sidewalks, unsafe crossing, disconnected sidewalks, dangerous use of roads for wheelchairs and bicycles.
- The biggest obstacle is the money to complete and maintain city sidewalks.
- Sidewalks in our residential areas.
- Outside of a few blocks in the old "downtown" area, the sidewalks are either nonexistent or in pretty bad condition.
- Lack of Cross walks and lack of pedestrian in cross walk law.
- Parking - create a lot for local employees parking freeing up on-street parking spaces
- Lack of sidewalks, traffic volumes
- There are many areas which are too confined to install sidewalks.
- Too much traffic!
- Traffic volume

- Sidewalk connections; lighting; traffic
- Some people have encroached over sidewalks on Howe Street between Nash and Moore.
- City doesn't have enough help to keep the sidewalks clean and safe. Also section at Howe and Bay needs to be beautiful if we are serious about tourism.
- No connectivity, state owned right of ways, money
- Random and damaged sidewalks
- Safety in tourist season
- Insufficient crosswalks
- Lack of sidewalks in residential areas
- Trees not being trimmed
- Traffic
- Lack of finished sidewalks
- Sidewalks stop right after main historic district. Insufficient.
- Narrow sidewalks, rough and broken sidewalks, lack of sidewalks and ramps
- The lack of a real downtown area with multiple side streets off the main street that have lots of interesting stores and restaurants to visit. Also, visual pleasing buildings, such as The Pharmacy, an old building with character put to another use. Debbie's Place and Cattails have accomplished this, too, as have some of the galleries. The hodgepodge of business architecture doesn't draw one's interest. Parking, parking, parking! No one likes to go and walk around a quaint town if they need to park so far away that they have lost interest in walking around. The lack of cute, interesting lunch restaurants.
- Things are too spread out. The moving of the Visitor's Center to the Garrison House is a big mistake, in my opinion. It is too hard to find for new visitors.
- Southport excludes people with mobility disabilities with a severe lack of accessible cross walks, and those that do exist are not well marked.
- Ignorant council members who in a meeting said that "this is a planning board meeting for the pedestrians and not to address the frivolities of the disabled and to go off in that direction. This is for pedestrians only'. Well I am a pedestrian! I may not walk, but I do count. Store owners who are losing business because the aisles are so crowded even a stroller will not fit, it's time for a change!!!
- Unregulated speed limits, unsafe walking paths, especially East Moore St
- Education, better sidewalks, crosswalks and enforced traffic regulations.
- Poor unsafe sidewalks. No sidewalks in key areas.
- On many of the larger streets (Leonard, Stuart, portions of Howe, all of 133/87 and 211, Fodale, Atlantic, 9th etc) there is either no shoulder or no sidewalk. Some of these are so lightly traveled that it isn't usually a problem. However on the busier streets pedestrians pose a hazard and drivers menace the pedestrian.
- Narrow roads. For example, Leonard Street (E) is highly used by joggers, bicyclist, and walkers.
- Non-paved areas of city- or state-owned rights-of way that are encroached upon by wooded areas.
- There seems to be a "hodge-podge" of sidewalks that start and stop randomly.
- Along Howe it may be the State right of way which limits the size of the street and the available land for sidewalks. Local attitudes toward adding sidewalks in front of residences? Fear of loss of privacy bringing sidewalks close to the front of houses?
- The biggest obstacle is probably money for sidewalks and curb cuts. Currently, walking in areas of Southport requires walking in the street. The dense traffic on some cut-through roads like Leonard and Fodale (and the speed of the drivers) makes walking in the roadway dangerous. And lack of good lighting at night makes walking risky.
- Lack of sidewalks in residential neighborhoods
- Don't know
- Lack of purposeful walkers. I'm about the "only" walker in town. Strollers (the human kind) are not walkers.
- Trimming trees, keeping walkways clear, not having to duck under tree limbs. Example, corner of Howe and Moore Street in front of Security Savings bank.
- Trees and benches on Moore and Howe Streets.
- Lack of long term plan...what does Southport want to be...
- No pedestrian crosswalks with controlled stoplights.
- No sidewalks and trees so low you get poked in the eye with branches.
- I am assuming money.
- There are many sidewalks in need of repair (cracks, broken concrete, etc.) There is also blocks that lack a proper sidewalk and pedestrians must walk on the shoulder of the already busy roads to get to other blocks. There is also no type of signage to let visitors know where things are (post office, shopping, public restrooms, museums, etc.)
- Sidewalks do not continue out Howe street far enough. There are loads of businesses in Southport that are not accessible by sidewalks. If I was a business owner, I would be highly insulted. Also, the heavy traveled Leonard and Moore

streets should have wide sidewalks for walking/biking to town. Car traffic is swift and dangerous for walkers/bikers.

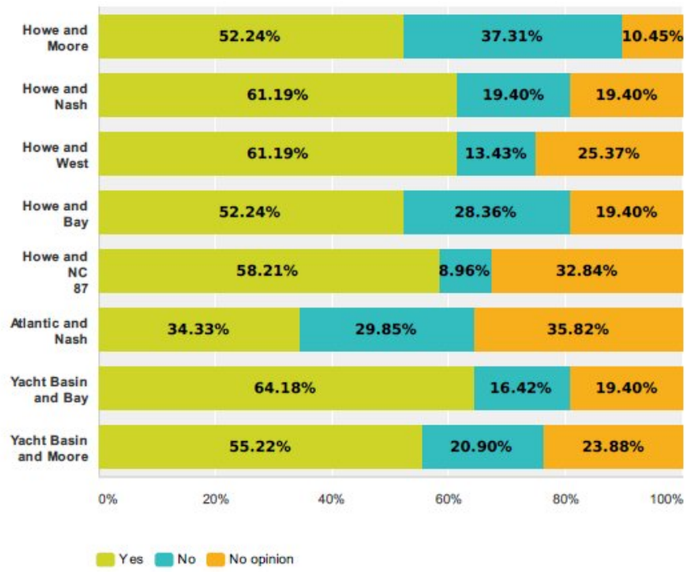
- Howe Street traffic - the only intersection that accommodates crossing is at Howe/Moore & we need signals or stop signs around the 300 block & 400 block.
- Car traffic - the speed limit could be lowered. The West Bay should be one way as it passes the bars and restaurants (Provision & Fishy) - the road is narrow and flooded so when cars go in both directions people don't have room to get out of the way while staying dry.
- Downtown COS is in reasonably good shape for walking if you start from downtown. Getting to downtown can be more of a challenge due to the somewhat disconnected nature of sidewalk network outside of CBD.
- Placement of sidewalks all throughout the city and not just in selected parts of town
- Sidewalks are either in poor shape or non-existent
- You have to walk on main streets, not enough sidewalks
- Lack of property that can be easily connected



	Yes	No	No opinion	Total
Howe Street	**83.58%** 56	**7.46%** 5	**8.96%** 6	67
Moore Street	**64.18%** 43	**19.40%** 13	**16.42%** 11	67
Leonard Street	**64.18%** 43	**7.46%** 5	**28.36%** 19	67
West 9th Street	**49.25%** 33	**5.97%** 4	**44.78%** 30	67
Fodale Avenue	**46.27%** 31	**8.96%** 6	**44.78%** 30	67
Stuart Avenue	**37.31%** 25	**13.43%** 9	**49.25%** 33	67

Q9 Do the following intersections need pedestrian improvements?

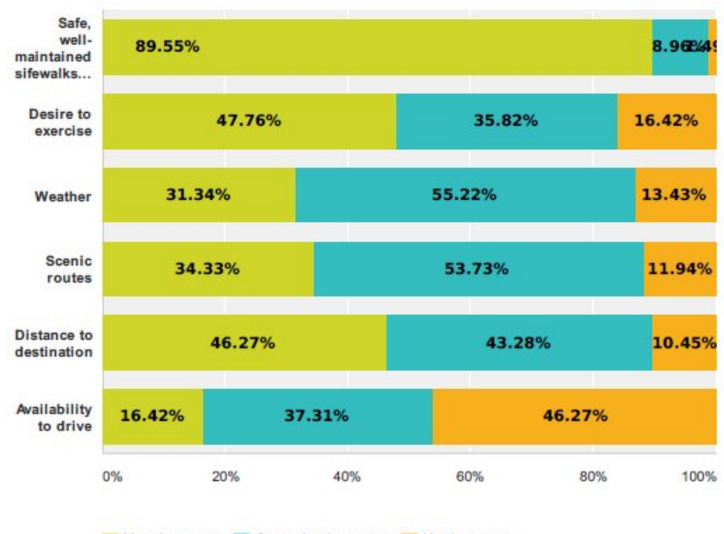
Answered: 67 Skipped: 8



	Yes	No	No opinion	Total
Howe and Moore	52.24% 35	37.31% 25	10.45% 7	67
Howe and Nash	61.19% 41	19.40% 13	19.40% 13	67
Howe and West	61.19% 41	13.43% 9	25.37% 17	67
Howe and Bay	52.24% 35	28.36% 19	19.40% 13	67
Howe and NC 87	58.21% 39	8.96% 6	32.84% 22	67
Atlantic and Nash	34.33% 23	29.85% 20	35.82% 24	67
Yacht Basin and Bay	64.18% 43	16.42% 11	19.40% 13	67
Yacht Basin and Moore	55.22% 37	20.90% 14	23.88% 16	67

Q10 How important are the following factors in determining whether you will choose to walk in Southport?

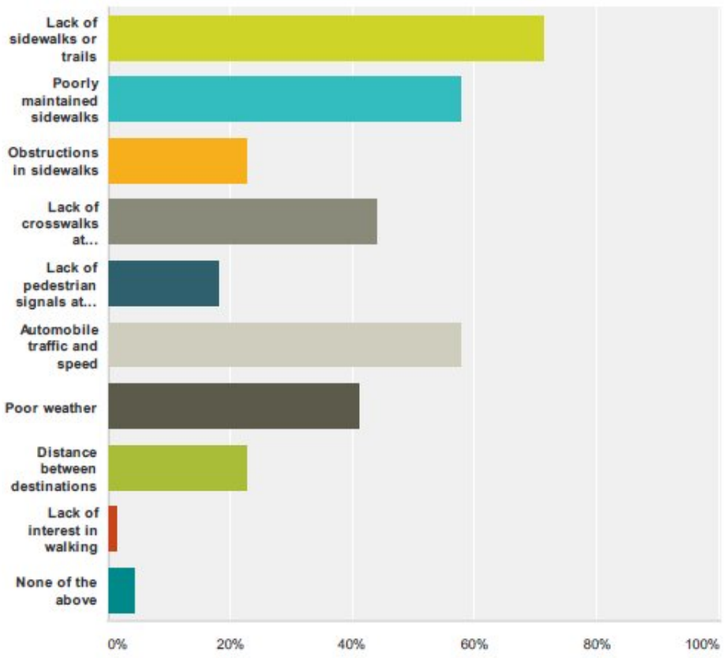
Answered: 67 Skipped: 8



	Very Important	Somewhat Important	Not Important	Total
Safe, well-maintained sifewalks and pedestrian paths	89.55% 60	8.96% 6	1.49% 1	67
Desire to exercise	47.76% 32	35.82% 24	16.42% 11	67
Weather	31.34% 21	55.22% 37	13.43% 9	67
Scenic routes	34.33% 23	53.73% 36	11.94% 8	67
Distance to destination	46.27% 31	43.28% 29	10.45% 7	67
Availability to drive	16.42% 11	37.31% 25	46.27% 31	67

Q11 Which of the following discourages you from walking? (check all that apply)

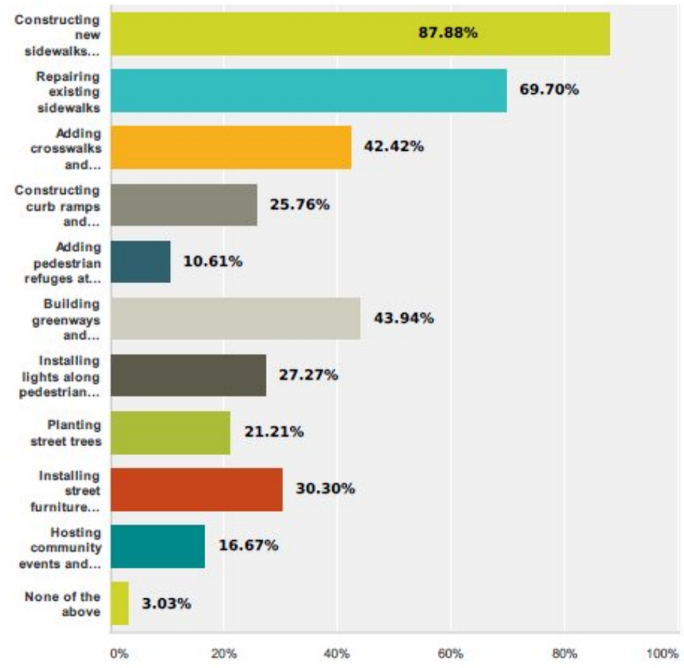
Answered: 66 Skipped: 9



Answer Choices	Responses	
Lack of sidewalks or trails	71.21%	47
Poorly maintained sidewalks	57.58%	38
Obstructions in sidewalks	22.73%	15
Lack of crosswalks at intersections	43.94%	29
Lack of pedestrian signals at intersections	18.18%	12
Automobile traffic and speed	57.58%	38
Poor weather	40.91%	27
Distance between destinations	22.73%	15
Lack of interest in walking	1.52%	1
None of the above	4.55%	3
Total Respondents: 66		

Q12 Which of the following improvements would most encourage you to increase your walking? (check all that apply)

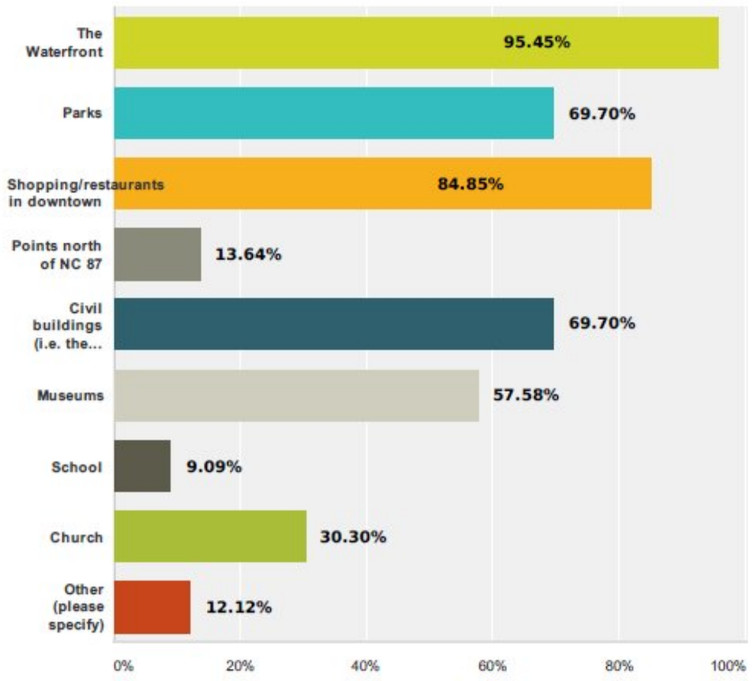
Answered: 66 Skipped: 9



Answer Choices	Responses	
Constructing new sidewalks where none exist today	87.88%	58
Repairing existing sidewalks	69.70%	46
Adding crosswalks and pedestrian signals	42.42%	28
Constructing curb ramps and wheelchair accessible improvements	25.76%	17
Adding pedestrian refuges at major crossings	10.61%	7
Building greenways and multi-use paths	43.94%	29
Installing lights along pedestrian routes	27.27%	18
Planting street trees	21.21%	14
Installing street furniture (e.g. benches)	30.30%	20
Hosting community events and programs focused on walking	16.67%	11
None of the above	3.03%	2
Total Respondents: 66		

Q13 What destinations would you most like to get to in Southport? (check all that apply)

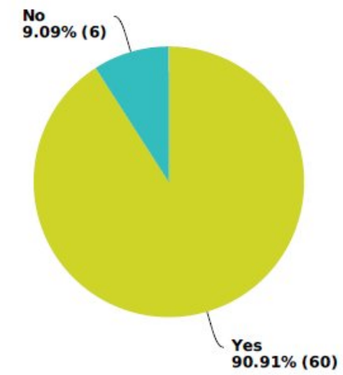
Answered: 66 Skipped: 9



Answer Choices	Responses	
The Waterfront	95.45%	63
Parks	69.70%	46
Shopping/restaurants in downtown	84.85%	56
Points north of NC 87	13.64%	9
Civil buildings (i.e. the library, City Hall)	69.70%	46
Museums	57.58%	38
School	9.09%	6
Church	30.30%	20
Other (please specify)	12.12%	8
Total Respondents: 66		

Q14 Do you live in Southport? (check one)

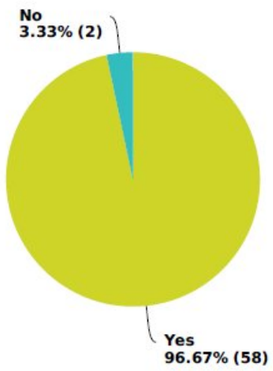
Answered: 66 Skipped: 9



Answer Choices	Responses	
Yes	90.91%	60
No	9.09%	6
Total		66

Q16 Do you live in Southport year-round? (check one)

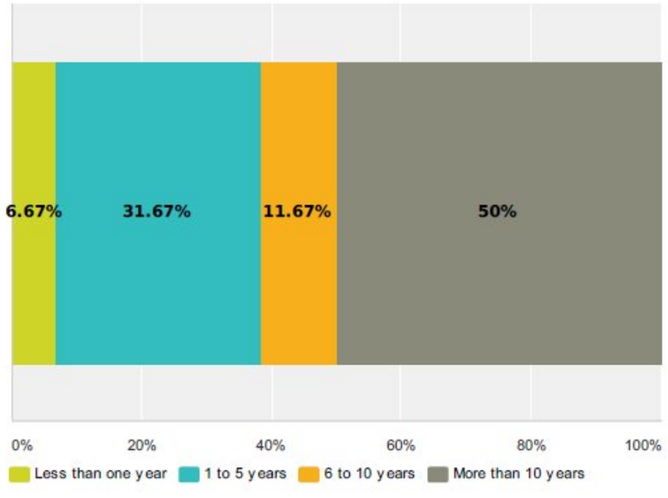
Answered: 60 Skipped: 15



Answer Choices	Responses	
Yes	96.67%	58
No	3.33%	2
Total		60

Q15 How long have you lived in Southport? (check one)

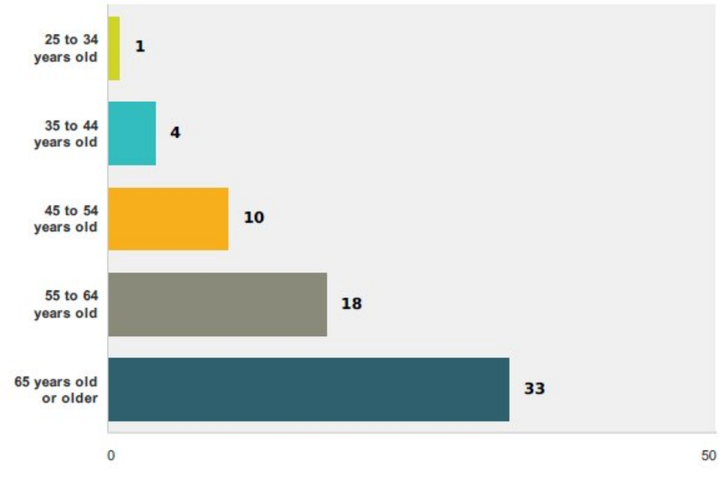
Answered: 60 Skipped: 15



Answer Choices	Responses	
Less than one year	**6.67%**	4
1 to 5 years	**31.67%**	19
6 to 10 years	**11.67%**	7
More than 10 years	**50%**	30
Total		60

Q17 Which of the following categories describes your age? (check one)

Answered: 66 Skipped: 9



Answer Choices	Responses	
25 to 34 years old	**1.52%**	1
35 to 44 years old	**6.06%**	4
45 to 54 years old	**15.15%**	10
55 to 64 years old	**27.27%**	18
65 years old or older	**50%**	33
Total		66

Please use the space below to provide additional comments relative to improving the pedestrian transportation system in Southport.

- I use crutches and a wheelchair so would appreciate better w/c access from Waterway Park to the Yacht Basin, and more benches throughout town for sitting and resting. Would LOVE to see a riverwalk from Wayerway Park to Yacht Basin and to Southport Community Building, more benches at Garrison Lawn.
- I sincerely believe that those who are on the City payroll are doing a marvelous job of running a community which greatly outgrows its bounds in warm months. Thank you!
- It is appalling to see wheelchairs in the median because they have no other place to travel. I often see pedestrians walking home from WalMart trying to avoid obstacles and traffic as they go down Howe St. Wheelchairs do not have access to curb cuts.
- Most important of issues is having sidewalks, and repairing poorly maintained sidewalks that we do have which are hazardous. To walk here in town is to literally take your life into your hands at times, as I find myself dodging cars and picking my way along side of streets/roads trying not to stumble into the direct path of cars while doing so.
- In addition to improved and well-planned sidewalks, Bicycle lanes would be wonderful enhancement to the important tourist industry as well as convenience for residents.
- At this time, there is only one restroom facility in downtown Southport. It is not always open. As a pedestrian and visitor friendly city, some consideration should be given to rest areas.
- The popularity in residential areas of Southport of daily, sometimes multiple times daily, walking (and biking) for health and recreation has mushroomed in the last 15 years. I see it every day from my home on Fodale Av and in my own walks, whole, young families sometimes. I see that a few people are even using the safety of the sandy paths within Northwood cemetery, a kind of parkland, for their daily exercise, walkers and runners. No harm done. We need to have maintained, spacious, 21st century pathways for walking to make our town even more appealing and inviting for residents and tourists alike. Regarding tourists downtown, the traffic signals at Moore & Howe pose a special problem as they are not set up to encourage tourists to cross using the push-buttons properly. Do they even know they are there to use? Someone is going to get run over some day downtown. I don't like to see tourists coming because they don't observe common sense crossing rules (they dawdle and gawk) and they are annoying to us drivers for that reason. I wish city hall & C of C would please proactively (in printed & website materials) advise visitors to respect auto traffic downtown for their own & our mutual safety--tourists are oblivious of the rest of us. Good luck getting Southport walking pleasantly and safely! Thank you.
- I think improving these areas will encourage more shopping/dining/income for local businesses. It is much easier for a tourist to park and walk to destinations than it is to constantly be worried about moving a vehicle around. As someone who works in the central business district, it is very pleasant to walk to the banks, insurance agencies, etc. when doing errands, but the sidewalks from my office location to the water tower area leave a lot to be desired - a couple of blocks don't have them at all. The sidewalks in the water tower area are uneven and dangerous. I personally tripped and fell a few weeks ago, requiring a trip to the ER and stitches - not something we want to happen again!
- Construct Bike lanes. Pass ordinance to require traffic to stop for pedestrians. Lower the speed limit downtown to 20mph.
- I think many areas primarily in commercial districts could be enhanced to improve pedestrian foot traffic north of St. George Street on Howe.
- access to Leonard Park
- There ought to be better handicapped-friendly paths for motorized wheelchairs going out of town. Would not affect me but it is needed.
- I really am concerned about people who are unable to get to Walmart and beyond in motorized wheelchairs without risking their lives. Southport and the state of NC needs to install a wheelchair/bike/walking path out to Food Lion and Lowes shopping center.
- Connectivity!
- Coordinate walk signal with traffic signal. Shouldn't need to push button.
- Renee's Fine Jeweler's sign blocks the sidewalk much worse than Bullfrog Corner's pleasant and welcome benches! Sidewalks needed on West 9th Street. Howe and NC 87 is a big concern.
- It does not appear that West Brunswick St is part of the study. Brunswick Street has no sidewalks but is one of the most walked streets in town.
- Installing lights along pedestrian routes is a major need.
- More sidewalks, more bike lanes
- Since Southport is a "walking town" I feel safe and convenient pathways are very important and vital to our social welfare as well as economic strength. Better crosswalks needed at Howe and Moore/Nash/West/Bay. I commend the city for leaving the tree lights on all year. It is not only beautiful but provides extra lighting that helps with feeling safe and seeing the sidewalks.
- If store owners would sweep sidewalks in front of their shops it would help a lot, Pasculli's at Timeless Treasures are the only ones I see do it regularly.
- Please keep the disabled in mind...we like to get out and enjoy the area too.
- I feel there is a considerable lack of understanding on the part of the public for the mobility challenged. I would challenge each councilman or woman to spend just a

few hours in Southport trying to shop, park or get around. It's virtually impossible. Many buildings do not have ramps or accessible restrooms. Nothing is up to code and I do blame the city for this. It's time to change this. When you sit in a restroom and have to leave the door open, you will understand.

- Sidewalks should extend up Howe St on both sides. Sidewalks should extend to the Landing on Moore St.
- Marked pedestrian paths, enforced speed limits for cars and trucks would greatly enhance walking=
- My biggest concern is the lack of a sidewalk at the corner of Rhett and East Bay. Tourist foot traffic has increased greatly in the past several years. People walking along the riverfront on east bay on the sidewalk come to the intersection with Rhett. For the first 50 feet or so, there is no sidewalk to cross to, so they continue down the hill in the street, often letting children run ahead of them, toward a sharp blind curve at the foot of the hill. Coming the other way at the foot of the very nice steps that were put in about 2 years ago, the sidewalk leads to a dead end. This sidewalk is in very poor condition. It is a concern to me because it seems to get more dangerous with time. I live directly across the street and I have witnessed some close calls. If the sidewalk also lead from the foot of the steps to the end of bay street where it becomes Kingsly people could then see the traffic coming around the curve and cross safely to Kingsley park. Right now if they somehow make it onto the sidewalk and down the steps it is then necessary to step into the road right at the blind curve. Cars often come around too fast and the curve is blind because there are two small tree/bushes blocking the view. If these were cut it would help a lot. If this is not taken care of I am very afraid someone is going to get hurt or killed.
- I'll continue to walk whether the town makes any improvements or not. However on heavily traveled roads it would be nicer if there was at least a wider shoulder to walk on. Some days it feels like I'm engaged in a game of Chicken with cars and trucks.
- Bike/Walking path for East Leonard St. I believe it is more heavily traveled than Moore St.
- Priority should be on safe walking and safe bicycling: • along the waterfront between the Yacht Basin and Atlantic Avenue, • along Howe Street between the waterfront and the WalMart area, • along the length of Atlantic Avenue between the waterfront and Leonard Street, • along the length of Leonard Street between Howe Street and the developments north of Jabbertown Road, • along the length of Jabbertown Road between Leonard Street and NC87, and • along the stretch of NC 87 between Jabbertown Road and Howe Street, with a major upgrade to traffic control and pedestrian crossing at the intersection of Howe Street and NC87.
- Priority should be given to creating sidewalks access along Howe Street to the new city hall building and the senior center at Smithfield crossing.
- Sidewalks where none exist today - safety concern Curb cuts for wheelchairs, walkers, limited mobility I live on Fodale Ave which has become a major cut-through for drivers. Walking 5 times a week back and forth to the Jaycee building is tricky because of the amount of traffic and speed of the cars zooming by. In order to work safely in my front yard along the roadside, I purchased orange cones to alert drivers of my presence. And while drivers now do veer over a bit, they do not slow down. Leonard Street is also tricky for pedestrians. Lots of traffic and uneven footing to get off the road when traffic goes by. It amazes me that Southport has not been required to put in curb cuts in the shopping/downtown area.
- I would like to see Yaupon Avenue right of way paved (or at least resurfaced) to alleviate traffic on Park Avenue, as well as another connector road built from Leonard Street to Hwy. 87/133. Also, enforcement of the 25 MPH speed limit needs to be improved. It is dangerous to walk on these residential streets with no sidewalks and so much speeding traffic racing to catch the ferries. Sidewalks throughout the residential areas would greatly enhance the desirability of walking in Southport.
- Many pedestrians don't know the rules of safe walking... or ignore them... so that sidewalks are "necessary" to protect them from the automobile traffic overtaking them. Leonard (because of curves and automobile speed) is the only street I really try to avoid. There is essentially no shoulder and the road is slightly domed on the curve. Most other roads in town don't really need sidewalks if the grassy right-of-way is kept mowed - on both sides of the road - to allow people (and bicycles) to escape safely from cars that threaten safety. Also, the numerous drive-way dips in the sidewalk along the east side of Howe make it practically unusable. If there are no parked cars, I prefer to walk in the street. Too many changes in sidewalk level encourage tripping accidents. Why did the questionnaire not ask about this? Surely the committee members noticed.
- We need more trash cans, would love to see recycle bins. We also need pedestrian bathrooms other than one end of the city.
- It is very dangerous to cross Howe Street on foot at any point above Moore. Pedestrians have no option other than trying to run faster than the oncoming traffic when crossing. There are many aged people in this town or visitors that do not move with the speed necessary to proceed across Howe with safety. There should be several designated pedestrian crossings with controlled traffic signals. Also I think that the City of Southport may not be in compliance with ADA in regards to wheelchair accessible curbs.
- I would love to see a Trolley system where you could pay a minimal fee and get to ride a route that has various drop off points so that if I want to shop down at Moore Street, but then go up to the midtown shops (shop girl, sole searching, etc.) I could hop on the trolley and get there vs. driving my vehicle since there is not a sidewalk in place on every block of Howe Street.

- Southport is a beautiful place to walk and bike. I live on Stuart Avenue, which is a highly traveled street compared to other residential streets. Then I access Howe, Leonard, Moore to get to downtown and they are highly traveled, swift and dangerous. I find even to connect to less-traveled, safer streets (Lord), I encounter even more dangerous situations...crossing Howe. When I moved to Southport in December, I was disappointed at the lack of sidewalks, especially along Howe Street where most of the tourists come to stroll, dine and shop. The Southport Village is so quaint and typical Southport shopping. However, tourists (and locals) cannot safely access this side of town from the downtown area. Please, please, please consider making Southport more attractive for walkers, strollers, and bikers.
- Understandably, Rome wasn't built over night and Southport is no exception. Pedestrian movement and accessibility are certainly priorities but so many others exist as well. Southport has done much to make the downtown area accessible to all. The biggest future challenges will likely be increased emphasis and handicapped accessibility and it eliminating existing gaps that exist in its network of sidewalks.

►Market Profile◄

Market Profile

Southport City, NC
Southport city, NC (3763400)
Geography: Place

	Southport city, NC (37634...
Population Summary	
2000 Total Population	2,427
2010 Total Population	2,833
2012 Total Population	2,970
2012 Group Quarters	190
2017 Total Population	3,337
2012-2017 Annual Rate	2.36%
Household Summary	
2000 Households	1,109
2000 Average Household Size	2.12
2010 Households	1,294
2010 Average Household Size	2.04
2012 Households	1,353
2012 Average Household Size	2.05
2017 Households	1,551
2017 Average Household Size	2.03
2012-2017 Annual Rate	2.77%
2010 Families	788
2010 Average Family Size	2.58
2012 Families	809
2012 Average Family Size	2.59
2017 Families	927
2017 Average Family Size	2.58
2012-2017 Annual Rate	2.76%
Housing Unit Summary	
2000 Housing Units	1,312
Owner Occupied Housing Units	62.9%
Renter Occupied Housing Units	21.6%
Vacant Housing Units	15.5%
2010 Housing Units	1,777
Owner Occupied Housing Units	49.3%
Renter Occupied Housing Units	23.5%
Vacant Housing Units	27.2%
2012 Housing Units	1,868
Owner Occupied Housing Units	48.7%
Renter Occupied Housing Units	23.7%
Vacant Housing Units	27.6%
2017 Housing Units	2,118
Owner Occupied Housing Units	50.3%
Renter Occupied Housing Units	22.9%
Vacant Housing Units	26.8%
Median Household Income	
2012	$44,719
2017	$53,064
Median Home Value	
2012	$213,399
2017	$227,489
Per Capita Income	
2012	$27,710
2017	$31,236
Median Age	
2010	55.9
2012	55.6
2017	57.2

Data Note: Household population includes persons not residing in group quarters. Average Household Size is the household population divided by total households. Persons in families include the householder and persons related to the householder by birth, marriage, or adoption. Per Capita Income represents the income received by all persons aged 15 years and over divided by the total population.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2012 and 2017. Esri converted Census 2000 data into 2010 geography.

September 24, 2013

Made with Esri Business Analyst
©2013 Esri www.esri.com/ba 800-447-9778 Try it Now!

Market Profile

Southport City, NC
Southport city, NC (3763400)
Geography: Place

	Southport city, NC (37634...
2012 Households by Income	
Household Income Base	1,353
<$15,000	13.9%
$15,000 - $24,999	13.5%
$25,000 - $34,999	10.1%
$35,000 - $49,999	17.4%
$50,000 - $74,999	19.2%
$75,000 - $99,999	12.8%
$100,000 - $149,999	8.6%
$150,000 - $199,999	2.9%
$200,000+	1.7%
Average Household Income	$57,860
2017 Households by Income	
Household Income Base	1,552
<$15,000	12.8%
$15,000 - $24,999	9.9%
$25,000 - $34,999	7.4%
$35,000 - $49,999	15.5%
$50,000 - $74,999	23.7%
$75,000 - $99,999	15.8%
$100,000 - $149,999	9.6%
$150,000 - $199,999	3.4%
$200,000+	1.9%
Average Household Income	$64,788
2012 Owner Occupied Housing Units by Value	
Total	910
<$50,000	1.1%
$50,000 - $99,999	8.2%
$100,000 - $149,999	13.1%
$150,000 - $199,999	23.1%
$200,000 - $249,999	16.8%
$250,000 - $299,999	9.7%
$300,000 - $399,999	12.5%
$400,000 - $499,999	7.0%
$500,000 - $749,999	5.9%
$750,000 - $999,999	0.9%
$1,000,000 +	1.6%
Average Home Value	$268,489
2017 Owner Occupied Housing Units by Value	
Total	1,065
<$50,000	0.7%
$50,000 - $99,999	5.2%
$100,000 - $149,999	9.5%
$150,000 - $199,999	23.3%
$200,000 - $249,999	20.8%
$250,000 - $299,999	10.7%
$300,000 - $399,999	12.2%
$400,000 - $499,999	7.6%
$500,000 - $749,999	6.9%
$750,000 - $999,999	1.2%
$1,000,000 +	2.0%
Average Home Value	$288,474

Data Note: Income represents the preceding year, expressed in current dollars. Household income includes wage and salary earnings, interest dividends, net rents, pensions, SSI and welfare payments, child support, and alimony.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2012 and 2017. Esri converted Census 2000 data into 2010 geography.

September 24, 2013

Made with Esri Business Analyst
©2013 Esri www.esri.com/ba 800-447-9778 Try it Now!

Market Profile

Southport City, NC
Southport city, NC (3763400)
Geography: Place

	Southport city, NC (37634...
2010 Population by Age	
Total	2,833
0 - 4	3.8%
5 - 9	3.8%
10 - 14	4.3%
15 - 24	6.9%
25 - 34	7.2%
35 - 44	9.5%
45 - 54	12.7%
55 - 64	20.5%
65 - 74	15.9%
75 - 84	9.0%
85 +	6.2%
18 +	86.0%
2012 Population by Age	
Total	2,970
0 - 4	3.4%
5 - 9	3.8%
10 - 14	4.2%
15 - 24	7.6%
25 - 34	7.9%
35 - 44	9.1%
45 - 54	12.8%
55 - 64	19.9%
65 - 74	16.1%
75 - 84	8.7%
85 +	6.4%
18 +	86.0%
2017 Population by Age	
Total	3,336
0 - 4	3.2%
5 - 9	3.7%
10 - 14	4.0%
15 - 24	6.9%
25 - 34	7.8%
35 - 44	8.6%
45 - 54	11.4%
55 - 64	20.5%
65 - 74	19.0%
75 - 84	8.8%
85 +	6.1%
18 +	86.7%
2010 Population by Sex	
Males	1,312
Females	1,521
2012 Population by Sex	
Males	1,381
Females	1,589
2017 Population by Sex	
Males	1,562
Females	1,774

Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2012 and 2017. Esri converted Census 2000 data into 2010 geography.

September 24, 2013

Made with Esri Business Analyst
©2013 Esri www.esri.com/ba 800-447-9778 Try it Now!

Market Profile

Southport City, NC
Southport city, NC (3763400)
Geography: Place

	Southport city, NC (37634...
2010 Population by Race/Ethnicity	
Total	2,833
White Alone	82.2%
Black Alone	15.4%
American Indian Alone	0.1%
Asian Alone	0.1%
Pacific Islander Alone	0.0%
Some Other Race Alone	0.8%
Two or More Races	1.3%
Hispanic Origin	2.9%
Diversity Index	34.0
2012 Population by Race/Ethnicity	
Total	2,970
White Alone	82.5%
Black Alone	14.5%
American Indian Alone	0.2%
Asian Alone	0.2%
Pacific Islander Alone	0.0%
Some Other Race Alone	0.9%
Two or More Races	1.6%
Hispanic Origin	3.0%
Diversity Index	34.0
2017 Population by Race/Ethnicity	
Total	3,337
White Alone	81.3%
Black Alone	15.3%
American Indian Alone	0.3%
Asian Alone	0.4%
Pacific Islander Alone	0.0%
Some Other Race Alone	1.1%
Two or More Races	1.6%
Hispanic Origin	3.4%
Diversity Index	36.1
2010 Population by Relationship and Household Type	
Total	2,833
In Households	93.3%
In Family Households	72.9%
Householder	27.8%
Spouse	21.5%
Child	19.5%
Other relative	3.0%
Nonrelative	1.2%
In Nonfamily Households	20.4%
In Group Quarters	6.7%
Institutionalized Population	6.7%
Noninstitutionalized Population	0.0%

Data Note: Persons of Hispanic Origin may be of any race. The Diversity Index measures the probability that two people from the same area will be from different race/ethnic groups.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2012 and 2017. Esri converted Census 2000 data into 2010 geography.

September 24, 2013

Made with Esri Business Analyst
©2013 Esri www.esri.com/ba 800-447-9778 Try it Now!

esri

Market Profile

Southport City, NC
Southport city, NC (3763400)
Geography: Place

	Southport city, NC (37634...
2010 Households by Type	
Total	1,294
Households with 1 Person	34.8%
Households with 2+ People	65.2%
Family Households	60.9%
Husband-wife Families	47.0%
With Related Children	9.4%
Other Family (No Spouse Present)	13.9%
Other Family with Male Householder	3.7%
With Related Children	1.8%
Other Family with Female Householder	10.2%
With Related Children	6.0%
Nonfamily Households	4.3%
All Households with Children	17.5%
Multigenerational Households	2.4%
Unmarried Partner Households	4.0%
Male-female	3.3%
Same-sex	0.7%
2010 Households by Size	
Total	1,294
1 Person Household	34.8%
2 Person Household	42.8%
3 Person Household	11.4%
4 Person Household	7.5%
5 Person Household	2.2%
6 Person Household	1.0%
7 + Person Household	0.4%
2010 Households by Tenure and Mortgage Status	
Total	1,294
Owner Occupied	67.7%
Owned with a Mortgage/Loan	45.4%
Owned Free and Clear	22.3%
Renter Occupied	32.3%

Data Note: Households with children include any households with people under age 18, related or not. Multigenerational households are families with 3 or more parent-child relationships. Unmarried partner households are usually classified as nonfamily households unless there is another member of the household related to the householder. Multigenerational and unmarried partner households are reported only to the tract level. Esri estimated block group data, which is used to estimate polygons or non-standard geography.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2012 and 2017. Esri converted Census 2000 data into 2010 geography.

September 24, 2013

Made with Esri Business Analyst
©2013 Esri www.esri.com/ba 800-447-9778 Try it Now!

▶Census Profile◀

Census 2010 Summary Profile

Southport City, NC
Southport city, NC (3763400)
Geography: Place

	2000	2010	2000-2010 Annual Rate
Population	2,427	2,833	1.56%
Households	1,109	1,294	1.56%
Housing Units	1,312	1,777	3.08%

Population by Race	**Number**	**Percent**
Total	2,833	100.0%
Population Reporting One Race	2,795	98.7%
White	2,329	82.2%
Black	436	15.4%
American Indian	4	0.1%
Asian	3	0.1%
Pacific Islander	0	0.0%
Some Other Race	23	0.8%
Population Reporting Two or More Races	38	1.3%
Total Hispanic Population	82	2.9%

Population by Sex		
Male	1,312	46.3%
Female	1,521	53.7%

Population by Age		
Total	2,833	100.0%
Age 0 - 4	109	3.8%
Age 5 - 9	108	3.8%
Age 10 - 14	121	4.3%
Age 15 - 19	103	3.6%
Age 20 - 24	93	3.3%
Age 25 - 29	108	3.8%
Age 30 - 34	96	3.4%
Age 35 - 39	128	4.5%
Age 40 - 44	142	5.0%
Age 45 - 49	157	5.5%
Age 50 - 54	204	7.2%
Age 55 - 59	276	9.7%
Age 60 - 64	305	10.8%
Age 65 - 69	289	10.2%
Age 70 - 74	162	5.7%
Age 75 - 79	136	4.8%
Age 80 - 84	120	4.2%
Age 85+	176	6.2%
Age 18+	2,435	86.0%
Age 65+	883	31.2%

Median Age by Sex and Race/Hispanic Origin	
Total Population	55.9
Male	53.2
Female	57.6
White Alone	57.4
Black Alone	46.7
American Indian Alone	50.0
Asian Alone	52.5
Pacific Islander Alone	0.0
Some Other Race Alone	29.1
Two or More Races	32.0
Hispanic Population	27.7

Data Note: Hispanic population can be of any race. Census 2010 medians are computed from reported data distributions.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri converted Census 2000 data into 2010 geography.

September 25, 2013

©2013 Esri
Made with Esri Business Analyst
www.esri.com/ba 800-447-9778 Try it Now!

Census 2010 Summary Profile

Southport City, NC
Southport city, NC (3763400)
Geography: Place

Households by Type		
Total	1,294	100.0%
Households with 1 Person	450	34.8%
Households with 2+ People	844	65.2%
Family Households	788	60.9%
Husband-wife Families	608	47.0%
With Own Children	111	8.6%
Other Family (No Spouse Present)	180	13.9%
With Own Children	80	6.2%
Nonfamily Households	56	4.3%
All Households with Children	226	17.5%
Multigenerational Households	31	2.4%
Unmarried Partner Households	52	4.0%
Male-female	43	3.3%
Same-sex	9	0.7%
Average Household Size	2.04	

Family Households by Size		
Total	788	100.0%
2 People	507	64.3%
3 People	143	18.1%
4 People	93	11.8%
5 People	28	3.6%
6 People	12	1.5%
7+ People	5	0.6%
Average Family Size	2.58	

Nonfamily Households by Size		
Total	506	100.0%
1 Person	450	88.9%
2 People	47	9.3%
3 People	4	0.8%
4 People	4	0.8%
5 People	0	0.0%
6 People	1	0.2%
7+ People	0	0.0%
Average Nonfamily Size	1.14	

Population by Relationship and Household Type		
Total	2,833	100.0%
In Households	2,644	93.3%
In Family Households	2,066	72.9%
Householder	788	27.8%
Spouse	608	21.5%
Child	552	19.5%
Other relative	84	3.0%
Nonrelative	34	1.2%
In Nonfamily Households	578	20.4%
In Group Quarters	189	6.7%
Institutionalized Population	189	6.7%
Noninstitutionalized Population	0	0.0%

Data Note: Households with children include any households with people under age 18, related or not. **Multigenerational households** are families with 3 or more parent-child relationships. **Unmarried partner households** are usually classified as nonfamily households unless there is another member of the household related to the householder. Multigenerational and unmarried partner households are reported only to the tract level. Esri estimated block group data, which is used to estimate polygons or non-standard geography. **Average family size** excludes nonrelatives.
Source: U.S. Census Bureau, Census 2010 Summary File 1.

September 25, 2013

©2013 Esri
Made with Esri Business Analyst
www.esri.com/ba 800-447-9778 Try it Now!

Census 2010 Summary Profile

Southport City, NC
Southport city, NC (3763400)
Geography: Place

Family Households by Age of Householder		
Total	788	100.0%
Householder Age 15 - 44	181	23.0%
Householder Age 45 - 54	123	15.6%
Householder Age 55 - 64	206	26.1%
Householder Age 65 - 74	179	22.7%
Householder Age 75+	99	12.6%
Nonfamily Households by Age of Householder		
Total	506	100.0%
Householder Age 15 - 44	78	15.4%
Householder Age 45 - 54	79	15.6%
Householder Age 55 - 64	122	24.1%
Householder Age 65 - 74	111	21.9%
Householder Age 75+	116	22.9%
Households by Race of Householder		
Total	1,294	100.0%
Householder is White Alone	1,079	83.4%
Householder is Black Alone	194	15.0%
Householder is American Indian Alone	3	0.2%
Householder is Asian Alone	0	0.0%
Householder is Pacific Islander Alone	0	0.0%
Householder is Some Other Race Alone	4	0.3%
Householder is Two or More Races	14	1.1%
Households with Hispanic Householder	21	1.6%
Husband-wife Families by Race of Householder		
Total	608	100.0%
Householder is White Alone	547	90.0%
Householder is Black Alone	53	8.7%
Householder is American Indian Alone	2	0.3%
Householder is Asian Alone	0	0.0%
Householder is Pacific Islander Alone	0	0.0%
Householder is Some Other Race Alone	2	0.3%
Householder is Two or More Races	4	0.7%
Husband-wife Families with Hispanic Householder	11	1.8%
Other Families (No Spouse) by Race of Householder		
Total	180	100.0%
Householder is White Alone	105	58.3%
Householder is Black Alone	71	39.4%
Householder is American Indian Alone	0	0.0%
Householder is Asian Alone	0	0.0%
Householder is Pacific Islander Alone	0	0.0%
Householder is Some Other Race Alone	0	0.0%
Householder is Two or More Races	4	2.2%
Other Families with Hispanic Householder	4	2.2%
Nonfamily Households by Race of Householder		
Total	506	100.0%
Householder is White Alone	427	84.4%
Householder is Black Alone	70	13.8%
Householder is American Indian Alone	1	0.2%
Householder is Asian Alone	0	0.0%
Householder is Pacific Islander Alone	0	0.0%
Householder is Some Other Race Alone	2	0.4%
Householder is Two or More Races	6	1.2%
Nonfamily Households with Hispanic Householder	6	1.2%

Source: U.S. Census Bureau, Census 2010 Summary File 1.

September 25, 2013

©2013 Esri
Made with Esri Business Analyst
www.esri.com/ba 800-447-9778 Try it Now!

Census 2010 Summary Profile
Southport City, NC
Southport city, NC (3763400)
Geography: Place

Total Housing Units by Occupancy		
Total	1,777	100.0%
Occupied Housing Units	1,294	72.8%
Vacant Housing Units		
For Rent	92	5.2%
Rented, not Occupied	0	0.0%
For Sale Only	100	5.6%
Sold, not Occupied	4	0.2%
For Seasonal/Recreational/Occasional Use	208	11.7%
For Migrant Workers	0	0.0%
Other Vacant	79	4.4%
Total Vacancy Rate	27.2%	
Households by Tenure and Mortgage Status		
Total	1,294	100.0%
Owner Occupied	876	67.7%
Owned with a Mortgage/Loan	587	45.4%
Owned Free and Clear	289	22.3%
Average Household Size	2.07	
Renter Occupied	418	32.3%
Average Household Size	1.99	
Owner-occupied Housing Units by Race of Householder		
Total	876	100.0%
Householder is White Alone	750	85.6%
Householder is Black Alone	114	13.0%
Householder is American Indian Alone	3	0.3%
Householder is Asian Alone	0	0.0%
Householder is Pacific Islander Alone	0	0.0%
Householder is Some Other Race Alone	2	0.2%
Householder is Two or More Races	7	0.8%
Owner-occupied Housing Units with Hispanic Householder	7	0.8%
Renter-occupied Housing Units by Race of Householder		
Total	418	100.0%
Householder is White Alone	329	78.7%
Householder is Black Alone	80	19.1%
Householder is American Indian Alone	0	0.0%
Householder is Asian Alone	0	0.0%
Householder is Pacific Islander Alone	0	0.0%
Householder is Some Other Race Alone	2	0.5%
Householder is Two or More Races	7	1.7%
Renter-occupied Housing Units with Hispanic Householder	14	3.3%
Average Household Size by Race/Hispanic Origin of Householder		
Householder is White Alone	2.00	
Householder is Black Alone	2.18	
Householder is American Indian Alone	1.67	
Householder is Asian Alone	0.00	
Householder is Pacific Islander Alone	0.00	
Householder is Some Other Race Alone	4.00	
Householder is Two or More Races	2.79	
Householder is Hispanic	3.38	

Source: U.S. Census Bureau, Census 2010 Summary File 1.

September 25, 2013

©2013 Esri
Made with Esri Business Analyst
www.esri.com/ba 800-447-9778 Try it Now!

Kimley-Horn
and Associates, Inc.