

CONNECT

CURRITUCK

PEDESTRIAN MASTER PLAN



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Steering Committee Members

Amy Underhill, Healty Carolinians of the Albemarle, Albemarle Regional Health Services
Angela Welsh, Planning Director/RPO Coordinator, Albemarle Commission/Albemarle Rural Planning Org
Caleb Hanke, Recent UNCG Grad
Carlos Gomes, President/Engineer, Coastal Engineering
Dana Scarborough, Project Manager, Carolina Marine Structures
Eileen Wirth, Project Coordinator, Currituck County
Gloria J. Spence, Retired
Gretchen Byrum, Division Planning Engineer, NCDOT
Jalieen Morelen, Escape Massage and Yoga, Chamber Rep
Jason Banks, Lieutenant, Currituck County Sheriff's Department
Jason Weeks, Director, Currituck Parks and Rec
Joe Govoni, Retired
Jon Frederick, Realtor NC/VA, Long and Foster Realtors (VA Beach)
Kitty Etheridge, Member, Board of Commissioners
Leah Mayo, Active Routes to School Coordinator, Region 9, Albemarle Regional Health Services
Marion Gilbert, Member, Board of Commissioners
Natalie Garrett, ASLA, Landscape Architect, Coastal Engineering, Part-Time
Olivia Jones, Family and Consumer Sciences Agent, NC Cooperative Extension
Virginia Arrington, Secondary and Student Support Services Director, Currituck County Schools

Project Consultants

Matt Hayes, AICP, Principal, Alta Planning + Design
Jennifer Baldwin, Senior Planner, Alta Planning + Design
Heather Seagle, Planner, Alta Planning + Design

Project Contacts:

Laurie LoCicero, Planning Director, County of Currituck, Laurie.LoCicero@CurrituckCountyNC.gov
Tammy Glave, CZO, Senior Planner, County of Currituck, Tammy.Glave@CurrituckCountyNC.gov



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EXECUTIVE SUMMARY

“Currituck County is a **destination** where pedestrian **connectivity** and access is provided to people of all **ages, abilities, and socioeconomic backgrounds** and where walking is encouraged and supported to create a **healthy, prosperous, and livable** Currituck for residents and visitors alike.” - Vision Statement

Vision

The Connect Currituck Pedestrian Master Plan aims to identify new opportunities and ongoing initiatives that will create a pedestrian environment that connects people of all ages and abilities to where they live, work, play, and learn.

GOALS

-  *Improve access*
-  *Protect the environment*
-  *Promote equity*
-  *Enhance health*
-  *Increase safety*
-  *Create a positive economic impact*

Community Support

Community input and support for this project was gathered from a steering committee, public outreach events, a public input survey, and a public charrette that included focus groups from mainland Currituck and Corolla.

Through this input, priorities for projects, programming, and policies were identified for improving the pedestrian experience from both an environmental and cultural perspective through infrastructure investments, education, and other strategies. These priorities are outlined on the following pages.



Worn grass reveals existing pedestrian activity along Caratoke Highway between Walnut Island Boulevard and Poplar Branch Road.

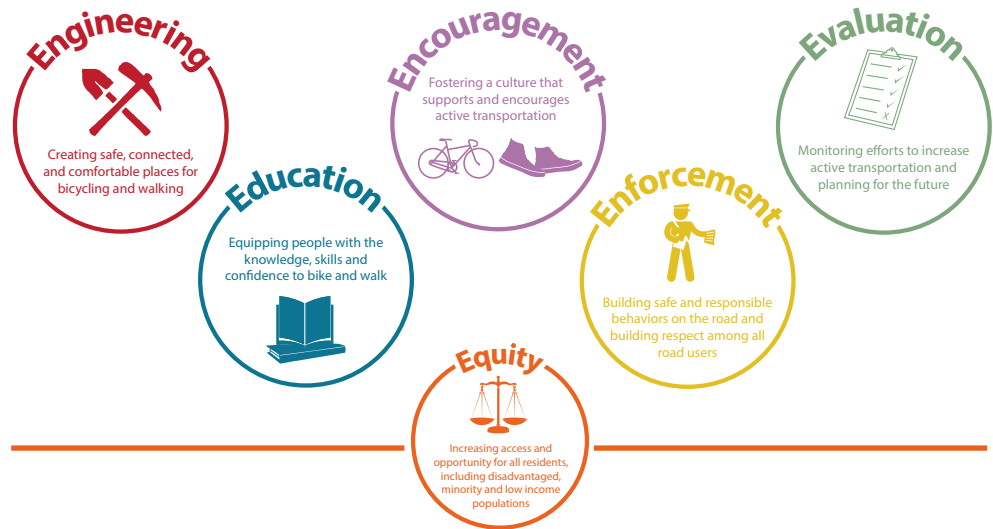
Projects

Given the large geographical scope and relatively rural setting of the project area, pedestrian network recommendations were focused within four major pedestrian “hubs” (Moyock, Barco-Maple-Currituck, Grandy, and Corolla) and two minor “sub-hubs” (Knotts Island and Jarvisburg to Point Harbor). These locations were selected based off their existing and potential pedestrian demand. These network recommendations included new sidewalks in residential neighborhoods, new sidepaths/trails along major corridors, “quiet street” improvements where the right-of-way is insufficient for separated facilities, multimodal bridge elements, and intersection improvements.

Six project priorities were identified through the various public input processes described on the previous page. It was critical that these projects were developed for both the mainland and coastal communities in Currituck County.

The following six featured projects are highlighted in the implementation chapter:

- » **Moyock:** Improve the crossing infrastructure at the intersection of Caratoke Hwy. and Shingle Landing Rd./Camellia Dr.
- » **Barco:** Install high-visibility crosswalk at intersection of Shortcut Rd. (US-158) and College Way to facilitate pedestrian access to the Currituck Community Park complex.
- » **Grandy:** Improve the crossing infrastructure at Walnut Island Blvd. and Poplar Branch Rd., and add a sidepath along Caratoke Highway between the two intersections.
- » **Grandy:** Create a pedestrian lane along the shoulder of Walnut Island Blvd. to improve safety for existing pedestrian traffic.
- » **Corolla:** Complete critical gaps in the Corolla Greenway and improve crossings along NC-12.
- » **Corolla:** Traffic calming in Whalehead.



Programs

A comprehensive pedestrian program is often centered around what is known as the 5 E's: Engineering, Education, Encouragement, Enforcement, and Evaluation (see diagram above). Equity is added here as the non-traditional 6th E to ensure a focus on communities with mobility limitations.

In order to effectively implement the recommended pedestrian programming in Currituck County, coordination amongst diverse groups of stakeholders is necessary. Key partners to involve may include: the Active Routes to School program, Currituck County Schools, Currituck County Parks & Recreation, business associations, the Sheriff's Office, disability or senior service agencies, and health agencies.

A program toolkit was developed to address the community's needs in terms of education, encouragement, enforcement, and evaluation. The programs included in this toolkit are:

- » Watch For Me, NC awareness campaign
- » Safe Routes to School programs
- » Let's Go NC pedestrian and bicycle safety skills curriculum
- » Walking School Bus and Bike Trains
- » Walk-at-School Programs
- » Speed Feedback Signs
- » Enforcement Activities

Policies

One of the most cost effective implementation strategies for Currituck County is to establish land development regulations and street design policies that promote walkable new development and capital projects. A review and analysis of the county ordinances, development standards, and policies was used to identify general issues and opportunities impacting the pedestrian environments across the county.

Model regulatory and policy language from around North Carolina and the U.S. was identified and should be adopted to strengthen Currituck's development regulations to improve land use/ transportation integration, connectivity, and the provision of pedestrian infrastructure and amenities.

It is also recommended that Currituck County adopt **Complete Streets** and **Vision Zero** policies to support safe pedestrian travel in the county.



1. INTRODUCTION

Currituck County is located on the Atlantic Coast in the northeast corner of North Carolina. Bordered by Virginia to the north, Camden County to the west, and Dare County to the south, it has a unique geographic layout, with its mainland communities and coastal community separated by the Currituck Sound and each served primarily by a single, longitudinal road corridor. Creating safe pedestrian connections within and between these distinct communities requires strategies tailored to their specific contexts.

Overview

The Connect Currituck Pedestrian Master Plan serves as a guiding document and blueprint for implementation and funding of pedestrian facilities in the county. The plan was made possible by joint funding from Currituck County and the North Carolina Department of Transportation (NCDOT). The planning process kicked off in April 2017 and included a variety of methods to gather public input. This chapter outlines the vision and goals of the project based on that initial public input, as well as the planning process, schedule, and background information on the project.

The Vision

The Connect Currituck Pedestrian Master Plan aims to identify new opportunities and ongoing initiatives that will create a pedestrian environment that connects people of all ages and abilities to where they live, work, play, and learn.

The purpose of the Currituck Pedestrian Master Plan is to improve all aspects of the pedestrian experience and increase pedestrian activity. It addresses how to make the streets safe for Currituck’s youngest and oldest pedestrians, how to improve the connections between neighborhoods, and how an improved pedestrian environment can create healthier and more livable communities. The following is the plan’s vision statement:

“Currituck County is a destination where pedestrian connectivity and access is provided to people of all ages, abilities, and socio-economic backgrounds and where walking is encouraged and supported to create a healthy, prosperous, and livable Currituck for residents and visitors alike.”

PLAN GOALS



Improve access



Promote equity



Create a positive economic impact



Enhance health



Protect the environment



Increase safety

Planning Process



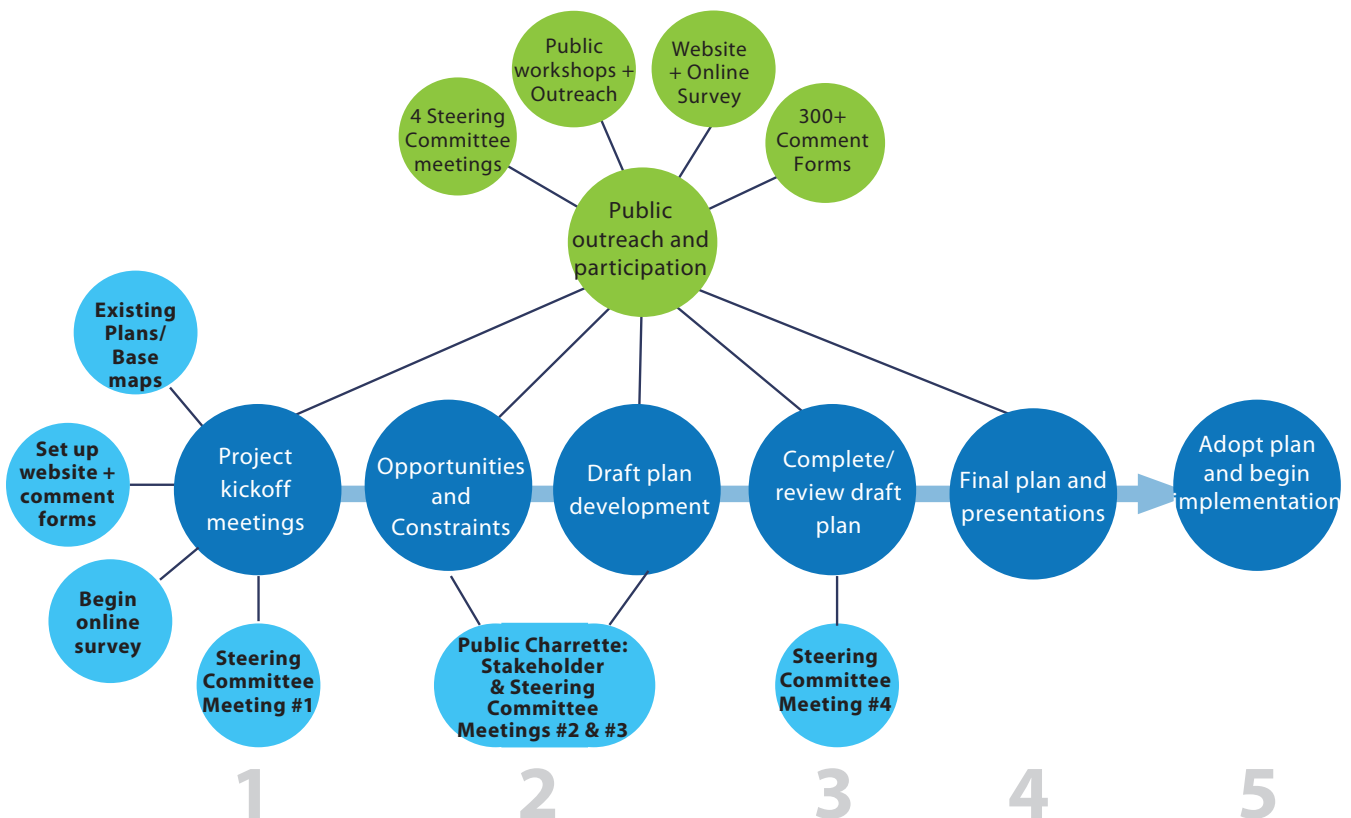
Steering Committee members gathered around a base map of Currituck County to discuss existing conditions during the kickoff meeting in April 2017.

The planning process for the Connect Currituck Pedestrian Master Plan started in Spring 2017 with the initial Steering Committee meeting and concluded in late 2017. Key steps in the planning process are highlighted in the diagram below.

PROJECT STEERING COMMITTEE

Key tasks of the Steering Committee included guiding the overall vision of the plan, identifying existing opportunities and constraints for walking, leveraging resources for an expanded public outreach effort, and providing feedback on plan recommendations. The Steering Committee included representatives of the following groups (the names of the Steering Committee members are listed on the Acknowledgments page on p.2):

- » Local residents & Business owners
- » Albemarle Regional Health Services
- » Albemarle Rural Planning Organization
- » NCDOT
- » Chamber of Commerce
- » Currituck County Sheriff's Office
- » Currituck Parks and Recreation
- » Currituck County Board of Commissioners
- » NC Cooperative Extension
- » Currituck County Schools
- » Active Routes to School (NCDOT)
- » NCDOT Division of Bicycle & Pedestrian Transportation



Public Input Opportunities

In addition to Steering Committee meetings, the planning process included several other methods of public outreach and involvement.

PROJECT WEBSITE

The website featured information about the plan and a link to the comment online survey. The county purchased a user-friendly url to host the project site on the county's website using the following link: www.connectcurrituck.com

PUBLIC COMMENT FORM

The public comment form was offered on-line and in hard copy format. The form asked questions about walking destinations, barriers to walking, and potential funding sources in Currituck County.

PUBLIC CHARRETTE

In June, the project team hosted a public workshop and charrette at the Currituck Courthouse and at the Corolla Branch Library to develop network recommendations and to gather further input from the public.

FINAL PLAN PRESENTATIONS

The plan was finalized in late 2017. A final report was presented to the Currituck County Board of Commissioners and the Planning Board.



An image of the on-line public survey that allowed the public to report preferences for improvements to pedestrian facilities where they prefer to walk.



A group exercise during the charrette was an opportunity for stakeholders to rank criteria for prioritizing pedestrian projects.



Joggers running along Yaupon Lane, the location of the Currituck County Southern Public Beach Access.

Why is This Plan Important?

Extensive research has highlighted the multitude of economic, health, mobility, environment, safety, and quality of life benefits of having a pedestrian-friendly community.

The following sections highlight the many benefits of planning for and creating more walkable communities in Currituck County. Resources drawn upon in this discussion are listed at the end of this chapter.

Key Benefits of Pedestrian-Friendly Communities



SAFETY

Trends and Challenges

According to a survey of 16,000 North Carolina residents for the 2011 North Carolina Bicycle and Pedestrian Safety Summit, the most commonly reported safety issue for walking in North Carolina is inadequate infrastructure (75%).¹ A lack of pedestrian facilities, such as sidewalks, trails, and safe crossings, lead to unsafe walking conditions for pedestrians.

- » Each year on average (2011-2015), 178 pedestrians are killed in collisions with motor vehicles on North Carolina roads, with 2,181 more injured.²
- » North Carolina is ranked as one of the least safe states for walking (41st).³
- » 14% of all North Carolina traffic fatalities in 2015 were pedestrians.
- » During the five-year period from 2011 to 2015, a total of 10,656 pedestrian-motor vehicle crashes were reported to North Carolina authorities.
- » Research by The University of North Carolina Highway Safety Research Center found that Currituck County had 26 crashes involving pedestrians from 2010 to 2014.



SAFETY

*From 2007-2014,
there were 9
pedestrian fatalities
in Currituck County.*

IMPROVING SAFETY

Separate studies conducted by the Federal Highway Administration and the University of North Carolina Highway Safety Research Center demonstrate that installing pedestrian and bicycle facilities directly improves safety by reducing the risk and severity of pedestrian-automobile and bicycle-automobile crashes. For example, installing a sidewalk along a roadway reduces the risk of a pedestrian “walking along roadway” crash by 88 percent. Furthermore, according to the aforementioned survey, 70% of North Carolina respondents said they would walk or bicycle more if these safety issues were addressed.¹

Pedestrian Crash Countermeasures⁴

Pedestrian Crash Reduction Factor

- | | |
|--|-----|
| » Install pedestrian overpass/underpass | 90% |
| » Install sidewalk (to avoid walking along roadway) | 88% |
| » Provide paved shoulder (of at least 4 feet) | 71% |
| » Install raised median at unsignalized intersection | 46% |
| » Install pedestrian refuge island | 36% |
| » Install pedestrian countdown signal heads | 25% |

The following web addresses link to more comprehensive research on active transportation and safety:

- » <https://www.ncdot.gov/bikeped/walkbikenc/>
- » www.pedbikeinfo.org/data/factsheet_crash.cfm

MOBILITY



MOBILITY

1.1% of Currituck County residents currently walk to work

Opportunity to Increase Walking Rates

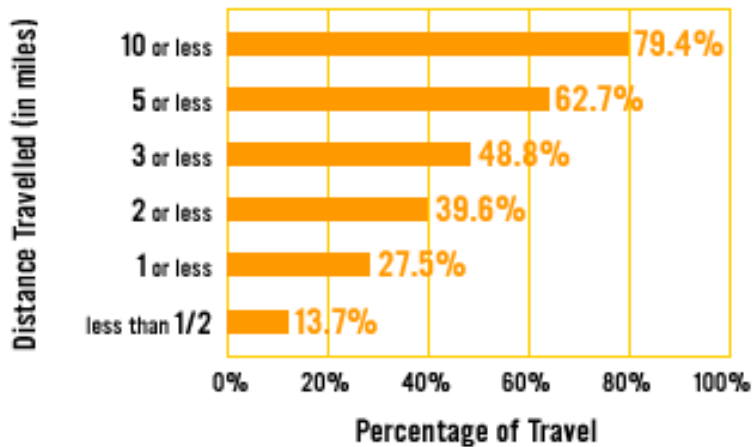
According to the 2011 Bicycle and Pedestrian Safety Survey, at least 70 percent of North Carolinians would walk or bike more for daily trips if walking (and bicycling) conditions were improved.¹ With appropriate accommodations, walking can provide alternatives to driving for short trips, including trips to work, school, running errands, or other short trips. And even for trips that are made via driving or transit, every trip involves walking at either end of the trip, whether it is across a parking lot or down the street to catch a taxi, bus, or train.

Unfortunately, in many parts of North Carolina, the conditions for walking are unsafe, even for short distances. Over 30% of the respondents to the Bicycle and Pedestrian Safety Survey felt that walking for any purpose was somewhat or very dangerous. These respondents cited inadequate infrastructure for walking (75%) and lack of pedestrian connectivity between residential neighborhoods and activity/commercial centers (70%).¹

Commute rates for walking in North Carolina currently fall below the national average, with just 1.8% walking to work, compared to 2.9% walking nationwide. This places North Carolina 42nd for walking commute rates in nationwide state rankings.³

In many communities, the walking commute rate is used as an indicator of overall walking. An estimated 40% of all trips (commute and non-commute) taken by Americans each and every day are less than two miles, equivalent to a walking trip of 30-40 minutes or a 10-minute bike ride; however, just 13% of all trips are made by walking or bicycling nationwide.³ To put these numbers into perspective, 34% of all trips are made by walking or bicycling in Denmark and Germany, and 51% of all trips in the Netherlands are by foot or by bike.¹⁷ Germany, Denmark, and the Netherlands are wealthy countries with high rates of automobile ownership, just like the United States. Yet, an emphasis has been placed on providing quality walking and bicycling environments which has alleviated the reliance on motor vehicles for short trips.

Daily Trip Distances



Most driving trips are for a distance of five miles or less. Chart from the Bicycle and Pedestrian Information Center website, www.pedbikeinfo.org

STEWARDSHIP

Stewardship addresses the impact that transportation decisions (both at the government/policy level and individual level) can have on the land, water, and air that Currituck residents and visitors enjoy.

Providing safe accommodations for walking can help to reduce automobile dependency, which in turn leads to a reduction in vehicle emissions – a benefit for residents and visitors and the surrounding environment. As of 2003, 27 percent of U.S. greenhouse gas emissions are attributed to the transportation sector, and personal vehicles account for almost two-thirds (62 percent) of all transportation emissions.¹⁷ Primary emissions that pose potential health and environmental risks are carbon dioxide, carbon monoxide, volatile organic compounds, (VOCs), nitrous oxides (NOx), and benzene. Children and senior citizens are particularly sensitive to the harmful affects of air pollution, as are individuals with heart or other respiratory illnesses. Increased health risks such as asthma and heart problems are associated with vehicle emissions.

Below are some key trends and challenges related to stewardship and transportation in North Carolina:

- » Even a modest increase in walking (in place of motor vehicle trips) can have significant positive impacts. For example, replacing two miles of driving each day with active travel (walking or biking), in one year, prevents 730 pounds of carbon dioxide from entering the atmosphere.¹⁸
- » According to the National Association of Realtors and Transportation for America, 89% of Americans believe that transportation investments should support the goal of reducing energy use.²⁰
- » North Carolina’s 2009-2013 Statewide Comprehensive Outdoor Recreation Plan (SCORP) found “walking for pleasure” to be the most common outdoor recreational activity, enjoyed by 82% of respondents.²¹
- » The natural buffer zones that occur along greenways protect streams, rivers, and lakes, preventing soil erosion and filtering pollution caused by agricultural and roadway runoff.²²

The following web addresses link to more comprehensive research on active transportation and stewardship.

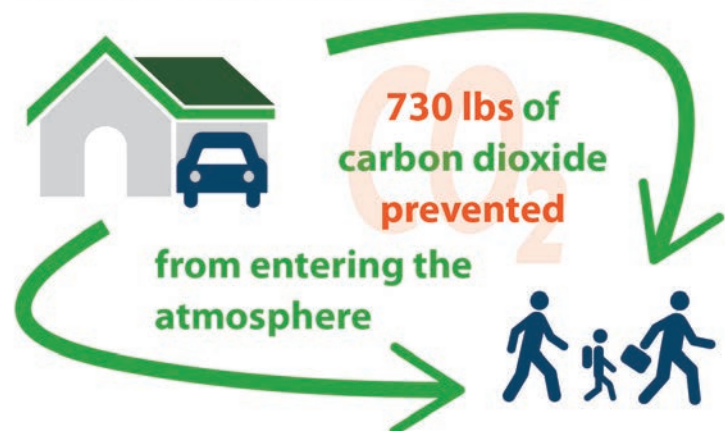
- » www.ncdot.gov/bikeped/planning/walkbikenc/
- » www.pedbikeinfo.org/data/factsheet_environmental.cfm



STEWARDSHIP

Currituck County has 5 miles of multi-use trails, all of which are in Corolla. There is strong support for more greenways and/or multi-use paths on the mainland.

Replace 2 miles of driving with walking or biking x 365 days =



* Federal Highway Administration. (1992). Benefits of bicycling and walking to health

HEALTH



HEALTH

33% of adults in Currituck County are obese, compared to the state average of 29%, and the national average of 25¹⁰

Health Trends and Challenges

North Carolina's transportation system is one of the most important elements of our public environment, and it currently poses barriers to healthy living through active transportation. In 2012, NCDOT's Board of Transportation revised its mission statement to include "health and well-being" and passed a "Healthy Transportation Policy," which declares the importance of a transportation system that supports positive health outcomes. Below are some key findings and challenges related to health and transportation in North Carolina:

- » 65% of adults in North Carolina are either overweight or obese.⁵ The state is also ranked 5th worst in the nation for childhood obesity.⁶
- » Recent reports have estimated the annual direct medical cost of physical inactivity in North Carolina at \$3.67 billion, plus an additional \$4.71 billion in lost productivity.⁷ However, every dollar invested in pedestrian and bicycle trails can result in a savings of nearly \$3 in direct medical expenses.⁸
- » Of North Carolinians surveyed, 60% would increase their level of physical activity if they had better access to sidewalks and trails.⁵
- » A Charlotte study found that residents who stopped driving to work, and started walking to the light rail station and taking light rail to work, weighed an average of 6.5 pounds less than those who continued to drive to work.⁹

Better Health Through Active Transportation

Using active transportation to and from school, work, parks, restaurants, and other routine destinations is one of the best ways that children and adults can lead measurably healthier lives. Increasing one's level of physical activity through walking and bicycling reduces the risk and impact of cardiovascular disease, diabetes, chronic disease, and some cancers. It also helps to control weight, improves mood, and reduces the risk of premature death.¹¹

Active Transportation: Pathway to Health



The graphic above is from the Health Appendix of Walk Bike NC, North Carolina's statewide bicycle and pedestrian plan from 2013, available at <https://www.ncdot.gov/bikeped/walkbikenc/pictures/Health-Appendix.pdf>. It illustrates the relationship between improvements in the active transportation system (i.e., better walking and bicycling facilities) and health, both in terms of human health and environmental health.

ECONOMICS

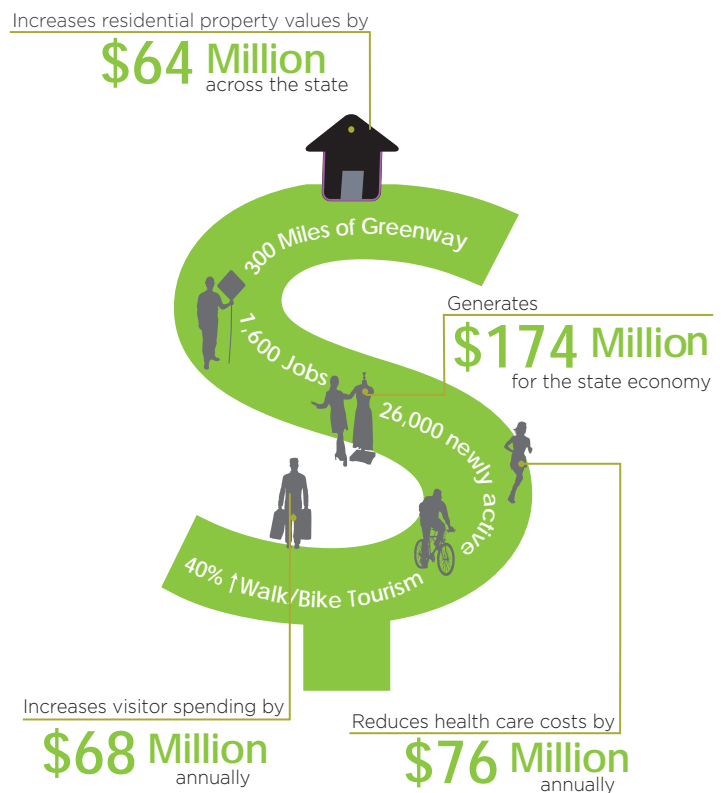
Facilities for pedestrians generate economic returns through improved health, safety, and environmental conditions, **raise property values**, and attract visitors. Below are some key economic trends related to walking in North Carolina and surrounding areas:

- » North Carolina is the 6th most visited state in the United States; visitors spend as much as \$18 billion a year, many of whom partake in activities related to walking (and biking).¹²
- » According to the report, “The Potential Economic Impacts of the Proposed Carolina Thread Trail,” property values of homes in the vicinity of the Carolina Thread Trail alignment are expected to **increase by approximately 4%**, representing **an increase in \$1.7 billion**, which translates into approximately **\$17 million in annual property tax revenues**.³⁰
- » In a three-year study of trails in North Carolina, the Institute for Transportation Research and Education is examining the economic and public health impacts of trails throughout the state. Initial findings found that approximately 20% of trail users make purchases related to their trail use. When completed, this study will also evaluate the impacts of trails on property values and tax benefits.¹³
- » Businesses in Travelers Rest, SC, have reported a 10% to 85% increase in sales and revenues following the construction of the Swamp Rabbit Trail.¹⁴ Trails in Virginia, like the Creeper Trail and the New River Trail have also been found to have significant positive impacts on their local economies.¹⁵
- » Walking is an economically efficient transportation mode. Many North Carolinians cannot afford to own a vehicle and are dependent on walking for transportation (2.5% of occupied housing units in North Carolina do not have a vehicle; 1.9% of households in Currituck County do not have a vehicle).¹⁶
- » The report, “Walking the Walk: How Walkability Raises Housing Values in U.S. Cities”, analyzed data and found that in 13 of the 15 markets, higher levels of walkability, as measured by Walk Score, were directly linked to higher home values.



The annual return to local businesses, and state and local governments on bicycle path development in the Outer Banks is approximately nine times higher than the initial investments.³¹

An economic impact study, performed as part of the WalkBikeNC Plan, showed significant positive return on investment from the addition of 300 miles of greenways.



REFERENCES

1. NCDOT DBPT and the Institute of Transportation Research and Education. (2011). 2011 Bicycle and Pedestrian Safety Summit Report.
2. North Carolina 2015 Traffic Crash Facts. (2015). North Carolina Division of Motor Vehicles.
3. Alliance for Biking and Walking. (2014). Biking and Walking in the United States: 2014 benchmarking report.
4. Federal Highway Administration. (2008). Toolbox of Countermeasures and Their Potential Effectiveness for Pedestrian Crashes. FHWA-SA-014. http://safety.fhwa.dot.gov/ped_bike/tools_solve/ped_tctpepc/#cras.
5. North Carolina State Center for Health Statistics. (2007). Behavioral Risk Factor Surveillance System, 2007 Results. www.schs.state.nc.us/SCHS/brfss/2010/index.htm.
6. North Carolina DHHS, Physical Activity and Nutrition Branch, Eat Smart, Move More NC. The Obesity Epidemic in North Carolina. www.eatsmartmovemorenc.com/ObesityInNC/ObesityInNC.html.
7. Be Active North Carolina. (2012). Tipping the Scales: The High Cost of Unhealthy Behavior in North Carolina.
8. Chenoweth, David. (2012). "Economics, Physical Activity, and Community Design." North Carolina Medical Journal 73(4): 293-294.
9. MacDonald, J.M., Stokes, R.J., Cohen, D.A., Kofner, A., & G.K. Ridgeway. (2010). The effect of light rail transit on body mass index and physical activity. American Journal of Preventive Medicine 39(2): 105-112.
10. 2013 Currituck County Community Health Assessment. <http://publichealth.nc.gov/lhd/cha/reports.asp>.
11. National Prevention Council. (2011). National Prevention Strategy: America's plan for better health and wellness. <http://www.healthcare.gov/prevention/nphpphc/strategy/report.pdf>
12. The North Carolina Department of Commerce reported 37 million visitors to the State in 2011, of which 63 percent came from outside the State. www.visitnc.com
13. Institute of Transportation Research and Education. (2016). "Evaluating the Economic Impact of Shared Use Paths in North Carolina- Technical Memorandum:American Tobacco Trail Year Two."
14. Reed, J.A. (2014). Greenville Health System Swamp Rabbit Trail: Year 3 Findings. Available at: <http://greenvillerec.com/wp-content/uploads/2014/12/SRT-Impact-Study-Year-3-Final.pdf>
15. Economic Development Studio, Virginia Tech University. (2011). Building Connectivity through Recreation Trails: A Closer Look at New River Trail State Park and the Virginia Creeper Trail. Available at: http://www.visitdamascus.org/wp-content/uploads/2016/06/Final-Report_Impact-of-Trails_Fall2011Studio_VT.pdf

16. U.S. Census Bureau. American Community Survey 2010-2014 5-year estimates.
17. Pucher, J. and R. Buehler. (2010). Walking and Cycling for Healthy Cities. *Built Environment* 36(5): 391-414.
18. Federal Highway Administration. (2012). Report to the U.S. Congress on the Outcomes of the Nonmotorized Transportation Pilot Program SAFETEA-LU Section 1807. Retrieved from http://www.fhwa.dot.gov/environment/bicycle_pedestrian/ntpp/2012_report/page00.cfm
19. Office of Transportation and Air Quality, Environmental Protection Agency. (2006). Greenhouse Gas Emissions from the U.S. Transportation Sector: 1990-2003. Report number EPA 420 R 06 003
20. National Association of Realtors and Transportation for America. (2009). 2009 Growth and Transportation Survey.
21. Division of Parks and Recreation, NC Department of Environment and Natural Resources. (2008). 2009-2013 North Carolina Statewide Comprehensive Outdoor Recreation Plan
22. Arendt, R. (1994). *Rural by Design*. American Planning Association, Chicago, Illinois.
23. Tedder, L. A. (1995). Effects of Three Cary Greenways on Adjacent Residents. University of North Carolina at Chapel Hill.
24. Martin, W., Ludden, T., et al. (2004) Preliminary Assessment of Crime Risk along Greenways in Charlotte, North Carolina. Department of Geography and Earth Sciences University of North Carolina at Charlotte. 1994-2004. Available at: http://carolinathreadtrail.org/assets/files/Safety%20GreenwayCrime04_paper%20from%20UNCC.pdf
25. Virginia Crime Prevention Association. *Safety by Design: Creating a Safer Environment in Virginia*. 2005
26. Catawba Valley Heritage Alliance. Greenways & Crime. Available at: <http://www.heritagealliance.org/GreenwaysAndCrime.htm>
27. National Trails Training Partnership. "Impacts of Trails and Trail Use". Available at: <http://www.americantrails.org/resources/adjacent/sumadjacent.html>
28. International CPTED Association. www.cpted.net/
29. Buncombe County Greenways and Trails Master Plan. Available at: <http://www.buncombecounty.org/governing/depts/parks/Greenways.aspx>
30. Catawba Lands Conservancy. (2007) The Potential Economic Impacts of the Proposed Carolina Thread Trail. Available at: http://www.carolinathreadtrail.org/assets/files/CTT_Economic_Study.pdf
31. Institute of Transportation Research and Education. (2004). "The Economic Impact of Investments in Bicycle Facilities: A Case Study of the Northern Outer Banks.

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2. EXISTING CONDITIONS

This chapter summarizes the existing pedestrian environment in Currituck County. A summary of the detailed mapping analysis and the public comments received during the planning process is also included.

Overview

The landscape and conditions for walking on the mainland versus the beach are very different. Mainland Currituck has virtually no sidewalks or other pedestrian facilities (greenways, multi-use paths, crosswalks), while the coastal community of Currituck County, which consists of Corolla on the Outer Banks, has a robust network of sidewalks and multi-use trails (existing conditions are shown in maps 2.1 through 2.4).

Mainland Currituck is connected from its northern border to its southern peninsula by Caratoke Highway (NC 168 and US 158) running through its center. This 5-lane undivided highway serves vehicular traffic, at 55 m.p.h., with a limited number of traffic lights at major intersections and shopping centers. There are no sidewalks or other pedestrian facilities along the highway.

A number of new residential developments in the county have been built that include sidewalks, but there are no connecting facilities outside of these developments.

Corolla is similarly oriented as the mainland as a north-south corridor with a highway (NC Highway 12) running down its center. This highway is a 2-lane road for the majority of its length, with limited 3-lane sections in more densely trafficked areas. A 10-foot multi-use path or 5-foot sidewalk runs alongside approximately 5-miles of its 12-mile length. Spurs connect the path to the beach at major access points, and additional sidewalk connections exist within neighborhoods. Marked crossings provide access across NC-12 in some areas with high pedestrian traffic.

“I think the county is too spread out to make sidewalks accessible everywhere. BUT, there are some areas that do need it. Moyock could use sidewalks to the main shopping areas from Eagle Creek down to the Hardees. Also the Grandy shopping area.”

-Currituck County Resident

Planning Context

In 2015, NCDOT changed its guidelines to allow counties to apply for its Pedestrian Planning Grant, which has allowed Currituck County to be eligible for the initiative. The countywide scale of this plan comes with its challenges, however, since pedestrian travel by its very nature requires a smaller scale of planning. To accomplish that level of planning across the entire county's span is neither feasible or effective, especially given the rural nature of much of the mainland part of the county.



The map above outlines Currituck County's mainland (medium blue) and the coastal communities (dark blue). Planning efforts were focused in four pedestrian hubs, and two sub-hubs, as depicted in the map on the facing page.

As a result, the project team has identified hubs of pedestrian activity--three on the mainland, one on the coast, and two sub-hubs--where the analysis and recommendations are focused (see map on facing page). The development of these pedestrian hubs allowed project planners to focus their efforts in areas of high pedestrian demand and need with the most potential for impacting pedestrian safety and access. The sub-hubs were selected to highlight parts of the county that may have more pedestrian demand in the future with land use changes, but don't have existing demand to warrant a hub designation. Planning efforts were focused equally across the mainland and coastal hubs.

PEDESTRIAN HUBS:

- » Moyock
- » Barco-Maple-Currituck
- » Grandy
- » Corolla

PEDESTRIAN SUB-HUBS

- » Jarvisburg-Powells Point-Harbinger-Point Harbor
- » Knotts Island

Map 2.0 Pedestrian Hubs and Sub-Hubs (Existing Infrastructure)



Legend

- Pedestrian Hub
- Pedestrian Sub Hub
- Sidewalk
- Bike Lane
- Shared-Use Path
- Railroad
- Currituck County
- Surrounding NC Counties
- Virginia
- Public School
- Public Library
- Cultural Point of Interest
- Shopping





Mainland Characteristics

HUB DESCRIPTIONS

The mainland pedestrian hubs of **Moyock, Grandy, and Barco-Maple-Currituck** were formulated around high-activity centers and residential neighborhoods where the current and potential demand for pedestrian travel is highest.

Moyock and **Grandy** have experienced increased pedestrian traffic as residential development has accelerated. Both of these communities are divided by the US 158/NC 168 highway that hinders pedestrian access. Walnut Island and Waterview Shores are lower income neighborhoods in **Grandy**, whose residents often walk to the nearby commercial areas.

Within the **Barco-Maple-Currituck** hub, the Currituck Community Park on Shortcut road— with its YMCA facility, Senior Center, and other community centers— is a major draw for recreation and social activity. The Currituck County Government Center on Caratoke Highway, as well as the Old Currituck Courthouse are large employment centers for the county.

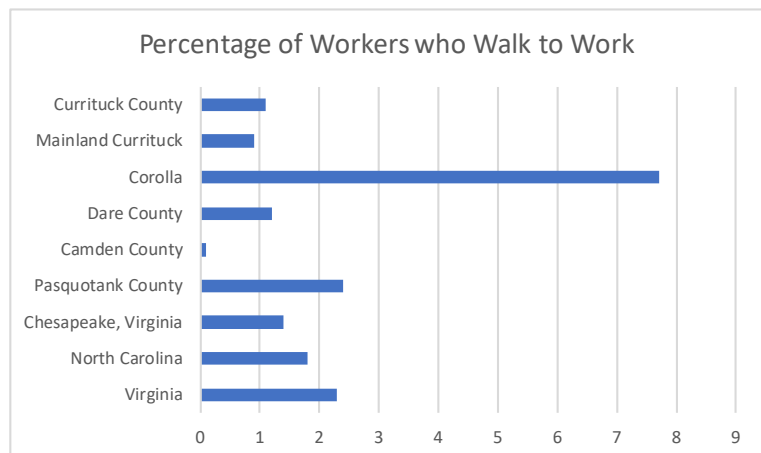
A well-connected sidewalk network with improved crossings at key intersections will give residents and visitors of **Moyock, Grandy, and Barco-Maple-Currituck** a viable transportation alternative, especially during the high traffic tourist season. The ability to access community resources and destinations safely via foot will allow more equitable access for those who do not, cannot, or prefer not to drive.

A mainland sub-hub was also defined for the southern end of the peninsula, which includes **Jarvisburg, Powells Point, Harbinger, and Point Harbor**. While the density of population and destinations in this area is lower than that of the hubs, the potential for growth and development, given its proximity to Dare County, warrants attention in order to anticipate future pedestrian connectivity as growth occurs.

WALKING RATES*

The percentage of mainland residents who report that they walk to work ranges from zero in Currituck to 1.7% in the southwestern part of the Mainland, including Barco, Maple, Sligo, and the western and southern extents of the peninsula.

Compared to surrounding communities, Currituck County falls right in the middle. The average rate for the state of North Carolina is 1.8%. Virginia's is 2.3%. Surrounding counties' averages are depicted in the graphic to right. In the long-term, Currituck's mainland should aspire to achieve a walking rate comparable to Pasquotank County, NC.



Coastal Characteristics

HUB DESCRIPTION

The coastal hub is defined as the Outer Banks beach community of **Corolla**. This includes the entire length of the beach community, from the Dare County/Currituck County border to the northern terminus of NC-12 at the off-road beach access. Corolla is a busy tourist community that has only 800 permanent residents, but the Outer Banks — which also includes Dare County communities to the south— sees as many as 60,000 visitors every week during the summer. Tourism is the primary economic driver in this hub.

Pedestrian activity in Corolla is much higher than that of the mainland, with visitors and seasonal workers alike walking to restaurants, shopping, outlets, entertainment venues, and of course the beach. Until recently, there was little provision of pedestrian facilities to safely support this activity— however, there were pedestrian fatalities along NC-12 between 2007 and 2014. In response, four-and-a-half miles of sidewalks and wider sidepaths had been built, with the goal of extending this to 12 miles along the entire length of NC-12. This multi-use path will greatly improve pedestrian safety along the corridor and increase access for the many people who want to be able walk and enjoy the beauty of the coast.

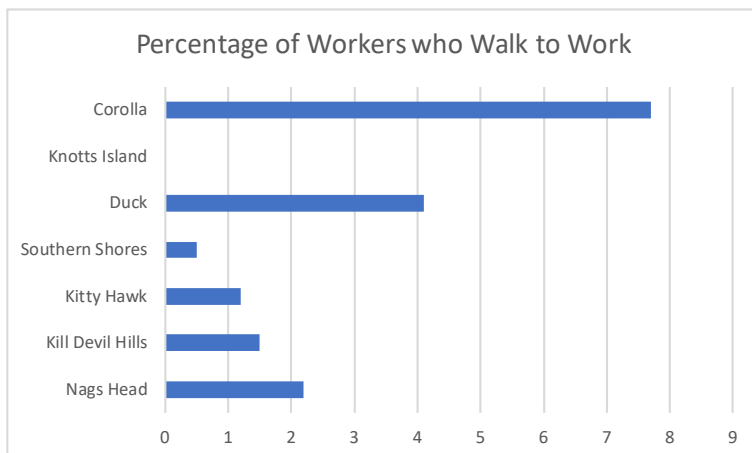
A coastal sub-hub was also identified for **Knotts Island**, as this community has unique pedestrian concerns related to school age children accessing the bus and ferry, and tourism related pedestrian activity accessing the ferry, Mackay Island National Wildlife Refuge, and area farms.



WALKING RATES*

Nearly 8% of workers in Corolla report that they walk to work. This rate is well above those of other Outer Banks communities in Dare County, and may be a reflection of the geographic isolation of the area that limits access to jobs to those in the immediate vicinity.

On Knotts Island, on the other hand, zero workers report walking to work. This is not unusual, given the rural, agriculture, and remote nature of that area.



***It is important to note that these walking statistics only represent commute-to-work trips, and that many other forms of walking are not accounted for, including shopping, running errands, trips to school, and recreational walking. Providing pedestrian facilities, like sidewalks and sidepaths, will both support existing pedestrian activity as well as encourage more of it by making it a safer, more comfortable, and more convenient way to both travel and recreate.**

Existing Condition Map Series

The existing conditions maps on the following pages provide insight into the demographic, environmental, and existing pedestrian network of Currituck County. These maps display existing opportunities and constraints in the county.

MAP 2.1-2.6 EXISTING PEDESTRIAN FACILITIES

As described on p. 23, existing pedestrian facilities include pockets of sidewalks in new neighborhood developments in Moyock and other mainland communities, as well as a more linear network of sidewalks and wide sidepaths along NC-12 in Corolla.

MAP 2.7 KEY PEDESTRIAN DESTINATIONS

Key destinations include:

- Government buildings
- Educational centers and schools
- Health agencies and facilities
- Shopping centers
- Cultural points of interest
- Natural points of interest
- Ferry terminals
- Currituck County Public Library
- Historic Jarvisburg Colored School Association & Museum
- Audubon Pine Island Sanctuary and Center
- Mackay Island National Wildlife Refuge
- Outer Banks Visitor's Center

MAP 2.8 PEDESTRIAN DEMAND

Pedestrian demand in Currituck is approximated by using attractors and generators for where people live, work, play, and learn. Data inputs include population data, employment data, and presence of parks, trails, and retail stores. The results for each category (live, work, play, etc.) were then overlaid to create a composite pedestrian demand map. This composite map was used by the project team to identify potential projects and prioritize investments.

MAP 2.9 EQUITY ANALYSIS FINDINGS

When evaluating the need for pedestrian infrastructure and improvements, it is important to understand the areas of Currituck County where there is a greater concentration of need. A well-connected pedestrian network should be accessible to everyone, especially to populations that rely on walking or transit as modes of transportation. Inputs for the equity analysis were analyzed at the census tract level. The inputs are: households with no vehicle, households living below the poverty level, limited English proficient populations, and non-white populations. Findings from the equity analysis were used to inform the pedestrian network recommendations.

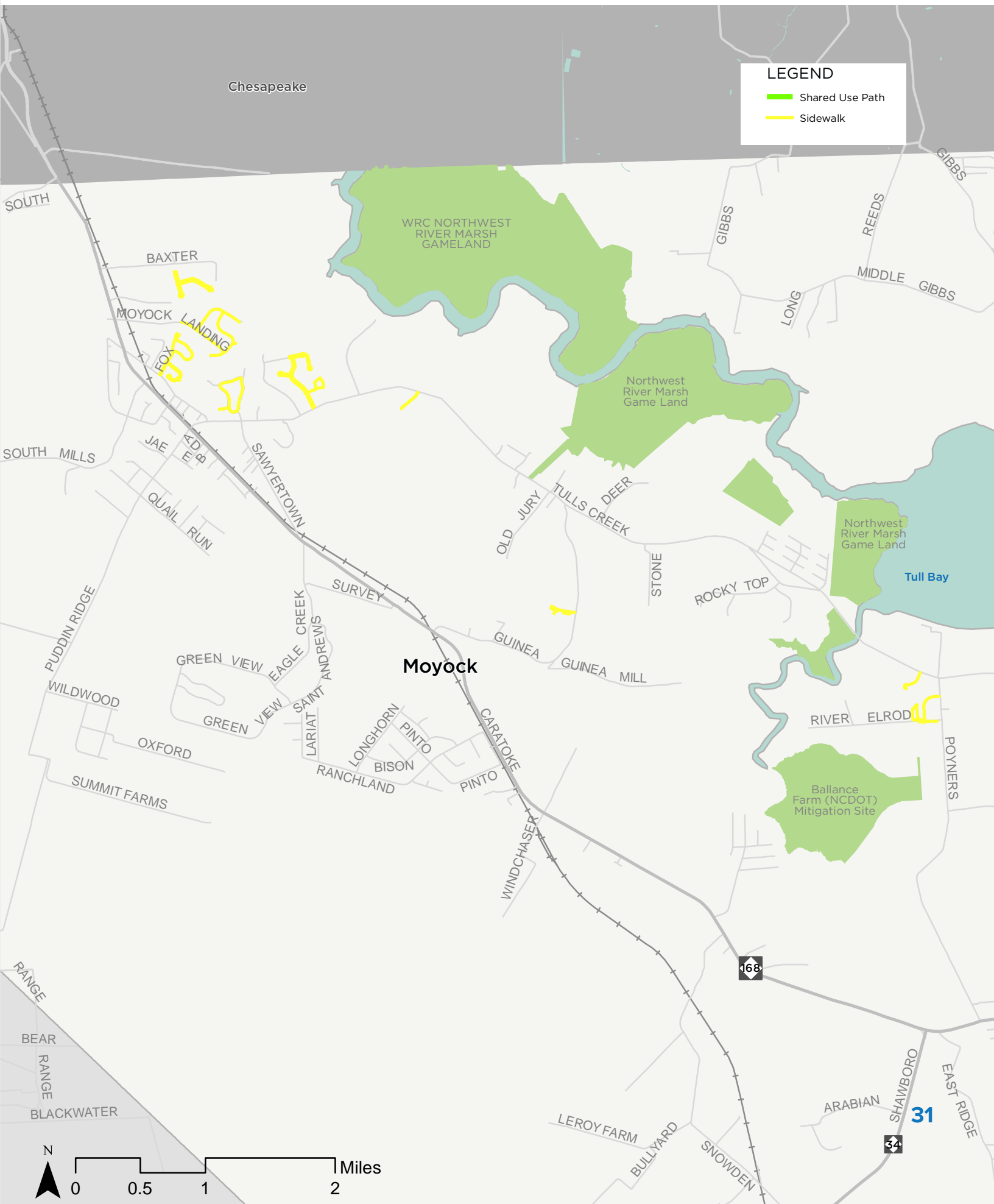
MAP 2.10 PEDESTRIAN CRASHES (2007-2014)

From 2007 to 2014, there were 26 pedestrian crashes in Currituck County, 9 of which were fatal. High crash corridors include Caratoke Highway, Shortcut Road, Puddin Ridge Road, NC-615, and NC-12, with multiple collisions including fatalities occurring on all five corridors.

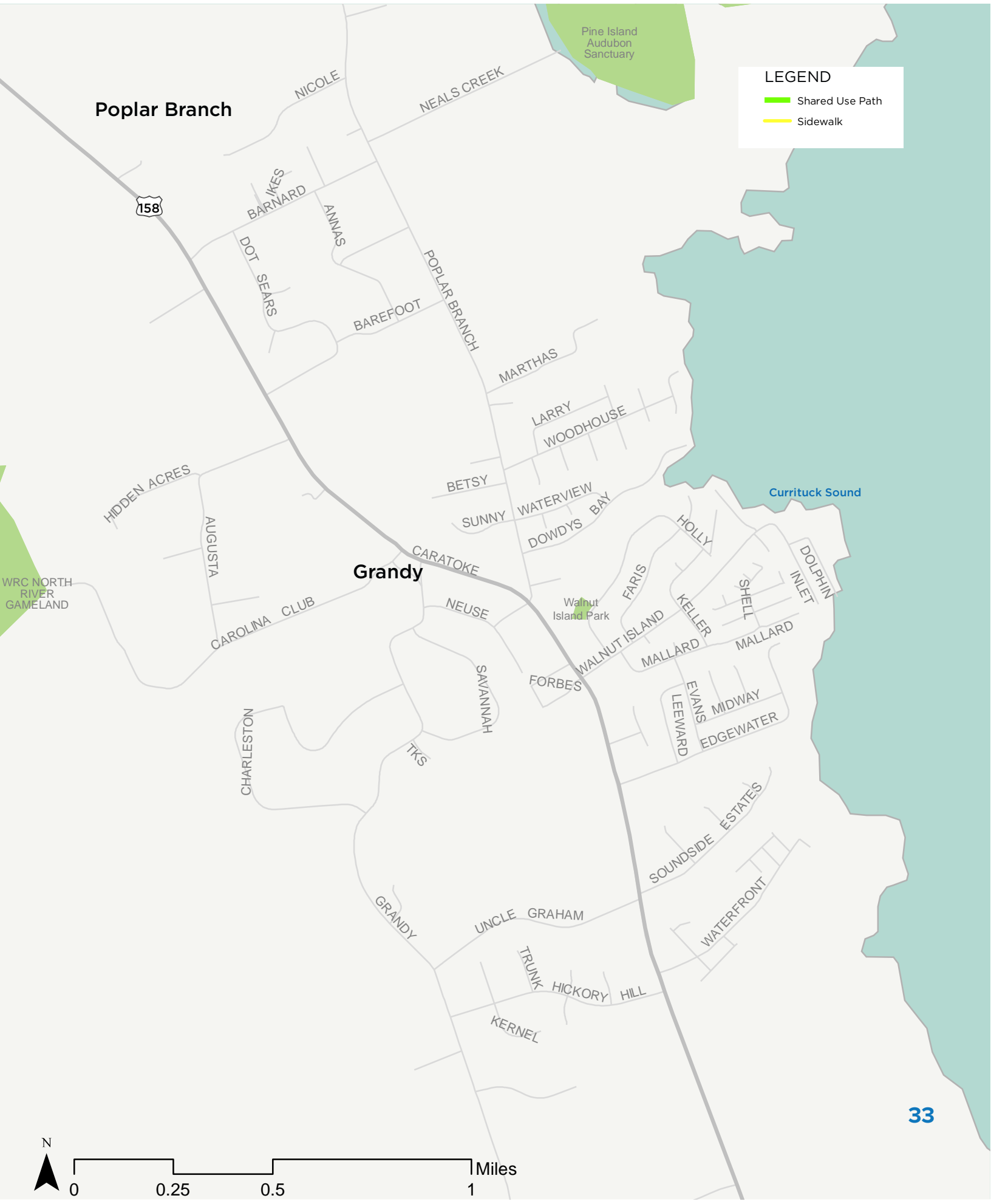
ROADWAY OWNERSHIP

Knowledge of roadway ownership is important for determining the types of facilities that can be recommended along a roadway, the agency in charge of maintaining the roadway and implementing pedestrian facility recommendations, and how improvements are scheduled, funded, and constructed. In Currituck County, there are no incorporated municipal jurisdictions or county-maintained roadways. Therefore, most roadways are maintained by NCDOT, with a few exceptions that are under private ownership. These few private roadways in Currituck County are limited to more recent developments in the Moyock area and the Monterey Shores neighborhood in Corolla.

Map 2.1 Existing Pedestrian Facilities: Moyock



Map 2.3 Existing Pedestrian Facilities: Grandy



LEGEND

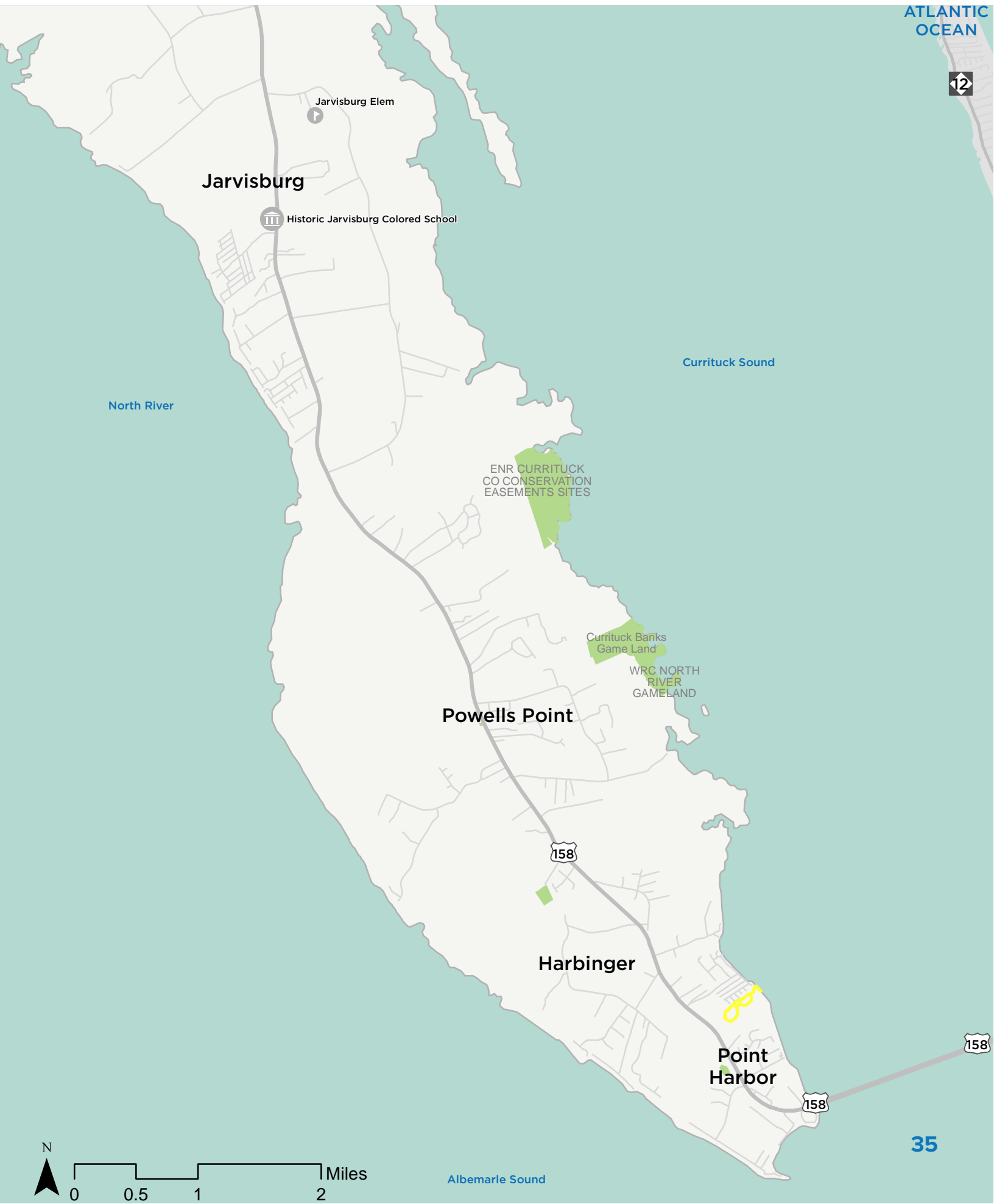
- Shared Use Path
- Sidewalk



Map 2.4 Existing Pedestrian Facilities: Corolla



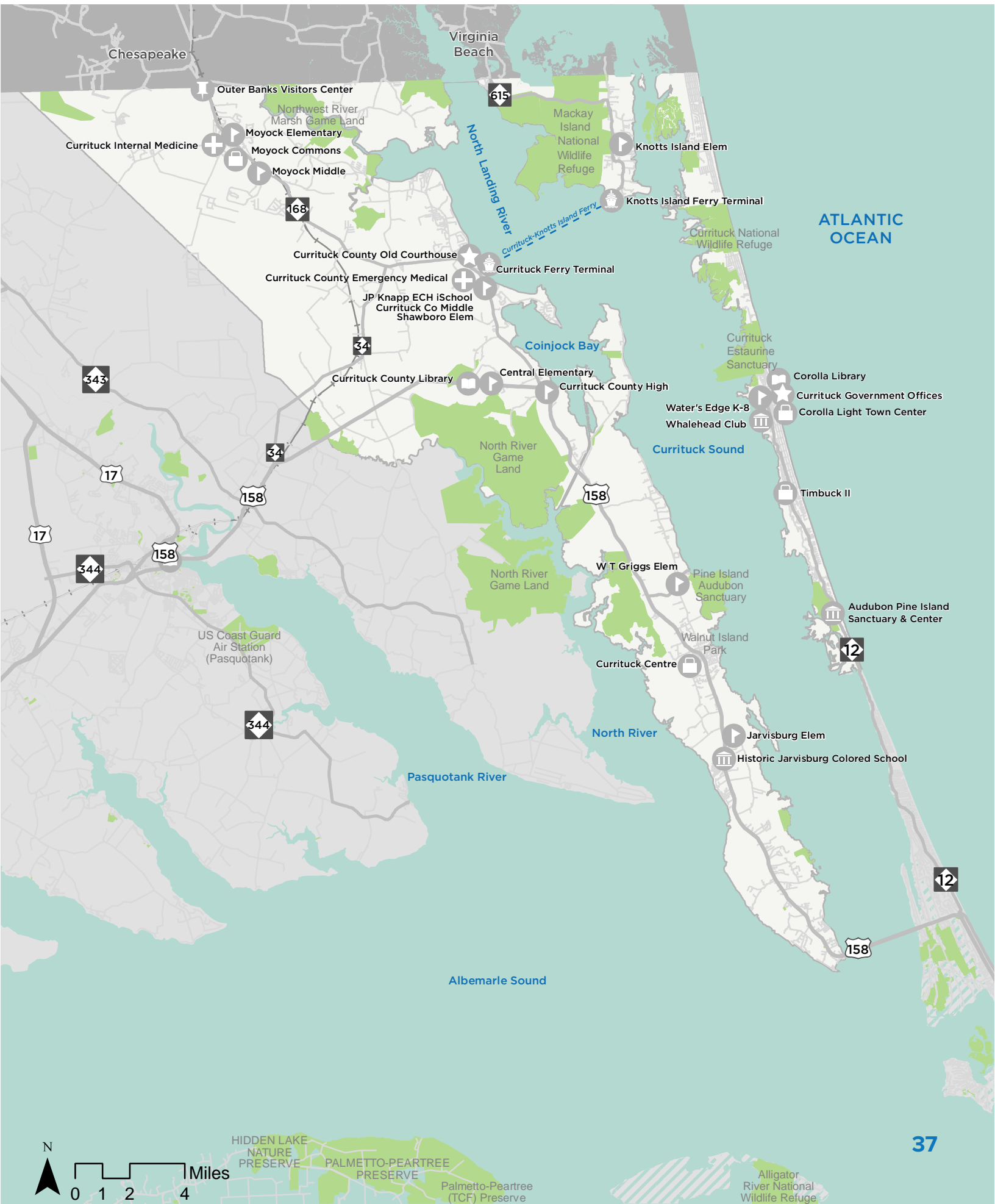
Map 2.5 Existing Pedestrian Facilities Jarvisburg to Point Harbor



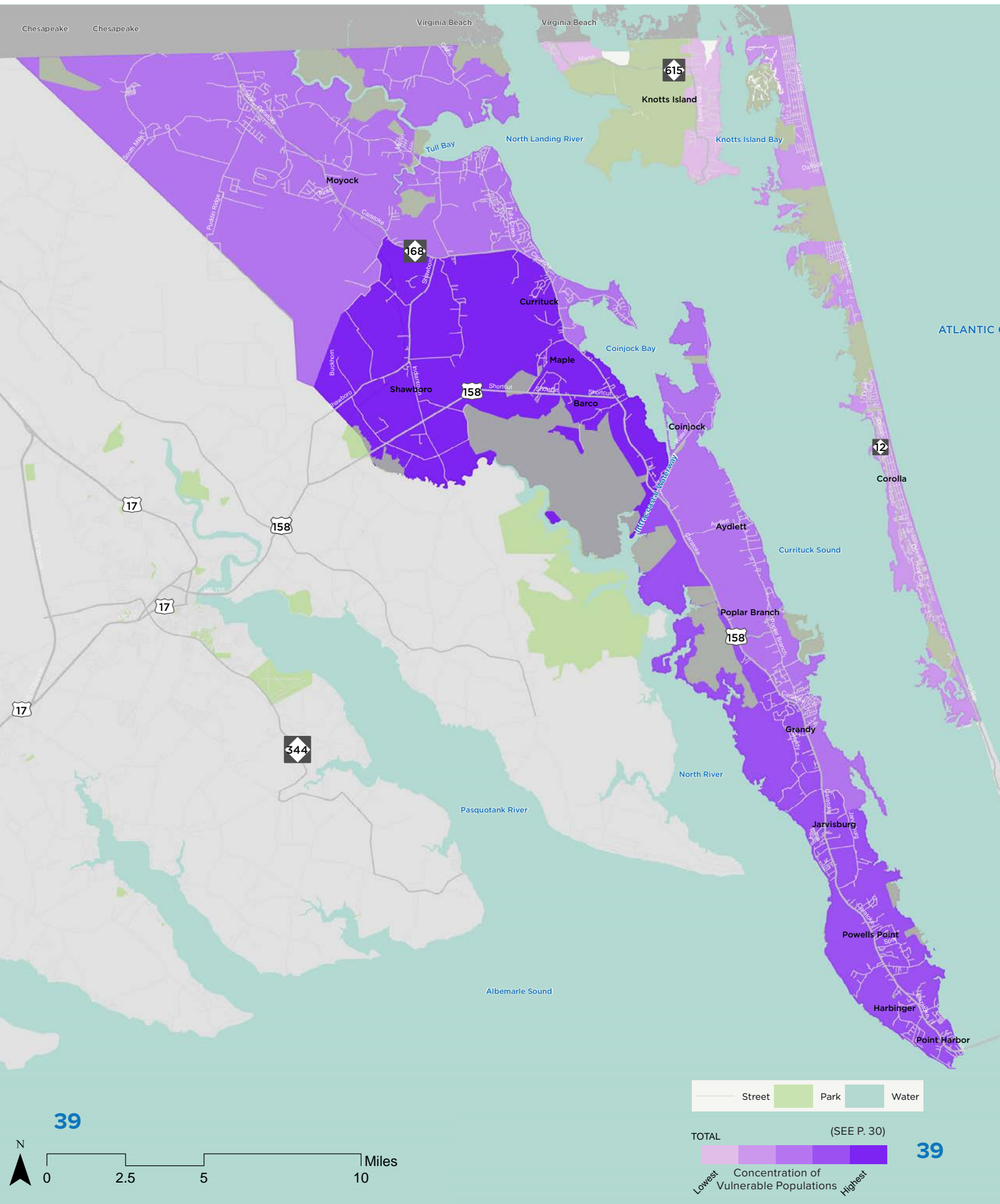
Map 2.6 Existing Pedestrian Facilities: Knotts Island



Map 2.7 Key Pedestrian Destinations



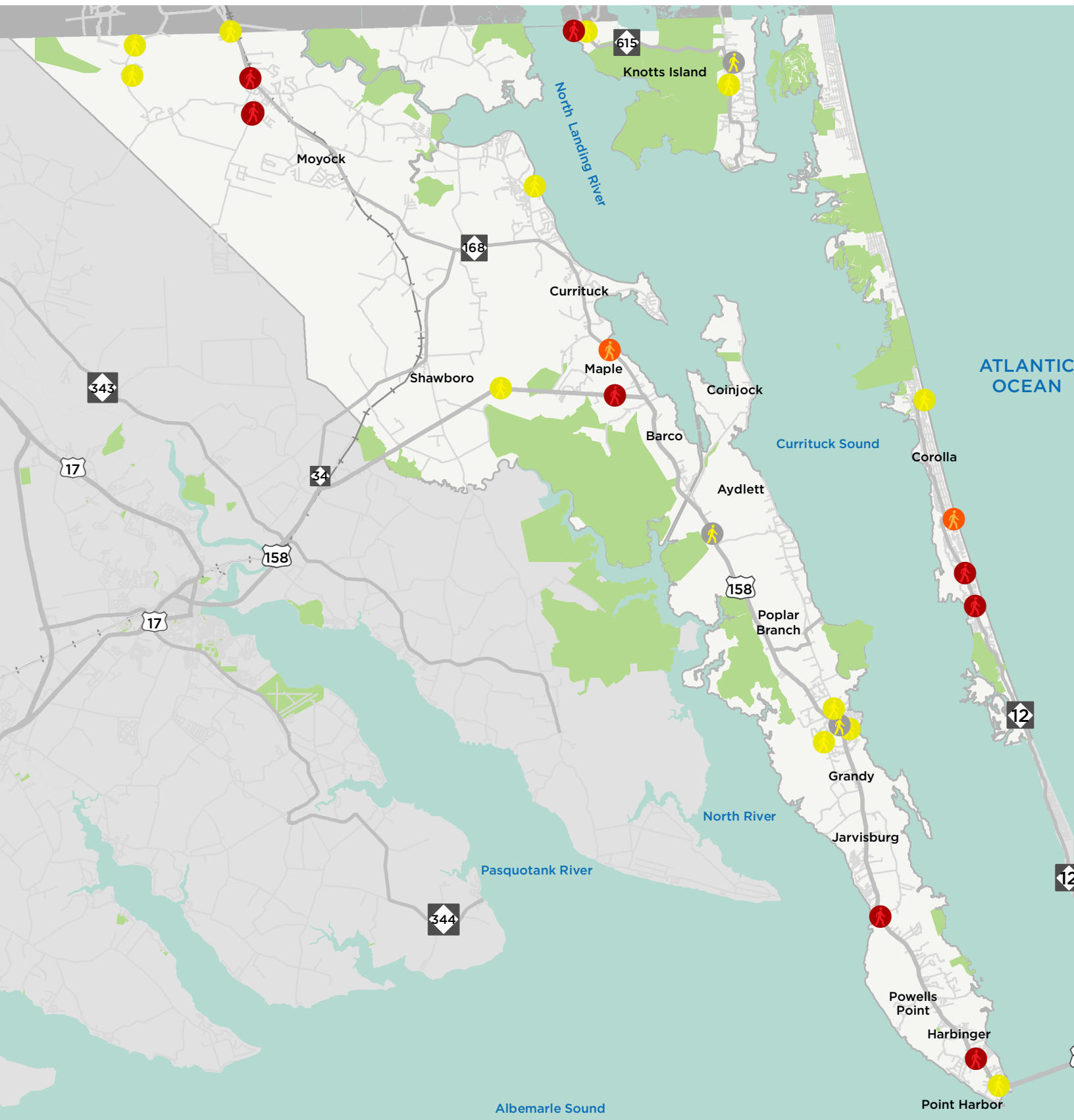
Map 2.9 Equity Analysis



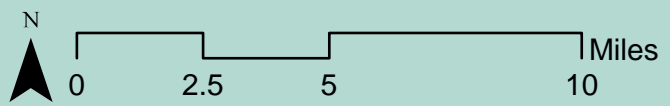
TOTAL (SEE P. 30)

LOWEST Concentration of Vulnerable Populations HIGHEST

Map 2.10 Pedestrian Collisions (2007-2014)



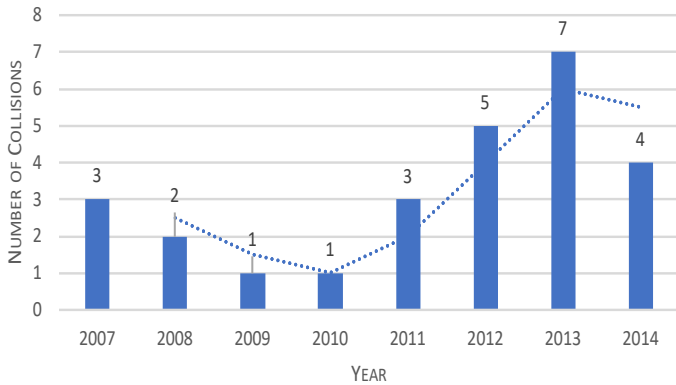
40



Pedestrian Collisions (2007-2014)

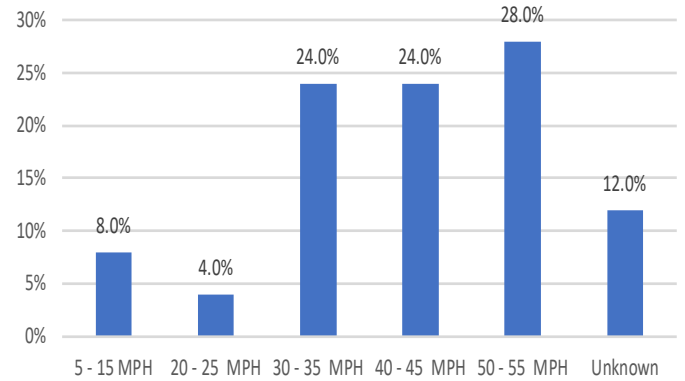
The charts below highlight the major trends of the 26 pedestrian crashes that were reported from 2007 to 2014 in Currituck County.

NUMBER OF PEDESTRIAN CRASHES PER YEAR (2007-2014)



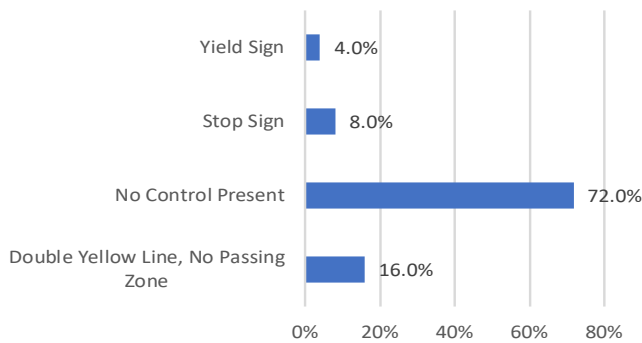
The number of pedestrian crashes in Currituck County saw an increase between 2011 and 2013, but dropped to 4 in 2014.

SPEED OF MOTOR VEHICLES AT THE TIME OF CRASH



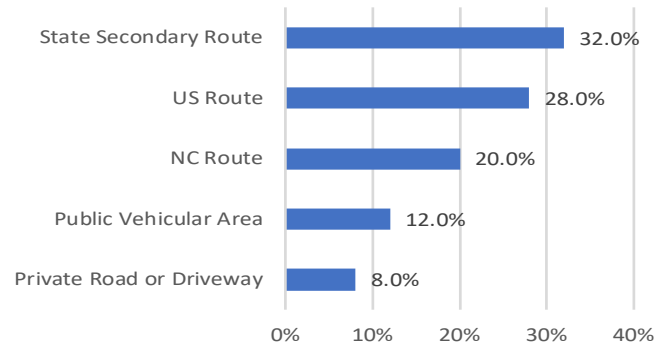
The majority of pedestrian crashes occurred when motor vehicles were traveling at 30 mph or more. Nearly 30% of all pedestrian crashes during this time period occurred when motor vehicles were traveling between 50-55 mph.

PRESENCE OF TRAFFIC CONTROLS



A large majority of pedestrian crashes (72.0%) occurred when there were no traffic controls present.

TYPES OF ROADS WHERE PEDESTRIAN COLLISIONS OCCURRED



Most crashes (32.0%) occurred on secondary roads in Currituck County. Eight occurred along Caratoke Highway (NC-168/US-158). Two occurred on NC-12.

Current Conditions Assessment

Tables 2.1 and Maps 2.1-2.3 that follows describe key opportunities and challenges in Currituck County related to current conditions for walking and provides a basic inventory of existing facilities, destinations, and conditions. It is based on input from the Steering Committee, general public, field review, and available data.

Table 2.1 Current Conditions Assessment

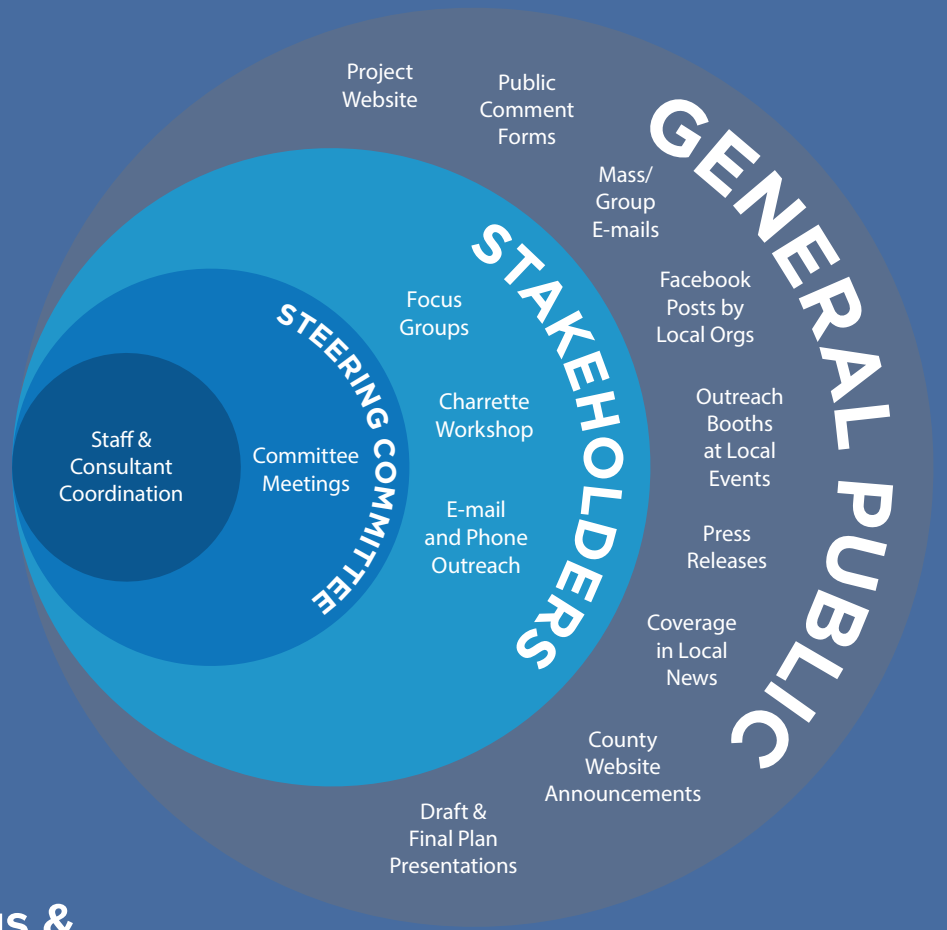
Opportunities and Challenges	Assessment
<i>General Considerations</i>	
<p><i>Overall Transportation Network</i></p>	<p>The main transportation corridor on mainland Currituck is Caratoke Highway (US-158/NC-168) that runs north-south through the center of the county. Caratoke Highway is a 5-lane highway, with a speed limit of 55 mph in most sections, which reduces to 45 mph through busy commercial nodes. During the summer months, traffic levels increase on weekends as visitors travel through to reach the Outer Banks. In addition to this main corridor, Shortcut Road (NC-158) provides an east-west connection to Camden County, west of Currituck County.</p> <p>In Corolla, on the Outer Banks, NC-12 is the main corridor running north-south through the center of the entire coastal community. This 2-lane state highway has a speed limit of 45 mph, with a middle left turn lane at busy intersections. This road sees heavy traffic on weekends during the summer months as visitors travel to and from the beach. During these summer months, the speed limit is reduced to 35 mph from Black Pine Road to 3/4 miles south of Shad Street.</p>
<p><i>Existing On- and Off-street Pedestrian Facilities</i></p> <p>(Also refer to Maps 2.1-2.4, on pages 29-32)</p>	<p>Pedestrian facilities on the mainland are limited to sidewalks within a small number of developments.</p> <p>In Corolla, a 10-foot wide sidepath runs along the east side of NC-12 from 100 feet south of Ocean Way to Albacore Street, for a total of 4.5 miles. On the west side of NC-12, a sidepath runs another 3.0 miles from Club Road to the end of NC-12 at the 4x4 beach access. A 5-foot wide sidewalk runs along 2.4 miles of NC-12 on the west side between Club Road and Monterey Drive, and on the east side from the south end of Deep Neck Road to the north end of Longfellow Cove. Hunt Club Drive also has a sidewalk along its entire 4-mile length. Other small sidewalk connections provide connections between neighborhoods and across to the beach</p>
<p><i>Current connectivity/ Gaps</i></p>	<p>There is limited connectivity for walking on the mainland, as indicated above with the small amount of existing facilities. For example, the sidewalks in Shingle Landing end at Caratoke Hwy, and there are no connecting facilities along the highway. Sidewalk connections are being built with development to connect to adjacent neighborhoods.</p> <p>Connectivity in Corolla is most consistent. Two key gaps in the sidepath along NC-12 exist between Monterey Dr. and Albacore St and south of Ocean Way to the Dare County border.</p>
<p><i>Safety Hazards and Problematic Street Crossings/ Intersections:</i></p> <p>(Also refer to Map 2.6, on page 34)</p>	<p>Map 2.6 shows pedestrian and bicycle crashes in Currituck County that were reported to the NCDOT between 2007 and 2014. There were six pedestrian crashes, three of which were fatal in Moyock. Three collisions occurred in the Barco-Maple-Currituck area, one of which was fatal. A large majority of the crashes occurred along Caratoke Hwy (US-158/NC-168), with a small cluster of crashes occurring at the intersection of Caratoke Hwy and Walnut Island Blvd. in Grandy. Lack of safe crossings on Caratoke Hwy. is a barrier to safe pedestrian travel between residential neighborhoods and destinations along the highway, such as shopping/employment areas.</p> <p>Two fatal pedestrian collisions have occurred along NC-12 in Corolla between 2007 and 2014. The newly built sidepath has helped provide save pedestrian travel along the corridor, but critical gaps (described above) and crossing NC-12 still present hazards to pedestrians.</p>
<p><i>Ownership of Public Road Right-of-Ways</i></p>	<p>The roadway network in Currituck County is mostly state-owned roads with a small percentage of privately owned roads. The ownership of the public right-of-way is important for determining the types of facilities that can be constructed in or along a roadway, the agency in charge of maintaining the roadway and implementing pedestrian recommendations, and how improvements are scheduled, funded, and constructed. The county will need to coordinate with NCDOT Division 1 and the Division of Bicycle and Pedestrian Transportation to implement this plan's recommended improvements along these roadways.</p>

Table 2.1 Current Conditions Assessment (Continued)

Opportunities and Challenges	Assessment
<i>Opportunities</i>	
<i>Density of Key Destinations</i>	<p>The coastal area of the county is rich with public and private destinations, including the beach along the entire eastern shore, the historic Currituck Beach Lighthouse and Whalehead Club, and the Timbuck II shopping center. The density of restaurants and activity centers in these areas is supportive of significant pedestrian and bicycle traffic.</p> <p>On the mainland, the shopping centers in Moyock and Grandy are major destinations where many residents access grocery stores, restaurants, and services. Pedestrian traffic is high between the Walnut Island neighborhood and the Food Lion shopping center in Grandy. The low density of destinations outside of Grandy and Moyock is not supportive of easy pedestrian access.</p>
<i>Future Development</i>	<p>Development projects are currently underway in the Moyock area, mainly toward the Virginia border. The Moyock Mega-Site development on the west side of NC-168 will potentially include 3000 residential units that are geared towards families. New development will need sidewalks and bike lanes, and the county has an opportunity if it acts now to ensure that the facilities are constructed as the area grows.</p>
<i>Regional Planning</i>	<p>A portion of the Atlantic Coast Bike Route, a trail connecting the entire east coast, is proposed to run through the mainland of Currituck through Shawboro, Barco, and south through the peninsula to Dare County. Connecting to these regional trails has the potential to increase tourism and economic development in Currituck County.</p>
<i>Challenges</i>	
<i>Natural Barriers</i>	<p>Low-lying land: Much of the land lies within the floodplain. Presence of steep ditchbanks along many of the roads may pose challenges for constructing pedestrian facilities. Currituck Sound on the east and the North River on the west create wetlands that limit the available right-of-way that is necessary to provide separate pedestrian facilities on the mainland.</p>
<i>Man-made Barriers/ Substandard Design</i>	<p>Bridges can present barriers to pedestrian travel. In Currituck, Joseph P. Knapp Bridge over the Intracoastal Waterway and the Wright Memorial Bridge over Currituck Sound both present significant barriers to pedestrians, as they lack separated pedestrian facilities and the shoulders are too narrow to safely accommodate walking.</p>
<i>Special Populations</i>	<p>Currituck County's demographic make-up includes military families, aging residents, school-aged children, transplants from larger communities, foreign student-workers, family farmers, and part-time residents. The addition of sidewalks and crosswalks along key corridors would increase safety for those with limited access to vehicles.</p>

Public Process

Public input was an overarching component of this plan and was gathered through multiple avenues and outlets. This plan will not only affect those who reside in Currituck County, but also those who work, own businesses, play, enjoy leisure activities, and vacation in the area. Feedback from the public guided this plan's recommendations. A full summary of public outreach can be found in Appendix A.



Key Types of Meetings & Public Input:

- 20+** STEERING COMMITTEE MEMBERS
- 4** STEERING COMMITTEE MEETINGS
- 20+** FOCUS GROUP ATTENDEES
- 4** PUBLIC INPUT STATIONS SET UP THROUGHOUT COUNTY
- 2** PUBLIC OUTREACH SESSIONS AT LOCAL EVENTS
- 4** DRAFT AND FINAL PLAN PRESENTATIONS
- 350+** USER SURVEYS COMPLETED

Public Outreach Events



Images from the public outreach events during the 2017 planning process.

PUBLIC CHARRETTE PROCESS

The project team set a goal to reach as many residents as possible and to hear from diverse communities. To do this, the team hosted a public charrette during the week of June 12th. The charrette gave the public multiple opportunities to participate, provided avenues for detailed project review, and produced draft recommendations that were reviewed by the steering committee.

SURVEY RESULTS

69% of survey respondents live on mainland Currituck, and 7% live in Corolla. Others either work, own property, or visit Currituck for shopping, local services, or vacation.

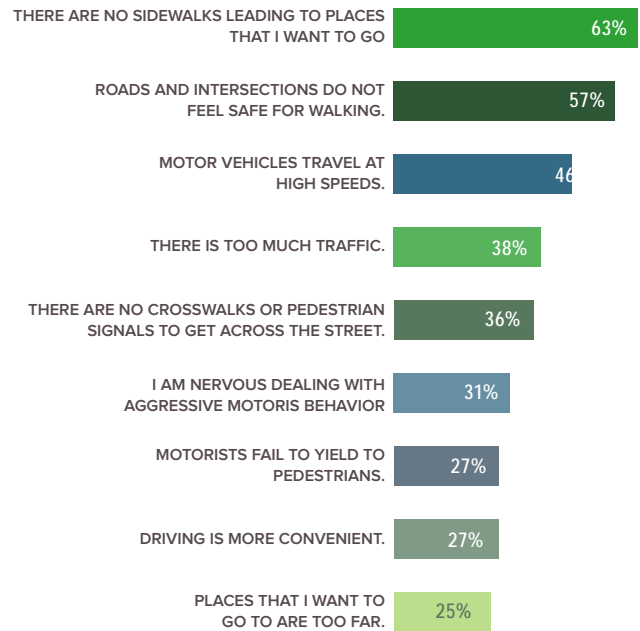
This summary section highlights key findings:

- » 72% percent of respondents rated current walking conditions on mainland Currituck as poor; 24% rated the conditions as fair.
- » 35% percent of respondents rated current walking conditions in Corolla as excellent; 56% rated conditions in Corolla as fair.
- » 98% of respondents indicated that improving walking conditions is either very important (80%) or somewhat important (18%).

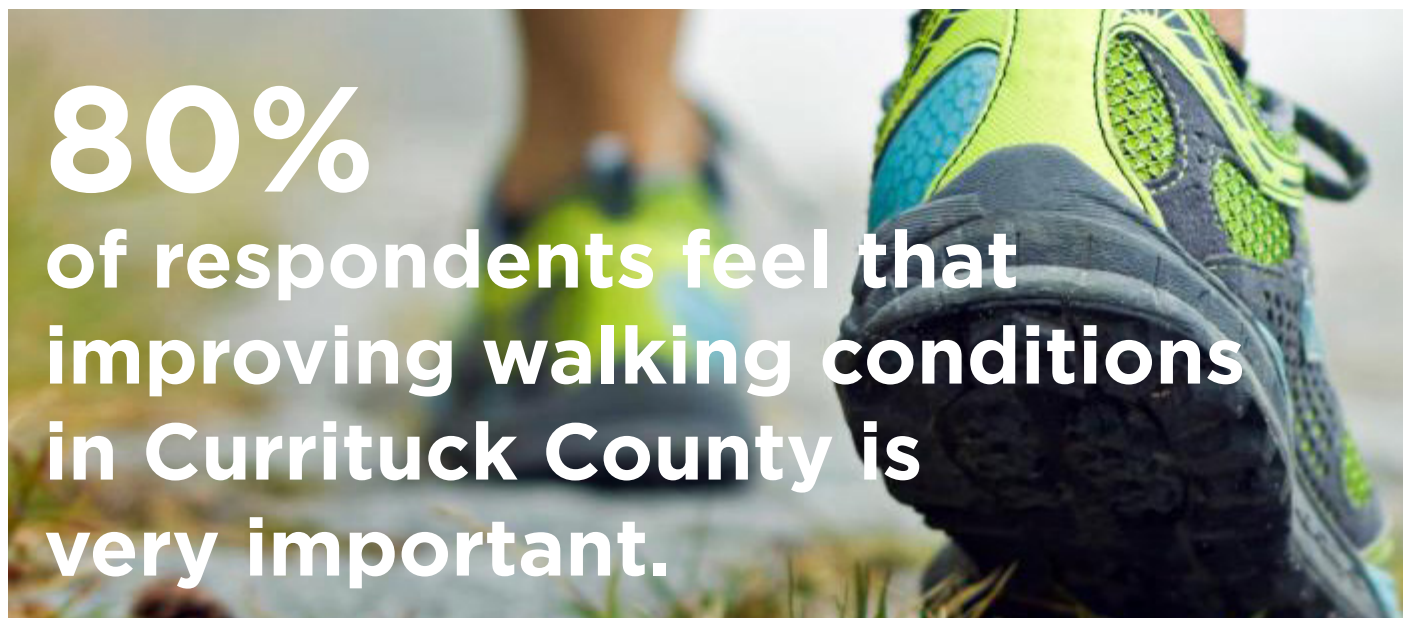
Respondents were asked to indicate the primary purpose of their walking trips and were allowed to select more than one response. The following are the top 3 trip purposes:

- » Exercise or recreation (85%)
- » To socialize with others (27%)
- » To shop (17%)

What should be the most important goals and outcomes of the Connect Currituck Plan?



It is important to note that unsafe street crossings and lack of pedestrian signals and crosswalks are strongly interrelated while heavy/fast motor vehicle traffic and motorists failing to yield to pedestrians are strongly linked to one another.



80%
of respondents feel that
improving walking conditions
in Currituck County is
very important.





The Timbuck II shopping center is a hub of pedestrian activity throughout the summer months. Improving safe pedestrian access to this and other shopping destinations is key to improving overall pedestrian safety in Corolla.



3. PROGRAMS

Simply adding pedestrian infrastructure alone does not create a pedestrian friendly community. Rather, it takes a comprehensive effort to create a culture around safe walking. This chapter outlines potential partners to assist in the implementation of programs recommended in the program toolkit.

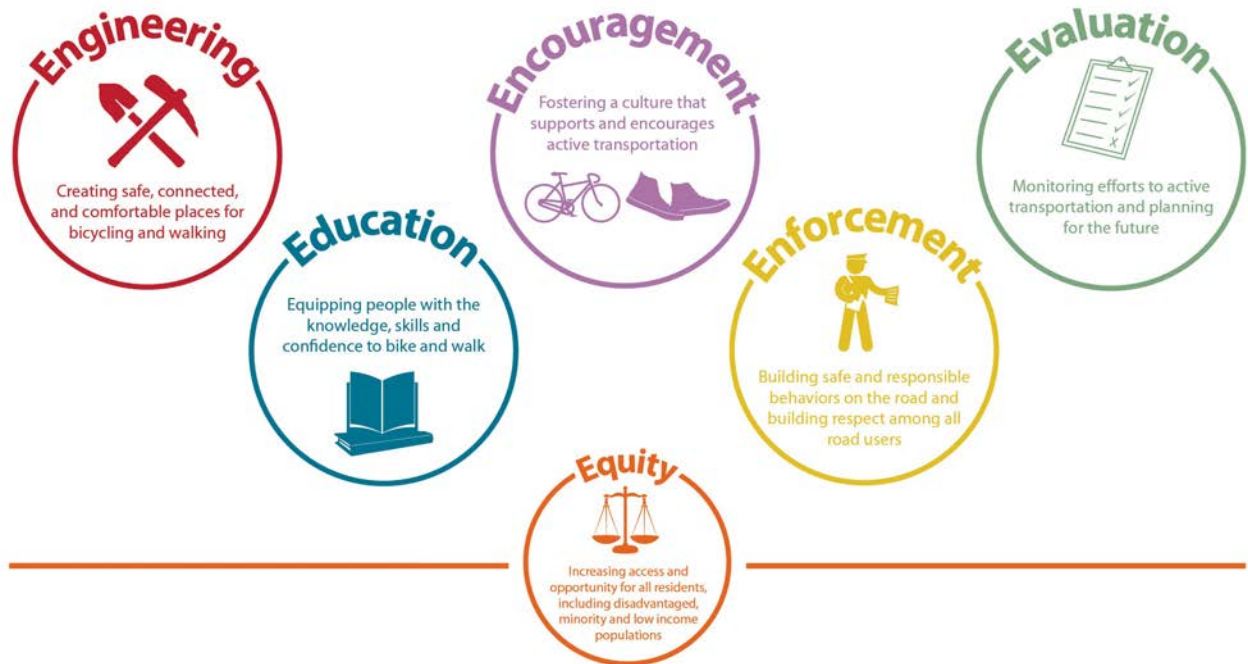
Overview

A comprehensive program is often centered around what is known as the 5 E's: Engineering, Education, Encouragement, Enforcement, and Evaluation (see diagram on following page). Equity is added here as the non-traditional 6th E to ensure a focus on underserved communities.

Programs will help people of all ages and abilities realize the full potential of Currituck's new and proposed pedestrian infrastructure. These types of programs help people learn how to use the county's roads safely, whether traveling as a pedestrian, in an automobile, or on a bicycle.

A range of strategies and actions, including broad policy and outreach efforts, will help the county meet the goals and objectives of this Plan.

The programmatic strategies in this chapter aim to improve safety, increase access to walking, and encourage community and economic development. The actions will increase the visibility of people who walk, communicate that all road users are expected to look out for each other no matter how they travel, create safer streets, and develop a common understanding of traffic safety.



Potential Stakeholders

Existing and potential partners for the pedestrian programs described in this chapter include:

ACTIVE ROUTES TO SCHOOL

Active Routes to School is a North Carolina Safe Routes to School (SRTS) Project supported by a partnership between the N.C. Department of Transportation and the N.C. Division of Public Health. The Active Routes to School Project creates opportunities for youth to walk and bike to or at school. Active Routes to School Coordinators are available to provide technical assistance and support to schools and communities in planning Walk and Bike to School day events, building ongoing walk and bike to or at school programs, offering trainings on Safe Routes to School, building policy support for Safe Routes to School, and addressing safety features near schools. The goal of the project is to increase the number of elementary and middle school students who safely walk and bike to school.

Ten regional coordinators are based at local health departments across the state. Currituck County is in

Region 9, which includes all of Currituck County and several neighboring counties. For more information, visit www.communityclinicalconnections.com/What_We_Do/Active_Routes_To_School/index.html

CURRITUCK COUNTY SCHOOL DISTRICT

The Currituck County School District is an important partner for creating safe pedestrian environments and programming for schools. Safe Routes to School programming is a vital component of successful pedestrian plans so partnering with the school district, as well as individual member schools, is important to creating programs that are appropriate and coordinated with schools' curricula.

PARKS & RECREATION DEPARTMENT

The Currituck Parks & Recreation Department is a center of physical activity for the community, and can be a key partner in creating programs targeted at specific age groups and populations for increasing walking and other forms of physical activity. As a busy hub of community activity, it can also be a centralized location for awareness campaigns and disseminating information related to pedestrian programs and events going on in



the community. The Parks & Recreation Department can be an important partner for creating educational and encouragement programs for walking in Currituck.

BUSINESS ASSOCIATIONS

The Currituck County Chamber of Commerce and the Currituck Economic Development Department are key partners for creating relationships with local businesses and community leaders in order to have buy-in of the county's pedestrian programming.

SHERIFF'S OFFICE

The Currituck County Sheriff's Office is a key partner for creating an enforcement campaign that encourages safe driving practices and pedestrian activity. Enforcement campaigns can reduce speeding in pedestrian zones, encourage proper yielding to pedestrians in crosswalks, and generally promote a sense of respect for all travelers regardless of whether one drives, walks, or bikes in Currituck. Law enforcement officer training is a focus of the Watch For Me program offered through the

Division of Bicycle and Pedestrian Transportation and described on the next page.

DISABILITIES OR SENIOR SERVICE AGENCIES/ ORGANIZATIONS

Partnering with agencies and organizations that advocate for the needs of those with disabilities or senior citizens is important for ensuring that the needs of the most vulnerable walkers in the community are being represented and accommodated. Elderly residents and those with mobility issues are vulnerable to limited transportation options and access, and it is important to keep these issues at the forefront of the pedestrian planning process.

HEALTH AGENCIES

Health agencies that serve the county, such as Albemarle Regional Health Services, can be key partners for providing health information, education programs, and encouragement to citizens.

Program Toolkit

WATCH FOR ME, NC

Watch for Me, NC is an awareness campaign aimed at reducing the number of bicyclists and pedestrians hit and injured in crashes with vehicles. Piloted in the Triangle area, Raleigh was one of the first cities to launch the campaign in 2013. The campaign includes education during the months of October and November, and has been followed by targeted enforcement efforts by police and sheriff's departments. Free safety equipment for bicyclists and pedestrians is also offered to local governments through the program. Communities across North Carolina are encouraged to apply to implement the program on an annual basis.

Corolla was a Watch For Me program participant in the past (see photo below). Extending the program to mainland communities of Currituck is a logical next step in spreading the message for safer pedestrian travel.

For more information, visit: <http://watchformenc.org/>

SAFE ROUTES TO SCHOOL (SRTS)

Safe Routes to School (SRTS) programs make walking and bicycling to school more accessible to children and encourage more children to walk and bicycle to school. This typically involves examining conditions around public schools and providing programs to improve bicycle/pedestrian safety, accessibility, and use. North Carolina's Safe Routes to School program is managed by the NCDOT Division of Bicycle and Pedestrian Transportation. Safe Routes to School infrastructure projects are eligible to compete for funding through North Carolina's Strategic Transportation Investment (STI) program and other sources of funding for bike and pedestrian projects.

For more information, visit: www.ncdot.gov/bikeped/

Why Implement?

Corolla was a Watch for Me program participant in the past. Extending the program to the mainland communities of Currituck is a logical next step in spreading the message for safer pedestrian travel.

Why Implement?

Children are one of the most vulnerable users of the pedestrian network. Improving safe and efficient access to schools can have several benefits (health, environment, education, etc.).



Safety information and gear were distributed to international students during the Corolla Watch for Me, NC campaign.



LET'S GO NC!

Let's Go NC!, a Pedestrian and Bicycle Safety Skills Program for Healthy, Active Children, is an all-in-one educational package of lesson plans, materials, activities, and instructional videos that encourages children in grades K-5 to learn about and practice fundamental skills that build safe habits.

This program was developed for the NCDOT's Division of Bicycle and Pedestrian Transportation and Safe Routes to School Program by NC State University's Institute for Transportation Research and Education. The curriculum aligns with NC Essential Standards and is endorsed by the NC Department of Public Instruction.

All lesson plans and materials are available for free online at www.ncdot.gov/bikeped/safetyeducation/letsگونc/.

Why Implement?

This package provides key guidance and materials to assist instructors in teaching bicycle and pedestrian safety to children at a young age.



Jackson County Public Schools have integrated Let's GO NC! Curriculum and provided teachers with guidance on how to implement the program.

WALKING SCHOOL BUS

Walking School Buses and Bike Trains allow students to walk or bicycle to school as a group, often with an adult volunteer. These could be daily, weekly, or monthly events. These programs encourage walking in school aged children as well as the adult chaperones.

Schools in North Carolina that have walking school buses include Olive Chapel Elementary in Apex and Langston Farms Elementary in eastern North Carolina.

For more information, visit www.walkingschoolbus.org.

Why Implement?

This group program encourages more walking to school and community fellowship through volunteering.



Walking school bus programs across the country allow kids and parents to enjoy their commute while also coordinating within their busy schedules.

SPEED FEEDBACK SIGNS

A speed feedback sign can be used to display the approaching vehicle speeds and the posted speed limits on roadways. Newer speed feedback signs record speed data which jurisdictions can use to evaluate roadway conditions.

These feedback loops remind drivers to obey the speed limit and can be used in areas where traffic calming is needed to create a safe pedestrian environment.

WALK-AT-SCHOOL PROGRAMS

Through this program, children are given the opportunity and are encouraged to increase how much they walk during school hours through competitions, prizes, goal setting, and other activities. This type of program is especially important for schools that do not have good walking or biking routes, or if students live too far to walk or ride bikes.

Best Practice Programs:

- » Tigers on the Prowl is a popular walking program at Davidson Elementary School in Davidson, NC.
- » The Creative Walking website provides resources and materials to create school walking wellness programs.
- » WalkBike to School also provides examples and resources.

Why Implement?

These interactive signs increase speed limit compliance and pedestrian comfort level along high volume corridors.

Why Implement?

Programs to encourage safe walking practices and physical activity during the school day is an equitable way to ensure all students benefit from Safe Routes to School programming



Speed feedback signs can be an effective and low cost tactic to reduce speed along corridors with high pedestrian activity.



Walking activities during school provides equitable access for all students to participate in SRTS programming.

CURRITUCK COUNTY CENTER - NC STATE UNIVERSITY COOPERATIVE EXTENSION

The Center has run the “Eat Smart, Move More” campaign locally and the “Get Fit Currituck” initiative with several health programs: the Currituck Run Club, Holiday Maintain Don’t Gain Challenge, Seat to Feet Challenge, and the recent Run @ Work 5k and 1 Mile event. The Cooperative Extension also offers healthy cooking, healthy eating programs, and has a solid working relationship with the county. Currituck County participates in the Partnerships to Improve Community Health, a program of the Northeastern North Carolina Partnership for Public Health.

- » For further information: <http://www.nencpph.net> and <https://currituck.ces.ncsu.edu/2013/02/get-fit-currituck/>.

ENFORCEMENT ACTIVITIES

These programs can cover a wide range of focuses including crosswalk stings, speeding, distracted driving, and distracted walking/bicycling. Increasing the presence/enforcement at back-to-school times and/or daylight savings is also advised.

Best Practice Programs:

- » Greenville, NC participated in a distracted driving research project, neighborhood speed watch program, installed speed feedback signs, and increased law enforcement before and after school.
- » Volunteers in Arizona conducted a Neighborhood Speed Watch routine detection event which assisted law enforcement efforts, putting serial speeders on notice and bringing down average speeds.

Why Implement?

Pedestrian programming could compliment the existing programs offered at the extension and encourage more residents to walk as a form of healthy, active transportation.

Why Implement?

Enforcement of all traffic laws will improve safety for all users, especially the most vulnerable user, the pedestrian.



Currituck County Health and Wellness hosts an annual "Department Challenge" for the annual Run@Work 5K race.



Pedestrian enforcement operations can help to improve yielding rates at marked pedestrian crossings.

TABLE 3.1 PROGRAM ACTION STEPS

TASK	LEAD	SUPPORT	DETAILS	PHASE
Establish a Pedestrian Advisory Committee.	Community Stakeholders, Planning & Community Development	County Board of Commissioners	An active Pedestrian Advisory Committee will be instrumental in implementing this plan. The Plan Steering Committee could be converted to a standing committee to serve this purpose.	Short-term/ Ongoing (2017- onward)
Initiate a Program task force.	Community Stakeholders, Planning & Community Development	NCDOT Bike/Ped Division, Currituck County Sheriff's Office	A task force should be formed specifically of key stakeholders who have a vested interest in developing pedestrian safety programs in Currituck County. A suggested list of potential stakeholders can be found on pages 48-49.	Short-term/ Ongoing (2017- onward)
Implement one new pedestrian safety program.	Programs Task Force	Planning & Community Development, Communications & Public Information	Using the information listed in Chapter 4, one program, such as Walking School Bus or an enforcement event, should be implemented to serve as Currituck's pilot pedestrian safety program. This event will bring key stakeholders together and help initiate the Program Task Force.	Short-term/ Ongoing (2017- onward)
Distribute pedestrian safety information.	Public Information, Program Task Force	NCDOT Bike/Ped Division, Currituck County Sheriff's Office	NCDOT has print material with safety tips for motorists and pedestrians available for download at www.ncdot.gov/bikeped/safetyeducation/materials/ . Participation in the Watch For Me program is also a good way to get to get print materials (see p. 50). Other methods of distribution could include social media, websites, and 'on-the-ground' in park kiosks.	Short-term (2017- onward)
Consider reducing speed limits within school zones and along corridors where new pedestrian facilities have been added.	County Board of Commissioners	NCDOT, Planning & Community Development	Consider lowering the speed limits along key corridors once improvements have been made. Installing temporary speed feedback signs is another traffic calming strategy.	Short-term/ Ongoing (2017 onward)
Conduct communication & outreach campaigns related to walking.	Public Information, Program Task Force	Local newspapers, County website & social media managers	Establish a communication campaign to celebrate successes as progress is made. A key first task is to establish a page on the county's website dedicated to driver and pedestrian education and project updates (see Watch for Me, NC on p. 50).	Mid-term (2018- onward)
Seek designation as a Walk-Friendly Community.	Program Task Force	Planning & Community Development, County Board of Commissioners	The development and implementation of this plan is an essential first step toward becoming a designated Walk-Friendly Community. With progress on program, policy, and infrastructure recommendations, the county or individual communities, should be in a position to apply for and receive recognition by 2021.	Mid- to Long- term (2020- 2021)

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4. POLICY

One of the most cost effective implementation strategies for Currituck County is to establish land development regulations and street design policies that promote walkable new development and capital projects. As part of a comprehensive and “6 E’s” approach to developing recommendations for a more walkable Currituck, the consultant team reviewed the county ordinances, development standards, and policies to identify general issues and opportunities impacting the pedestrian environments across the county.

Overview

The consultant team has identified model regulatory and policy language from around North Carolina and the U.S. for elements including land use/transportation integration, connectivity, Complete Streets, and Vision Zero. These policy changes will help the county to maximize pedestrian and greenway improvements in conjunction with new development, redevelopment, and corridor improvement projects.

NOTE: All references are pulled from [Currituck County UDO](#) as amended 09/26/2016.

Development Ordinance Review

The following tables outline existing regulatory and policy language found in the Unified Development Ordinance. When applicable, recommendations were made to improve and/or strengthen policies to promote walkability in Currituck County.



TABLE 4.1 DEVELOPMENT ORDINANCE REVIEW

Topic	Recommendations	
	Existing Regulatory & Policy Language (and Section found)	Comments
PEDESTRIAN FACILITY REQUIREMENTS		
Pedestrian Requirements	<p>5.6.10. Sidewalks and Pedestrian Circulation</p> <p>A. Location</p> <p>Sidewalks shall be required on both sides of all streets, except: (1) In the SFR and SFI districts, and in subdivisions of five or fewer lots (where no sidewalks are required); (2) Along alleys (where no sidewalks are required); (3) In residential subdivisions where the average lot area is greater than one acre in size, or there are fewer than 20 lots (in these instances, pedestrian pathways or trails are required that provide an equivalent level of pedestrian circulation); (4) On cul-de-sacs less than 500 feet in length (where sidewalks are required only on one side of the street); (5) Where an existing or proposed sidewalk or pedestrian pathway paved with asphalt, concrete, or other hard-surface material located outside a street right-of-way trail can provide an equivalent level of pedestrian circulation to all lots in the subdivision; and (6) In cases where environmental or topographic conditions make such provision prohibitive and no practicable alternative design is available.</p> <p>C. Credit for Trails</p> <p>Hard-surfaced, ADA-accessible trails within open space set-asides may be credited towards these sidewalk requirements when trails connect developments or connect open space set-asides to schools, shopping areas, or other recreation areas.</p>	<p>Excellent requirements for sidewalk provisions generally.</p> <p>Consider the following additions to sidewalk requirements:</p> <ol style="list-style-type: none"> 1. In areas of higher density and mixed-use development and in commercial areas, the minimum required width for sidewalks should be six feet or more. The land use context and density of development necessitates a greater level of requirement for sidewalk specifications. In mixed-use, pedestrian oriented areas with buildings at the back of the sidewalk and ground level retail, sidewalks should be as wide as 10-18 feet wide. See the NCDOT Complete Street Planning and Design Guidelines for contextually-based streetscape and sidewalk design requirements. 2. For low-density developments and/or developments in contexts where sidewalks would contribute negatively to the county's water quality and stormwater goals, consider allowing Advisory Shoulders or Pedestrian Lanes on lower volume roadways to serve as pedestrian facilities. See FHWA's Small Town and Rural Multimodal Guide for more information on these treatments. 3. To facilitate safer crossing along major highway corridors (i.e. US-158/NC-168 and NC-12), explore opportunities for installing crosswalks and pedestrian signals even where sidewalks or other pedestrian facilities are not yet in place.
Greenway Requirements	<p>While there are no specific requirements for development of provisions of greenways, they would count towards park and recreation and open space requirements in Chapters 6 and 7.</p>	<p>Consider expanding requirements for greenway reservation, dedication, or provision in new developments where a greenway or trail is shown on an adopted plan or where a property connects to an existing or proposed greenway. Where greenway construction cannot politically or legally be required, consider offering incentives in the form of reduced fees, cost sharing, density bonuses, or reduction in other open space requirements when adopted greenways are constructed through private development.</p> <p>See the incentives offered by the City of Asheville to promote public policy goals; For example: http://www.ashevillenc.gov/Portals/0/city-documents/sustainability/Planning%20incentives%20new%20marketing%20packet.pdf</p> <p>For additional examples of incentives, see also: https://www.law.ufl.edu/_pdf/academics/centers-clinics/clinics/conservation/resources/incentive_strategies.pdf</p> <p>Ideally, development regulations should require the construction and maintenance of greenways to local standards unless a maintenance agreement is established with a local government.</p> <p>See requirements in Wake Forest, NC UDO, Section 6.8.2 Greenways: "When required by Wake Forest Open Space & Greenways Plan or the Wake Forest Transportation Plan, greenways and multi-use paths shall be provided according to the provisions [that follow in the section cited above]." https://www.wakeforestnc.gov/udo.aspx</p>
Pedestrian Scale Lighting	<p>5.4.5. Street Lighting A. Private streets, public streets dedicated to the North Carolina Department of Transportation, sidewalks, and other common areas or facilities in developments may be illuminated to ensure the security of land and the safety of persons using such roads, sidewalks, and other common areas or facilities. When provided, illumination shall be in accordance with a plan designed by the utility company. [emphasis added]</p>	<p>There are no requirements or design standards for pedestrian-scale or sidewalk lighting along sidewalks or at intersections. This should be included. All pedestrian lighting should comply with dark skies standards. Consider incorporating pedestrian-scale lighting (<15' tall) requirements for neighborhood and commercial streets based on context-appropriate street design standards. See Town of Wendell UDO, Sections 11.10 and 11.11 for pedestrian-scaled lighting requirements by zoning district and for lighting requirements for greenways and walkways: http://files.wendell.ghifi.com/departments/planning/zoning/udo-unified-development-ordinance/Chapter_11_-_amended_071410.pdf</p>
Street Connectivity	<p>5.6.4. D. Pedestrian Connections Required (1) A right-of-way eight-feet-wide for pedestrian/bicycle access between a cul-de-sac head or street turnaround and the sidewalk system of the closest adjacent street or pedestrian pathway (as shown in Figure 5.6.4.B, Pedestrian Connections) shall be required whenever the Planning Director determines a proposed cul-de-sac or street turnaround: (a) Is in close proximity with significant pedestrian generators or destinations such as schools, parks, trails, employment centers, or similar features; or (b) Creates an unreasonable impediment to pedestrian circulation.</p>	<p>The UDO has good connectivity requirements in Chapter 5.</p> <p>Street interconnectivity is critical to successful pedestrian networks. Furthermore, long dead-end streets and cul-de-sacs create challenges for pedestrians, cyclists, and effective transit and other public services.</p>

Topic	Recommendations	
	Existing Regulatory & Policy Language (and Section found)	Comments
PEDESTRIAN FACILITY REQUIREMENTS (Continued)		
Block size	<p>6.2.1.E. <i>Cul-de-Sacs and Dead End Streets</i></p> <p><i>All cul-de-sacs and dead end streets shall comply with the following standards:</i></p> <p><i>(1) A cul-de-sac shall not be less than 150 feet in length, as measured from the closest street intersection centerline.</i></p>	<p>Chapter 6 has good standards for minimum intersection spacing based on street type.</p> <p>1. Consider adding maximums for block lengths in addition to minimums. Block lengths should relate to land use densities and land use typologies. Small block size is important to intersection density and interconnectivity which serve to enhance walking, bicycling, and transit-access opportunities. Ideally, block length should not exceed 1000'-1200' feet for low density residential development. In higher density areas, blocks can be as long as 200-600' wide. Block length should be tied to density of development.</p> <p>Consider allowing larger blocks - up to a maximum, such as 800 feet - where development densities are expected to be lower (> 4 du/a). See City of Charlotte Subdivision Ordinance, Section 20-23 for example of connectivity requirements and block standards based on land use context: http://www.charmeck.org/Planning/Subdivision/SubdivisionOrdinanceCounty.pdf</p> <p>Consider maximum intersection spacing in minimum design standards - use LEED for Neighborhood Development as a guide.</p> <p>2. Blocks of 800 feet or longer should be required to have a pedestrian cut through.</p> <p>3. Consider maximum cul-de-sac lengths in addition to the minimum. A maximum of 300 feet would be appropriate in low-density developments.</p> <p>See the example table on page 59 of the NCDOT Complete Streets Planning and Design Guidelines for a context-based approach to block size.</p>
OTHER DESIGN STANDARDS RELATED PEDESTRIAN-ORIENTED COMMUNITY DESIGN		
Street Trees & Planting Strips	<p>6.2.1 K. <i>Street Trees</i></p> <p><i>Street trees shall be required to serve all development in the county in accordance with the following standards:</i></p> <p><i>(1) Where Required</i></p> <p><i>Except along alleys, street trees shall be required along both sides of all streets constructed after January 1, 2013.</i></p> <p><i>(2) Location</i></p> <p><i>Street trees shall be located within 50 feet of the centerline of the street they serve, and may be located within front and corner side setbacks when there is insufficient space within the right-of-way.</i></p>	<p>These are good requirements. In addition to their value for improving the air quality, water quality, and beauty of a community, street trees can help slow traffic and improve comfort for pedestrians. Trees add visual interest to streets and narrow the street's visual corridor, which may cause drivers to slow down. When planted in a planting strip between the sidewalk and the curb, street trees also provide a buffer between the pedestrian zone and the street. Ideally, planting strips should be 8 feet wide for large maturing shade trees.</p> <p>See NCDOT Complete Streets Planning and Design Guidelines (Chapter 4) for context-based pedestrian and "green" zone recommendations: http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-Streets-Planning-Design-Guidelines.pdf</p> <p>See also, Town of Wendell UDO Chapter 8, especially section 8.8, Street Trees: http://files.wendell.ghifi.com/departments/planning/zoning/udo-unified-development-ordinance/Chapter_8_-_amended_092611.pdf</p>
Bicycle parking requirements	<p>5.1.7. <i>Bicycle Parking</i></p> <p><i>Lots located within a Full Service area (as depicted in the Land Use Plan), used for residential development with 30 or more dwelling units and nonresidential development with 5,000 or more square feet of gross floor area shall provide individual or shared bicycle parking facilities in accordance with the following standards. Nonresidential uses of up to 30,000 square feet in size may share bicycle parking facilities in accordance with this section.</i></p> <p><i>A. General Standards</i></p> <p><i>(1) Bicycle parking facilities shall be conveniently located, but in no case shall such facilities be located more than 150 feet from the primary building entrance.</i></p> <p><i>(2) Bicycle parking spaces shall be provided at the rate of one bicycle parking space for every 30 residential dwelling units and/or every 5,000 square feet of nonresidential floor area. (3) Bicycle facilities shall include a rack or other device to enable bicycles to be secured.</i></p>	<p>In general, parking requirements are low compared to state and national best practices and do not provide sufficient detail or range of options on the type and design of bicycle parking, especially for coastal community context with lots of tourists. Consider the following changes:</p> <p>1. Consider increasing and requiring bike parking for all multi-family and non-residential uses. Charlotte-Mecklenburg's (NC) Zoning Ordinance requires bicycle parking for most land uses regardless of zoning context: http://www.charmeck.org/Planning/ZoningOrdinance/ZoningOrdCountyChapter12.pdf</p> <p>2. Include standards for short term and long term bicycle parking for visitors and employees/residents/students respectively. Charlotte, NC's zoning ordinance provides a relevant example: http://www.charmeck.org/Planning/ZoningOrdinance/ZoningOrdCountyChapter12.pdf.</p> <p>3. Bicycle parking design requirements should be made more specific and quantifiable requirements with illustrated design guidance, preferably, including providing required bike parking nearby (within 50 feet of the primary entrance) or in parking structure or other shaded space.</p> <p>4. Unless bicycle parking requirements are increased, shared bike parking should not be allowed, except when provided at a district level such as in a mixed-use development or in a business district.</p> <p>See also:</p> <ul style="list-style-type: none"> • Association of Bicycle and Pedestrian Professionals Bicycle Parking Guidelines: http://www.apbp.org/?page=publications • Bicycle Parking Model Ordinance, Change Lab Solutions: http://changelabsolutions.org/publications/bike-parking • City of SF Zoning Administrator Bulletin for designs/layout/etc. The bulletin is in itself a great document that includes limits on hanging racks, how to park family bikes, and various configurations: http://208.121.200.84/ftp/files/publications_reports/bicycle_parking_reqs/Leg_BicycleParking_ZABulletinNo.9.pdf

Additional Pedestrian Friendly Policies to Consider

In addition to the modifications to the existing code of ordinances, there are two policies to consider implementing in Currituck to support safe pedestrian travel— a Complete Streets Policy and a Vision Zero Policy.

COMPLETE STREETS POLICY

A Complete Street is a roadway that, in addition to general purpose vehicular travel lanes, includes items such as sidewalks, bike lanes or shoulders, bus lanes, transit stops, crosswalks, median refuges, curb bulb-outs, appropriate landscaping, and other features that add to the usability and livability of the street as determined by context.

This plan recommends that Currituck County adopts a Complete Streets Policy. In addition to adopting a Complete Streets Policy, the county should develop and adopt street design guidelines to support the policy and communicate desired street treatments.

According to the National Complete Streets Coalition, an ideal Complete Streets Policy should include the following elements:

- » Includes a vision for how and why the community wants to complete its streets.
- » Specifies that “all users” includes pedestrians, bicyclists, and transit users of all ages and abilities, as well as trucks, buses, and automobiles.
- » Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right-of-way.
- » Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- » Encourages street connectivity and aims to create a comprehensive, integrated, and connected network for all modes.
- » Is adoptable by all agencies or departments to cover all roads.
- » Directs the use of the latest and best design criteria

and design guidelines while recognizing the need for flexibility in balancing user needs.

- » Directs that complete streets solutions will complement the context of the community.

ADDITIONAL RESOURCES:

FDOT Complete Streets Policy: <http://www.fdot.gov/roadway/csi/default.shtm>

National Complete Streets Coalition: <http://www.smartgrowthamerica.org/complete-streets/changing-policy>

BRING IT TO CURRITUCK COUNTY!

STRATEGY

Currituck County should take the following steps to develop a Complete Streets Policy:

1. Build a coalition
2. Undertake extensive outreach
3. Identify a policy champion
4. Develop the policy
5. Adopt the policy

Building a coalition will require identifying a broad and diverse base of supporters from multiple jurisdictions and disciplines. This group can be an extension of existing coalitions like the Steering Committee assembled for this plan. Outreach should educate the public and stakeholders on the benefits of Complete Streets and utilize resources such as the National Complete Streets Coalition. The policy itself should be built around the “10 Essential Elements of a Complete Streets Policy” and should also reflect local needs. A clear implementation plan, with a timeline and oversight committee should be established.

KEY IMPLEMENTERS + STAKEHOLDERS

Currituck County Planning & Community Development Department, Albemarle RPO, County government officials

Bicycle & Pedestrian advocacy groups

Public Health Officials

The business community

VISION ZERO POLICY AND PLAN

Vision Zero is the concept that no loss of life is acceptable on our roadways. It acknowledges that human life takes priority over transportation mobility and that government bodies, roadway designers, and road users share responsibility for traffic safety.

A formalized Vision Zero policy and plan would signify that Currituck is committed to improving road safety for all users. A county-wide Vision Zero effort would be a concerted effort between various communities, county and regional agencies, advocacy groups, schools, businesses, and nonprofit organizations. Implementing Vision Zero in Currituck would require education, enforcement, and design components in order to make a broad scale impact. Strategies for implementation could include enforcement efforts to target behaviors that endanger all types of road users, outreach efforts to community members, and safety improvements where there are the largest numbers of pedestrians and bicyclists.

For more information on developing a Vision Zero policy, go to visionzeronetwork.org

BRING IT TO CURRITUCK COUNTY!

STRATEGY

Assemble a Vision Zero steering committee to identify high crash locations and recommend improvements.

KEY IMPLEMENTERS + STAKEHOLDERS

Currituck County Planning Department, Albemarle RPO, Public Works, County Commission

Public Schools, Health Department, Office & Fire Departments

Nonprofit organizations, Advocacy groups

what is safe street design?



Create a sense of place with street trees, pedestrian-scale lighting, and parklets

Slow vehicle speeds with road diets or raised medians

Improve safety with high-visibility crosswalks and curb extensions

Provide space for cyclists with buffered bike lanes and intersection improvements

Many communities across the country have adopted Vision Zero policies and have committed to designing and implementing safer streets for all users.

Credit: City of San Diego and Circulate San Diego.

TABLE 4.2 POLICY ACTION STEPS

TASK	LEAD	SUPPORT	DETAILS	PHASE
Develop new policies & approaches for implementation.	Planning & Community Development	Board of Commissioners (BOC), Planning Board	Establish land right-of-way acquisition mechanisms, expand sidewalk fee in-lieu options, coordinate development plans, & implement driveway access management.	Short-term/ Ongoing (2018 onward)
Adopt a Complete Streets Policy.	Planning & Community Development	County Manager, Board of Commissioners	Partner across county departments to draft, adopt, and implement a comprehensive Complete Streets Policy with targeted performance measures and implementation steps.	Short-term/ Ongoing (2018 onward)
Be aware of the laws related to walking and bicycling in North Carolina and help educate others.	Currituck County Law Enforcement	NCDOT Bike/Ped Division, Planning & Community Development	<p>Law enforcement should be familiar with state bicycle and pedestrian policies and laws, including best practices for reporting on crashes involving people walking or bicycling: https://www.ncdot.gov/bikeped/lawspolicies/</p> <p>Also, the National Highway Traffic Safety Administration has made available a 2-hour self-paced interactive video training for all law enforcement officers: http://www.nhtsa.gov/Driving+Safety/Bicycles/Enhancing+Bicycle+Safety:+Law+Enforcement's+Role</p>	Short-term (2018)
Update zoning and development ordinances to better support a walk friendly community.	Planning & Community Development	BOC, Planning Board	See the recommended policies for the Currituck UDO in Chapter 4 on Policies.	Mid-term (2019)
Develop illustrated design standards for pedestrian friendly development and infrastructure.	Planning & Community Development	NCDOT	<p>Using NCDOT standard details as guidance, develop new and update existing design standards relating to pedestrian access and infrastructure. Examples include curb ramp standard details, crosswalk marking standards, sidewalk standards, etc.</p> <p>On non-NCDOT streets, the county can use NACTO standards (available at https://nacto.org/publication/urban-street-design-guide) and/or the design guidance in the “FHWA Small Towns and Rural Multi-Modal Networks” (http://ruraldesignguide.com).</p>	Mid-term (2019 onward)



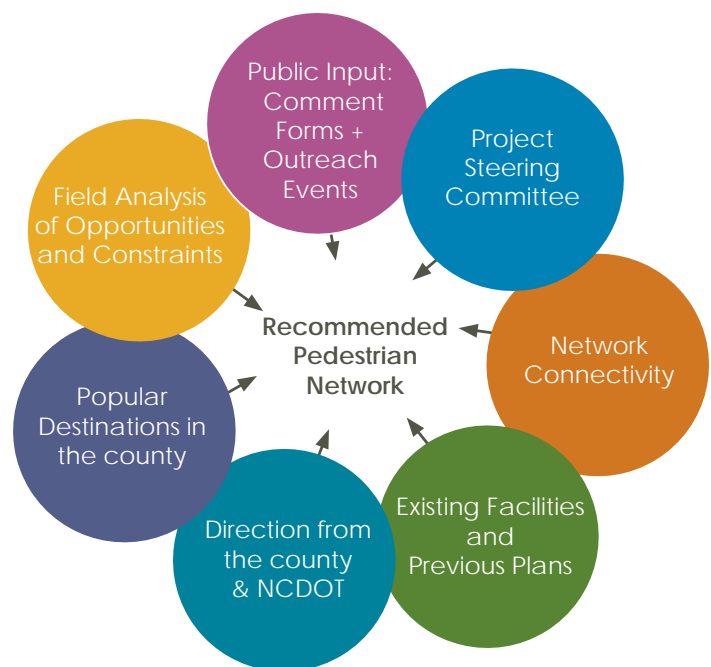
5.
RECOMMENDATIONS

This chapter details the infrastructure improvements that are recommended to create a safe, accessible, and connected pedestrian network in Currituck County. A mix of facilities and implementation strategies are recommended to create this network, that includes sidewalks, sidepaths, trails, pavement markings, traffic calming, and crossing improvements.

Overview

Recommendations were developed based on information from several sources, as highlighted in the graphic at right. Fieldwork examined the potential and need for pedestrian facilities along and across key roadway corridors to make connections between popular destinations in Currituck. The pedestrian hubs identified through stakeholder input served as focus areas for recommendations on a pedestrian scale.

All facility recommendations along NCDOT-maintained roadways will require review and approval by NCDOT Highway Division 1 prior to implementation.



Sidewalk Recommendations

The sidewalks recommended for Currituck County are shown by the dashed orange lines in the map series on pages 84 through 89 (with existing sidewalks shown in solid yellow lines). Table 5.1 provides details on each recommended sidewalk project. While these sidewalk recommendations do not represent the entire missing sidewalk network, these recommendations were chosen to expand the existing sidewalk network, address safety concerns, and to better connect destinations and neighborhoods.

General characteristics include:

- » Sidewalks in Currituck County should be at least five-foot wide, and where possible, should include a buffer between the sidewalks and the roadway.
- » Drainage improvements may be necessary additions to a sidewalk project based on engineering judgment and existing conditions.
- » Areas of higher pedestrian volume may require greater width, and sidewalks serving as part of the multi-use path system should be at least 10' in width.

DESIGN GUIDANCE

Sidewalks should contain adequate width to accommodate the high volumes and different walking speeds of pedestrians. The Americans with Disabilities Act requires a 4 foot clear width in the pedestrian zone plus 5 foot passing areas every 200 feet. Recommended dimensions shown below are based on NCDOT Complete Streets Planning and Design Guidelines. Exact dimensions should be selected in response to local context and expected/desired pedestrian volumes.



STREET CLASSIFICATION	PARKING LANE/ ENHANCEMENT ZONE	FURNISHING/ GREEN ZONE	PEDESTRIAN THROUGH ZONE	FRONTAGE ZONE	TOTAL SIDEWALK AREA
Local Streets	7 feet	4 - 8 feet	5 - 6 feet	N/A	9 - 12 feet
Commercial Areas	8 - 10 feet	6 - 8 feet	10 - 18 feet	2 - 8 feet	18- 34 feet
Arterials and Collectors	8 - 10 feet	6 - 8 feet	6 - 12 feet	2 - 4 feet	14 -24 feet

Note: The graphic above is more appropriate for small town downtown centers. Please see the FHWA Rural Design Guide for examples of facilities more tailored to rural and low-density settings.

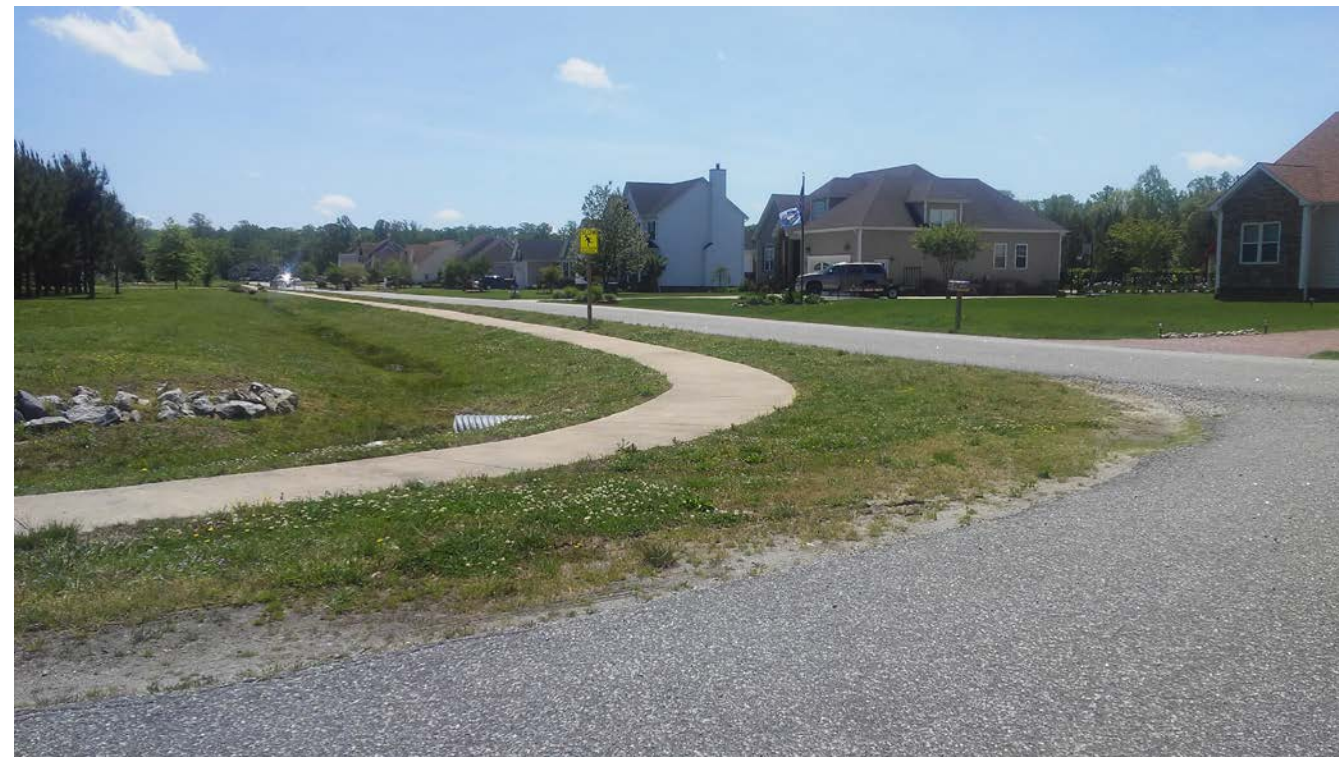
↑
Six feet enables two pedestrians (including wheelchair users) to walk side-by-side, or to pass each other comfortably

↑
Total sidewalk area excludes parking dimensions

Table 5.1 New Sidewalk Project List (see Maps 5.1-5.6)

Courthouse Rd.	Caratoke Hwy.	Caratoke Hwy.	0.6	\$199,003	√			√	√		√
Food Lion driveway (north & south)	Caratoke Hwy.	Food Lion storefront	0.2	\$66,334	√	√	√	√	√		√
Moyock Landing Dr.	Caratoke Hwy.	new neighborhood connection	0.5	\$165,836	√	√		√	√		√
New neighborhood connection	Moyock Landing Dr.		0.3	\$99,502		√		√			√
New neighborhood connection	Smew Ct.	NW River Dr.	0.2	\$66,334		√		√			√
NW River Dr.	Mac Jones Rd.	Cypress Landing	0.2	\$66,334		√		√			√
Poplar Branch Rd.	Caratoke Hwy.	Neuse Rd.	0.1	\$33,167	√			√	√		√
Poplar Branch Rd.	Macedonia Church Rd.	Caratoke Hwy.	2.6	\$862,347	√	√	√	√	√		
Sawyer Town Rd.	Surf Scoter Loop	Caratoke Hwy.	1.1	\$364,839	√		√	√			
Shingle Landing Rd.	Caratoke Hwy.	Tulls Creek Rd.	0.9	\$298,505	√	√	√	√	√		
Shingle Landing Rd	Camellia Dr.	Shingle Landing Rd.	0.2	\$66,334	√	√	√	√	√		√
Smew Ct.	Surf Scoter Loop	eastern terminus	0.1	\$33,167		√		√			√
Sound Park driveway	Caratoke Hwy.	eastern terminus	0.3	\$99,502	√		√	√	√		√
Survey Rd.	Caratoke Hwy.	Caratoke Hwy.	1.1	\$364,839.	√		√	√	√		
Tulls Creek Rd.	Caratoke Hwy. at Puddin Ridge Rd	Caratoke Hwy at N. Currituck Rd.	10.8	\$3,582,058	√	√	√	√	√		
Worth Guard Rd.	Caratoke Hwy.	Hampton Rd.	0.6	\$199,003	√	√	√	√	√		√

* Calculated using the average planning level cost for sidewalks of \$331,672/mile, based on the figures reported in Table on page 95. Ramps and other elements are not included in these costs.



New development in Currituck County is required to install sidewalks.

Table 5.2 Sidepath/Trail Project List (see Maps 5.1-5.6)

Caratoke Hwy.	Virginia border	Wright Memorial Bridge.	42.3	\$11,888,669	√	√		√	√	√	
Maple Rd.	Caratoke Hwy.	Shortcut Rd	2.3	\$646,429	√		√	√	√	√	
Ocean Trail (NC-12)-east side	Cadwall Rd. (southern terminus)	Cadwall Rd. (northern terminus)	0.1	\$28,106	√			√		√	√
Ocean Trail (NC-12)-east side	Salt House Rd. (southern terminus)	Salt House Rd. (northern terminus)	0.4	\$112,422	√			√		√	√
Ocean Trail (NC-12)-east side	Cottage Cove Rd. (southern terminus)	Cottage Cove Rd. (northern terminus)	0.01	\$2,811	√			√		√	√
Ocean Trail (NC-12)-east side	Hicks Bay Ln. (southern terminus)	Hicks Bay Ln. (northern terminus)	0.4	\$112,422	√			√		√	√
Ocean Trail (NC-12)-east side	Longfellow Cove (southern terminus)	sidewalk 600 ft north of Longfellow Cove	0.3	\$84,317	√			√		√	√
Ocean Trail (NC-12)-east side	sidewalk near s. terminus of Deep Neck Rd.	sidepath 600 ft south of Ocean Way	1.7	\$477,795	√			√		√	
Ocean Trail (NC-12)-both sides	Albacore St.	Monteray Dr./Dolphin St.	0.3	\$84,317	√	√		√	√	√	√
Ocean Trail (NC-12)-east side	Dolphin St.	Bonito St.	1.0	\$281,056	√	√		√	√	√	
Ocean Trail (NC-12)-east side	150 ft north of Bonito St.	northern terminus of NC-12	3.6	\$1,011,802	√	√		√	√	√	
Ocean Trail (NC-12)-west side	Currituck County/Dare County Border	Monteray Dr.	7.6	\$2,136,026	√	√		√	√	√	
Ocean Trail (NC-12)-west side	Monteray Dr.	Towne Bank driveway north of Monteray Dr.	0.04	\$11,242	√	√		√	√	√	√
Ocean Trail (NC-12)-west side	The Grass Course property line	Ocean Forest Ct.	1.0	\$281,056	√	√		√	√	√	
Shortcut Rd.	Caratoke Hwy.	Currituck County/ Camden County Border	8.4	\$2,360,870	√		√	√	√	√	

* Calculated using the average planning level cost for shared use path of \$281,056, based on figures reported in Table on page 95. Ramps and other elements are not included in these costs.



Corolla Light is an example of a trail separated far from the roadway for increased pedestrian comfort.

Sidepath/Trail Recommendations

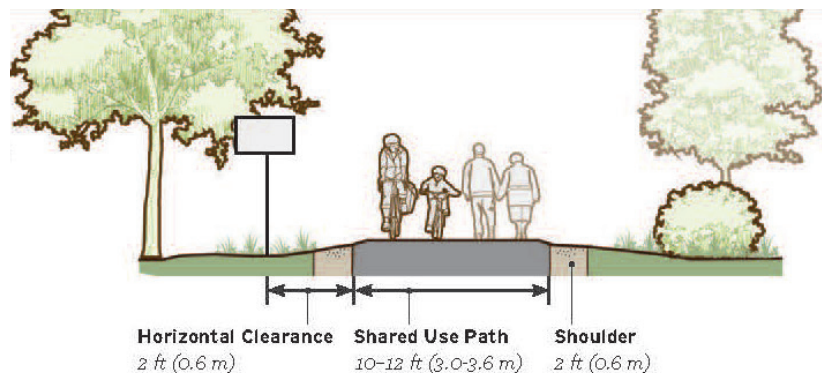
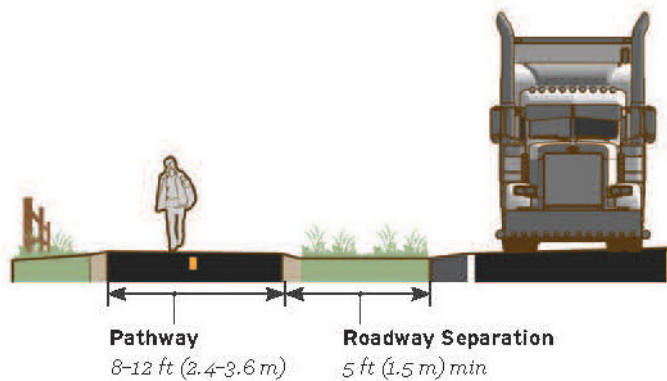
The Sidepath/Trail recommendations for Currituck County are shown by the dashed green lines in the map series on pages 84 through 89 (with existing trails shown in solid green). Table 5.2 on the previous page provides details on each recommended sidepath or trail project.

A sidepath is a low-stress shared use path for pedestrians and bicyclists that is completely separate from the roadway. Sidepaths are parallel to the adjacent roadway and provide a protected, comfortable space for users of all ages and abilities. Because sidepaths encourage walking and biking in areas where motor vehicle volumes and speeds are high, they can fill in network gaps where other active transportation facilities are precluded due to traffic conditions.

Trails are facilities separated from roadways for use by bicyclists and pedestrians. Similar to a two-way separated bike lane, a trail adjacent to a roadway provides for two way travel separated from motor vehicle traffic.

DESIGN GUIDANCE

- » The preferred width of a sidepath is 12-feet. The minimum preferred width is 10 feet, and in constrained conditions, the absolute minimum width is 8-feet.
- » Preferred minimum separation between the sidepath and the roadway is 6.5 feet and the absolute minimum separation is 5 feet. If space is available, separation widths up to 25 feet (and greater) are recommended, particularly along high speed corridors.
- » Sidepaths are most appropriate on roads with high traffic volumes (greater than 4,000 average daily traffic) and moderate to high traffic speeds (25 - 50 mph).



Images From: *Small Town and Rural Multimodal Networks*; US department of Transportation Federal Highway Administration

Quiet Streets "Toolbox"

At this master plan level, the quiet street designation is a broad category highlighting the need for an improved pedestrian experience. There are several different tools available in the Quiet Street "Toolbox". Pedestrian Lanes, Yield Roadways, and Speed Management are described below.

Pedestrian Lanes

A pedestrian lane is an on-road facility designated for exclusive use of pedestrians. Pedestrian lanes provide interim or temporary pedestrian accommodation on roadways lacking sidewalks. These can often be an alternative to sidewalks and often will fill short gaps between other higher quality facilities. A pedestrian lane may be on one or both sides of the roadway and can fill gaps between important destinations in a community.

As part of the planning process, agencies should explore issues and the potential challenges a pedestrian lane may face, including:

- » Detectability by people with vision disabilities
- » Undesired use by bicyclists
- » Accessible cross-slope requirements
- » Maintenance strategies, such as sweeping and snow removal

DESIGN GUIDANCE

- » Pedestrian lanes should be designed to support and promote side-by-side walking within the lane. Because of the lack of physical separation, additional width beyond this should be included for added comfort.
- » 8 ft (2.4 m) width is preferred
- » 5 ft (1.5 m) width is the minimum to allow for side-by-side walking and maneuverability by users of mobility devices.
- » Pedestrian lanes are intended for use by pedestrians and must meet accessibility guidelines for a pedestrian access route. This includes:
 - » The grade of pedestrian access routes shall not exceed the general grade established for the adjacent street or highway.
 - » The cross slope of pedestrian access routes shall be 2 percent maximum.
 - » The surface of pedestrian access routes shall be firm, stable, and slip resistant.

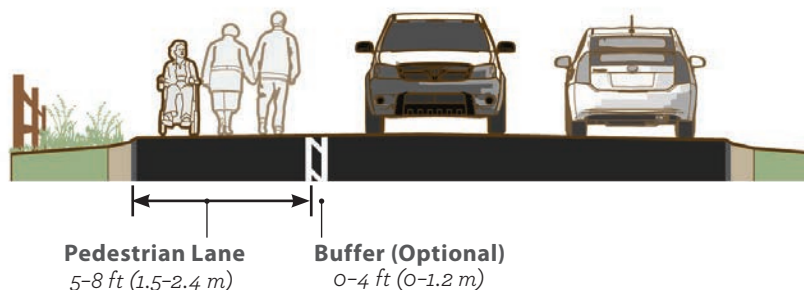


Image From: *Small Town and Rural Multimodal Networks Guide*; US Department of Transportation Federal Highway Administration

Quiet Streets

A quiet street applies different design elements to improve the pedestrian experience and encourage drivers to slow down and expect pedestrian traffic. The quiet streets recommended for Currituck County are shown by the dashed pink lines in the map series on pages 78 through 83. Table 5.3 below provides details on each recommended quiet street. This category of recommendations targets neighborhood streets that either don't have the available right-of-way for sidewalks or the cost to implement sidewalks are too high.

Table 5.3 Quiet Street Project List (see Maps 5.1-5.6)

Augusta Dr.	Caratoke Hwy.	Carolina Club Dr.	0.7	\$105,921	√	√	√	√	√	√
Barefoot Ln.	Dot Sears Dr.	Poplar Branch Rd.	0.6	\$90,790	√	√	√	√	√	√
Barnard Rd.	Caratoke Hwy.	Poplar Branch Rd.	1.1	\$166,448	√	√	√	√	√	√
Camp Ground Rd.	Caratoke Hwy.	eastern terminus	0.5	\$75,658	√	√	√	√	√	√
Carolina Club Dr.	Augusta Dr.	Drive Way	0.5	\$75,658	√	√	√	√	√	√
Dot Sears Dr.	Caratoke Hwy.	Barefoot Ln.	0.5	\$75,658	√	√	√	√		√
Dowdy's Bay Rd.	Caratoke Hwy.	eastern terminus	0.5	\$75,658	√	√	√	√	√	√
Drive Way	Carolina Club Dr.	Grandy Rd.	0.09	\$13,618	√		√	√	√	√
Eagle Creek Rd.	Survey Rd.	Green View Rd.	0.9	\$136,184	√		√	√		√
Edgewater Dr.	Caratoke Hwy.	Midway Dr.	0.5	\$75,658	√	√	√	√	√	√
Evans St.	Mallard St.	Edgewater Dr.	0.2	\$30,263	√	√	√	√		√
Faris Dr.	Walnut Island Blvd.	Holly Cresent Dr.	0.3	\$45,395	√	√	√	√		√
Fisher Landing Rd.	Caratoke Hwy.	western terminus	1.4	\$211,842	√	√	√	√	√	
Forbes Rd.	Caratoke Hwy.	Jarvisburg Rd.	0.4	\$60,526	√	√	√	√		√
Grandy Rd.	Drive Way	Neuse Rd.	0.05	\$7,566	√	√	√	√		√
Hickory Hill Dr.	Caratoke Hwy.	Grandy Rd.	0.6	\$90,790	√	√	√	√		√
Holly Cresent Dr.	Walnut Island Blvd.	Gregory Ct.	0.6	\$90,790	√	√	√	√		√
Jarvisburg Rd.	Forbes Rd.	Buster Newbern Rd.	2.0	\$302,632	√		√	√		
Keller Ln.	Holly Cresent Dr.	Mallard St.	0.3	\$45,395	√	√	√	√		√
Larry Ave.	Woodhouse Dr.	Goosewing Ct.	0.3	\$45,395	√	√	√	√		√
Leeward Dr.	Evans St.	Edgewater Dr.	0.2	\$30,263	√	√	√	√		√
Mallard St.	Walnut Island Blvd.	eastern terminus	0.5	\$75,658	√	√	√	√		√
Midway Dr.	Evans St.	Edgewater Dr.	0.2	\$30,263	√	√	√	√		√
Newbern Rd.	South Bay View Rd.	eastern terminus	0.5	\$75,658	√		√	√		√
Neuse Rd.	Grandy Rd.	Food Lion driveway	0.4	\$60,526	√		√	√	√	√
Ranchland Dr.	Mustang Trail	Caratoke Hwy.	1.7	\$257,237	√	√	√	√		
Soundside Estates Dr.	Caratoke Hwy.	eastern terminus	0.5	\$75,658	√	√	√	√		√
South Bay View Rd.	Buster Newbern Rd.	Caratoke Hwy.	1.7	\$257,237	√		√	√		
Uncle Graham Rd.	Caratoke Hwy.	Grandy Rd.	0.6	\$90,790	√		√	√		√
Walnut Island Blvd.	Caratoke Hwy.	eastern terminus	0.7	\$105,921	√	√	√	√	√	√
Waterview Dr.	Caratoke Hwy.	Dowdy's Bay Rd.	0.3	\$45,395	√	√	√	√	√	√
Woodhouse Dr.	Poplar Branch Rd.	Mallard Ct.	0.5	\$75,658	√	√	√	√	√	√

* Calculated using the average planning level cost for shared use path of \$281,056, based on figures reported in Table on page 95.

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Yield Roadway

Yield roadways can effectively serve local travel needs, maintain aesthetic preferences, and is a common form for low-volume local rural roads. When operating at very-low volumes and at low speeds, pedestrians and bicyclists are comfortable walking within the travel area of the roadway. Yield roadways are designed with narrow roadway dimensions to prioritize local access and community livability. There are no specific recommendations in this plan but this facility can be considered in the future.

DESIGN GUIDANCE

- » The paved two-way travel lane should be narrow to encourage slow travel speeds and require courtesy yielding when vehicles traveling in opposite directions meet.
- » No markings are necessary to implement a yield roadway. Do not mark a center line within the travel area. The single two-way lane introduces helpful traffic friction and ambiguity, contributing to a slow-speed operating environment.
- » Total traveled way width may vary from 12 ft (3.6 m)–20 ft (6.0 m).
- » Traveled way width at 15 ft (4.5 m) or below function as a two-way single-lane roadway and should follow the guidance of the AASHTO Low Volume Roads 2001.
 - » When width is 15 ft (4.5 m) or narrower, provide pull-out areas every 200–300 ft to allow for infrequent meeting and passing events between motor vehicles.
- » Trees may be planted within the roadside area at regular intervals to visually and physically narrow the corridor, add to the aesthetic environment, and encourage slow speeds.
- » Use signs to warn road users of the special characteristics of the street. Potential signs include:
 - » A PEDESTRIAN (W11-2) warning sign with ON ROADWAY legend plaque.
 - » Use a Two-Way Traffic warning sign (W6-3) to clarify two-way operation of the road if any confusion exists.

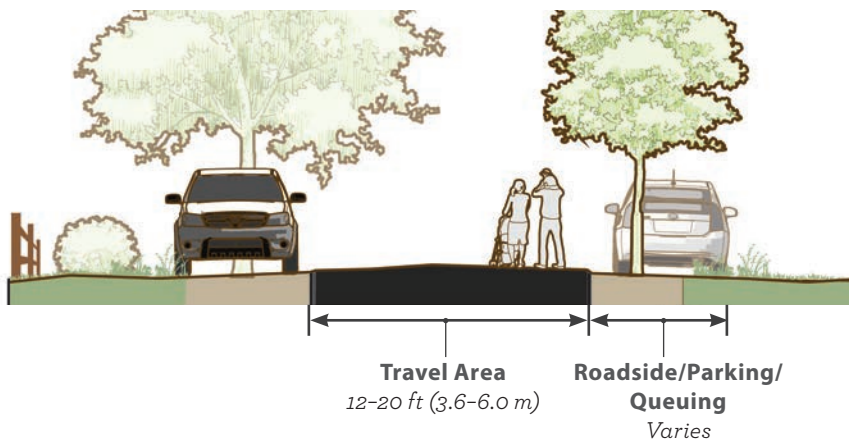
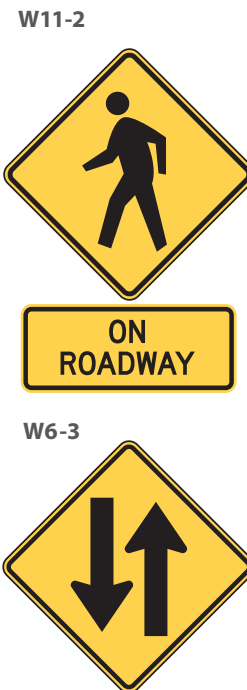
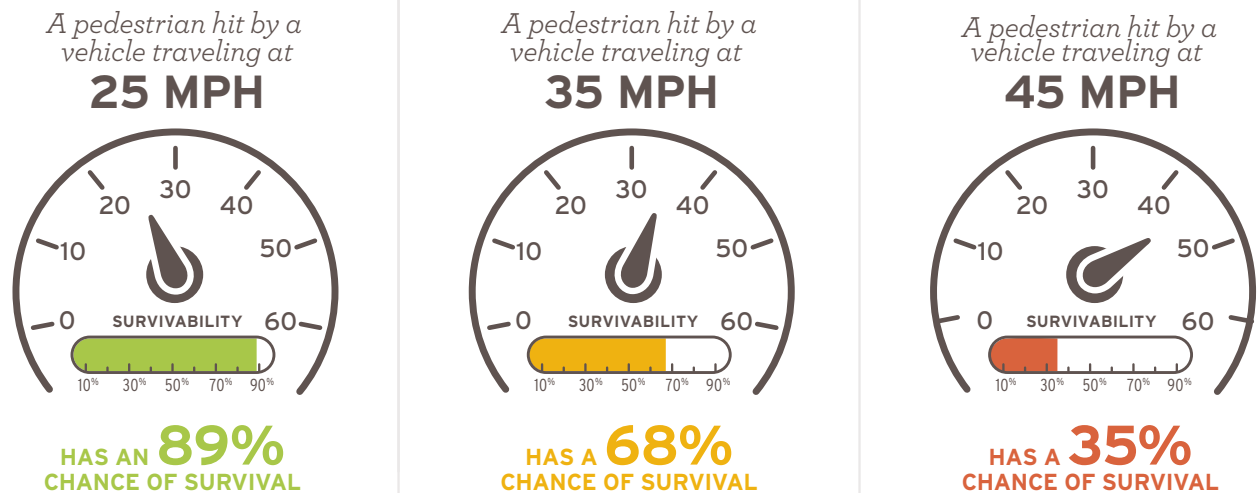


Image From: *Small Town and Rural Multimodal Networks Guide*; US Department of Transportation Federal Highway Administration



Speed Management



Speeding is a major contributing factor in crashes of all types and increases severity in the event of a crash. Faster speeds also increase the likelihood of a pedestrian being hit as reaction time and the higher speed of the vehicle increase stopping distance. At higher speeds, motorists are less likely to see and react to a pedestrian and are even less likely to be able to stop in time to avoid hitting one.

Speed management can play an important part of creating multimodal networks in rural areas. There are three general types of speed reduction measures:

- » Physical measures, such as vertical deflections, horizontal shifts, and roadway narrowings, intended to reduce speed and enhance the street environment for non-motorists.
- » Nonphysical measures using signs and markings are intended to raise awareness and reduce speed through visual indications. However, these regulatory measures are not as effective in reducing actual speeds as the physical design measures mentioned above.
- » Diversion treatments reduce cut-through traffic by obstructing or otherwise preventing traffic movements in one or more directions.

DESIGN GUIDANCE

- » Measures should generally be applied frequently and in concert to create continuous slow conditions along the road.
- » Along quiet street corridors, infrequent use of speed reduction measures will fail to effectively manage speed along a roadway corridor. When applied, slow points should be no more than 300 to 400 ft apart to maintain midpoint speeds of 25 mi/h.
- » Details on the context, effectiveness and application of various speed reduction measures can be found in FHWA's "Small Town and Rural Multimodal Networks" guide (2016) as well as "A Desktop Reference of Potential Effectiveness in Reducing Speed 2014." Detailed design drawings for physical traffic-calming measures can be found in the U.S. Traffic Calming Manual 2009.

Multimodal Bridge Elements

Multimodal bridge elements recommended for Currituck County are shown by the dashed orange lines on maps 5.2 through 5.4. Table 5.4 provides details on each recommended multimodal bridge. Bridges are critical connections in any transportation network. Due to the high cost of bridge replacement or upgrades and the various existing and constrained bridge designs that exist, it is not always possible to have continuity in design approaches for multimodal facilities on bridges. It may take decades for older bridges to be replaced with a design that supports walking and bicycling. Rehabilitation of existing bridges presents opportunities for reconfiguring bridge decks and structures to better accommodate all the modes that need to use the connection in the network. The overall strategy for accommodating people walking and bicycling on bridges may vary depending on whether the bridge is being reconfigured, retrofitted, or replaced.



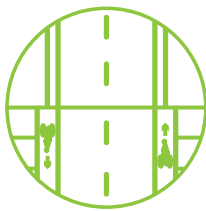
Separation

Bridges are constrained areas where pedestrians and bicyclists have less flexibility to operate. As such, separation becomes more important than along roadway segments.



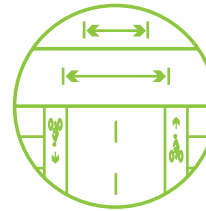
Prioritize

A single major barrier such as a narrow bridge can render an otherwise attractive bikeway or pedestrian route undesirable.



Future Proof

People bicycling and walking should be assumed users of any new or replacement bridge structure. A bridge replacement or rehabilitation project may create an opportunity to provide a new pedestrian and/or bicycle facility that does not necessarily connect to existing facilities. Provide temporary connections from the roadway to the new bridge facilities until the roadway can be permanently upgraded. Providing facilities during construction is less expensive than retrofitting them later.



Flexibility

Retrofitting pedestrian and bicycle facilities on bridges presents special challenges because it may be impractical to widen an existing bridge. Evaluate options that can provide space for people walking and/or bicycling without roadway widening.

Table 5.4 Multimodal Bridge Project List (see Maps 5.1-5.6)*

Aydlett Rd.	proposed northern Currituck Bridge	Currituck Sound	approx. 6.9
US-158	Joseph P. Knapp Bridge	Intracoastal Waterway	0.5
US-158	Wright Memorial Bridge	Currituck Sound	3.1

*Any future bridge replacement project should accomodate pedestrian travel in each direction per pedestrian facility design guidance in AASHTO at a minimum.



A view from the top of Joseph P. Knapp Bridge reveals limited space to provide pedestrian facilities across the Intracoastal Waterway.

Crossing Improvements

Intersection improvements recommended for Currituck County are shown by crosswalk symbols in the map series on pages 78 through 83. Table 5.5 provides details on each recommended intersection improvement.

An intersection facilitates the interchange between motorists, pedestrians, and other modes of transportation in order to advance traffic flow in a safe and efficient manner. The configuration of a safe intersection for pedestrians may include elements such as color, signage, medians, signal detection and timing, and pavement markings. The type of intersection treatment required for pedestrians depends on the facility types, whether different facilities are intersecting, and the adjacent street function and land use.

CROSSWALKS

Crosswalks should be installed at grade and across all legs of a signalized intersection, unless pedestrians are prohibited. To increase accessibility, crosswalks should be paired with curb ramps, detectable warnings, and pedestrian countdown signals. Where crosswalks traverse multi-lane roads, they should be paired with a median refuge island that separates motor vehicle travel directions and shortens the crossing distance for pedestrians.

Adjacent land use, present and future crossing demand, safety, crash history, and traffic speeds and volumes should also be considered when identifying crosswalk locations. In all cases, high-visibility ladder, zebra, and continental crosswalk markings are preferred to standard parallel or dashed pavement markings.

For further guidance, see the NCDOT Pedestrian Crossing Assessment tool at https://connect.ncdot.gov/resources/safety/TEppl/TEPPL%20All%20Documents%20Library/Pedestrian_Crossing_Guidance.pdf.

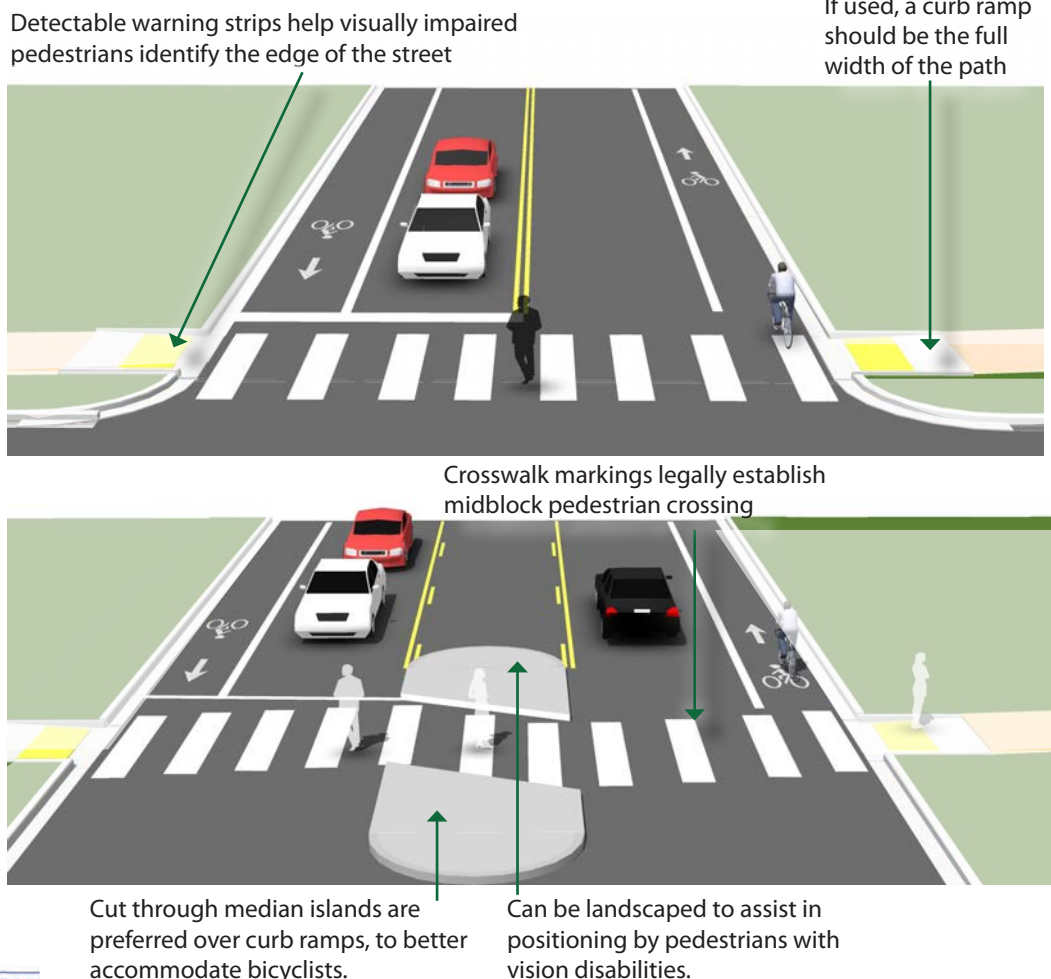
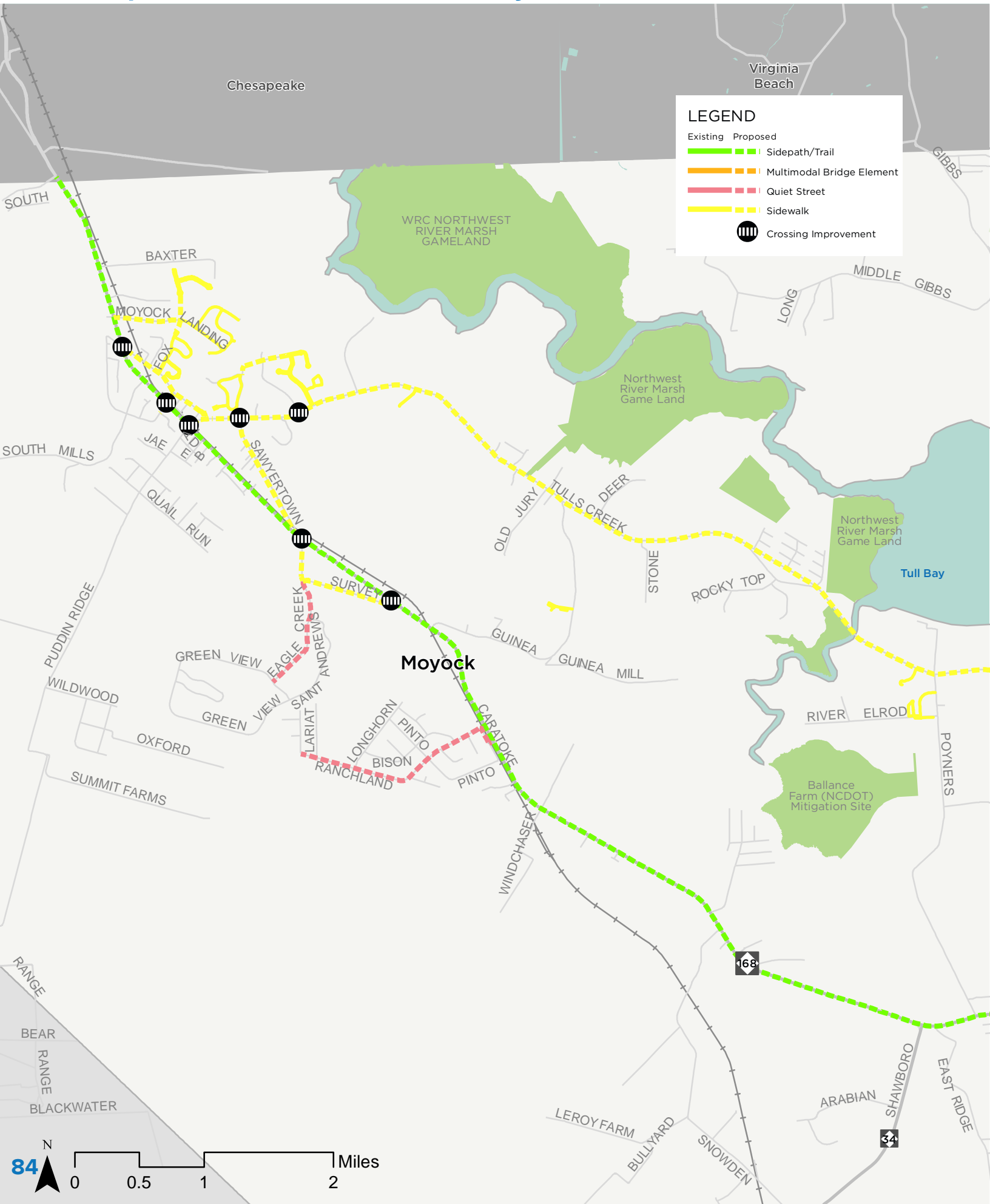


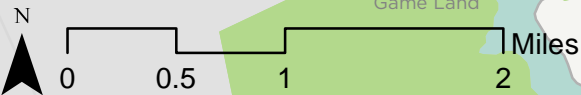
Table 5.5 Intersection/Crossing Improvement Project List (see Maps 5.1-5.6)

Caratoke Hwy. (US-158)	Augusta Dr.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Aydlett Rd.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Barnard Rd.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	S. Bay View Rd.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Dot Sears Dr.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Edgewater Dr.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Fisher Landing Rd.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Forbes Rd.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Hickory Hill Dr. / Camp Ground Rd.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Poplar Branch Rd.	Signalized	High-Visibility Crosswalk; Pedestrian Signal; Refuge Median
Caratoke Hwy. (US-158)	Sound Park driveway	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Uncle Graham Rd. / Soundside Estates Dr.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (US-158)	Walnut Island Blvd.	Signalized	High-Visibility Crosswalk; Pedestrian Signal; Refuge Median
Caratoke Hwy. (US-158)	Worth Guard Rd.	Unsignalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	Courthouse Rd. (north)	Unsignalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	Courthouse Rd. (south)	Unsignalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	S. Landing Rd. / Shingle Landing Rd.	Signalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	Laurel Woods Blvd.	Unsignalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	Maple Rd.	Unsignalized	Crosswalk with Future Development
Caratoke Hwy. (NC-168)	Puddin Ridge Rd.	Signalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	Shingle Landing Rd.	Unsignalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	Shortcut Rd. (US-158)	Signalized	Crosswalk with Future Development
Caratoke Hwy. (NC-168)	Survey Rd. (north)	Unsignalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	Survey Rd. (south)	Unsignalized	High-Visibility Crosswalk
Caratoke Hwy. (NC-168)	Tulls Creek Rd.	Signalized	High-Visibility Crosswalk
Ocean Trail (NC-12)	Albacore St.	Signalized	High-Visibility Crosswalk; Pedestrian Signal
Ocean Trail (NC-12)	Audobon Dr.	Unsignalized	High-Visibility Crosswalk
Ocean Trail (NC-12)	Devils Bay / Herring St.	Unsignalized	High-Visibility Crosswalk
Ocean Trail (NC-12)	Harbor View	Unsignalized	High-Visibility Crosswalk
Ocean Trail (NC-12)	midblock north of Harris Teeter	Unsignalized	High-Visibility Crosswalk/RRFB
Ocean Trail (NC-12)	Ocean Forest Ct.	Unsignalized	High-Visibility Crosswalk
Ocean Trail (NC-12)	Ocean Hill Ct.	Unsignalized	High-Visibility Crosswalk
Ocean Trail (NC-12)	Orions Way	Unsignalized	High-Visibility Crosswalk
Ocean Trail (NC-12)	Schoolhouse Ln.	Unsignalized	High-Visibility Crosswalk
Ocean Trail (NC-12)	Super Wings driveway	Unsignalized	High-Visibility Crosswalk
Shortcut Rd. (US-158)	College Way	Unsignalized	High-Visibility Crosswalk/RRFB
Tulls Creek Rd.	Mack Jones Rd.	Unsignalized	High-Visibility Crosswalk
Tulls Creek Rd.	Sawyer Town Rd.	Unsignalized	High-Visibility Crosswalk

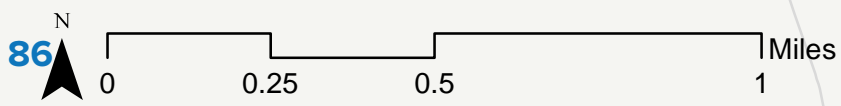
Map 5.1 Recommendations: Moyock Hub



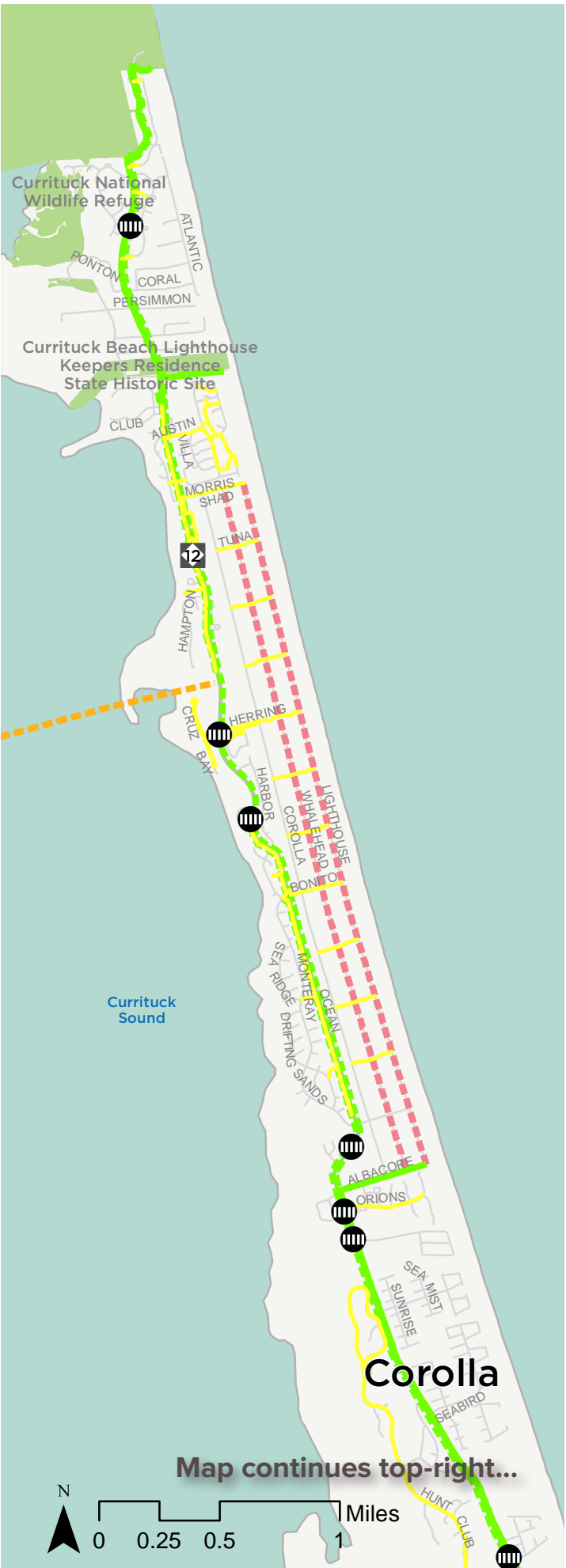
Map 5.2 Recommendations: Barco-Maple-Currituck Hub



Map 5.3 Recommendations: Grandy Hub



Map 5.4 Recommendations: Corolla Hub



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Map continued from bottom-left...

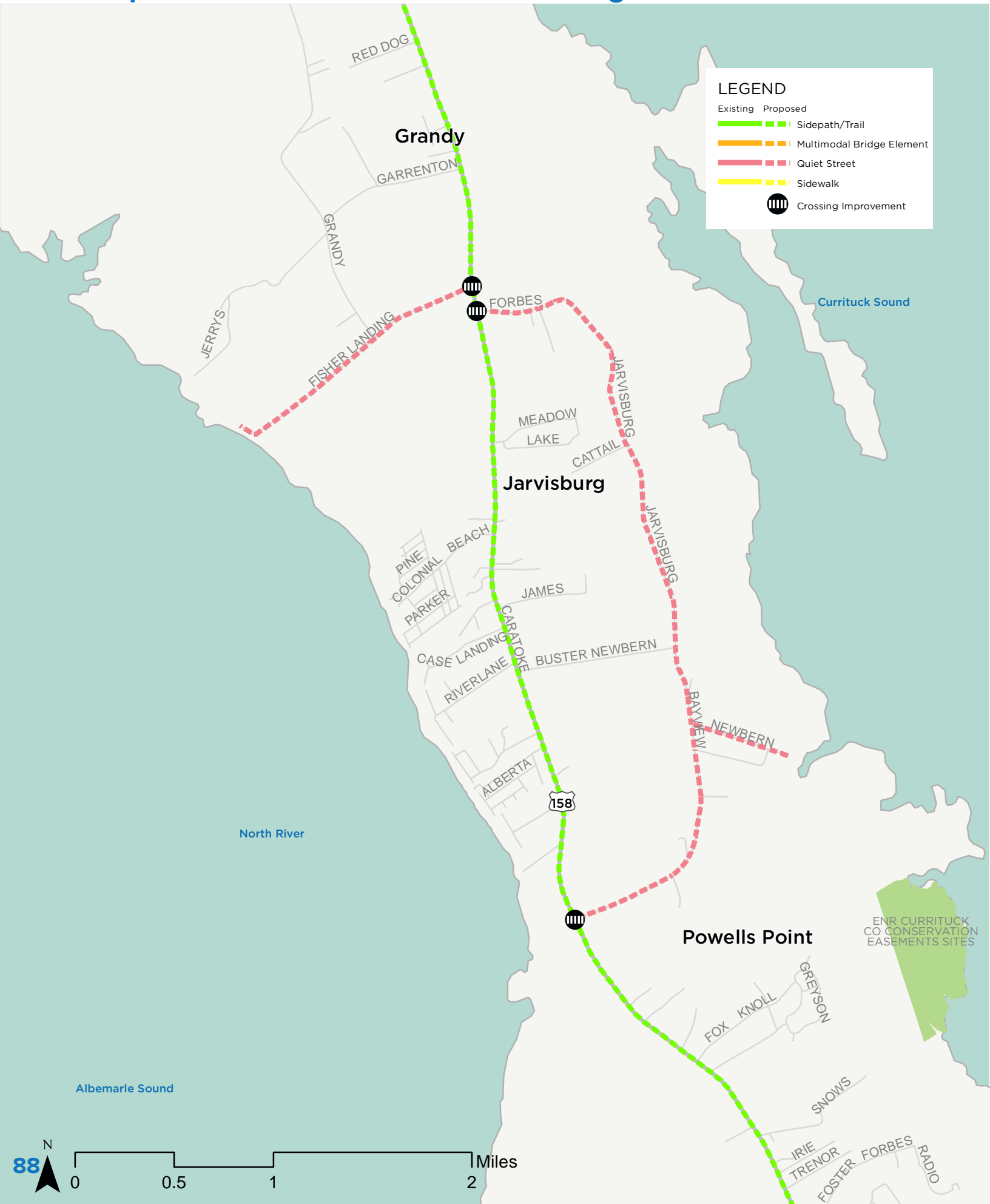
LEGEND

- | | | |
|----------|----------|---------------------------|
| Existing | Proposed | |
| | | Sidepath/Trail |
| | | Multimodal Bridge Element |
| | | Quiet Street |
| | | Sidewalk |
| | | Crossing Improvement |

Corolla

Pine Island Audubon Sanctuary

Map 5.5 Recommendations: Jarvisburg Sub-Hub



Map 5.6 Recommendations: Knotts Island Sub-Hub



Crossings should safely accommodate pedestrians and bicyclists, and ferry terminals should include safe waiting areas.

LEGEND

Existing	Proposed	
		Sidepath/Trail
		Multimodal Bridge Element
		Quiet Street
		Sidewalk
		Crossing Improvement

TABLE 5.6 INFRASTRUCTURE NETWORK & FUNDING ACTION STEPS

TASK	LEAD	SUPPORT	DETAILS	PHASE
Implement pedestrian facility design training for key staff.	County Manager, Planning & Community Development, Public Works	NCDOT Division 1	Become familiar with the design resources listed in Appendix A and available through NCDOT.	Short-term (2018)
Seek multiple funding sources and facility development options.	County Manager	Board of Commissioners, Planning & Community Development, ARPO, NCDOT Division 1	Chapter 6 contains project cost estimates and Appendix B contains potential funding opportunities. Explore available funding options and facilitate conversations with key stakeholders to identify potential partnerships. Leverage local funds or private investment towards federal funding opportunities, especially for larger investments such as priority intersection projects.	Short-term/ Ongoing (2018 onward)
Develop a long- term funding strategy	County Manager & Board of Commissioners	Planning & Community Development, ARPO, NCDOT Division 1	To allow continued development of the project recommendations, capital funds for pedestrian facility construction should be set aside every year. Powell Bill funds should be programmed for facility construction. Funding for an ongoing maintenance program should also be included in the county's operating budget. Consideration for a transportation bond to fund priority projects should be given.	Short-term/ Ongoing (2018 onward)
Ensure that priority projects are incorporated in NCDOT's prioritization process.	ARPO	County Manager, Planning & Community Development, NCDOT Division 1	ARPO, Currituck County, and NCDOT Division 1 should coordinate to fund this plan's network recommendations over time. Use the plan cut-sheets and recommendation maps to communicate project details.	Mid-term (2019)
Improve crossing facilities across Caratoke Hwy (US-158/ NC-168)	Planning & Community Development, and NCDOT Division 1	County Manager, NCDOT Bike/Ped Division	County and NCDOT Division 1 should coordinate on design of future improvements to Caratoke Hwy (US-158/NC-168) to ensure they accommodate pedestrian movement across the intersections.	Mid-term (2019-2020)
Maintain pedestrian facilities.	Public Works	County Manager, General Public (for reporting maintenance needs)	Currituck County should maintain existing and future pedestrian facilities, working with NCDOT where necessary. Adequate funding should be provided for maintenance activities every time a new pedestrian project or crossing improvement is design, funded, or implemented.	Ongoing (2018 onward)
Maintain awareness of restriping and repaving opportunities that could advance plan recommendations.	Public Works	NCDOT Division 1	Local point person should maintain awareness of NCDOT repaving schedule, checking in quarterly for updates to stay abreast of project marking opportunities.	Ongoing (2018 onward)

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6. IMPLEMENTATION

This chapter defines the priorities and structure for managing the implementation of the Connect Currituck Pedestrian Plan. Implementing the recommendations within this plan will require leadership and dedication to pedestrian facility development on the part of a variety of agencies.

Overview

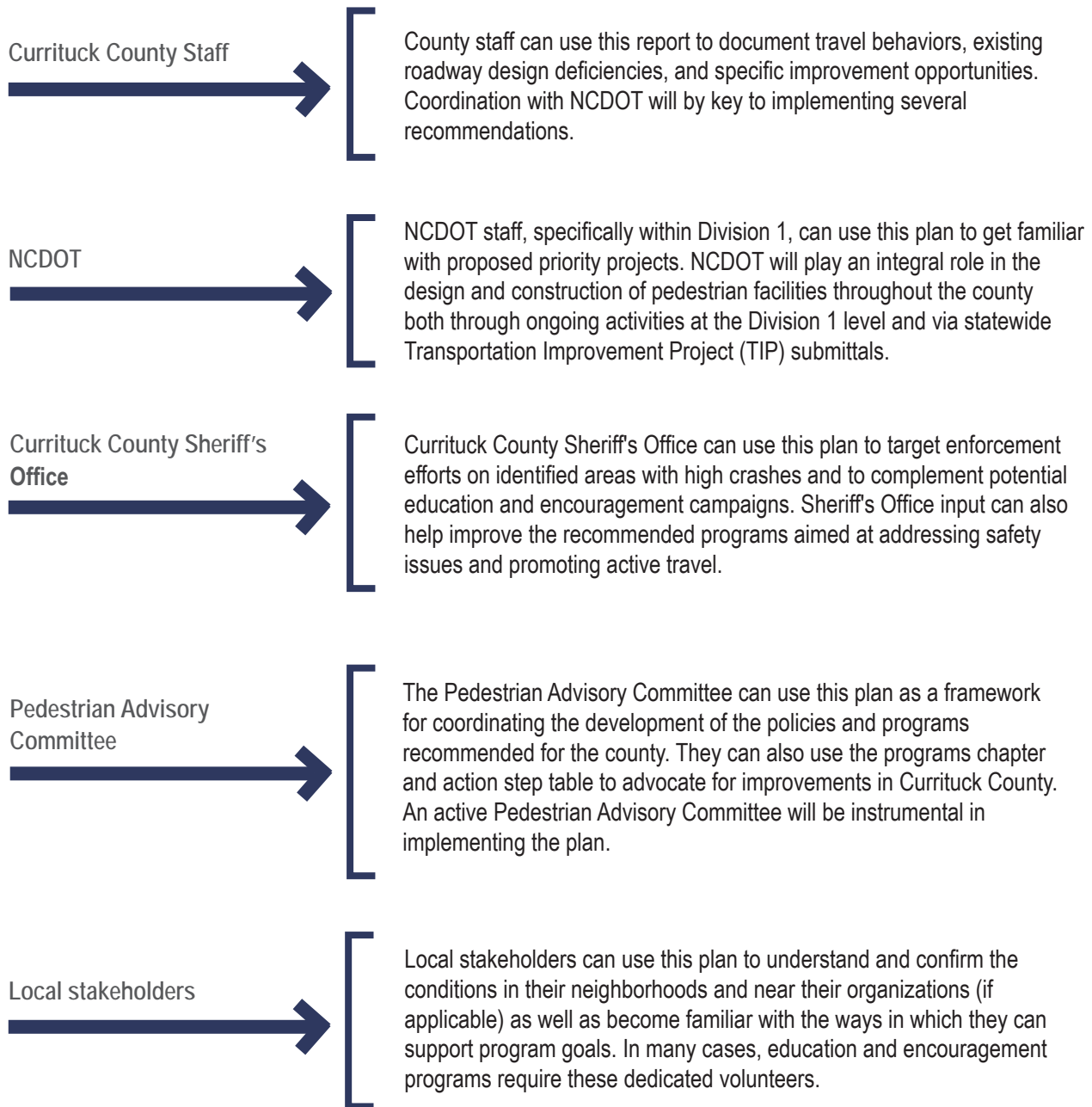
Equally critical, and perhaps more challenging, will be meeting the need for a recurring source of revenue. Even small amounts of local funding could be very useful and beneficial when matched with outside sources. Most importantly, the county need not accomplish the recommendations of this plan by acting alone; success will be realized through collaboration with regional and state agencies, the private sector, and non-profit organizations. Funding resources that may be available to Currituck County are presented in Appendix A of this plan.

Given the present day economic challenges faced by local governments (as well as their state, federal, and private sector partners), it is difficult to know what financial resources will be available at different time frames during the implementation of this plan. However, there are still important actions to take in advance of major investments, including key organizational steps, the initiation of education and safety programs, and the development of strategic, lower-cost sidewalk and crossing facilities. Following through on these priorities will allow the key stakeholders to prepare for the development of larger pedestrian and trail projects over time, while taking advantage of strategic opportunities as they arise.

How to Use This Plan

At the heart of every successful pedestrian plan is a coordinated effort by county staff, law enforcement, and other partners to support safe travel on foot. Everyone has a key role to play in implementing this plan.

Currituck County staff should use this report to establish programs and policies that educate, encourage, and prioritize infrastructure investments proposed throughout the county.



Planning Level Cost Estimates

Planning level cost estimates can be calculated based on the average quarter-mile cost estimates from the 2016 report out of UNC-Charlotte on the “Cost of Independent Bicycle and Pedestrian Facilities in North Carolina,” shown in the graphic below.

Construction Costs	Facility Type							
	Sidewalk (0.25-mile)	Bicycle Lane (0.25-mile)	Shared Use Path (0.25-mile)	Mid-block Xwalk (1)	Paved Shoulder (0.25-mile)	Ped. Intersection Treatments (1)	Bicycle / Ped. Bridge (100 ft)	Shared Lane Markings (0.25-mile)
Minimum Cost	\$25,760	\$33,153	\$12,393	\$3,340	\$20,532	\$14,343	\$122,992	\$7,781
Percentile (10)	\$50,320	\$54,366	\$25,380	\$3,542	\$29,324	\$16,133	\$124,934	\$11,528
Percentile (25)	\$65,571	\$77,505	\$32,236	\$3,809	\$41,226	\$20,081	\$126,062	\$16,355
Percentile (50)	\$89,364	\$112,490	\$46,152	\$4,323	\$64,468	\$24,546	\$128,121	\$26,185
Average Cost	\$82,918	\$105,099	\$70,264	\$4,940	\$84,092	\$25,923	\$130,120	\$37,829
Percentile (75)	\$121,661	\$156,596	\$72,398	\$5,132	\$93,438	\$28,563	\$130,972	\$41,919
Percentile (90)	\$164,125	\$203,395	\$108,479	\$5,966	\$126,145	\$32,629	\$135,146	\$57,410
Maximum Cost	\$534,578	\$552,659	\$437,238	\$14,167	\$438,737	\$56,897	\$162,890	\$209,319

Source: Pulgurtha, S. (2017). “Cost of Independent Bicycle and Pedestrian Facilities.” a Presentation to the Participants of GLC MPO Training Session, March 2, 2017. Available at <https://connect.ncdot.gov/projects/BikePed/Documents/Bicycle%20and%20Pedestrian%20Facility%20Cost%20Tool%20-%20Report.pdf>

Based on the table above, the average cost to build a 5’ sidewalk is \$331,662/mile, and the cost to build a 10’-12’ wide sidepath is \$281,056/mile. However, it is important to note that costs for pedestrian and bicycle infrastructure vary greatly from city to city and site to site. All cost estimates should be used only for estimating purposes and not necessarily for determining actual bid prices for a specific infrastructure project. These cost estimates do not include right-of-way acquisition, utility conflicts, and other potential costs. Project cost estimates derived from these unit cost estimates should always be reevaluated by an engineer or project designer prior to implementation.

Cost estimates can be used to anticipate and identify funding sources. The order in which the projects are implemented will depend on a number of factors, including maintenance/resurfacing schedules, funding availability/schedules. Other factors that should be considered when prioritizing an implementation schedule are:

- » Near-term feasibility, such as facilities implemented through proposed or on-going projects or roadways slated for resurfacing
- » Equity: meeting the mobility needs of people throughout the county, especially those with limited mobility or access to other forms of transportation
- » Safety: safety from trip hazards, inadequate crossing facilities, deteriorating facilities, etc.
- » Previous plan recommendations
- » Connectivity: projects that bridge critical gaps in the network and connect to popular destinations, such as schools, parks, and commercial centers
- » Existing pedestrian demand, as evidenced through the public input process of this plan and the equity analysis

Basis of Recommendations

As part of the planning process, project consultants, county staff, and steering committee members identified key inputs to identify projects. These seven factors, illustrated below, are listed in order of priority and should be considered every time the county or NCDOT selects projects for implementation. Prioritizing individual projects helps local agencies oversee the steady growth of the pedestrian network.



SAFETY (CRASHES)



POPULATION DENSITY



EQUITY ANALYSIS



CONNECTIVITY



DESTINATIONS



GREENWAYS



EASE OF IMPLEMENTATION/
LOW COST

Project Cutsheets

On the following pages, six projects are outlined in plan view concepts and photosimulations, depicting recommended pedestrian improvements for improving mobility, access, and safety for pedestrians in Currituck County. These projects were identified through public input from the online survey, during the open house and charrette events, in consultation with the steering committee and county staff, and in order to meet on-going pedestrian facility and greenway development goals.





COROLLA: TRAIL + CROSSING IMPROVEMENTS

Corolla Greenway

The Corolla Greenway is used by many tourists and residents of the island to go shopping, recreate, and access the beach.

THE VISION

Currituck County has already completed several sections of the greenway along the west side of Highway 12. However, there are four remaining sections that need to be complete.

The ultimate vision is for a shared-use path on both sides of Highway 12. The first phase in achieving this ultimate vision is by completing the greenway along the entire Highway 12.

RECOMMENDED ACTION STEPS

The following map series (page 95-103) provides a closer look at the Corolla Greenway and outlines potential improvements, such as trail enhancements, new trail connections, and Highway 12 crossing improvements. The maps also summarize opportunities and constraints of implementation.

- Public Schools
- Public Library
- Cultural POI
- Shopping

- Commercial Nodes
- Residential Nodes

- Open Space Nodes

- Existing Trail
- Trail Gap
- Public Land or Privately Owned Natural Land
- Commercially Owned Property
- Residential Property

South Public Beach Access



Harris Teeter

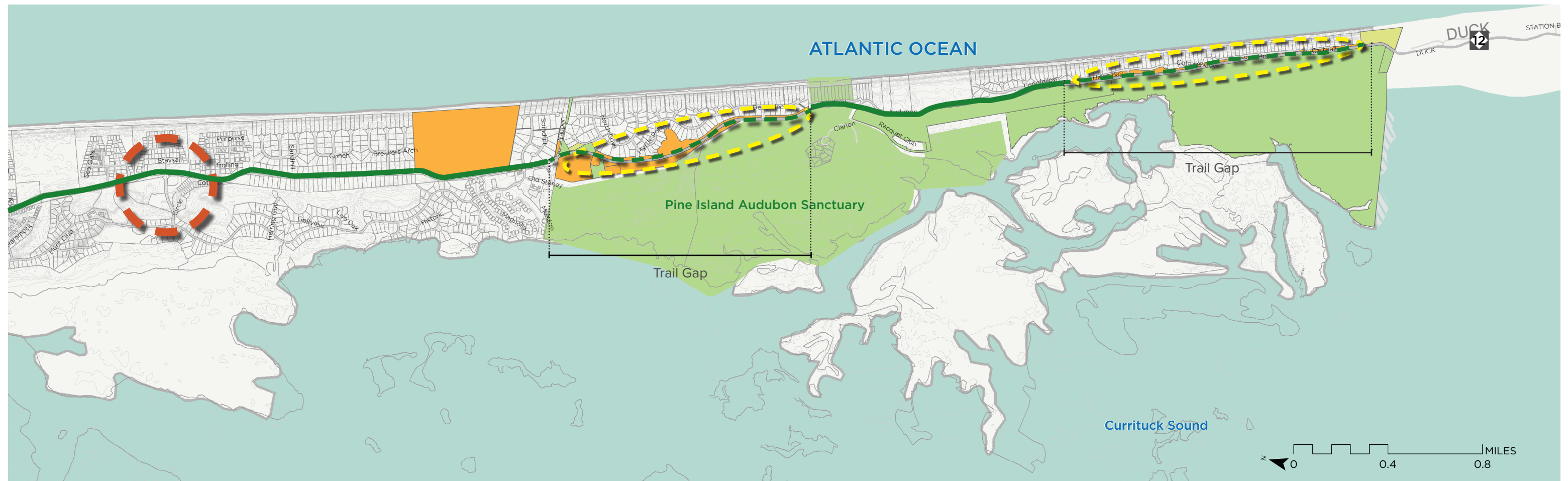


Visitors Center & Beach Rentals

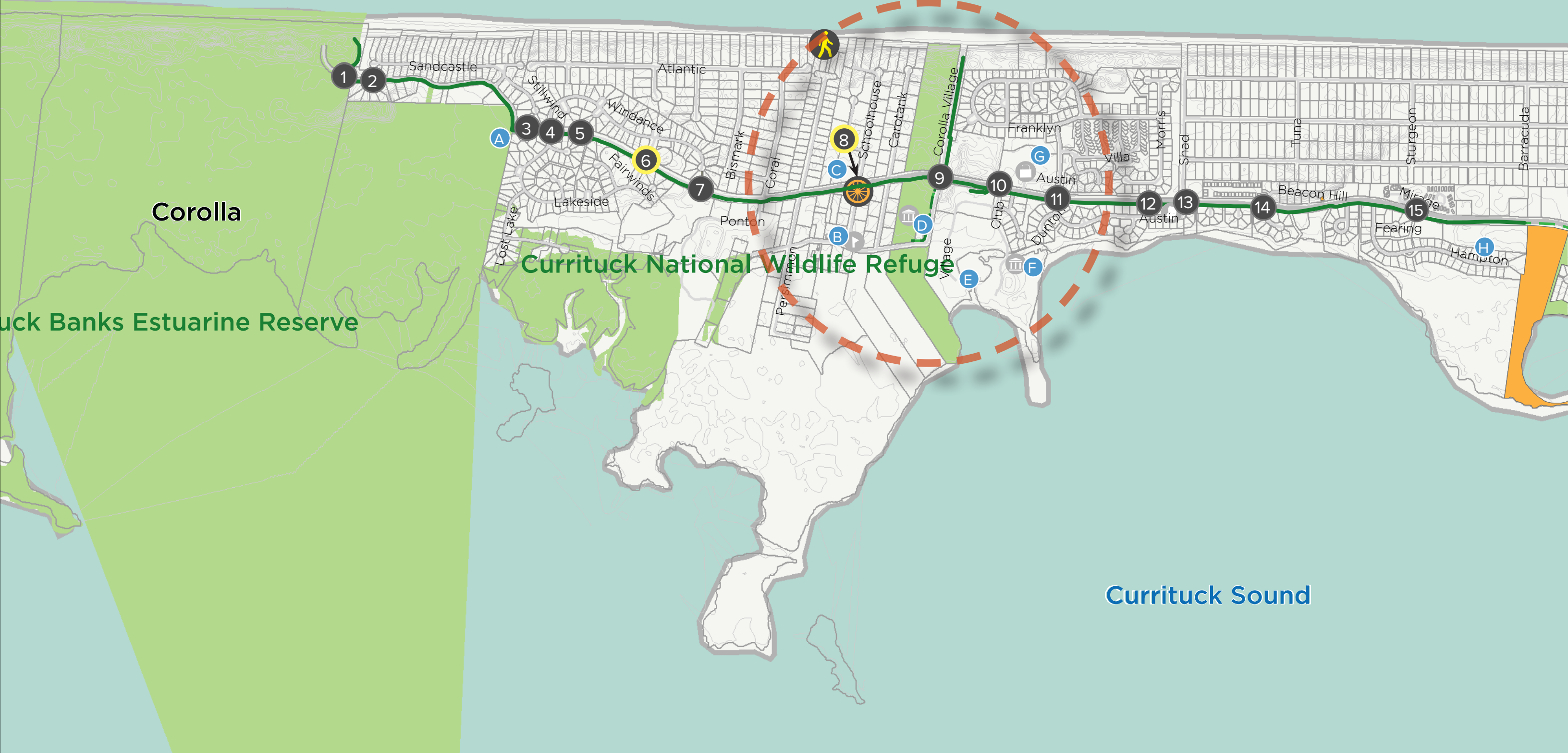


Timbuck II





ATLANTIC OCEAN



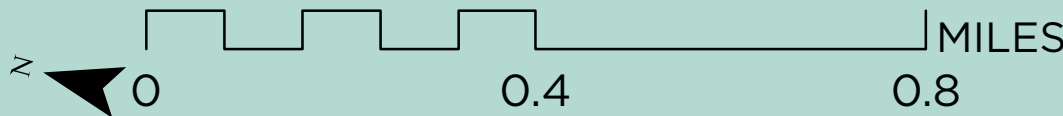
Corolla

Currituck Banks Estuarine Reserve

Currituck National Wildlife Refuge

Currituck Sound

Currituck National Wildlife Refuge





COROLLA: TRAIL + CROSSING IMPROVEMENTS

Corolla Greenway:

Currituck National Wildlife Refuge to Barracuda Street

MAP LEGEND

- Existing Trail
- Park, open space, or nature reserve
- Intersection/Crossing Improvement
- Pedestrian Collision
- Bicycle Collision

- Commercial Nodes
- Residential Nodes
- Open Space Nodes

HIGHWAY 12 INTERSECTIONS

1.	Northern terminus	Unsignalized	High Visibility	
2.	High Dune Loop	Unsignalized	High Visibility	
3.	Pedestrian connection to Stillwind Ct.	Unsignalized	High Visibility	
4.	Lakeside Dr./ Windance Ln.	Unsignalized	High Visibility	
5.	Pedestrian connection to Homeport Ct.	Unsignalized	High Visibility	
6.	Ocean Hill Ct.	Unsignalized	None	High Visibility
7.	Pedestrian connection to Windance Ln.	Unsignalized	High Visibility	
8.	Schoolhouse Ln.	Unsignalized	None	High Visibility
9.	Corolla Village Rd.	Unsignalized	High Visibility	
10.	Club Rd.	Unsignalized	High Visibility	
11.	Austin St.	Unsignalized	High Visibility	
12.	Pedestrian connectino to Morris Dr.	Unsignalized	High Visibility	
13.	Shad St.	Unsignalized	High Visibility	
14.	Baum Ct./Beacon Hill Dr.	Unsignalized	High Visibility	
15.	Corolla Light Sports Complex driveway	Unsignalized	High Visibility	

KEY DESTINATIONS

- Public Schools
- Public Library
- Cultural POI
- Shopping
- A** Currituck Banks Maritime Forest Trail Head
- B** Waters Edge Village School
- C** Corolla Branch Library
- D** Currituck Beach Lighthouse
- E** Outer Banks Center for Wildlife Education
- F** Whalehead Club
- G** Corolla Light Town Center
- H** Corolla Light Sports Center

COMPLETING the CURRITUCK GREENWAY:

ENHANCE THE TRAIL:

The trail is complete in this section along the west side of Highway 12. Trail amenities, such as signage, landscaping, and lighting could be considered.

IMPROVE CROSSINGS:

Ocean Hill Court: Install High Visibility Crosswalks

Schoolhouse Lane: Install High Visibility Crosswalks

* Yellow denotes proposed improvement



COROLLA: TRAIL + CROSSING IMPROVEMENTS

Corolla Greenway: Barracuda Street to Seabird Way

MAP LEGEND

	Existing Trail		Commercial Nodes		Residential Nodes Open
	Trail Gap		Space Nodes		
	Park, open space, or nature reserve				
	Intersection/Crossing Improvement				
	Pedestrian Collision				
	Bicycle Collision				

HIGHWAY 12 INTERSECTIONS

1.	Devils Bay/ Herring St.	Unsignalized	None	High Visibility
2.	Ocean Forest Ct.	Unsignalized	None	High Visibility
3.	Harbor View	Unsignalized	None	High Visibility
4.	Bonita St.	Unsignalized	High Visibility	
5.	Dolphin St	Unsignalized	High Visibility	
6.	Super Wings Driveway	Unsignalized	None	High visibility crosswalk; Sidewalk on north side
7.	Malia Drive/ Monteray Pines Service entrance	Unsignalized	High Visibility	High visibility crosswalk; Sidewalk on north side
8.	Albacore St.	Signalized	Stamped Concrete	High Visibility Crosswalk; Pedestrian Signal
9.	Orions Way	Unsignalized	Crosswalk across Orions Way- faded; crosswalk across NC 12	High visibility Crosswalk
10.	Crown Point Rd.	Unsignalized	None	Crosswalk with Development

* Yellow denotes proposed improvement

KEY DESTINATIONS

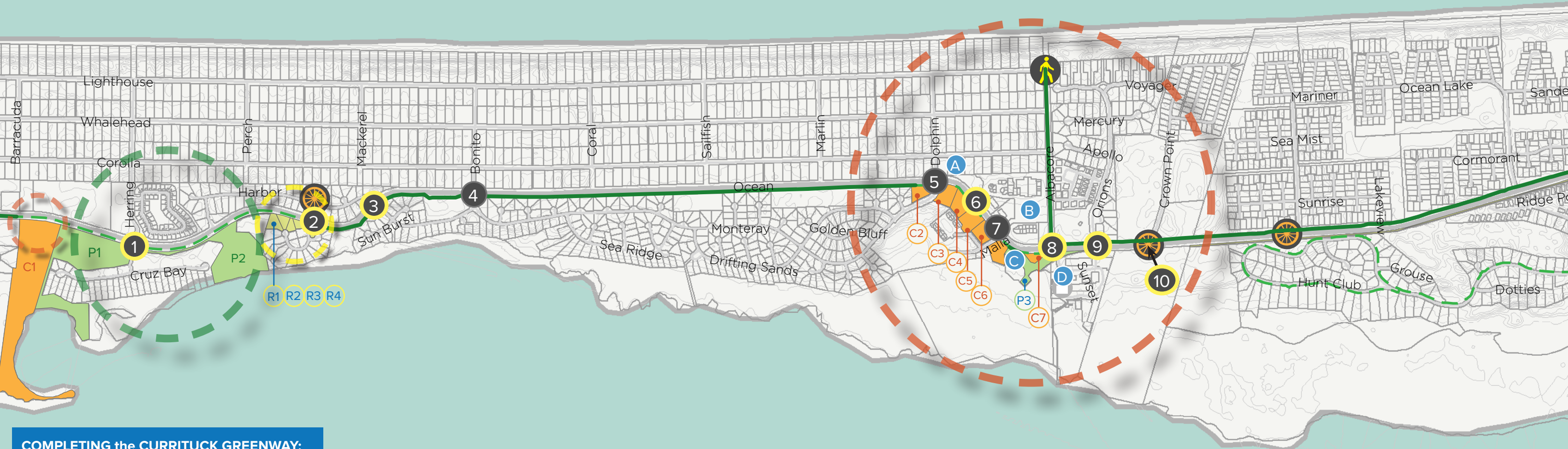
- Public Schools
- Public Library
- Cultural POI
- Shopping
- A** Ace Hardware
- B** Monterey Plaza
- C** Corolla Adventure Golf
- D** Timbuck II Shopping Village

PROPERTY OWNERS

C1	Food Lion LLC
P1	Currituck County
P2	NC Department of Transportation
R1-R4	Residential Properties at Monterey Shores
C2	Towne Bank
C3	Super Wings
C4	G Holdings LLC
C5	OB Gas LLC
C6	Farmer's Daughters Gifts
C7	Joe to Go
P3	NC Department of Transportation

* Colors correspond to the nodes in the map legend

ATLANTIC OCEAN



COMPLETING the CURRITUCK GREENWAY:

IMPLEMENT TRAIL GAPS:

- Between the Grass Course miniature golf course and Ocean Forest Court to the south
- Between Towne Bank north of Monterey Drive and Albacore Street to the south

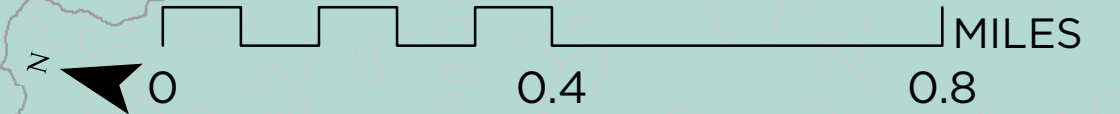
IMPROVE CROSSINGS:

- Albacore St at Highway 12: Pedestrian signals + High Visibility Crosswalks
- Orions Way at Highway 12

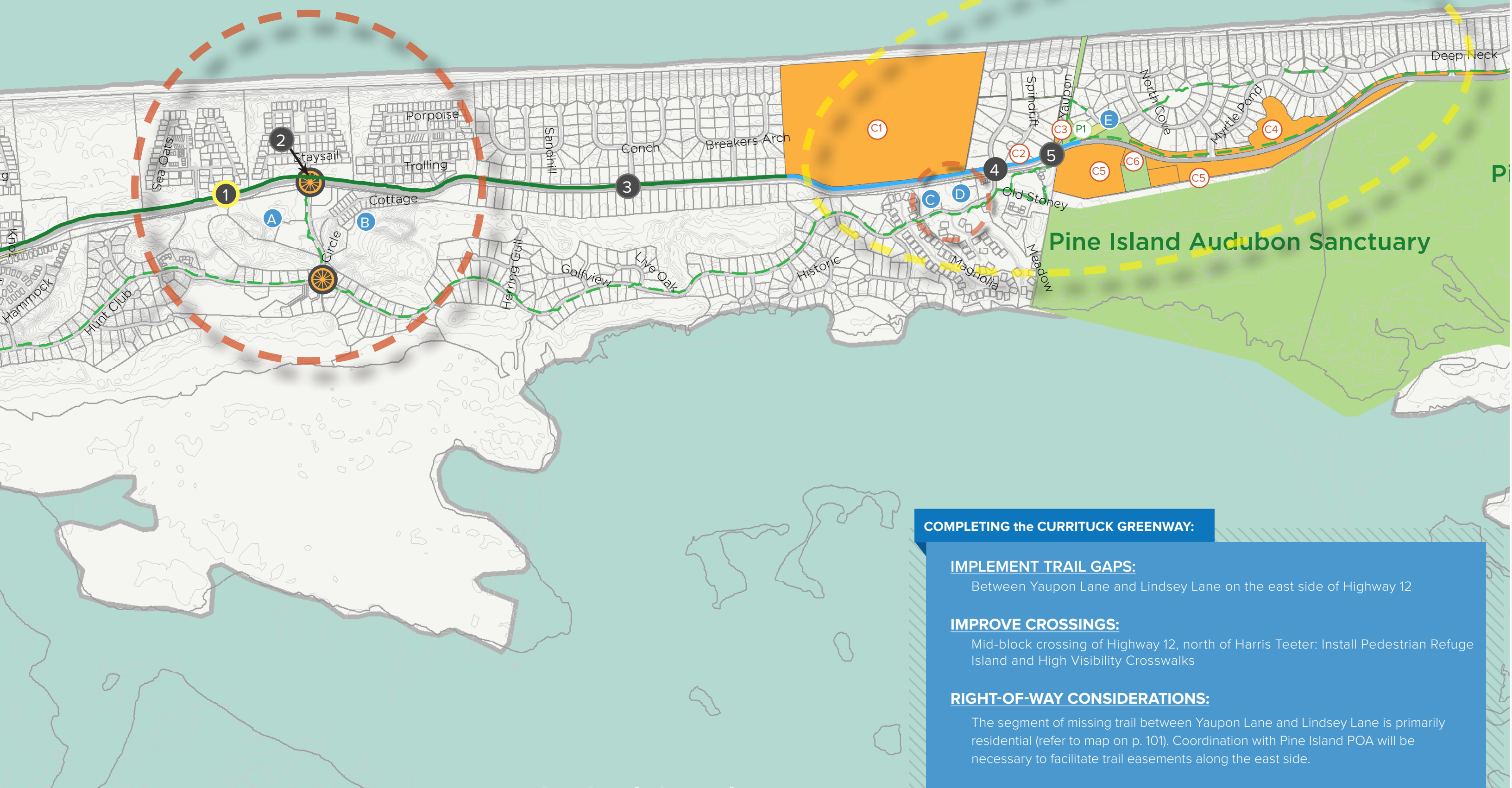
RIGHT-OF-WAY CONSIDERATIONS:

The two proposed shared-use path sections on this page will have sufficient room within the road-right-of-way for construction. However the commercial area along the southern section is elevated from the roadway. The greenway would be better located in the elevated position along the commercial frontage than alongside the roadway, meaning easements must be made with these commercial land owners.

Currituck Sound



ATLANTIC OCEAN



COMPLETING the CURRITUCK GREENWAY:

IMPLEMENT TRAIL GAPS:

Between Yaupon Lane and Lindsey Lane on the east side of Highway 12

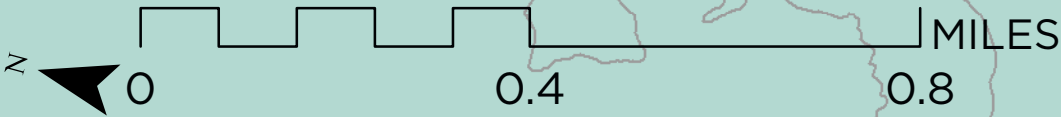
IMPROVE CROSSINGS:

Mid-block crossing of Highway 12, north of Harris Teeter: Install Pedestrian Refuge Island and High Visibility Crosswalks

RIGHT-OF-WAY CONSIDERATIONS:

The segment of missing trail between Yaupon Lane and Lindsey Lane is primarily residential (refer to map on p. 101). Coordination with Pine Island POA will be necessary to facilitate trail easements along the east side.

Currituck Sound





COROLLA: TRAIL + CROSSING IMPROVEMENTS

Corolla Greenway: Seabird Way to Pine Gate

MAP LEGEND

- Existing Trail
- Trail Gap
- Funded Trail Project
- Park, open space, or nature reserve
- Intersection/Crossing Improvement
- Pedestrian Collision
- Bicycle Collision

- Commercial Nodes
- Residential Nodes
- Open Space Nodes

HIGHWAY 12 INTERSECTIONS

1.	Midblock (north end of Harris Teeter)	Unsignalized	None	Pedestrian Refuge Island + High-Visibility Crosswalks
2.	Currituck Clubhouse/ Schooner Ridge	Signalized	Stamped Concrete	
3.	Sea Shell Lane	Unsignalized	High-Visibility	
4.	Hunt Club Dr/ Spindrift Trail	Unsignalized	Stamped Concrete	
5.	Old Stoney/ Yaupon	Unsignalized	High-Visibility	

KEY DESTINATIONS

- Public Schools
- Public Library
- Cultural POI
- Shopping
- A** Harris Teeter
- B** Currituck Golf Club
- C** ABC Store
- D** Just for the Beach Rentals
- E** Currituck County Southern Public Beach Access

* Yellow denotes proposed improvement

PROPERTY OWNERS

C1	Coastland Properties LLC
C2	Spindrift Property Owners Assoc Inc
C3	Currituck Club Property Owners Assoc Inc
P1	Currituck County
C4	Pine Island POA Inc
C5	Turnpike Properties LLC
C6	CFR real Estate LLC










* Colors correspond to the nodes in the map legend



COROLLA: TRAIL + CROSSING IMPROVEMENTS

Corolla Greenway: Pine Gate to Duck/County Line

MAP LEGEND





-  Existing Trail
-  Trail Gap
-  Park, open space, or nature reserve
-  Intersection/Crossing Improvement
-  Pedestrian Collision
-  Bicycle Collision
-  Commercial Nodes
-  Residential Nodes
-  Open Space Nodes

HIGHWAY 12 INTERSECTIONS

1.	Audubon Dr	Unsignalized	None	High Visibility Crosswalk
----	------------	--------------	------	---------------------------

* Yellow denotes proposed improvement

KEY DESTINATIONS

-  Public Schools
-  Public Library
-  Cultural POI
-  Shopping
- A Hampton Inn & Suites Outer Banks Corolla
- B Pine Island Racquet & Fintess Center

COMPLETING the CURRITUCK GREENWAY:

IMPLEMENT TRAIL GAPS:

Between existing trail that connects to Longfellow Cove to Duck's existing trail at the Currituck County line

IMPROVE CROSSINGS:

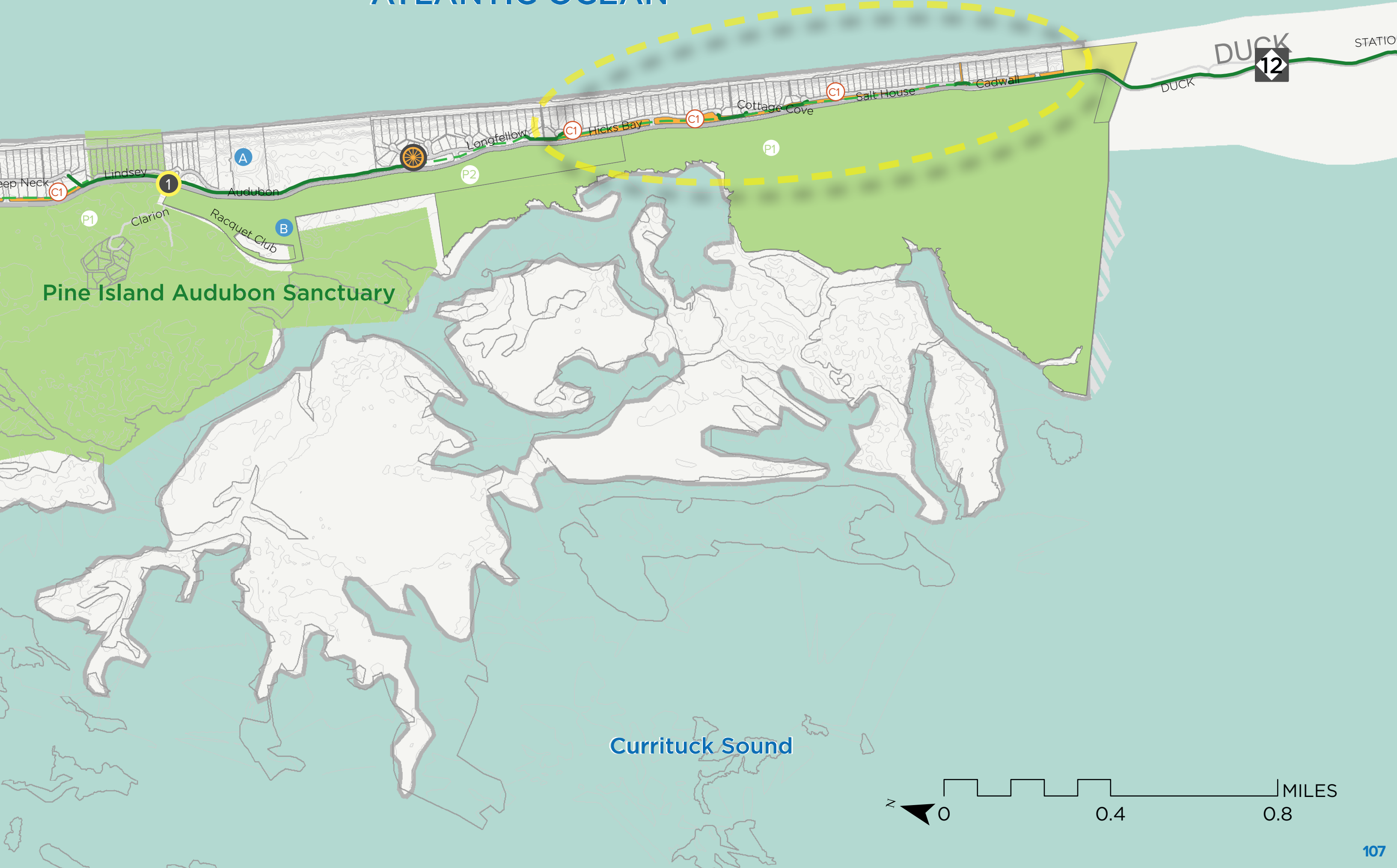
Audubon Drive: Install a high visibility crosswalk to facilitate access to the Pine Island Audubon Sanctuary

Along this section of the Corolla Greenway corridor, property to the west is either dedicated open space or the National Audubon Society. As such, there is not enough pedestrian traffic to warrant additional crossings of Highway 12. If an internal trail system is developed along the west or new pedestrian generators, the need for crossings should be re-evaluated.

PROPERTY OWNERS

C1	Pine Island POA Inc
P1	National Audubon Society
P2	National Audubon Society

ATLANTIC OCEAN



Pine Island Audubon Sanctuary

Currituck Sound





MOYOCK: INTERSECTION IMPROVEMENT at CARATOKE HIGHWAY (NC-168) & SHINGLE LANDING ROAD

Moyock is the fastest growing area of Currituck County and existing pedestrian facilities are limited. Intersections, where pedestrians and vehicles come together, can be the most challenging part of a pedestrian network. If pedestrians cannot cross safely, mobility is limited and walking as a mode of transportation is discouraged. Providing clear crossing areas and times for pedestrians and motor vehicles creates predictability and consistency that can help improve the safety of all travelers.

The intersection of Caratoke Highway (NC-168) and Shingle Landing Road provides a critical connection in Moyock between residential development (both existing and planned) and commercial destinations.

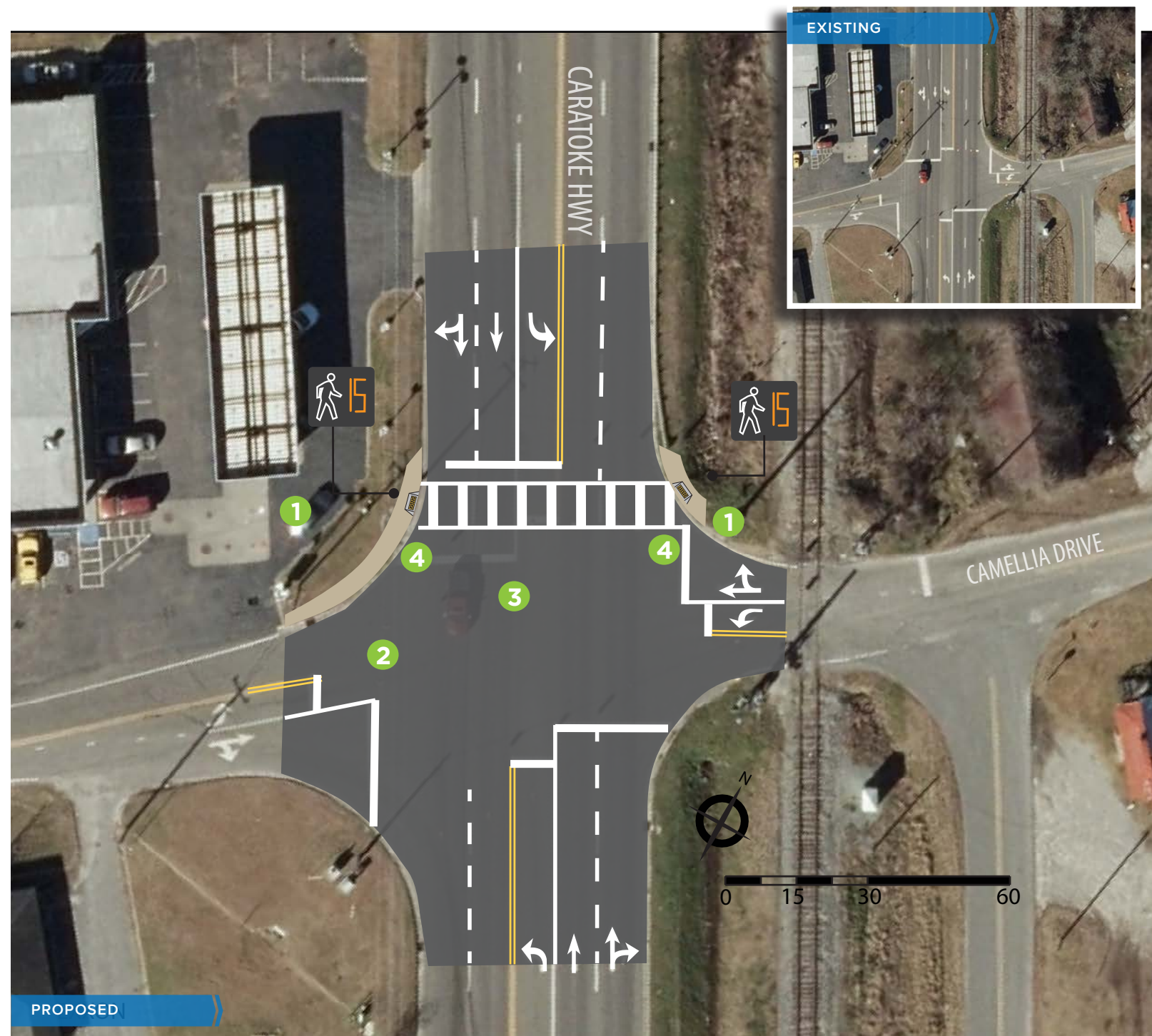
See Map 5.1 (p. 78) for recommendations in the area.

KEY DESTINATIONS

- » Moyock Mega-Site (Mixed-use)
- » Restaurants, Shopping, and Services
- » Residential Housing
- » Moyock Elementary School
- » Currituck House

DESIGN CONSIDERATIONS

- 1 Pedestrian countdown signals at each end of the high-visibility crosswalks should be installed at each corner of the intersection.
- 2 With the new installation of Dollar Tree, high visibility crosswalk markings should be considered for the western leg of the intersection.
- 3 A high-visibility crosswalk should be installed across Caratoke Highway allowing for residents to safely access the gas station.
- 4 ADA-accessible ramps connecting to sidewalk at each end of the high-visibility crosswalks should be installed at each corner of the intersection.
- 5 Add Pedestrian Warning Signs (MUTCD W11-2).



This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.



BARCO/MAPLE/CURRITUCK: INTERSECTION IMPROVEMENT at SHORTCUT ROAD (US-158) & COLLEGE WAY

The intersection of Shortcut Road (US-158) and College Way, near the Currituck Community Park complex, provides direct access to many community resources within the complex, which is vital for people's ability to lead healthy active lives. Pedestrian access to such resources is especially important for populations with limited mobility and/or access to a vehicle.

A high-visibility crosswalk and a sidepath connection along Shortcut Road is recommended to help facilitate safe pedestrian access to the complex.

See map 5.2 (p. 79) for network recommendations in the area.

KEY DESTINATIONS

- » Currituck Community Park Complex
 - » Currituck Family YMCA
 - » Currituck Cooperative Extension Services
 - » Central Elementary School
 - » Maple Park & Baseball Fields
 - » College of the Albemarle Facility

DESIGN CONSIDERATIONS

- 1 ADA-accessible ramps connecting to sidewalk at each end of the high-visibility crosswalk should be installed at each end of the intersection.
- 2 Potential to extend the median to provide a pedestrian refuge island, depending on space and truck turning movements.
- 3 A high-visibility crosswalk should be installed across College Way allowing for residents to safely access the YMCA.
- 4 Add Pedestrian Warning Signs (MUTCD W11-2).



This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.



GRANDY: INTERSECTION IMPROVEMENTS at CARATOKE HIGHWAY (US-158) & POPLAR BRANCH ROAD

The intersections of Caratoke Highway (US-158) and Poplar Branch Road and Walnut Island Boulevard attract significant pedestrian traffic from the neighborhoods on the east side of the highway who are traveling to key destinations on the west.

Currently, there are no sidewalks or crossing facilities at these intersections and as a result there have been **four pedestrian collisions reported between 2007 and 2014.**

See Map 5.3 (p. 80) for recommendations in the area.

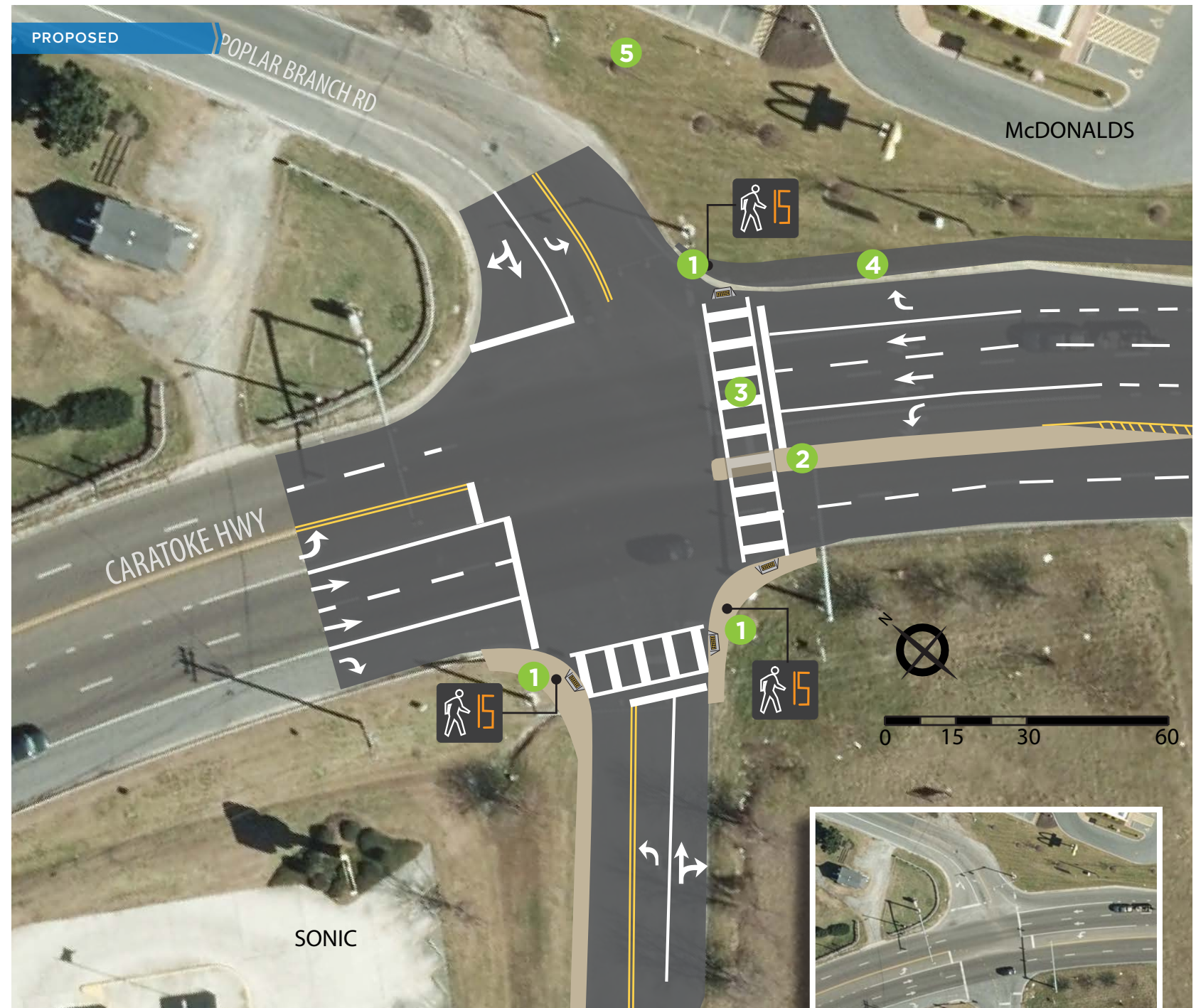
KEY DESTINATIONS

- » Walnut Island Park
- » The Carolina Club
- » Restaurants, Shopping, and Services
- » Residential Housing



DESIGN CONSIDERATIONS

- 1 Pedestrian countdown signals and ADA-accessible ramps connecting to sidewalk at each end of the high-visibility crosswalks should be installed at each corner of the intersection.
- 2 Potential for median refuge island on Caratoke Highway given travel lane widths approaching the intersection.
- 3 A high-visibility crosswalk should be installed across Caratoke Highway allowing for residents to safely access the fast food restaurants.
- 4 A shared-use path along the east side of Caratoke Highway will give pedestrians a much needed access to restaurants along that strip.
- 5 To provide neighborhood access, a shared use path connection should be explored from Walnut Island Park to this intersection.
- 6 Add Pedestrian Warning Signs (MUTCD W11-2).



This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.





GRANDY: INTERSECTION IMPROVEMENTS at CARATOKE HIGHWAY (US-158) & WALNUT ISLAND BOULEVARD

As described on the previous page, the intersection of Caratoke Highway (US-158) and Walnut Island Boulevard attracts significant pedestrian traffic. This intersection is critical to connect residents to the Food Lion grocery store, post office, and Family Dollar.

See Map 5.3 (p. 80) for recommendations in the area.

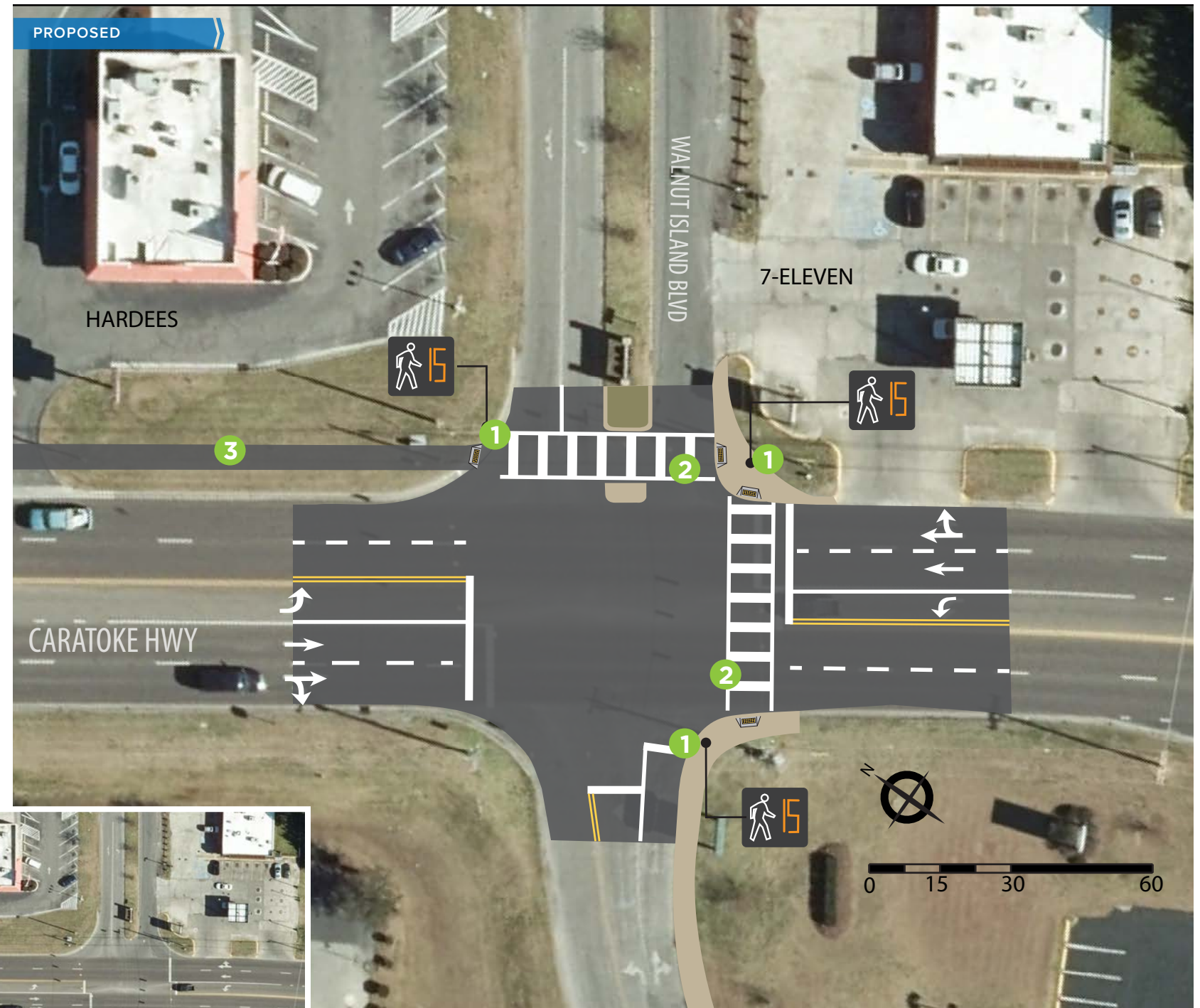
KEY DESTINATIONS

- » Walnut Island Park
- » The Carolina Club
- » Restaurants, Shopping, and Services
- » Residential Housing



DESIGN CONSIDERATIONS

- 1 Pedestrian countdown signals and ADA-accessible ramps connecting to sidewalk at each end of the high-visibility crosswalks should be installed at each corner of the intersection.
- 2 A high-visibility crosswalk should be installed across Caratoke Highway allowing for residents to safely access the fast food restaurants.
- 3 A shared-use path along the east side of Caratoke Highway will give pedestrians a much needed access to restaurants along that strip.
- 4 Add Pedestrian Warning Signs (MUTCD W11-2).



This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.

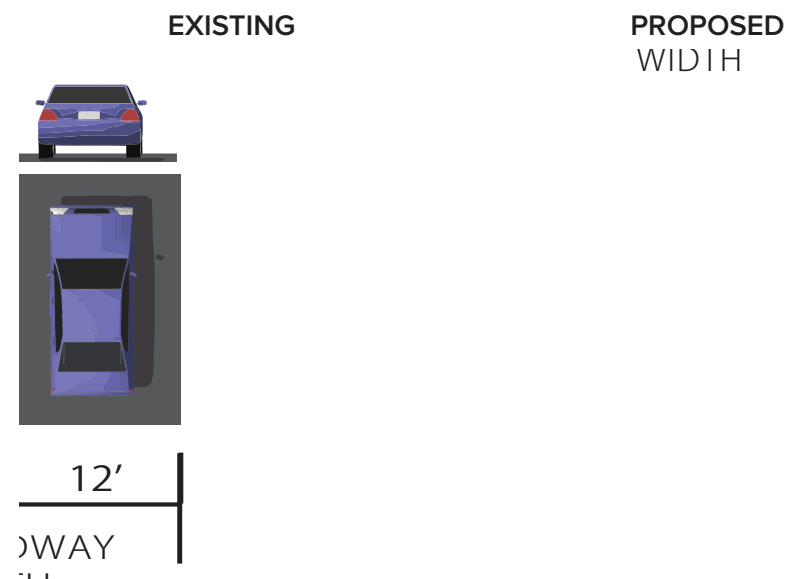


GRANDY: QUIET STREET- WALNUT ISLAND BOULEVARD

Walnut Island Boulevard is the main street that connects the residents living in Walnut Island to the Grandy commercial hub. Several residents and steering committee members stated that there is already heavy pedestrian traffic along this corridor. Pedestrians are forced to walk in the street as there are no sidewalks present.

Walnut Island Boulevard has been designated a quiet street and a pedestrian lane is recommended. This is a low-cost solution to facilitate safer pedestrian access within a constrained space.

See Map 5.3 (p. 80) for recommendations in the area.



DESIGN CONSIDERATIONS

By removing the centerline, a shared space is introduced to motorists. While passing may require a vehicle to encroach into the pedestrian lane, the traffic volumes on Walnut Island Boulevard are low, so a voluntary yield is practical to serve bidirectional motor vehicle travel on this residential street.

A pedestrian lane is an on-roadway facility intended for use by pedestrians and must meet accessibility guidelines for walkways. Any deficiencies in meeting ADA guidelines during implementation as a restriping project should be identified in the ADA transition plan and be corrected in the next resurfacing.



EXISTING



PROPOSED

This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.

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Performance Measures

The performance measures in the plan are important for assessing whether the plan is meeting its goals over time. Data on these measures should be collected on a routine basis to help track progress. This information will allow for adjustments to help ensure that plan goals are achieved.

The plan performance measures are based on the goals of the plan (see Pages 1-2 in Chapter 1). The performance measures are generally outcome-based, and the intent is to prioritize investments that do the best job of achieving desired plan outcomes. The performance measures were selected based on Currituck County's ability to collect relevant data. Data and performance measures outlined in the following tables represent the way that Currituck County can track achievement of plan goals over time.

Table 6.2. Pedestrian Plan Performance Measure Targets

Goal	Performance Measure	Baseline Measurement	Performance Target
Safety	Pedestrian collision rate	2014 rate	Reduce pedestrian collision rate by half between 2018 and 2030
	Number of fatalities and serious injuries	2014 number	Zero fatalities by 2030
Connectivity	Percentage of pedestrian facility network completed	2017 percentage (calculate percentage based on final network map)	100 percent of pedestrian system constructed by 2030
Park Access	Percentage of pedestrian facility network completed within 1/4 mile of all Currituck County Parks & Recreation facilities	2017 percentage	100 percent of pedestrian system within 1/4 mile of Parks & Recreation facilities constructed by 2025
Livability & Well-being	Percentage of children and adults who meet physical activity recommendations	2016 percentage (according to Albemarle Regional Health Services)	Increase childhood physical activity level by 5% and increase adult physical activity level by 5% by 2020

Table 6.3 Pedestrian Plan Performance Measure Trends

Goal	Performance Measure	Baseline Measurement	Desired Trend
Safety	Per capita pedestrian collision rate	2014 rate	Decrease
Connectivity	Key travel sheds completed	2017 percentage of key travel sheds completed	Increase
Park Access	Pedestrian network complete near P&R facilities	2017 percentage	Increase
Livability & Well-being	Self-reported physical activity	2015 Currituck County's Community Health Assessment	Increase

Organizational Framework for Implementation

The key players and steps involved in implementation are summarized in this organizational framework and described in more detail within the action step tables in Chapters 3, 4, 5, and 6.

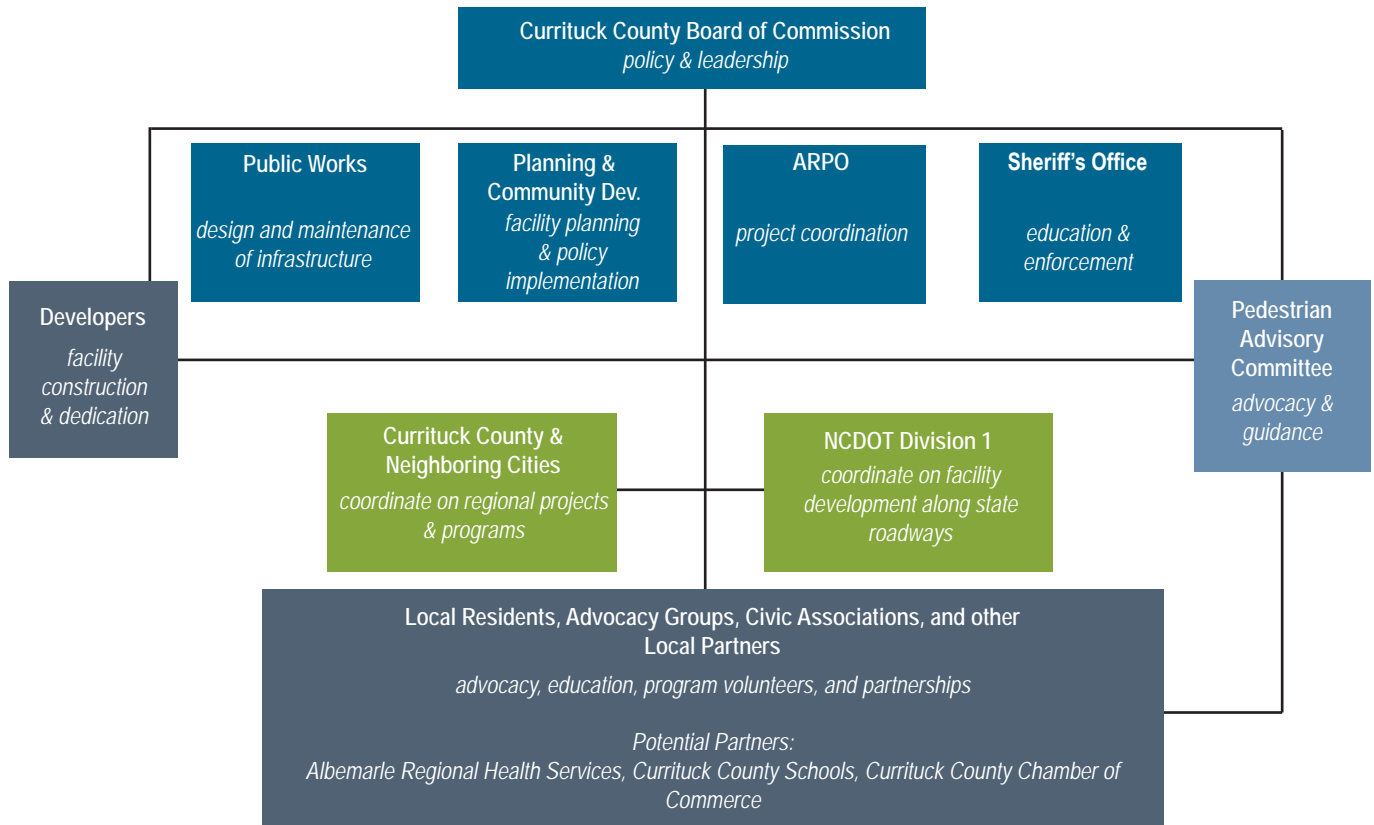


TABLE 6.4 IMPLEMENTATION ACTION STEPS

TASK	LEAD	SUPPORT	DETAILS	PHASE
Communicate the goals of this plan and its top priority projects to other local and regional groups.	County Manager, PAC	Planning & Community Development Department, ARPO	The purpose of this step is to network with potential project partners and to build support for implementing the top projects. Possible groups to receive a presentation: ARPO, Albemarle Regional Health Services, Currituck County Schools Health Advisory Committee, Currituck County Chamber of Commerce, NCDOT Planning Branch, etc.	Short-term/ Ongoing (Beginning 2018)
Designate an advisory committee for the implementation of this plan.	Board of Commissioners	County Manager, Project Steering Committee	Using the steering committee formed to oversee the development of this plan, a standing Pedestrian Advisory Committee (PAC) should be formed to focus on implementation of this plan. For the purpose of these action steps, this group will be referred to as "PAC" below.	Short-term (2018)
Begin annual meeting with key project partners.	County Manager, PAC	NCDOT, and local & regional stakeholders	Key project partners (see org. chart on previous page) should meet on an annual basis to evaluate the implementation of this plan. Meetings could also include on-site tours of priority project corridors.	Short-term/ Ongoing (Beginning Fall 2018)
Monitor NCDOT resurfacing program, and STIP allocations.	Planning & Community Development Department	ARPO, Public Works Department, NCDOT Division 1	Provisions should always be made to include a walking and bicycling facility as a part of street resurfacing projects. A determination of providing sidewalks on one or both sides is made during the planning process.	Short-term/ Ongoing (Fall 2018)
Conduct a project review meeting.	Planning & Community Development Department	County Manager and all Departments, ARPO	Review all existing Currituck County plans and priorities to identify overlap and shared goals. Look for opportunities to combine resources, leverage funding, and facilitate a more efficient project development process.	Short-term/ Ongoing (Fall 2018)
Implement high priority projects.	Planning & Community Development Department, Public Works Department	County Manager, NCDOT Division 1	By quickly moving forward on priority projects, Currituck County will demonstrate its commitment to carrying out this plan and will better sustain the enthusiasm generated during the public outreach stages of the planning process. Refer to Chapter 5: Recommendations for priority project ranking and the prioritization methodology.	Mid-term/ Ongoing (2019 onward)

TABLE 6.4 IMPLEMENTATION ACTION STEPS (CONTINUED)

TASK	LEAD	SUPPORT	DETAILS	PHASE
Implement a Wayfinding Program.	Planning & Community Development Department	Public Works Department, ARPO	A relatively low-cost, mid-term action that Currituck County can pursue immediately is to develop and adopt a wayfinding signage style, policy, and procedure, to be applied throughout the mainland pedestrian hubs, similar to the wayfinding that is already in place in Corolla, to make it easier for people to find destinations. Posting signage that includes walk travel times to major destinations can help to increase awareness of the ease and efficiency of pedestrian travel.	Mid-term (2019 onward)
Monitor plan performance measures.	Planning & Community Development Department	Board of Commissioners, County Manager	The performance measures should be stated in an official report within two years after the plan is adopted.	Mid-term (2019-2020)
Secure Priority Greenway Trail Easements.	Parks & Recreation	County Manager, Planning & Community Development Department	Explore opportunities to revise existing easements to accommodate public access greenway trail facilities. Similarly, as new easements are acquired in the future, the possibility of public access should be considered. Sewer easements are very commonly used for this purpose, offering cleared and graded corridors that easily accommodate trails. This approach avoids the difficulties associated with acquiring land, and it better utilizes the county's resources.	Mid-term (2019 onward)
Update Plan.	Board of Commissioners & Pedestrian Advisory Committee	Planning & Community Development Department	This plan should be updated by 2023 (roughly five years from adoption). If many projects and programs have been completed by then, a new set of priorities should be established. If not, a new implementation strategy should be established.	Long-Term (2023)
Establish a dedicated funding source in the county for pedestrian infrastructure improvements.	Planning & Community Development Department, Board of Commissioners	County Manager	This funding source may be established through annual budgetary allocation, user/in-lieu fees, or another desired method. Having a dedicated funding source will enable the county to have matching funds available to take advantage of funding opportunities such as 80% federal funding through STIP since state funds cannot be used for stand-alone pedestrian infrastructure projects.	Mid-term (2019 onward)



A. FUNDING

Funding sources can be used for a variety of activities, including: programs, planning, design, implementation, and maintenance. This section outlines the most likely sources of funding from the federal, state, and local government levels as well as from the private and non-profit sectors.

Overview

When considering possible funding sources for Currituck pedestrian projects, it is important to remember that not all construction activities or programs will be accomplished with a single funding source. It will be necessary to consider several sources of funding that together will support full project completion. Note that the following summary reflects the funding available at the time of writing. Funding amounts, cycles, and the programs themselves may change over time.

FEDERAL FUNDING SOURCES

The federal funding opportunities listed below are subject to change given the recent change in federal administration in January 2017. It is recommended that the status and availability of any federal funding listed here is confirmed through the provided links, or other appropriate channels.

Federal funding is typically directed through state agencies to local governments either in the form of grants or direct appropriations. Federal funding typically requires a local match of five percent to 50 percent, but there are sometimes exceptions. The following is a list of possible Federal funding sources that could be used to support construction of pedestrian and bicycle improvements.

FIXING AMERICA'S SURFACE TRANSPORTATION (FAST) ACT

In December 2015, President Obama signed the FAST Act into law. The Act provides a long-term funding source of \$305 billion for surface transportation and planning for FY 2016-2020. Overall, the FAST Act retains eligibility for major formula programs – the Surface Transportation Block Grant Program (STBG, formerly the Surface Transportation Program), Transportation Alternatives (TA), the Highway Safety Improvement Program (HSIP), and the Congestion Mitigation and Air Quality Improvement Program (CMAQ) – and proportionate funding increases for both highways and transit. In North Carolina, federal monies are administered through the North Carolina Department of Transportation (NCDOT) and Metropolitan Planning Organizations (MPOs). Most, but not all, of these programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system.

For more information, visit: <https://www.transportation.gov/fastact>.

SURFACE TRANSPORTATION BLOCK GRANT PROGRAM

The FAST Act provides an annual average of \$11.7 billion for the STBG program. The STBG provides states with flexible funds which may be used for a variety of highway, road, bridge, transit, and non-motorized transportation projects. A wide variety of pedestrian improvements are eligible, including trails, sidewalks, crosswalks, pedestrian signals, and other ancillary facilities. Modification of sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA) is also an eligible activity. Unlike most highway projects, STBG-funded pedestrian facilities may be located on local and collector roads which are not part of the Federal-Aid Highway System. Funding for Transportation Alternatives (TA) is set aside from the overall STBG funding allocation, as is funding for bridges not on Federal-aid highways, after which a percentage of a State's STBG funds is sub-allocated based on population (51 percent in FY 2016 growing to 55 percent by FY 2020) and the remaining funds can be used in any area of the state. Additional new features of the FAST Act STBG include: the ability to use funds to create and operate a state office tasked with designing, implementing, and overseeing public-private partnerships eligible for Federal highway or transit funding, and to pay a stipend for unsuccessful public-private partnership bidders; the ability to use a State's STBG funding, upon request, to pay a subsidy and administrative costs for TIFIA credit assistance for an STBG-eligible project.

For more information, visit: <http://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm>

TRANSPORTATION ALTERNATIVES

Transportation Alternatives (TA) is a set-aside funding source from the STGB fund. TA provides monetary assistance for pedestrian and bicycle facilities, recreational trails, safe routes to school projects, historic preservation, vegetation management, and specific environmental mitigation projects. The FAST Act allocates an average of \$844 million per year for TA, which may be used for a variety of pedestrian, bicycle, and streetscape projects including sidewalks, bikeways, multi-use paths,

and rail-trails. Unless states opt out, a specified portion of TA funding must go towards the State's Recreational Trails Program. TA funds may also be used for selected education and encouragement programming, such as Safe Routes to School, despite the fact that TA does not provide a guaranteed set-aside for this activity as SAFE-TEA-LU did. TA funds are sub-allocated based on population and the remaining funds may be used in any area of the state. For funds that can be used anywhere in the state, State's have the new ability to transfer up to 50 percent of those funds to other Federal-aid apportioned programs, including the National Highway Performance Program (NHPP), the National Highway Freight Program (NHFP), the STBG Program, the HSIP, and CMAQ.

Also new under TA, nonprofit entities responsible for the administration of local transportation safety programs are eligible to apply for funding; the "flexibility of excess reserved funding" provision that previously allowed excess TAP funds to be used for any TAP or CMAQ project is eliminated; and urbanized areas with a population over 200,000 can use up to 50 percent of sub-allocated TA funds for any STBG-eligible purpose.

For more information, visit: <https://www.fhwa.dot.gov/fastact/factsheets/transportationalternativesfs.cfm>

HIGHWAY SAFETY IMPROVEMENT PROGRAM

HSIP provides an annual average of \$2.3 billion annually for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways, and walkways. Bicycle and pedestrian safety improvements, enforcement activities, traffic calming projects, and crossing treatments for non-motorized users in school zones are eligible for these funds. Funding for HSIP is apportioned to each State based on a percentage in the law, and now due to program updates in the FAST Act, up to 50 percent of HSIP funds each year may be transferred to NHPP, NHFP, STBG, and CMAQ based on a State's discretion. Also new to HSIP, funding is limited to projects described in the statute, which include a number of pedestrian infrastructure improvements.

For more information: <http://www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm>

CONGESTION MITIGATION/AIR QUALITY IMPROVEMENT PROGRAM

The Congestion Mitigation/Air Quality Improvement Program (CMAQ) provides an estimated \$2.4 billion in average annual funding for projects and programs in air quality non-attainment and maintenance areas for ozone, carbon monoxide, and particulate matter which reduce transportation-related emissions. States with no nonattainment areas may use their CMAQ funds for any CMAQ- or STBG-eligible project. These federal dollars can be used to build bicycle and pedestrian facilities that reduce travel by automobile. Purely recreational facilities generally are not eligible. Communities located in attainment areas who do not receive CMAQ funding apportionments may apply for CMAQ funding to implement projects that will improve air quality. New to CMAQ funding under the FAST Act, a State may transfer up to 50 percent of annual CMAQ funds to the NHPP, NHFP, STBG, and HSIP, excluding set-asides.

For more information: <http://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm>

FEDERAL TRANSIT ADMINISTRATION ENHANCED MOBILITY OF SENIORS AND INDIVIDUALS WITH DISABILITIES

This program can be used for capital expenses that support transportation to meet the special needs of older adults and persons with disabilities, including providing access to an eligible public transportation facility when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs.

For more information: <https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniorsindividuals-disabilities-section-5310>

TIGER DISCRETIONARY GRANTS

The U.S. Department of Transportation's (DOT) Transportation Investment Generating Economic Recovery (TIGER) discretionary grants are intended to fund capital investments in surface transportation infrastructure.

The grant program focuses on “capital projects that generate economic development and improve access to reliable, safe, and affordable transportation for disconnected both urban and rural, while emphasizing improved connection to employment, education, services and other opportunities, workforce development, or community revitalization.” Infrastructure improvement projects such as recreational trails and greenways with an emphasis on multi-modal transit qualify for this grant. While the deadline has passed for 2016, it is likely that the program will continue in 2017.

For more information: <https://www.transportation.gov/tiger>

ECONOMIC DEVELOPMENT ADMINISTRATION

Under Economic Development Administration’s (EDA) Public Works and Economic Adjustment Assistance programs, grant applications are accepted for construction, non-construction, technical assistance, and revolving loan fund projects. “Grants and cooperative agreements made under these programs are designed to leverage existing regional assets and support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in distressed communities.” Application deadlines are typically in March and June.

For more information: <https://www.eda.gov/grants/>

PARTNERSHIP FOR SUSTAINABLE COMMUNITIES

Founded in 2009, the Partnership for Sustainable Communities is a joint project of the Environmental Protection Agency (EPA), the U.S. Department of Housing and Urban Development (HUD), and the U.S. Department of Transportation (USDOT). The partnership aims to “improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide.” The

Partnership is based on five Livability Principles, one of which explicitly addresses the need for bicycle and pedestrian infrastructure (“Provide more transportation choices: Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health”).

The Partnership is not a formal agency with a regular annual grant program. Nevertheless, it is an important effort that has already led to some new grant opportunities (including both TIGER I and TIGER II grants). North Carolina jurisdictions should track Partnership communications and be prepared to respond proactively to announcements of new grant programs. Initiatives that speak to multiple livability goals are more likely to score well than initiatives that are narrowly limited in scope to pedestrian improvement efforts.

For more information:

<http://www.sustainablecommunities.gov/>

<http://www.epa.gov/smartgrowth/partnership/>

Resource for Rural Communities:

http://www.sustainablecommunities.gov/pdf/Supporting_Sustainable_Rural_Communities_FINAL.PDF

LAND AND WATER CONSERVATION FUND

The Land and Water Conservation Fund (LWCF) provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction. The program is administered by the Department of Environment and Natural Resources as a grant program for states and local governments. Maximum annual grant awards for county governments, incorporated municipalities, public authorities, and federally recognized Indian tribes are \$250,000. The local match may be provided with in-kind services or cash.

For more information: http://www.ncparks.gov/About/grants/lwcf_main.php

RIVERS, TRAILS, AND CONSERVATION ASSISTANCE PROGRAM

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service (NPS) program providing technical assistance via direct NPS staff involvement to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only planning assistance—there are no implementation funds available. Projects are prioritized for assistance based on criteria including conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. This program may benefit trail development in North Carolina locales indirectly through technical assistance, particularly for community organizations, but is not a capital funding source.

For more information: <http://www.nps.gov/rtca/> or contact the Southeast Region RTCA Program Manager Deirdre “Dee” Hewitt at (404) 507-5691

FEDERAL LANDS TRANSPORTATION PROGRAM (FLTP)

The FLTP funds projects that improve access within federal lands (including national forests, national parks, national wildlife refuges, national recreation areas, and other Federal public lands) on federally owned and maintained transportation facilities. \$300 million per fiscal year was allocated to the program for 2013 and 2014.

Eligible activities:

- » Program administration, transportation planning, research, preventive maintenance, engineering, rehabilitation, restoration, construction, and reconstruction of Federal lands transportation facilities
- » Adjacent vehicular parking areas;
- » Acquisition of necessary scenic easements and scenic or historic sites;
- » Provision for pedestrians and bicycles;
- » Environmental mitigation in or adjacent to Federal land open to the public to (1) improve public safety

and reduce vehicle-caused wildlife mortality while maintaining habitat connectivity; and (2) to mitigate the damage to wildlife, aquatic organism passage, habitat, and ecosystem connectivity, including the costs of constructing, maintaining, replacing, or removing culverts and bridges, as appropriate;

- » Congestion mitigation; and other appropriate public road facilities as determined by the Secretary.

For more information: <http://www.fhwa.dot.gov/map21/ftp.cfm>

ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANTS

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

For more information: <http://www1.eere.energy.gov/wip/eeecbg.html>

State Funding Sources

There are multiple sources for state funding of bicycle and pedestrian transportation projects. However, the status of future funding sources at this level is subject to change. The availability of these funding resources should be confirmed during the implementation of a project.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) STATE TRANSPORTATION IMPROVEMENT PROGRAM

The NCDOT’s State Transportation Improvement

Program is based on the Strategic Transportation Investments bill, signed into law in 2013. The Strategic Transportation Investments (STI) initiative introduces the Strategic Mobility Formula, a new way to fund and prioritize transportation projects to ensure they provide the maximum benefit to our state. It allows NCDOT to use its existing revenues more efficiently to fund more investments that improve North Carolina's transportation infrastructure, create jobs, and help boost the economy.

The new Strategic Transportation Investments initiative identifies projects in the 2016-2025 State Transportation Improvement Program, which identifies projects that will receive funding during that period. This is the first 10-year plan developed under the 2013 Strategic Transportation Investments law. The new Strategic Mobility Formula assigns projects for all modes into one of three categories: Statewide Mobility, Regional Impact, and Division Needs. All independent bicycle and pedestrian projects are placed in the "Division Needs" category, and are ranked on the following five criteria:

- » Safety
- » Access
- » Demand or density
- » Constructibility
- » Benefit/cost ratio

This ranking largely determines which projects will be included in the department's State Transportation Improvement Program (STIP). The STIP is a federally mandated transportation planning document that details transportation improvements prioritized by stakeholders for inclusion in the Work Program over the next ten years. The STIP is updated every two years. Recognizing the need to increase investment in the state's transportation infrastructure, the General Assembly took steps in the 2015-2017 state budget (House Bill 97) – passed in September 2015 – that will result in an estimated additional \$1.6 billion for transportation construction.

Since the 2016-2025 STIP was developed based on the 10-year revenue forecast in August 2014, NCDOT is amending the STIP to account for the additional funding – just over \$685 million for projects at the statewide level and more than \$500 million for projects at each

the regional and division levels. Following requirements set forth in the Strategic Transportation Investments law and the Strategic Mobility Formula, NCDOT engineers used the same scoring weights and criteria used to develop the current STIP to re-evaluate proposed projects that were not originally funded. The STIP is the primary method for allocating state and federal transportation funds.

For more information on STIP: www.ncdot.gov/strategic-transportationinvestments/

To access the STIP: <https://connect.ncdot.gov/projects/planning>

For more about the STIP process: <http://www.ncdot.org/performance/reform/>

SPOT SAFETY PROGRAM

The Spot Safety Program is a state funded public safety investment and improvement program that provides highly effective low cost safety improvements for intersections, and sections of North Carolina's 79,000 miles of state maintained roads in all 100 counties of North Carolina. The Spot Safety Program is used to develop smaller improvement projects to address safety, potential safety, and operational issues. The program is funded with state funds and currently receives approximately \$9 million per state fiscal year. Other monetary sources (such as Small Construction or Contingency funds) can assist in funding Spot Safety projects, however, the maximum allowable contribution of Spot Safety funds per project is \$250,000.

The Spot Safety Program targets hazardous locations for expedited low cost safety improvements such as traffic signals, turn lanes, improved shoulders, intersection upgrades, positive guidance enhancements (rumble strips, improved channelization, raised pavement markers, long life highly visible pavement markings), improved warning and regulatory signing, roadside safety improvements, school safety improvements, and safety appurtenances (like guardrail and crash attenuators).

A Safety Oversight Committee (SOC) reviews and recommends Spot Safety projects to the Board of Transportation (BOT) for approval and funding. Criteria used by the SOC to select projects for recommendation to the BOT include, but are not limited to, the frequency of correctable crash-

es, severity of crashes, delay, congestion, number of signal warrants met, effect on pedestrians and schools, division and region priorities, and public interest.

For more information: <https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx>

HIGHWAY HAZARD ELIMINATION PROGRAM

The Hazard Elimination Program is used to develop larger improvement projects to address safety and potential safety issues. The program is funded with 90 percent federal funds and 10 percent state funds. The cost of Hazard Elimination Program projects typically ranges between \$400,000 and \$1 million. A Safety Oversight Committee (SOC) reviews and recommends Hazard Elimination projects to the Board of Transportation (BOT) for approval and funding. These projects are prioritized for funding according to a safety benefit to cost (B/C) ratio, with the safety benefit being based on crash reduction. Once approved and funded by the BOT, these projects become part of the department's State Transportation Improvement Program (STIP).

For more information: <https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx>

GOVERNOR'S HIGHWAY SAFETY PROGRAM

The Governor's Highway Safety Program (GHSP) funds safety improvement projects on state highways throughout North Carolina. All funding is performance-based. Substantial progress in reducing crashes, injuries, and fatalities is required as a condition of continued funding. This funding source is considered to be "seed money" to get programs started. The grantee is expected to provide a portion of the project costs and is expected to continue the program after GHSP funding ends. State Highway Applicants must use the web-based grant system to submit applications.

For more information: <http://www.ncdot.org/programs/ghsp/>

EAT SMART, MOVE MORE NORTH CAROLINA COMMUNITY GRANTS

The Eat Smart, Move More (ESMM) NC Community Grants program provides funding to local communities to support their efforts to develop community-based interventions that encourage, promote, and facilitate physical activity. The current focus of the funds is for projects addressing youth physical activity. Funds have been used to construct trails and conduct educational programs.

For more information: <http://www.eatsmartmovemorenc.com/Funding/CommunityGrants.html>

NC PARKS AND RECREATION TRUST FUND (PARTF)

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

A local government can request a maximum of \$500,000 with each application. An applicant must match the grant dollar-for-dollar, 50 percent of the total cost of the project, and may contribute more than 50 percent. The appraised value of land to be donated to the applicant can be used as part of the match. The value of in-kind services, such as volunteer work, cannot be used as part of the match.

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

NC DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – RECREATIONAL TRAILS AND ADOPT-A-TRAIL GRANTS

The State Trails Program is a section of the N.C. Division of Parks and Recreation. The program originated in 1973 with the North Carolina Trails System Act and is dedicated to helping citizens, organizations and agencies plan, develop and manage all types of trails ranging from

greenways and trails for hiking, biking and horseback riding to river trails and off-highway vehicle trails. The Recreation Trails Program awards grants up to \$75,000 per project. The Adopt-A-Trail Program awards grants up to \$5,000 per project.

NORTH CAROLINA DEPARTMENT OF COMMERCE RURAL ECONOMIC DEVELOPMENT DIVISION

The North Carolina Economic Development Competitive Grant Program for Underserved and Limited Resource Communities (the “Underserved and Limited Resource Communities Grant Program” or “ULRC Program”) provides grants to local governments and/or nonprofit organizations to encourage the development of economic development activities, services, and projects (hereinafter referred to collectively as “program(s)”) that benefit underserved populations and limited resource communities across the State.

Form more information: <http://www.nccommerce.com/Portals/2/Documents/RuralDev/ULRC%20Guidelines%20FY2015.pdf>

COMMUNITY DEVELOPMENT BLOCK GRANT FUNDS

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

bicycle projects in ‘entitlement communities’: Infrastructure and Community Revitalization.

CLEAN WATER MANAGEMENT TRUST FUND (CWMTF)

This fund was established in 1996 and has become one of the largest sources of money in North Carolina for land and water protection, eligible for application by a state agency, local government, or non-profit. At the end of each year, a minimum of \$30 million is placed in the CWMTF. The revenue of this fund is allocated as grants to local governments, state agencies, and conservation non-profits to help finance projects that specifically address water pollution problems. Funds may be used for planning and land acquisition to establish a network of riparian buffers and greenways for environmental, educational, and recreational benefits.

For more information: <http://www.cwmtf.net/#appmain.htm>

URBAN AND COMMUNITY FORESTRY GRANT

The North Carolina Division of Forest Resources Urban and Community Forestry grant can provide funding for a variety of projects that will help toward planning and establishing street trees as well as trees for urban open space. The goal is to improve public understanding of the benefits of preserving existing tree cover in communities and assist local governments with projects which will lead to a more effective and efficient management of urban and community forests. Grant requests should range between \$1,000 and \$15,000 and must be matched equally with non-federal funds. Grant funds may be awarded to any unit of local or state government, public educational institutions, approved non-profit 501(c)(3) organizations, and other tax-exempt organizations. First-time municipal applicant and municipalities seeking Tree City USA status are given priority for funding.

For more about Tree City USA status, including application instructions, visit: http://ncforestservice.gov/Urban/urban_grant_overview.htm

Local government funding sources

Municipalities often plan for the funding of pedestrian facilities or improvements through development of Capital Improvement Programs (CIP) or occasionally, through their annual Operating Budgets. In Raleigh, for example, the greenways system has been developed over many years through a dedicated source of annual funding that has ranged from \$100,000 to \$500,000, administered through the Recreation and Parks Department. CIPs should include all types of capital improvements (water, sewer, buildings, streets, etc.) versus programs for single purposes. Typical capital funding mechanisms include the capital reserve fund, capital protection ordinances, municipal service district, tax increment financing, taxes, fees, and bonds. Each category is described below. A variety of possible funding options available to North Carolina jurisdictions for implementing pedestrian and bicycle projects are also described below. However, many will require specific local action as a means of establishing a program, if not already in place.

CAPITAL RESERVE FUND

Municipalities have statutory authority to create capital reserve funds for any capital purpose, including pedestrian facilities. The reserve fund must be created through ordinance or resolution that states the purpose of the fund, the duration of the fund, the approximate amount of the fund, and the source of revenue for the fund. Sources of revenue can include general fund allocations, fund balance allocations, grants, and donations for the specified use.

CAPITAL PROJECT ORDINANCES

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

LOCAL IMPROVEMENT DISTRICT (LID)

Local Improvement Districts (LIDs) are most often used by cities to construct localized projects, such as streets, sidewalks, or bikeways. Through the LID process, the costs of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation.

MUNICIPAL SERVICE DISTRICT

Municipalities have statutory authority to establish municipal service districts, to levy a property tax in the district additional to the town-wide property tax, and to use the proceeds to provide services in the district. Downtown revitalization projects are one of the eligible uses of service districts, and can include projects such as street, sidewalk, or bikeway improvements within the downtown taxing district.

TAX INCREMENT FINANCING

Project Development Financing bonds, also known as Tax Increment Financing (TIF) is a relatively new tool in North Carolina, allowing localities to use future gains in taxes to finance the current improvements that will create those gains. When a public project (e.g., sidewalk improvements) is constructed, surrounding property values generally increase and encourage surrounding development or redevelopment. The increased tax revenues are then dedicated to finance the debt created by the original public improvement project. Streets, streetscapes, and sidewalk improvements are specifically authorized for TIF funding in North Carolina.

Tax Increment Financing typically occurs within designated development financing districts that meet

certain economic criteria that are approved by a local governing body. TIF funds are generally spent inside the boundaries of the TIF district, but they can also be spent outside the district if necessary to encourage development within it.

OTHER LOCAL FUNDING OPTIONS

- » Bonds/Loans
- » Taxes
- » Exactions
- » Installment purchase financing
- » In-lieu fees
- » Partnerships

Private and Non-profit Funding Sources

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

THE ROBERT WOOD JOHNSON FOUNDATION

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

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

For more specific information about what types of projects are funded : <http://www.rwjf.org/en/how-we-work/grants-and-grant-programs.html>

NORTH CAROLINA COMMUNITY FOUNDATION

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

For more information: <http://nccommunityfoundation.org/>

WALMART STATE GIVING PROGRAM

The Walmart Foundation financially supports projects that create opportunities for better living. Grants are awarded for projects that support and promote education, workforce development/economic opportunity, health and wellness, and environmental sustainability. Both programmatic and infrastructure projects are eligible for funding. State Giving Program grants start at \$25,000, and there is no maximum award amount. The program accepts grant applications on an annual, state by state basis January 2nd through March 2nd.

For more information: <http://foundation.walmart.com/apply-for-grants/state-giving>

Z. SMITH REYNOLDS FOUNDATION

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

For more information: www.zsr.org

BANK OF AMERICA CHARITABLE FOUNDATION, INC.

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

For more information: www.bankofamerica.com/foundation

AMERICAN GREENWAYS EASTMAN KODAK AWARDS

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

For more information: www.conservationfund.org

NATIONAL TRAILS FUND

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

constituency building campaigns, and traditional trail work projects. Awards range from \$500 to \$10,000 per project.

Projects the American Hiking Society will consider include:

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

For more information: <http://www.americanhiking.org/national-trails-fund/>

THE CONSERVATION ALLIANCE

The Conservation Alliance is a non-profit organization of outdoor businesses whose collective annual membership dues support grassroots citizen-action groups and their efforts to protect wild and natural areas. Grants are typically about \$35,000 each. Since its inception in 1989, The Conservation Alliance has contributed \$4,775,059 to environmental groups across the nation, saving over 34 million acres of wild lands. The Conservation Alliance Funding Criteria:

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

For more information: <http://www.conservationalliance.com/grants>

NATIONAL FISH AND WILDLIFE FOUNDATION (NFWF)

The National Fish and Wildlife Foundation (NFWF) is a private, non-profit, tax-exempt organization chartered by Congress in 1984. The National Fish and Wildlife Foundation sustains, restores, and enhances the Nation's fish, wildlife, plants, and habitats. Through leadership conservation investments with public and private partners, the Foundation is dedicated to achieving maximum conservation impact by developing and applying best practices and innovative methods for measurable outcomes.

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

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

For more information: <http://www.nfwf.org/pages/grants/home.aspx>

NATIONAL FISH AND WILDLIFE FOUNDATION: FIVE STAR & URBAN WATERS RESTORATION PROGRAM

The Five Star & Urban Waters Restoration Grant Program seeks to develop community capacity to sustain local natural resources for future generations by provid-

ing modest financial assistance to diverse local partnerships for wetland, riparian, forest and coastal habitat restoration, urban wildlife conservation, stormwater management as well as outreach, education and stewardship. Projects should focus on water quality, watersheds and the habitats they support. NFWF may use a mix of public and private funding sources to support any grant made through this program.

For more information: <http://www.nfwf.org/fivestar/Pages/2015RFP.aspx#.VGtMIPnF93W>

THE TRUST FOR PUBLIC LAND

Land conservation is central to the mission of the Trust for Public Land (TPL). Founded in 1972, the TPL is the only national non-profit working exclusively to protect land for human enjoyment and well-being. TPL helps conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities.

For more information: <http://www.tpl.org>

ALLIANCE FOR BIKING & WALKING: ADVOCACY ADVANCE GRANTS

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

For more information, visit www.peoplepoweredmovement.org

ACTIVE ROUTES TO SCHOOL

Active Routes to School is a North Carolina Safe Routes to School (SRTS) Project supported by a partnership between the N.C. Department of Transportation and the N.C. Division of Public Health. The Active Routes to School Project creates opportunities for youth to walk and bike to or at school. Active Routes to School Coordinators are available to provide technical assistance and support to schools and communities in planning Walk and Bike to School day events, building ongoing walk and bike to or at school programs, offering trainings on Safe Routes to School, building policy support for Safe Routes to School, and addressing safety features near schools. The goal of the project is to increase the number of elementary and middle school students who safely walk and bike to school.

Ten regional ARTS coordinators are based at local health departments across the state. Currituck County is in Region 9, which also includes Bertie, Camden, Chowan, Dare, Edgecombe, Gates, Hertford, Hyde, Martin, Northampton, Pasquotank, Perquimans, Tyrrell and Washington counties.

For more information, visit www.communityclinicalconnections.com/What_We_Do/Active_Routes_To_School/index.html

LOCAL TRAIL SPONSORS

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

CORPORATE DONATIONS

Corporate donations are often received in the form of liquid investments (i.e. cash, stock, bonds) and in the form of land. Municipalities/Counties typically create funds to facilitate and simplify a transaction from a corporation's donation to the government entity. Donations are mainly received when a widely supported capital improvement program is implemented.

PRIVATE INDIVIDUAL DONATIONS

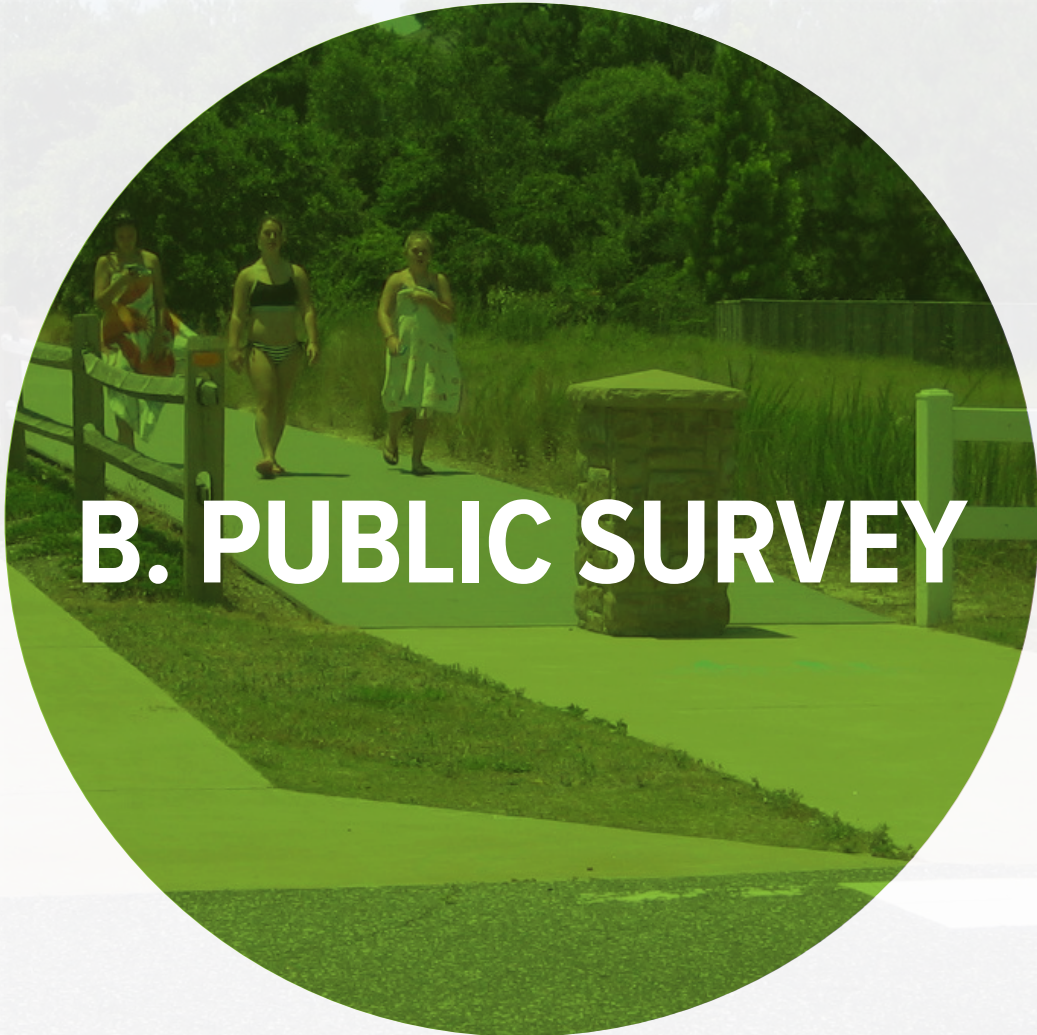
Private individual donations can come in the form of liquid investments (i.e. cash, stock, bonds) or land. Municipalities/Counties typically create funds to facilitate and simplify a transaction for an individual's donation to the government entity. Donations are mainly received when a widely supported capital improvement program is implemented.

FUNDRAISING/CAMPAIGN DRIVES

Organizations and individuals can participate in a fundraiser or a campaign drive. It is essential to market the purpose of a fundraiser to rally support and financial backing. Often times fundraising satisfies the need for public awareness, public education, and financial support.

VOLUNTEER WORK

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



B. PUBLIC SURVEY

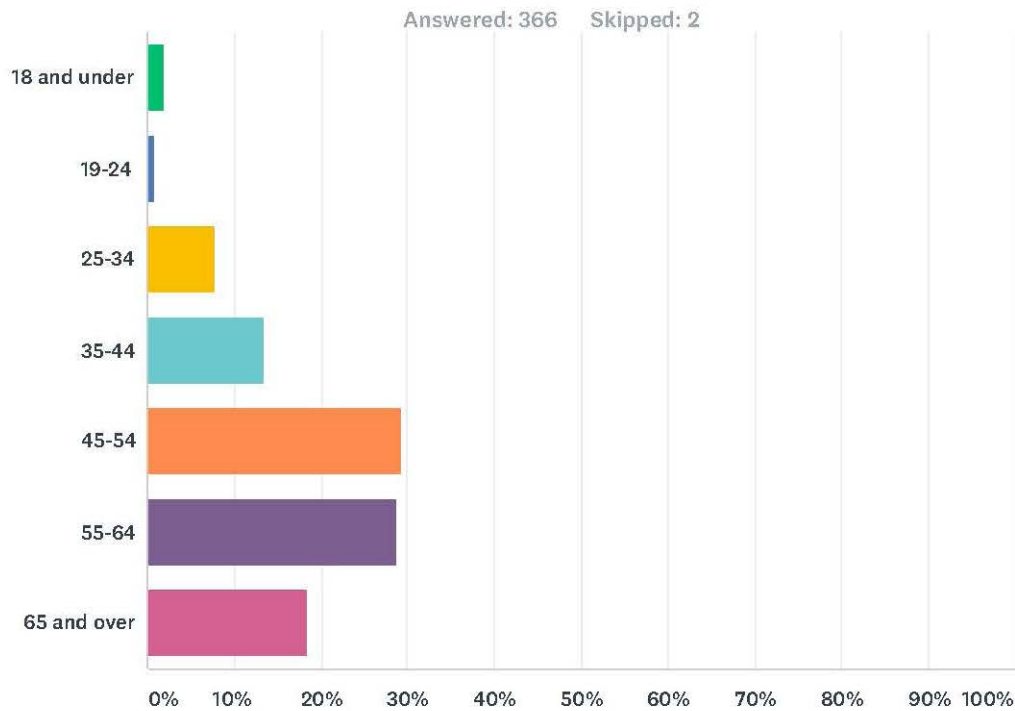
The public comment form was open from April to July 2017. The survey was available through the website www.surveymonkey.com/r/ConnectCurrituck, and was also promoted on the County's website at <http://www.co.currituck.nc.us/connect-currituck.cfm>. A total of 368 responses was collected. The following charts display the survey results by question.

Q1 Which communities are you connected with in Currituck County? Select all that apply.

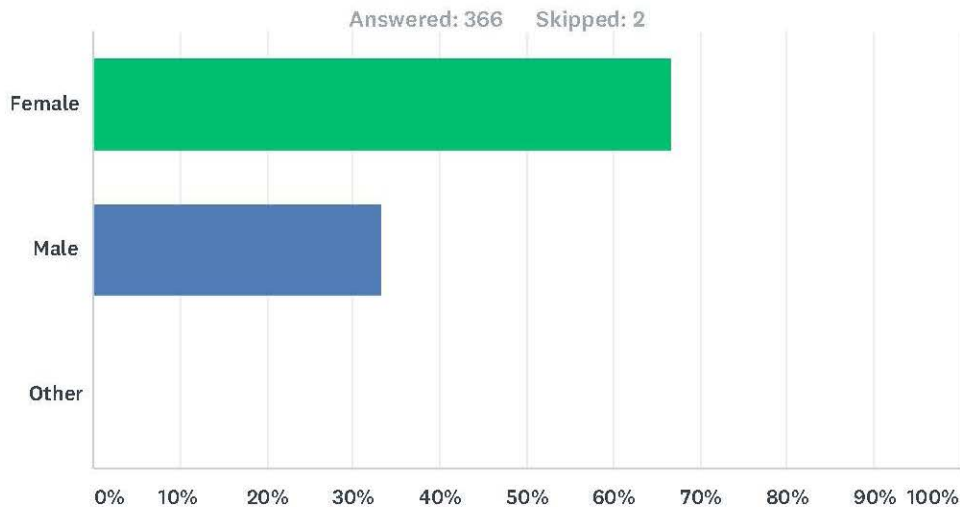
Answered: 365 Skipped: 3

	I live here:	I work here:	I own property here:	I visit/vacation here:	I shop/use services here:	Total Respondents
Aydlett	19.51% 8	36.59% 15	12.20% 5	43.90% 18	17.07% 7	41
Barco	4.20% 5	26.89% 32	2.52% 3	16.81% 20	73.95% 88	119
Coinjock	8.59% 11	12.50% 16	7.03% 9	19.53% 25	78.91% 101	128
Corolla	15.12% 26	24.42% 42	25.00% 43	54.07% 93	56.40% 97	172
Currituck	28.34% 53	41.18% 77	21.93% 41	15.51% 29	59.36% 111	187
Grandy	19.72% 28	15.49% 22	17.61% 25	16.20% 23	76.06% 108	142
Harbinger	7.84% 4	29.41% 15	3.92% 2	19.61% 10	52.94% 27	51
Jarvisburg	6.85% 5	26.03% 19	4.11% 3	20.55% 15	63.01% 46	73
Knotts Island	16.28% 7	25.58% 11	13.95% 6	53.49% 23	27.91% 12	43
Maple	10.00% 7	32.86% 23	5.71% 4	18.57% 13	58.57% 41	70
Moyock	44.22% 88	11.56% 23	25.63% 51	10.05% 20	72.86% 145	199
Point Harbor	13.04% 6	32.61% 15	10.87% 5	21.74% 10	54.35% 25	46
Poplar Branch	20.00% 9	33.33% 15	8.89% 4	26.67% 12	35.56% 16	45
Powells Point	9.26% 5	38.89% 21	7.41% 4	22.22% 12	46.30% 25	54
Shawboro	32.86% 23	31.43% 22	27.14% 19	21.43% 15	34.29% 24	70
Dare County	6.21% 10	10.56% 17	7.45% 12	55.28% 89	72.67% 117	161

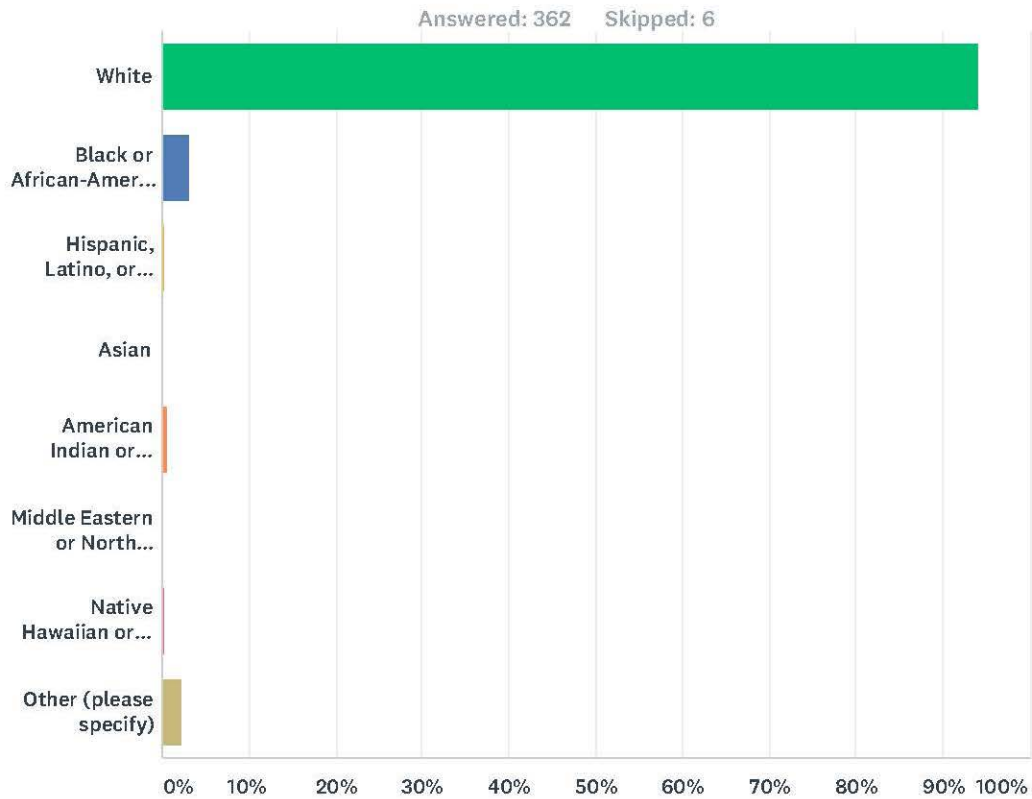
Q2 What age group are you in?



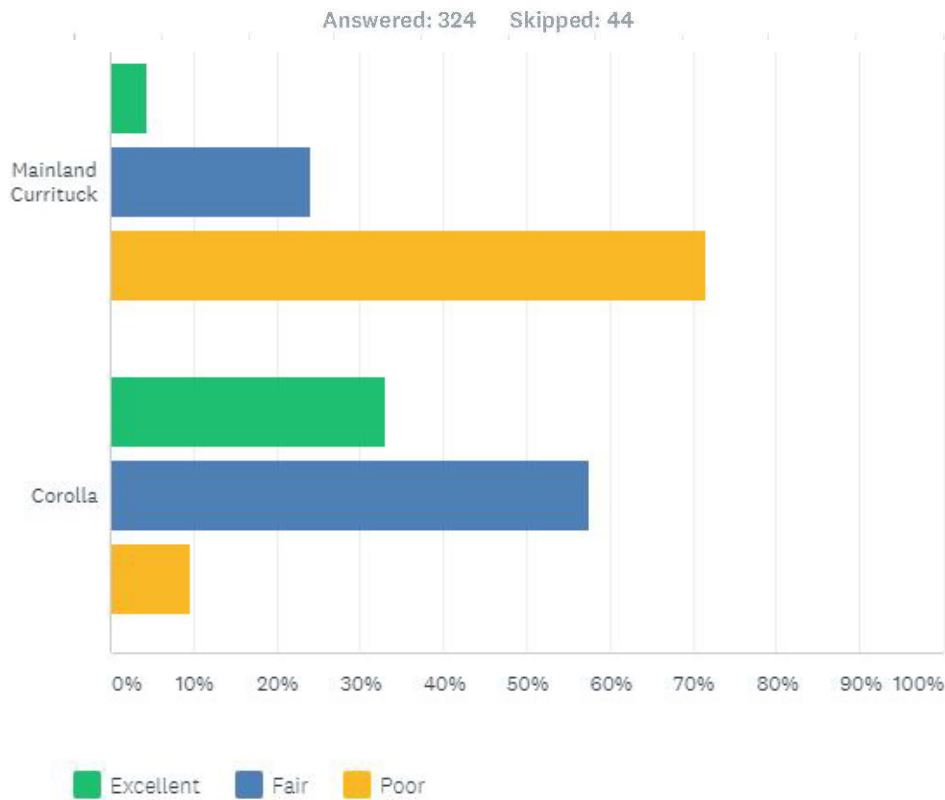
Q3 What is your gender?



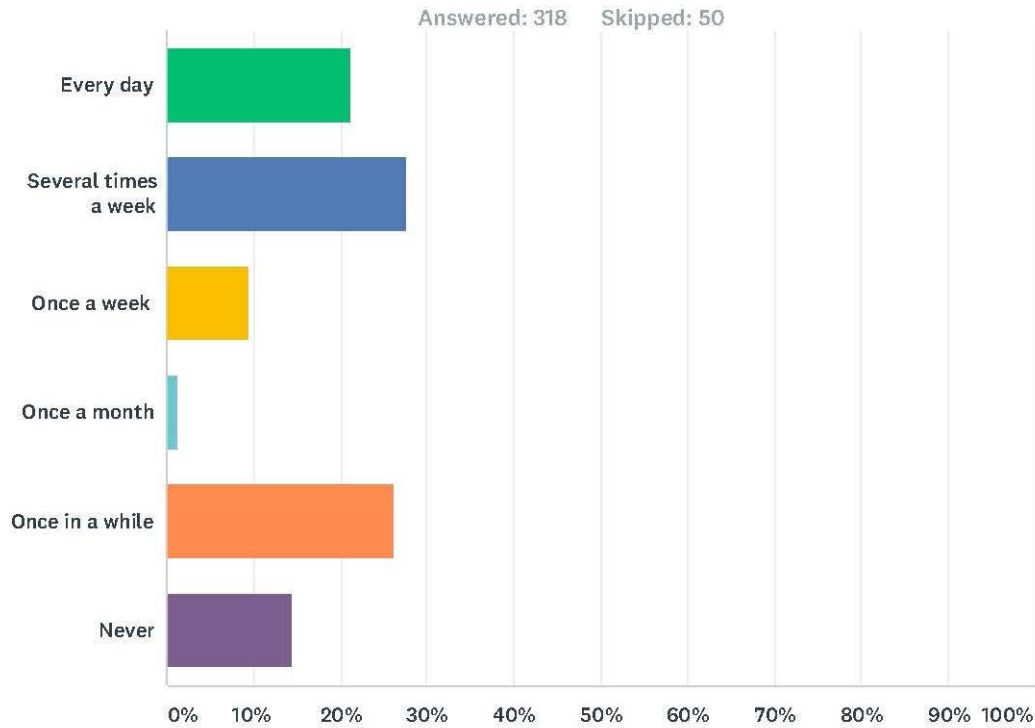
Q4 What race/ethnicity do you identify as?



Q5 How do you rate the current walking conditions in Currituck County?



Q6 How often do you currently walk in Currituck County?



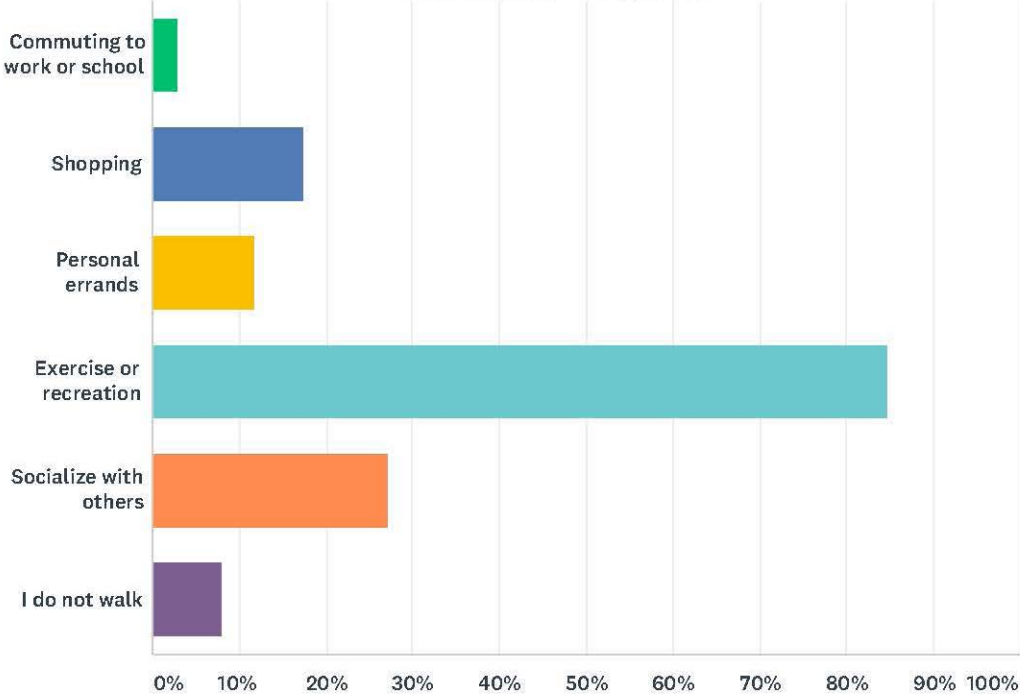
Q7 Where do you currently walk in Currituck County? You can name destinations that you walk to, streets that you walk along, or neighborhoods that you walk in.

Answered: 268 Skipped: 104

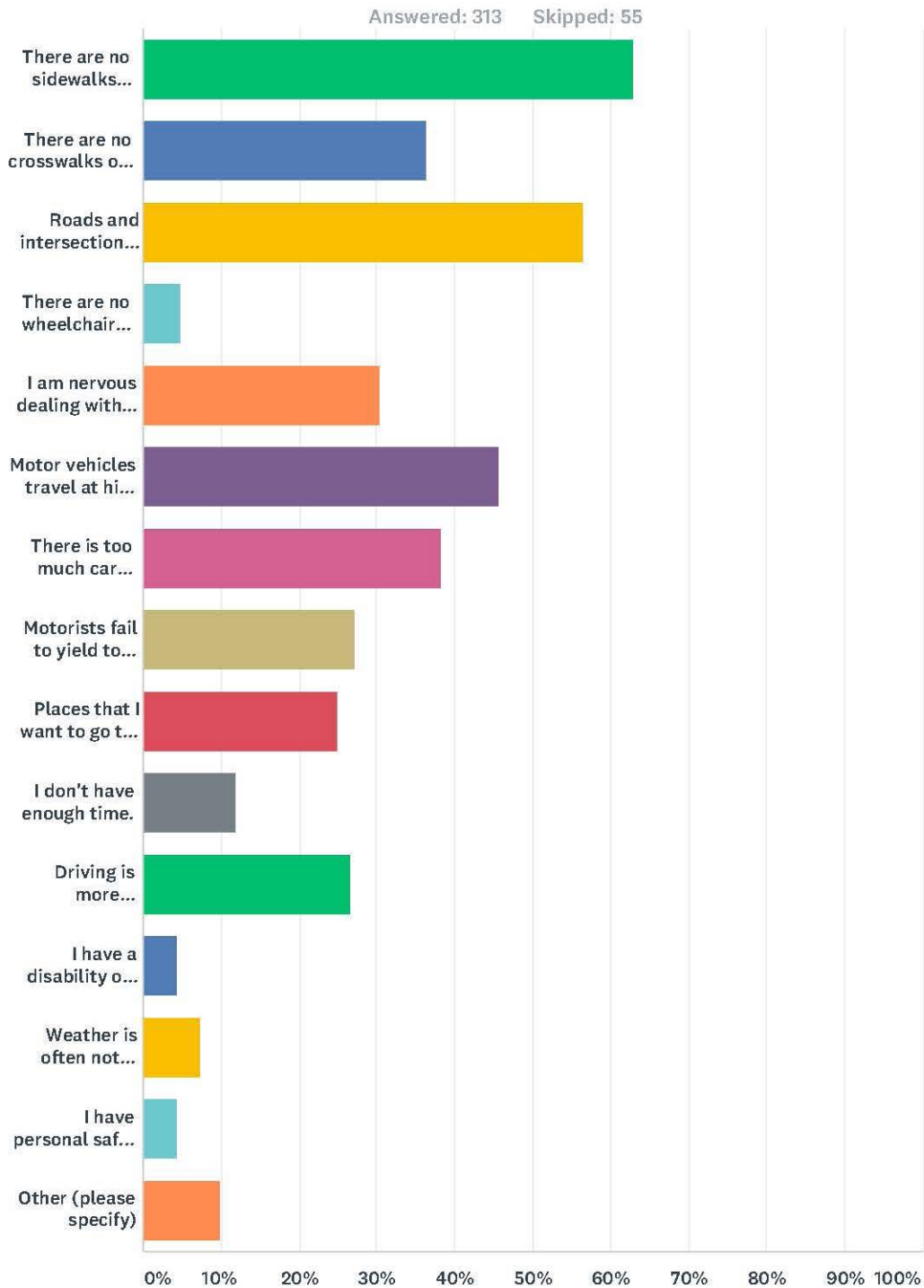
Park Community Grandy Island Whalehead Barco
 YMCA Shawboro Corolla Duck Club Lighthouse
 Currituck Lion Moyock Harris Teeter
 Maple Poplar Branch Rd Estates Puddin Ridge Rd Currituck
 Route 12 Moyock Tulls Creek Rd Corolla Whalehead
 Landing Riversedge Neighborhood
 Ocean Sands Island Courthouse Area Road
 Food
 Lion Beach Carolina Club YMCA Waterlily Rd Walk
 Eagle
 Governmental Center Park Creek
 Timbuck Sound Complex Shores Landing Drive
 Neighborhood Carolina Club Island Food Lion
 Steeple
 Park Chase YMCA Center Corolla
 Eagle Creek Moyock Whalehead Community Beach
 Court Road Shawboro Maple Tulls Currituck Club
 Quail Run

Q8 When walking in Currituck County, what is the primary purpose of your trip? (check all that apply)

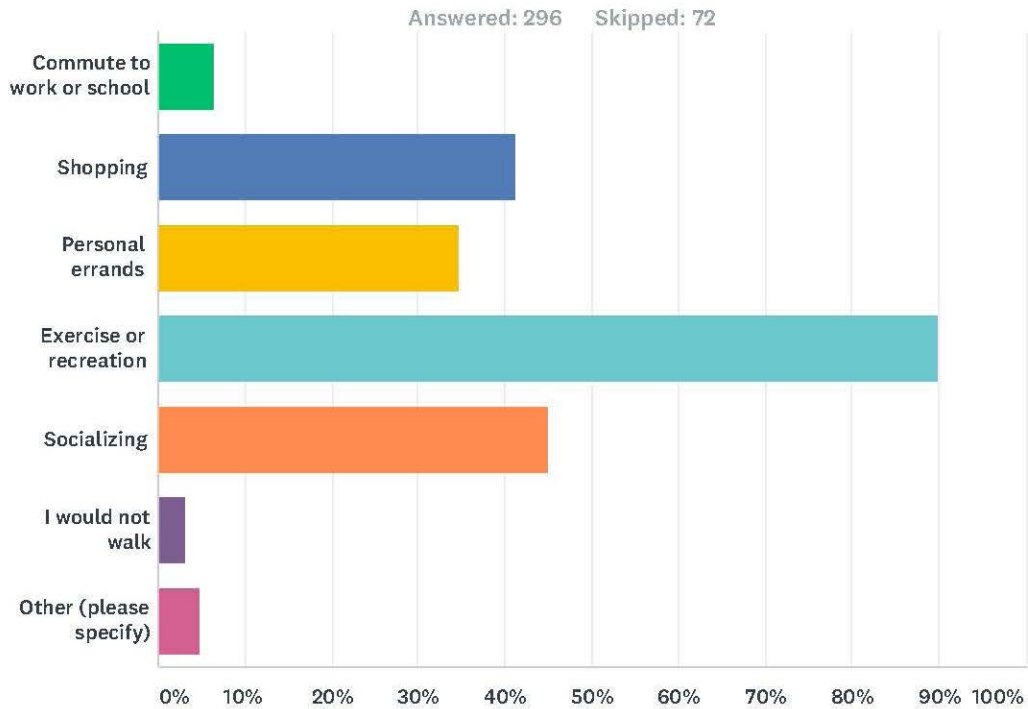
Answered: 316 Skipped: 52



Q9 What prevents you from walking more often? Please select all that apply.



Q10 If you could walk safely, what types of walking trips would you like to be able to take? Select all that apply.



Q11 What would encourage you to walk more often?

- 

1. Directional and Wayfinding Signage
- 

2. More Sidelks
- 

3. Wider Sidewalks..
- 

4. Sidewalks Separated from Traffic.
- 

5. Intersection Improvements (crosswalks, pedestrian signals, etc.)
- 

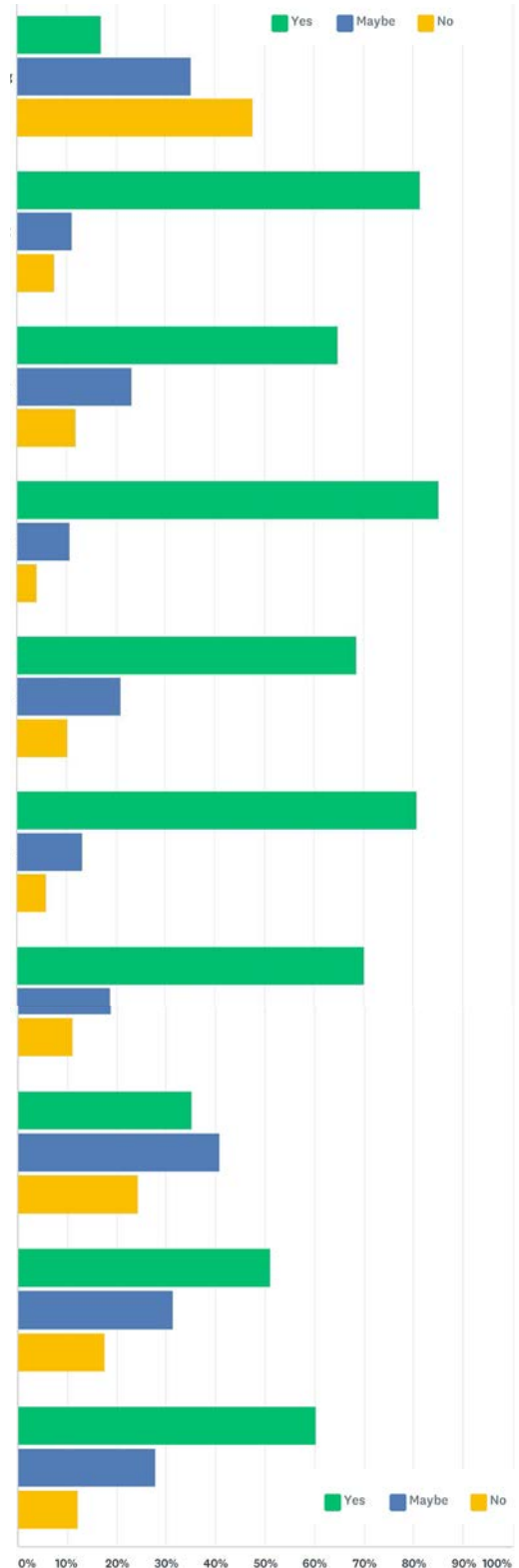
6. Paved, Off-street Paths (greenways, shared-use paths)
- 

7. Good Lighting and Other Security Features.
- 

8. Better Accessibility (curb ramps, even surfaces, etc.)
- 

9. Safer Traffic Conditions (e.g., slower vehicle speeds).
- 

10. Safer motorist behavior (e.g., drivers yielding to pedestrians)



Q12 Please list up to 3 destinations in Currituck County that you would most like to be able to reach by walking. Please be specific (e.g., "Jarvisburg Elementary" rather than just "school") and provide street or intersections where possible.

Answered: 175 Skipped: 197

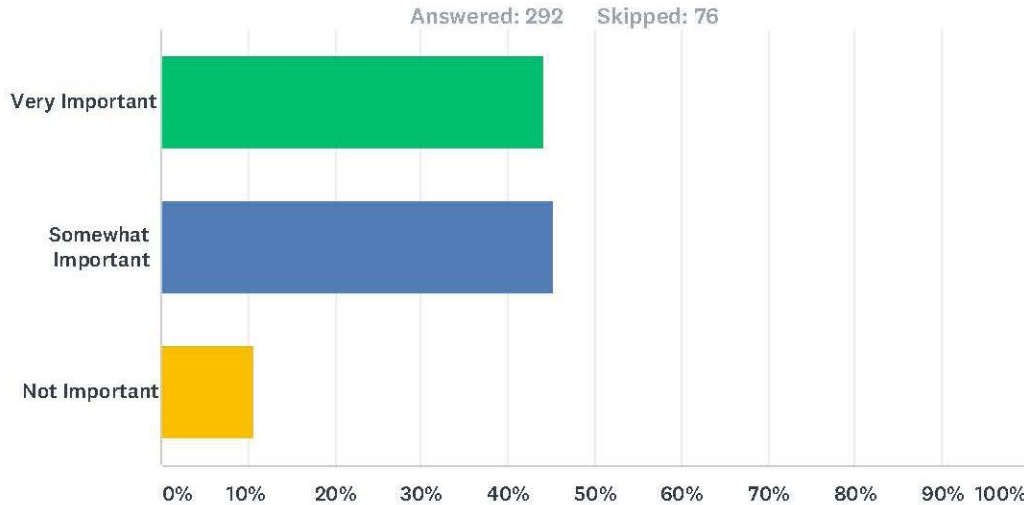
Eagle Creek Albacore Poplar Branch H2OBX
Destination Harris Teeter Road Tulls Creek Rd
Grandy JP Knapp Corolla Maple
Food Lion Beach Moyock Walk
Elementary Knotts Island Currituck
Court
Wright Memorial Bridge House Hwy 158
Bells Island Landing Path Club Pine Island
Corolla
Dollar Lighthouse Road Bay Village
Restaurant Food Lion YMCA Moyock
Shopping Center Currituck Poplar Island Dozier
Sound Landing Elementary
Sound Shawboro Maple Waterway Road Market Park
Ferry Area Shopping Ace Hardware
Food Lion Water Moyock Carolina Club
Grandy Hwy 158 Currituck YMCA Corolla
Elementary Dollar Station Poplar Branch Bells Island

Q13 Please list up to 3 locations in Currituck County where pedestrian improvements (e.g., sidewalks, crosswalks, pedestrian crossing signals) are needed. Be specific- note intersections, locations, or destinations.

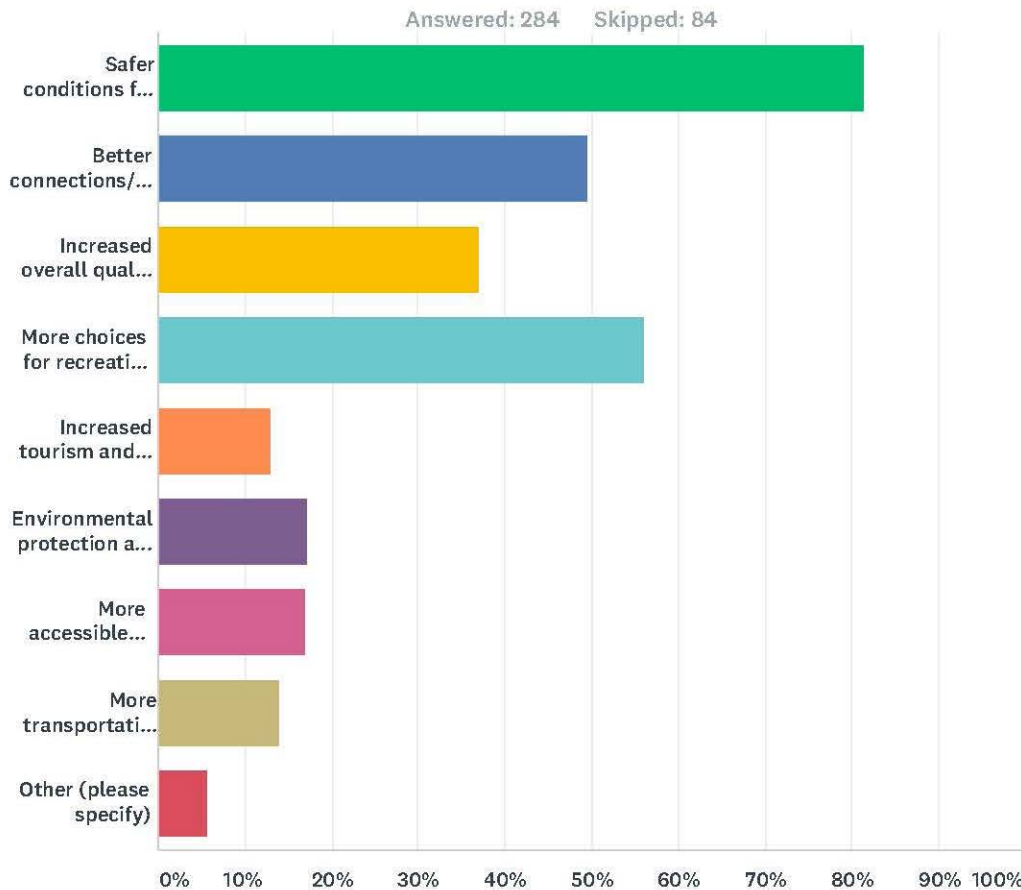
Answered: 153 Skipped: 219

Park Ferry Highway Tulls Creek Poplar Branch
HWY 158 Corolla Courthouse Food Lion Barco
Moyock Edge Grandy Ridge Rd Island Rt 12
Shingle Landing Pedestrian Currituck Crossing
Route 12 Crossing Grandy Jarvisburg Moyock
Tulls Creek Rd Road Community Corolla Island
Courthouse YMCA Poplar Branch Southern Beach
Access
Caratoke
Hwy Waterlily Rd Currituck Knotts Island
Walnut
Island Lighthouse Grandy Rt 12
Road Ocean Sands Moyock Drive Corolla
Whalehead Food Lion Memorial Bridge
Intersection Puddin Ridge Rd Tulls Creek Rd
Pine Island Eagle Creek Spindrifft Caratoke Highway
Neighborhoods

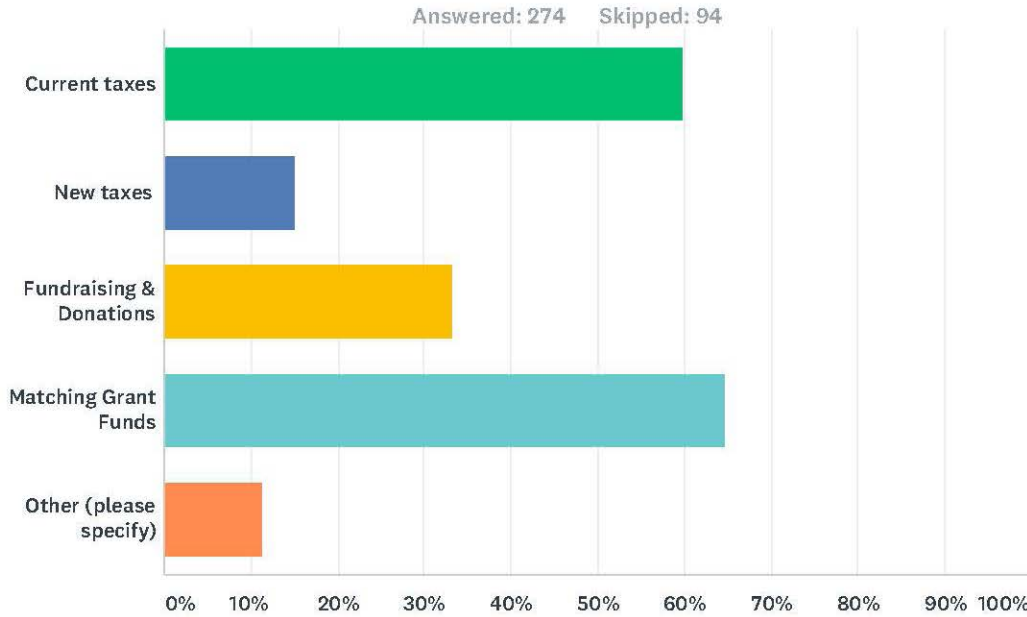
Q14 How important to you is improving walking conditions in Currituck County?



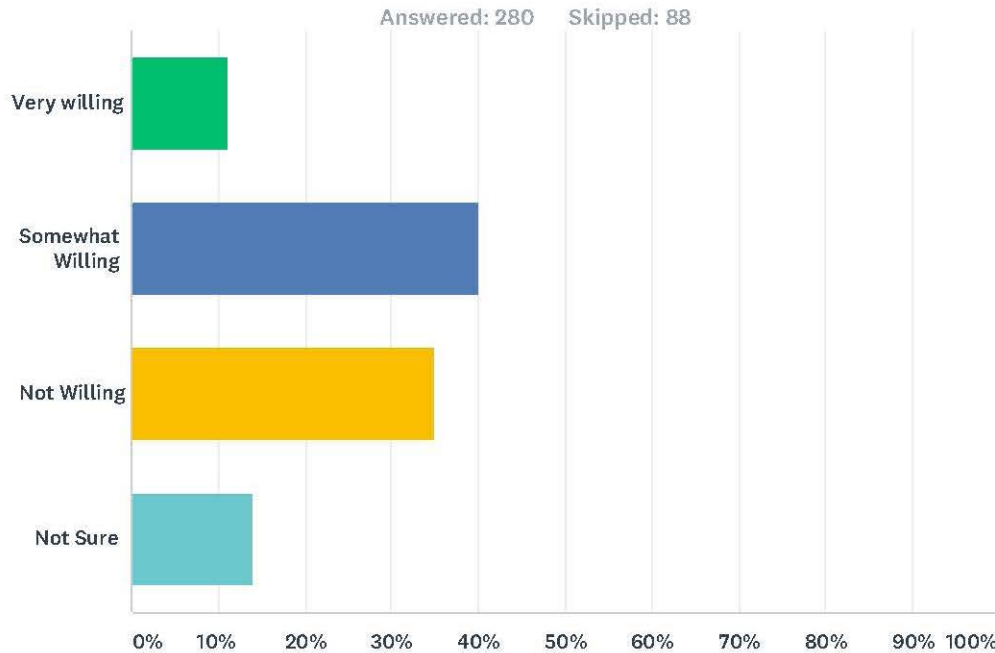
Q15 What should be the most important goals and outcomes for the Currituck County Pedestrian Plan? Please choose your Top 3 ONLY.



Q16 How should pedestrian facilities be funded in Currituck County? (Select all that apply.)

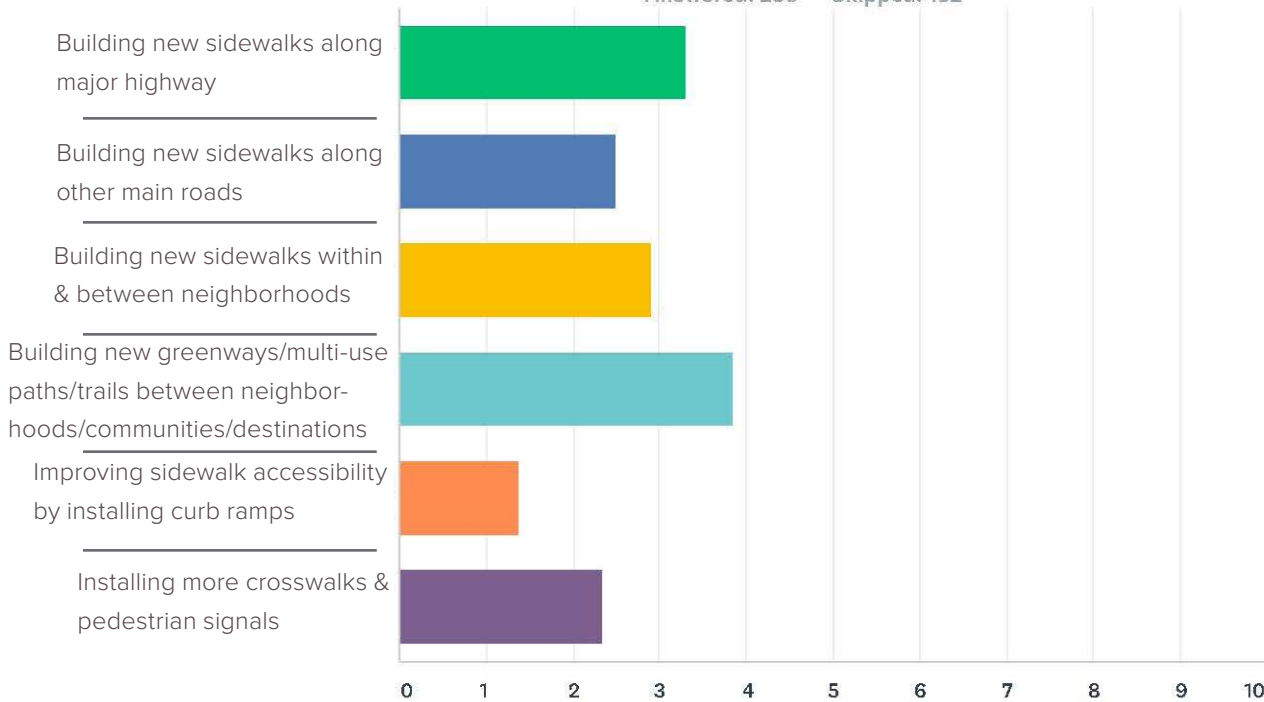


Q17 How willing would you be to pay some increase in taxes to fund pedestrian facilities in Currituck County?



Q18 Help us to prioritize future sidewalk projects. If you had \$10 to spend each year, how much would you spend on the following sidewalk funding needs? Write the dollar amount you would spend on each item below (just the number, do NOT write in the dollar sign \$). The total should add up to \$10.

Answered: 236 Skipped: 132



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CONNECT

CURRITUCK
PEDESTRIAN MASTER PLAN

