

Oakboro Bicycle and Pedestrian Project Acceleration Plan



October 2024



PREPARED FOR



Integrated Mobility Division
N.C. DEPARTMENT OF TRANSPORTATION

PREPARED BY



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Town of Oakboro Bicycle and Pedestrian Project Acceleration Implementation Plan

October 2024

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Integrated Mobility Division
N.C. DEPARTMENT OF TRANSPORTATION

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Glossary

AADT	Average Annual Daily Traffic
ACS	US Census Bureau American Community Survey
Active Transportation	Transportation methods that do not involve the use of a personal vehicle such as walking, running, bicycling, transit, etc.
ADA	Americans with Disability Act
Advisory Shoulder / Advisory Bike Lane	A roadway consisting of a single center lane which supports two-way vehicle traffic and an edge lane on either side reserved for bicyclists and pedestrians except when oncoming traffic necessitates the need for the vehicle to use the edge lane
Bicycle Lane	A portion of roadway that has been designated by striping, signage, and pavement markings for the exclusive use of bicyclists
Block Group	A block group is a unit of geography as defined by the U.S. Census. Block Groups (BGs) are statistical divisions of census tracts, and are generally defined to contain between 600 and 3,000 people, and are used to present data. A block group typically contains several blocks.
CIP	Capital Improvement Plan
Couplet	A pair of parallel one-way roads that carry traffic in opposing directions
CTP	Comprehensive Transportation Plan
CTT	Carolina Thread Trail
Curb Extensions, or Curb Bulb-Outs	Curb extensions (or curb bulb-outs) extend the sidewalk or curb line out into the parking lane, which reduces the effective street width, reduces the width of a pedestrian crossing and improves the ability of pedestrians and motorists to see each other.
FHWA	Federal Highway Administration
GOBA	Greater Oakboro Business Association
Greenway	A pathway (typically 10 feet wide) that can be used for both pedestrian and bicycle activity that parallels a natural or manmade feature
High Visibility Crossing	A crosswalk that uses patterns that are visible to both the driver and pedestrian from farther away compared to traditional crosswalks
HSIP	North Carolina Highway Safety Improvement Program (HSIP)
Local Match	A local government's financial contribution to an infrastructure project
Median Refuge Island	A small section of pavement or sidewalk surrounded by asphalt or other road materials where pedestrians can stop before finishing crossing a road
Mid-Block Crossing	A bicycle and pedestrian crossing opportunity that is not at a roadway intersection
MPO	Metropolitan Planning Organization

Multi-Use Path (MUP)	See the definition for a Shared Use Path.
NCDOT	North Carolina Department of Transportation
NHTSA	National Highway Traffic Safety Administration
Pedestrian Refuge Island	A pedestrian refuge island is a median with a refuge area that is intended to help protect pedestrians who are crossing a multilane road. This countermeasure is sometimes referred to as a crossing island, refuge island, or pedestrian island.
Ped Signal Head (or Pedestrian Signal Head)	A pedestrian signal head is a type of traffic signal at a signalized intersection exclusively intended for controlling pedestrian traffic. A pedestrian signal head is used to let pedestrian know when it is safe to cross the roadway.
Pedestrian Scale Lighting	Luminaries that are directed toward the sidewalk, positioned lower than and spaced closer than roadway luminaries, that are designed to improve pedestrian safety and enhance placemaking
PHB	Pedestrian Hybrid Beacon
Placemaking	A process of transforming and defining a public space to strengthen the connection between those who use the space and the physical environment
Planning-level cost estimate	A preliminary cost estimate due to the limited availability of project details
Rail Trail	A multi-use path created from former railroad corridors
RAISE	Rebuilding American Infrastructure with Sustainability and Equity Discretionary Grant Program
ROW	Right-of-way – real property and rights therein used for the construction, operation, or maintenance of a transportation or related facility
RPO	Rural Planning Organization
RRFB	Rectangular Rapid Flashing Beacon
Shared Use Path (SUP) or Multi-Use Path (MUP)	A shared use path, also known as a multi-use path is a pathway larger than a sidewalk (typically 10-12 feet wide) that can be used for both pedestrian and bicycle activity; a shared use path can follow a roadway (with separation using a curb or a green buffer strip) or a natural corridor such as a creek.
Sharrow	A pavement marking indicating that roadway users are to share the road with bicyclists; sharrows also indicate suggested position for bicyclists in the roadway.
Sidewalk	A paved surface designated for pedestrian use parallel to the roadway, generally separated from the traffic lanes by a curb
SS4A	Safe Streets and Roads for All Grant
Stakeholder	A person or entity with an interest or concern in the project
STBG	Surface Transportation Block Grant
Steering Committee	A group of people who decide on the priorities, direction, and guidance of a project

STI	Strategic Transportation Investments , an approach for prioritizing transportation funding in North Carolina.
STIP	State Transportation Improvement Program
TIP	Transportation Improvement Program
Truncated Domes	A tactile warning strip of raised bumps designed to let pedestrians with vision impairments know that they are approaching a hazard on their circulation path, such as an intersection.
UDO	Unified Development Ordinance – a set of regulations designed to guide future development in a municipality
Vision Zero	A strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all
Wayfinding	The use of signage and design elements to help residents and tourists to navigate a space
Woonerf	A Woonerf is a type of “living street” that is designed to include shared spaces and traffic calming elements that prioritize safety and comfort for pedestrians and cyclists.

Executive Summary

This executive summary provides a brief overview of the Oakboro Bicycle and Pedestrian Project Acceleration Plan and key recommendations.

About this Plan

The Town of Oakboro Bicycle and Pedestrian Project Acceleration Plan (“the Plan”) provides guidance for the Town, North Carolina Department of Transportation (NCDOT), Stanly County, Rocky River Rural Planning Organization, and other stakeholders in developing improvements to its bicycle and pedestrian infrastructure, programs, and policies.

The Plan was developed through extensive public outreach, review of existing conditions, coordination with a dedicated Steering Committee, and consideration of the Town’s vision and goals. Oakboro seeks to become a more walkable and bicycle-friendly place where safe bicycle and pedestrian transportation infrastructure supports a great quality of life, small-town charm, availability of multimodal transportation options for residents, improved connectivity between residential neighborhoods and downtown, and economic vitality. During the planning process, Oakboro residents and stakeholders voiced their concerns and hopes for walking and bicycling throughout the Town and to other destinations in Stanly County.

The plan is primarily focused on infrastructure improvements in support of walking and bicycling. The benefits of walking and bicycling and recommended policies and programs to support active transportation are reviewed as part of the Plan appendices.

Priority Recommendations (Top Five Projects)

The Plan identified a total of five priority projects to improve walking and bicycling in Oakboro. These projects were created through a process that began with identifying the Town’s goals, then mapping priority corridors, and creating projects to match the Town’s mobility and safety needs. Finally, all projects were ranked according to criteria developed with the Town that prioritized safety, connectivity, supporting a healthy lifestyle and economic vibrancy, among other factors. The top five projects are as follows in Table I-1 (also shown in the Figure I-1 below):

Table I-1 Oakboro Bicycle and Pedestrian Plan Top Five Priority Project Recommendations

Project IDs	Project Name	Project Description	Estimated Planning Cost
BikePed-01 (Bike-01A, Bike-01B, Bike-01C, Int-01, Int-07, Int-11, Int-12, Int-13, Int-14, and Int-18)	Main Street Bicycle and Pedestrian Improvements	<i>Main Street Improvements from Osborne Street to Five Point intersection of Main and Aquadale Road. Implement high visibility pedestrian crossing markings and bulb-out improvements at intersections 8th through 2nd street. Add pedestrian scale lighting improvements, pedestrian crossings warning signage. Install bicycle lanes from Osborne Drive to 5th Street and bicycle sharrows along Main Street from Fifth Street to Five Point Intersection.</i>	\$1,971,552

Project IDs	Project Name	Project Description	Estimated Planning Cost
Int-05	Five Point intersection improvements at Main Street, Railroad Street/Aquadale Road and East 1 st Street for pedestrian crossings and safety.	<i>Pedestrian crossing improvements at Five Point intersection (Main Street/Railroad Street/East 1st Street) with high visibility markings at crosswalks, curb bulb-outs with mountable curb for truck use, ADA curb ramps, pedestrian-scale lighting and signal heads for all approaches. Implement streetscape and placemaking improvements.</i>	\$1,448,631
SUP-03	Shared Use Path from south of Railroad to District Park along NC 742 (South Main Street)	<i>Improve access for pedestrians to downtown Oakboro and businesses and neighborhoods along South Main Street by adding a new shared use path link along the east side of South Main Street (US 742) from to American Drive along NC 742 Add high visibility crossings at intersection of American Drive and NC 742</i>	\$741,982
SUP-04, Int-06, Int-16	Shared Use Path along W 2nd Street (NC 205) from Railroad Street to Hamilton Road with Railroad Crossing Improvement and Intersection Crossing Improvement at 2nd Street and Pine Street	<i>Implement a Shared Use Path along West 2nd Street (NC 205) from Railroad Street to Hamilton Road. Implement crossing improvements at the intersection of Pine Street and 2nd Street, Install high visibility marked crosswalks and ADA curb ramps at Pine street and W 2nd Street. Implement Railroad Crossing Improvements for shared use path. Include pedestrian-scale lighting and warning signage.</i>	\$529,987
Ped-20, Int-15	Sidewalks along Claymon Road (W. 5 th Street) and Hamilton Road from Pine Street to W. 2 nd Street with railroad crossing improvement at Claymon Road	<i>Implement a sidewalk along Claymon Road (W. 5th Street) from Pine Street to Hamilton Road, and along Hamilton Road from Claymon Road to NC 205 (W. 2nd Street). Implement a rail crossing improvement to add an ADA accessible ped walkway along Claymon Road.</i>	\$727,849

Criteria, rankings, and estimated planning-level costs are included in Section 2 of the Plan. Five of the top-scoring projects were selected as priority projects and illustrated in cutsheet visuals, based on their potential impact and importance to the community. These Top five projects cutsheets with photo-simulation visuals and additional details on implementation are included in Section 3.

Priority Projects

Oakboro Project Acceleration Plan | Stanly County, NC

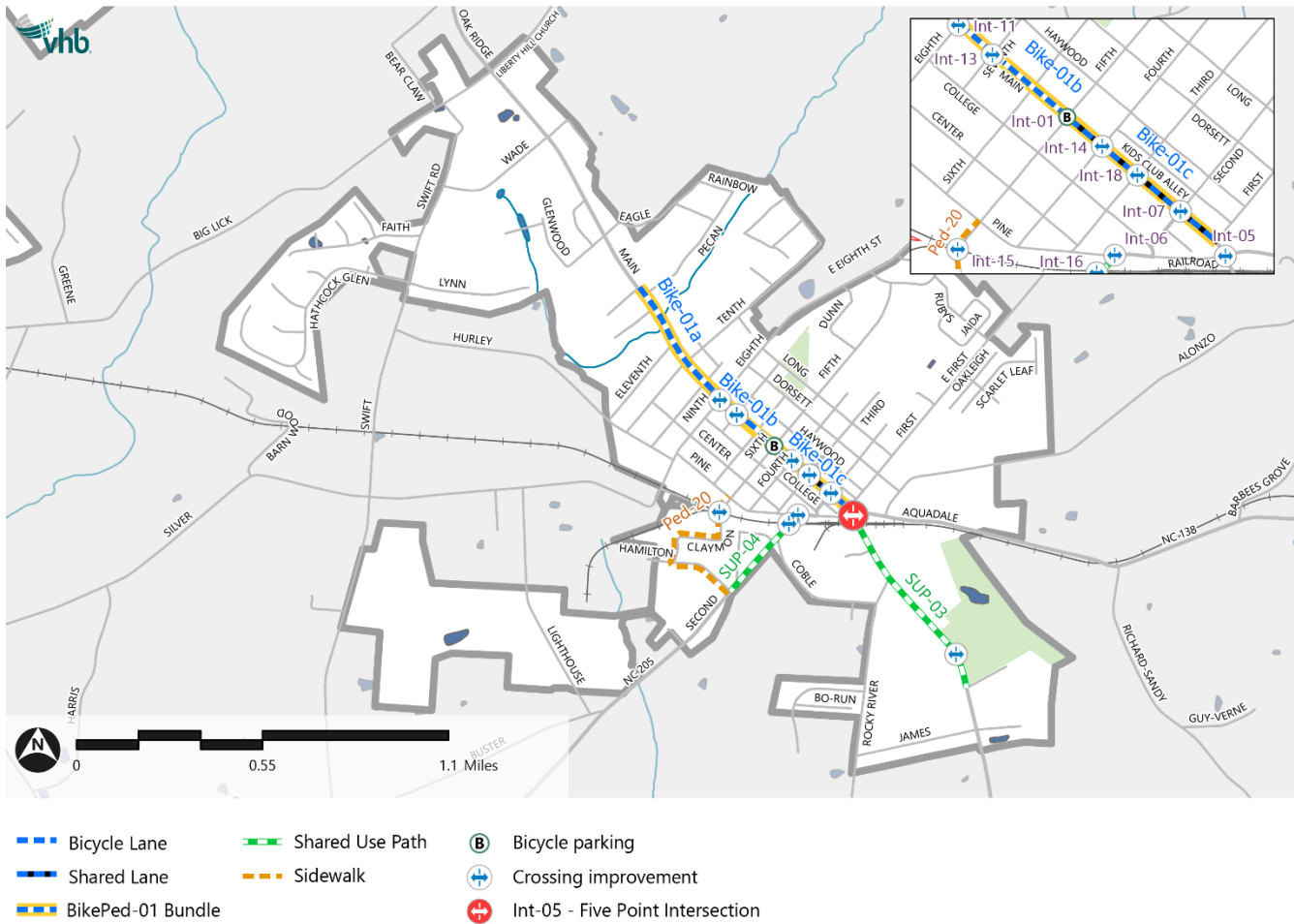


Figure I-1 - Top Five Priority Projects, Oakboro Bicycle and Pedestrian Project Acceleration Plan

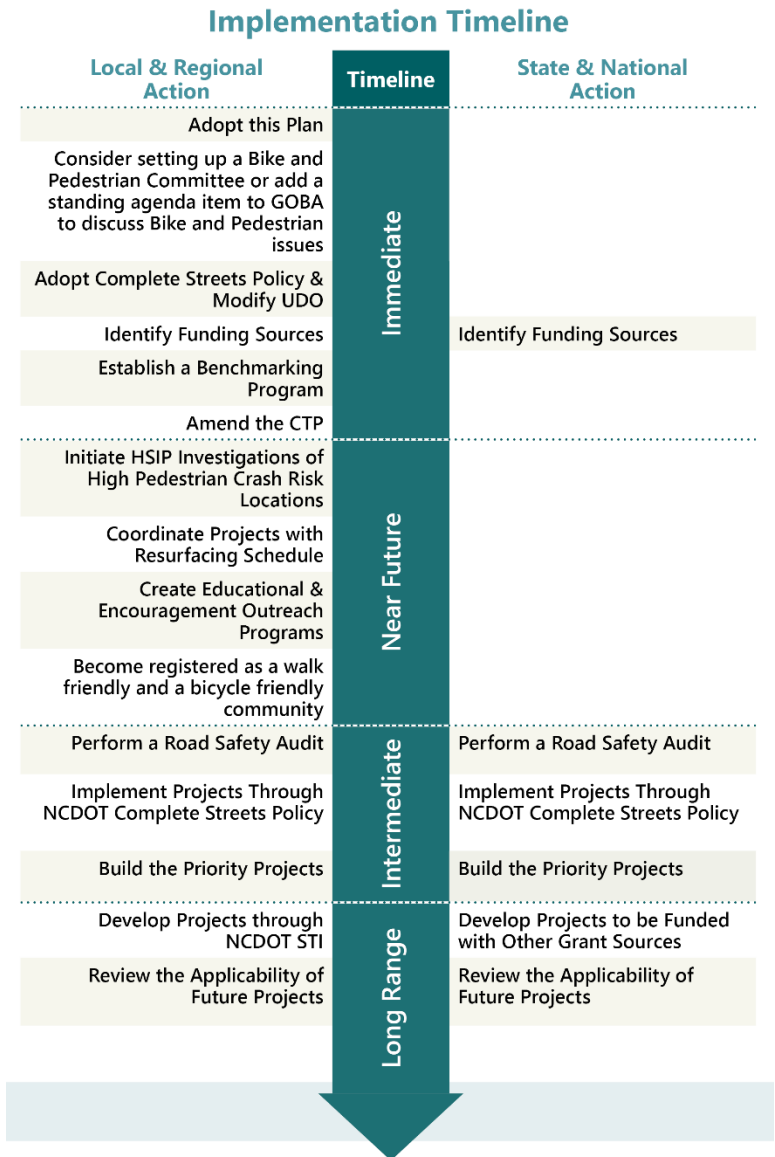
Implementation

Successful implementation of the Plan will require the cooperation of several agencies and organizations. These include the local and regional partners like the Town of Oakboro, Stanly County, and the Rocky River Rural Transportation Planning Organization, as well as state and federal support from NCDOT Division 10, the NCDOT Division of Integrated Mobility, and the FHWA.

Not all of the Plan’s recommendations are expected to be implemented simultaneously. There are certain steps, such as adoption of the plan, which should occur before projects are constructed or new educational programs are conducted. These recommended implementation steps, their champions, frequencies, and other supporting details are identified in Section 3, Implementation Plan.



Local Businesses along Main Street



Acknowledgments

Steering Committee

The project team would like to thank the following Steering Committee members for providing guidance and input throughout the planning process:

Josh Almond, Town of Oakboro

Mike Efird, Town of Oakboro

Doug Burgess, Town of Oakboro

Jonathan Waits, Pastor of First Baptist Church

Latoya Jackson, Town Commissioner

TJ Smith, Police Chief

Lynn Huneycutt, Business owner

Kiksheil Shuford, Golden Childcare Center

David Heath, Oakboro Oil Company

Wallace Crawford, Mathers Reality

Scott Miller, NCDOT Div. 10

Alex Rotenberry, NCDOT IMD

Theo Ghitea, NCDOT Div. 10

Lee Snuggs, Rocky River RPO

Joyce Little, Former Mayor/Resident

Joe Seymour, VHB

Lyuba Zuyeva, VHB

TJ Doane, VHB

Justin Hensley, VHB



Oakboro Volunteer Fire Department Station 44



Entrance to Oakboro District Park along NC 742

Photos

VHB is the owner of all photos and photo-simulation images not otherwise sourced throughout the plan.

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1. Current Conditions



This section reviews Oakboro's current walking and bicycling conditions.

1.1. Introduction and Project Background

NCDOT awarded the Town of Oakboro a project acceleration grant in 2022 through the Multimodal Planning Grant Program (MMPG). Established in 2004, the MMPG encourages local communities to develop comprehensive bicycle and pedestrian plans. The program is open to all municipalities as well as counties under 100,000 in population in North Carolina. NCDOT's Division of Integrated Mobility (IMD) administers the program, and it has allocated approximately \$8 million to 248 municipalities and 6 counties through this grant program as of March of 2023. This plan is intended to select a targeted list of bicycle and pedestrian projects and develop high-level concepts in order to advance this targeted list of bicycle and pedestrian projects towards



The Town of Oakboro's history is closely tied to the railroad, as the Town was founded in 1913 as a stop on the Carolina Central Railway.

implementation with the goal of increasing pedestrian and bicycle accessibility in Oakboro. The opportunities and challenges identified in this plan will match IMD's planning grant content. The project recommendations outlined in this document will be eligible for inclusion in local Comprehensive Transportation Plans (CTP), project prioritization, and other planning activities.

This Plan assists the Town of Oakboro with moving from planning bicycle and pedestrian projects into the implementation phase. The Plan is composed of the following sections:

- Executive Summary - Priority recommendation and planning process overview.
- Section 1 – Vision and goals, current conditions, and public input.
- Section 2 – Project recommendations and project cost estimates.
- Section 3 – Implementation plan.

The Appendix includes bicycle and pedestrian facility design guidelines, policy, program best practices, and potential funding sources.

1.2. Vision and Goals

The Steering Committee provided feedback to help develop a vision and goals for the Bicycle and Pedestrian Acceleration Plan. The Steering Committee reviewed the Town's grant application and discussed the Town's values and aspirations to develop the following vision statement:

The Town of Oakboro's Project Acceleration Plan envisions a community where all residents and guests have safe and accessible means of transportation, regardless of age or ability. The plan prioritizes transportation projects that safely connect all neighborhoods, support the local economy, and encourage an active community and improved quality of life. The plan will achieve the vision by managing growth, preserving open space, and maintaining the Town's small town warmth and charm.

The Steering Committee also recommended the development of a shorter vision to succinctly convey the plan to residents.

A safe and accessible transportation system for residents and guests that preserves Oakboro's charm and guides its growth.

The Steering Committee then developed four goals from the Plan's vision. These goals operationalize the vision and seek to set up comparative measures of the Plan's success. These goals and their objectives are described below; the objectives inform the Plan's performance measures that are listed in Chapter 2.

- **Safety**
 - *Prioritize bicycle and pedestrian safety:* The Plan will enhance and develop safe connections and facilities for Oakboro residents and visitors of all ages and abilities to navigate throughout town.
 - Increase the length of low-stress and separated bicycling and walking facilities.
 - Increase the level of comfort among pedestrians walking downtown.
 - Identify opportunities to reduce conflicts for alternative modes of transportation such as scooters and golf carts.
- **Connecting**
 - *Improve and build bicycle and pedestrian access to key destinations, communities, and natural sites:* The ability to walk and bike promotes a more connected community and allows for more personal interactions with people and places.
 - Improve attitudes of walking and bicycling in Oakboro from annual community surveys.
 - Increase the miles of Town sidewalk and shared-use path facilities.
 - Address the missing segments in the current sidewalk infrastructure across the Town.
 - Establish a network of bicycle facilities.
 - Establish a range of bicycle routes for all users.
 - Establish walking routes for residents and visitors.
 - Ensure vehicular transportation remains a priority.
- **Health**
 - *Promote healthier lifestyles and community welfare through bettering active transportation facilities:* Building a connected and safe biking and walking network will provide Oakboro residents with more options to bike and walk.

- Increase the share of people who report walking and bicycling on a weekly basis through an annual survey.
 - Increase the number of programmed health-focused and outdoor walking and bicycling events.
 - Increase the percentage of people who report walking to work as documented in the U.S. Census.
- **Economic Vibrancy**
 - *Support a vibrant local economy through allowing more residents and tourists access to local businesses:* Forming clear and safe connections throughout town and surrounding neighborhoods can have an impact on the businesses that are currently inaccessible to pedestrians and bicyclists.
 - Establish pedestrian connections from residential areas to local businesses and parks.
 - Increase the local sales tax revenue.
 - Increase the number of programmed outdoor active events.
 - Establish marked historical locations and routes for residents and visitors.

1.3. Local Context

Oakboro is a municipality in Stanly County, North Carolina. It is approximately 35 miles east of Charlotte, NC, and it is near several other small towns in the area, including Red Cross one mile to the north, the county seat of Albemarle 12 miles to the northeast, Stanfield and Locust five miles to the west, and Norwood 12 miles to the east.

The Town is primarily served by three highways, NC 138, NC 205, and NC 742. US 27 is a major east-west highway that runs north of Oakboro through Red Cross, connecting the area to larger cities like Charlotte to the west and Albemarle to the east. NC 205 runs north to south through the center of Oakboro and connects the Town to

nearby Red Cross to the north and Marshville to the south. This highway is also known as Main Street within the Town limits. NC 138 runs east to west just south of Oakboro and provides access to the Town from the neighboring community of Aquadale to the east. The primary streets in Oakboro in addition to Main Street include 1st Street, 5th Street, 8th Street, N Haywood Street, College Street, and Alonzo Road. These streets are located in the heart of Town and are home to many of Oakboro's small businesses and shops.

Aberdeen, Carolina & Western Railway Company (ACWR) railroad runs south of Main Street and approximately parallel to it, bisecting the Town and creating some traffic challenges when a train is stopped. ACWR is a short-line railroad that runs from Aberdeen to Star, North Carolina on tracks purchased from Norfolk Southern in 1987.



Oakboro Fourth of July Celebration in 2018. Source: The Stanly News & Press.

There are a wide variety of natural resources and attractions that make Oakboro a great place for families, active adults, and seniors. The community's destinations include the following parks:

- Oakboro District Park: Includes several sports fields, playgrounds, picnic areas, a one-mile walking trail, and a new community building.

- Oakboro Regional Historical Museum and Oakboro Railroad Museum: Museums with permanent exhibits that capture the Town’s ancient past through its railroad heritage.
- Long Street Park: Includes the Oakboro Community Building
- Morrow Mountain State Park: Located 20 miles northeast from Oakboro, Morrow Mountain State Park offers hiking trails, fishing opportunities, and scenic views of the surrounding area.

Oakboro hosts several festivals and events throughout the year. The largest festival is the Oakboro 4th of July Celebration, which features a parade, live music, food vendors, and fireworks to celebrate Independence Day. The Oakboro Cruise-In is another popular event, held on the first Friday of each month from April to October, featuring a variety of classic and antique cars, food vendors, and live music. The Oakboro Farmers Market is open from May to September, offering locally grown produce, baked goods, and crafts. In December, Oakboro hosts the Oakboro Christmas Parade, featuring festive floats, marching bands, and a visit from Santa Claus. These events provide opportunities for residents and visitors to come together and celebrate, along with other community activities such as movie nights, concerts, and youth sports leagues.

Hiking is a popular recreational activity for Stanly County residents, and Oakboro is a great destination for walking, hiking, and biking, with a variety of scenic trails and routes to choose from. The Oakboro Rail Trail is a segment of the Carolina Thread Trail (CTT), and it is a popular spot for both walking and biking that connects to a 1-mile long improved natural surface path within Oakboro District Park. The CTT segment runs along the site of the old railroad tracks and offers access to a railroad museum and the park. For those looking for more rugged terrain, the Uwharrie National Forest is just a short drive away, offering miles of hiking and mountain biking trails through some of North Carolina's most beautiful wilderness areas.

1.3.1. Demographics and Mode Share

Since local travel and commuting data were not available, the US Census Bureau’s American Community Survey (ACS) dataset was utilized to review the commute patterns and the demographic characteristics for Oakboro population (Table 1). The five-year dataset covering the time period from 2017 through 2021 was utilized.

Table 1 Mode Share and Demographics Comparison (2017-2021 ACS)

Town	Total Population	Median Household Income (2019 USD)	Median Age	% Zero Vehicle Households	% Walk to Work	% Bike to Work
Oakboro	2,319	69,125	40.7	3%	0.0%	0.0%
Norwood	2,648	53,014	40.3	13%	0.0%	0.0%
Rockwell	2,293	52,500	38.2	1%	0.0%	0.0%
Franklinton	2,409	58,472	33.1	6%	1.1%	0.4%
Landis	3,610	72,155	35.9	10%	0.0%	0.0%
Troutman	3,568	73,382	33.9	3%	1.1%	0.0%
Bermuda Run	3,021	74,280	57.3	19%	0.0%	0.0%
Red Springs	3,139	22,574	38.8	22%	4.2%	0.0%
Wingate	3,830	55,909	21.9	1%	15.0%	0.0%
North Carolina	10,439,388	60,516	39.0	5.5%	1.6%	0.2%

The median age of an Oakboro resident is 40.7 years old, and 96.7% of Oakboro households report owning at least one vehicle. Driving is the primary mode for getting to work; only 2.7% of residents reported working from home, and no residents reported walking or bicycling to work.

When compared to North Carolina overall and towns of similar sizes, the median age in Oakboro is slightly higher than the state average and its peers. The percentage of households that do not own a vehicle is also lower than its peers and the state. Additionally, the percentage of workers in Oakboro who report biking or walking to work is relatively low (at 0.0% for both bicycling and walking), compared to the state averages of 1.6% (walk to work) and 0.2% (bike to work). Oakboro's share of walk to work commuters is lower than some of its peers. With additional economic development opportunities coming to Oakboro, more residents might be able to walk to work in the future.

The Town has an estimated population of just over 2,300, and it is expected to grow significantly over the next five years. While the Town has approximately 855 households, the Town has approved construction of nearly 600 homes over the next five-year period. The Plan vision establishes a goal of connecting both existing and new households with a multimodal network that reaches across Town and supports a managed growth and quality of life over time.

1.3.2. Environmental Justice and Transportation Disadvantaged Populations

Like many communities across the United States, Oakboro has residents who may face unique challenges when it comes to accessing resources, services, and opportunities. The N.C. Department of Transportation's Equity and Transportation Disadvantaged Screening Tool¹ can be used to identify areas with concentrations of population groups that represent potential Environmental Justice (EJ) and transportation disadvantage communities of concerns.

The Transportation Disadvantage Index (TDI) Score is a numerical value that represents the level of transportation disadvantage in a particular area. The TDI Index Score is calculated by considering various socioeconomic factors that contribute to the presence of potential transportation barriers for local communities. These factors include: Elderly Individuals (Aged 65+), Youth, Zero Vehicle Households, Households in Poverty, and Concentration of Minority by Race/and /or Ethnicity. As seniors age, they may face increased levels of disability that creates mobility and transportation challenges that make it difficult to get around, access healthcare and other services, and participate in community activities.

One population of concern in Oakboro is low-income households who may struggle to make ends meet, maintain a vehicle, and access secure housing, food, and healthcare. Minors (people aged 15 years or less) are another population of concern, as they may face a variety of challenges related to safety and transportation. By checking for

Environmental Justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policy. The concept aims to proactively identify and address disproportionately high and adverse human health or environmental effects of programs, policies, and activities on disadvantaged populations.

Transportation Disadvantage refers to the barriers or conditions that make it difficult or impossible for individuals to access transportation services needed for essential activities. This concept is used to inform policies, planning, and project development to ensure equitable access to transportation and to address the needs of communities affected by transportation barriers.

**Note this plan used the 2020 version of the NCDOT EJ/TDI tool. An updated version of this tool which now includes populations with Limited English Proficiency (LEP) within their analysis of socioeconomic factors can be found on NCDOT's website below.*

¹ [Environmental Justice / Transportation Disadvantage Index Tool \(ncdot.gov\)](https://www.ncdot.gov/Equity/Transportation-Disadvantaged-Screening-Tool/)

the presence of a high combined TDI score (scores worse than the statewide average), transportation planning practitioners can identify areas where there is a concentration of population groups who might face additional transportation barriers.

TDI utilizes block groups from the U.S. Census Bureau, which are the smallest geographic units for which the bureau releases data, to display its scores. Three Census block groups overlap with the Town boundaries, and the combined TDI scores for each block group are illustrated in Figure 1 below and in Table 2. South Oakboro block group has the highest TDI Index Score out of three areas (11.5), indicating a greater presence of transportation-disadvantaged populations in that specific area. Specifically, South_Oakboro has a higher percentage of households without access to a vehicle (10%), compared to the state average of 6%. The South Oakboro block group also has an adult disability presence of 29%, much higher than the state average of 16%. South Oakboro also exhibits a higher-than-average presence of senior population, with 21% of residents being identified as 65+ years of age, higher than the state average of 16%. This suggests that residents in the area may face more significant challenges in accessing transportation options and essential services via existing pedestrian and road networks. The combined TDI score for South Oakboro is represented in orange (slightly worse than state average) index score, as can be seen in Figure 1.

Table 2. Transportation Disadvantage Index Scores for the Town of Oakboro, Stanly County and North Carolina.

Oakboro	7, 8.5, 11.5 (Average of 9)
Stanly County	11.5
North Carolina	11.4

Transportation Disadvantage Index
Oakboro Project Acceleration Plan | Stanly County, NC

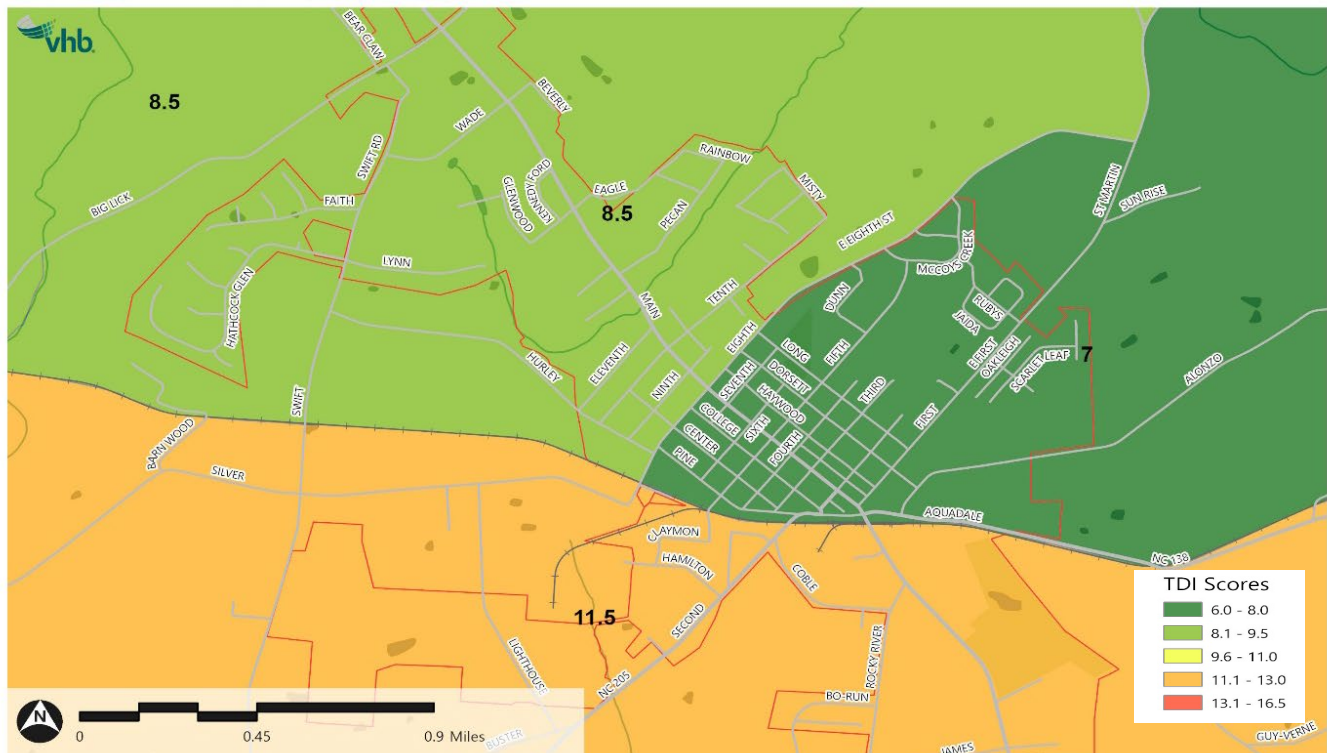


Figure 1 NCDOT Transportation Disadvantage Index (TDI) Screening Tool Combined Score Results for the Town of Oakboro

Northwest and Northeast Oakboro both have lower TDI scores (8.5 and 7 respectively) as compared with South Oakboro; lower TDI score means these areas have lower concentrations of transportation-disadvantaged populations and overall less concern around transportation barriers; however there are still individual households within those areas of Town where individuals are likely facing additional transportation barriers and concerns due to their age, disability, income, race, or lack of access to a reliable vehicle. For example, Northwest Oakboro is noted as having a lower poverty rate (7%) than the state average (23%), but scores higher in terms of presence of adults with a disability (19%) when compared to the state average of 16%. Northeast Oakboro scored lower than the state average for every identified factor in the TDI tool. This is highlighted by the green (better than average) TDI score illustrated in Figure 1.

Improving the bicycle and pedestrian network in Oakboro is expected to help all the residents get to their everyday destinations in a safe manner and would be especially important for those residents who might be facing additional transportation disadvantages and barriers, in order to ensure that all residents have access to transportation options and resources they need to thrive.

1.3.3. Existing Bicycle and Pedestrian Network

The Town of Oakboro has a limited bicycle and pedestrian network; there are no designated bicycle lanes and sidewalks are primarily along Main St (see Figure 2 - Town of Oakboro Existing Facilities and Key Community Destinations). There are some areas that are more walkable and bikeable than others. Downtown Oakboro, for example, has several streets with sidewalks that are popular among pedestrians. These streets include North Main Street, and West 1st Street. The Oakboro District Park also includes a segment of the Carolina Thread Trail and an interior 1-mile natural surface trail loop.

Main Street at 2nd and Main Street at 5th Street are the only two intersections within Oakboro that have marked crossings. The signalized intersection of NC 742 (Main Street), NC 205, and NC 138 (Five Point Intersection) does not include crosswalks. The Steering Committee commented that few pedestrians use these crossings due to their distance from key destinations, and that marked crossings could be better positioned along Main Street.

There are a few key streets that cyclists may use for transportation or recreation. One of the most popular is N. Main Street (NC 205), which runs through the center of town and connects Oakboro to nearby Albemarle. This road has a wide shoulder and on-street parking with low utilization in some areas, making it relatively comfortable for cyclists. Another option for cyclists is to ride on the parallel side streets and backroads around Oakboro, which have less traffic.



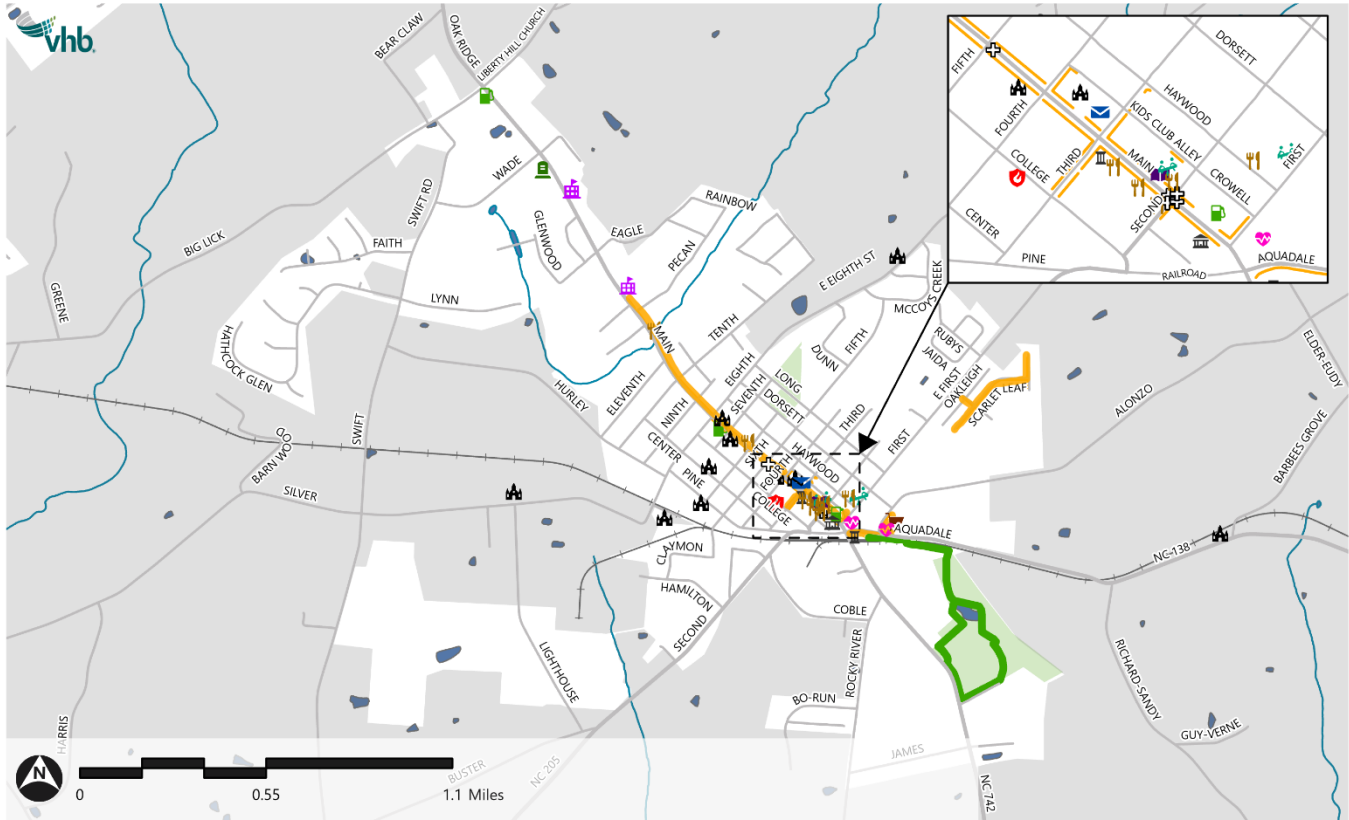
North Main Street through downtown Oakboro has existing sidewalks and several marked crosswalks at mid-block and uncontrolled locations.



Signage for a Stanly County bicycle route heading north from NC 742 to Main St.

There are three Stanly County bike routes that intersect in Oakboro (Figure 3)². These routes generally consist of two-lane roads with posted speeds of 45 mph, narrow shoulder, and intended for experienced bicyclists. Route 2 is an 84-mile perimeter route connecting the towns of Locust, Stanfield, Oakboro, Norwood, Badin, New London, and Richfield. This route consists of crossroads that go through forest and farmland on the outskirts of the County. Route 2 intersects with Route 3, a north/south 25-mile route which starts at Oakboro and connects to Albemarle and Richfield. This route takes riders along busier roads where higher levels of caution should be warranted. One unsigned route follows Buster Road southwest to Rock Hole Road, then running north via Tite Road and Ronnee Ford Road connecting to Stanfield.

Existing Conditions and Destinations
 Oakboro Project Acceleration Plan | Stanly County, NC



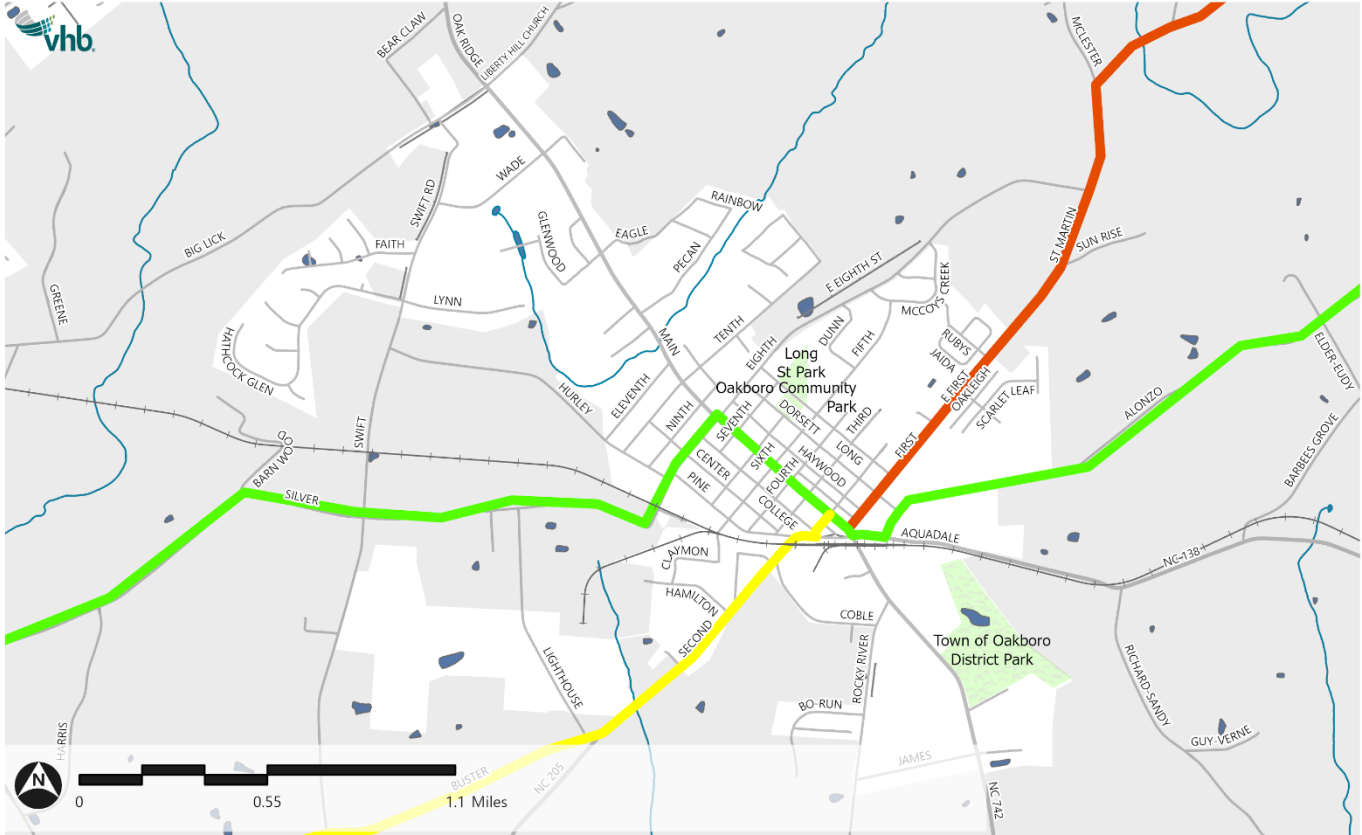
Legend		Points of Interest	
Shared Use Path	Crosswalks	Grocery Store	US Post Office
Sidewalk	Railroad Track	Restaurant	Bank
		Cemetary	Fire Station
		Health Care Center	Museums
		School	Churches
			Gas Stations
			Public Libraries
			Child Center
			Town Hall

Source: Stanly County GIS

Figure 2 Town of Oakboro Existing Facilities and Key Community Destinations

² [Bicycling Stanly County - Countywide Bike Routes](#)

Stanly County Signed Bicycle Routes
 Oakboro Project Acceleration Plan | Stanly County, NC



Legend

- Stanly County Bicycle Routes
- Route 3
- Route 2
- Unsigned Corridor

Source: Stanly County GIS

Figure 3 – Stanly County Bicycle Routes in Oakboro

Walk Score is an online service that provides measures walkability and bikeability and search tools for apartments and retail businesses. Oakboro’s Walk Score is 59 (as of March 25, 2023; www.walkscore.com), which is listed as “somewhat walkable,” because some errands can be accomplished on foot (Figure 4). The score was based on great access to culture and entertainment destinations, above average access to drinking and dining establishments, groceries, shopping, errands and parks, and poor walk access to schools. Walk Score also assigned a bicycle score of 55 to Downtown Oakboro (as of March 25, 2023), which means that Downtown Oakboro is “bikeable” with some bicycle infrastructure present.

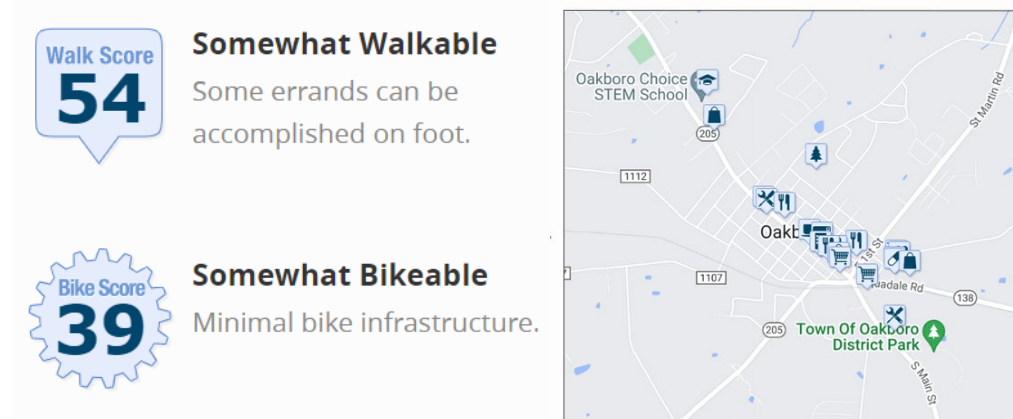


Figure 4 — Town of Oakboro Walk Score and Bike Score as of March 25, 2023.

When considering activities in small towns like Oakboro, the Downtown area plays a vital role by serving as a center for social and economic activity as the heart of the community. It provides a gathering place for residents to interact and participate in cultural events. Downtown areas are ideal for placemaking which aims to improve the social, cultural, and economic value of public spaces in order to support the presence of local cultural events and destinations. Throughout the downtown there are several murals that contribute to a more welcoming pedestrian environment. Amenities placed on the sidewalk such as eating areas and street furniture encourages people to linger and relax.



Downtown Oakboro



Historic Welcome to Oakboro Mural located on Oakboro Hardware (Left), and wide sidewalks along Main Street businesses.(Right)



Downtown Oakboro – Town Hall and Oakboro General Store

1.3.4. Opportunities

Oakboro is a small town that features several locally owned businesses, including restaurants, specialty shops, and service providers; as well as a large regional manufacturer and agriculture. The Town has historic storefronts and buildings lining Main Street. There are also a few banks, a post office, and other essential services located along Main Street. While the area may be small, it provides a central hub for community members to gather and support local businesses.

The Steering Committee, public engagement, and a review of previous plans identified the following key community destinations and attractions:

- Main Street Corridor
- Town Hall
- Oakboro Choice STEM School

- Food Lion
- Oakboro Branch Library
- Medical and Dental facilities
- Museums (Oakboro Museum and Oakboro Railroad Museum)
- Oakboro Rail Trail/Carolina Thread Trail
- Long Street Park Community Building
- Oakboro District Park
- Oakboro Swim Club on Pecan Drive

Bicycle and pedestrian projects can provide an active and sustainable means of transportation, connecting residents and visitors to various destinations within the community. Through safe and accessible bicycle and pedestrian facilities, residents and visitors may visit popular locations like the Food Lion, Oakboro District Park, and medical facilities without having to rely on a vehicle. Expanding the existing sidewalk and bicycle network in the Downtown core is one of the goals of the Town of Oakboro and can promote economic development by encouraging residents to explore the community and support local businesses.

1.3.5. Barriers

Barriers to connectivity for pedestrians and cyclists in Oakboro include several factors that limit safe and easy travel in the area. One of the biggest issues is vehicle speeds of 35 – 45 miles per hour and higher vehicular volumes, with some of the highest traffic levels observed along NC 205 (North Main Street, 6600-7800 vehicles per day), NC 138 (Aquadale, 4600 vehicles per day), and NC 742 heading south (4,300 vehicles per day). Figure 5 illustrates the traffic volumes on key roadways, as recorded in the form of the Average Annual Daily Traffic (AADT). Growing truck volumes due to the opening of the pipe foundry on Lighthouse Road also pose a challenge for pedestrians and cyclists who are uncomfortable sharing the road with larger vehicles.

Another issue is the absence of signalized crossing locations, which can make it difficult for pedestrians and cyclists to safely cross busy roads. There are also sidewalk gaps and areas where sidewalks are absent outside of Main Street corridor, particularly in disconnected areas like South Oakboro. Shoulders are nonexistent on a majority of the roadways heading out of Town. Existing shoulders along North and South Main Street, Aquadale Road, Alonzo Road, W. 2nd Street, 8th Street, and Silver Road are too narrow to be usable as a bicycle facility. Additionally, Main Street is prioritized for local and regional access, with limited space available for parking.

The railroad crossing poses another barrier to connectivity, as it can be difficult for pedestrians and cyclists to safely navigate the area. Concerns about growth and how to manage it while retaining a small town feel and a well-connected roadway and bicycle and pedestrian network are also present, particularly as the area continues to develop.

A lack of curb and gutter along roadways (with stormwater ditches located alongside the roadway corridors) pose a challenge and make additional sidewalks more difficult to implement. Although flooding isn't an issue for the Town, these ditches can limit the space available for sidewalks and other pedestrian infrastructure. There are also significant cultural and environmentally sensitive resources in the area, including known streams and wetlands, floodplain areas, and the railroad right of way, which can make implementation of bicycle and pedestrian improvements challenging.

Traffic Volumes (2019 AADT) and Posted Speed

Oakboro Project Acceleration Plan | Stanly County, NC

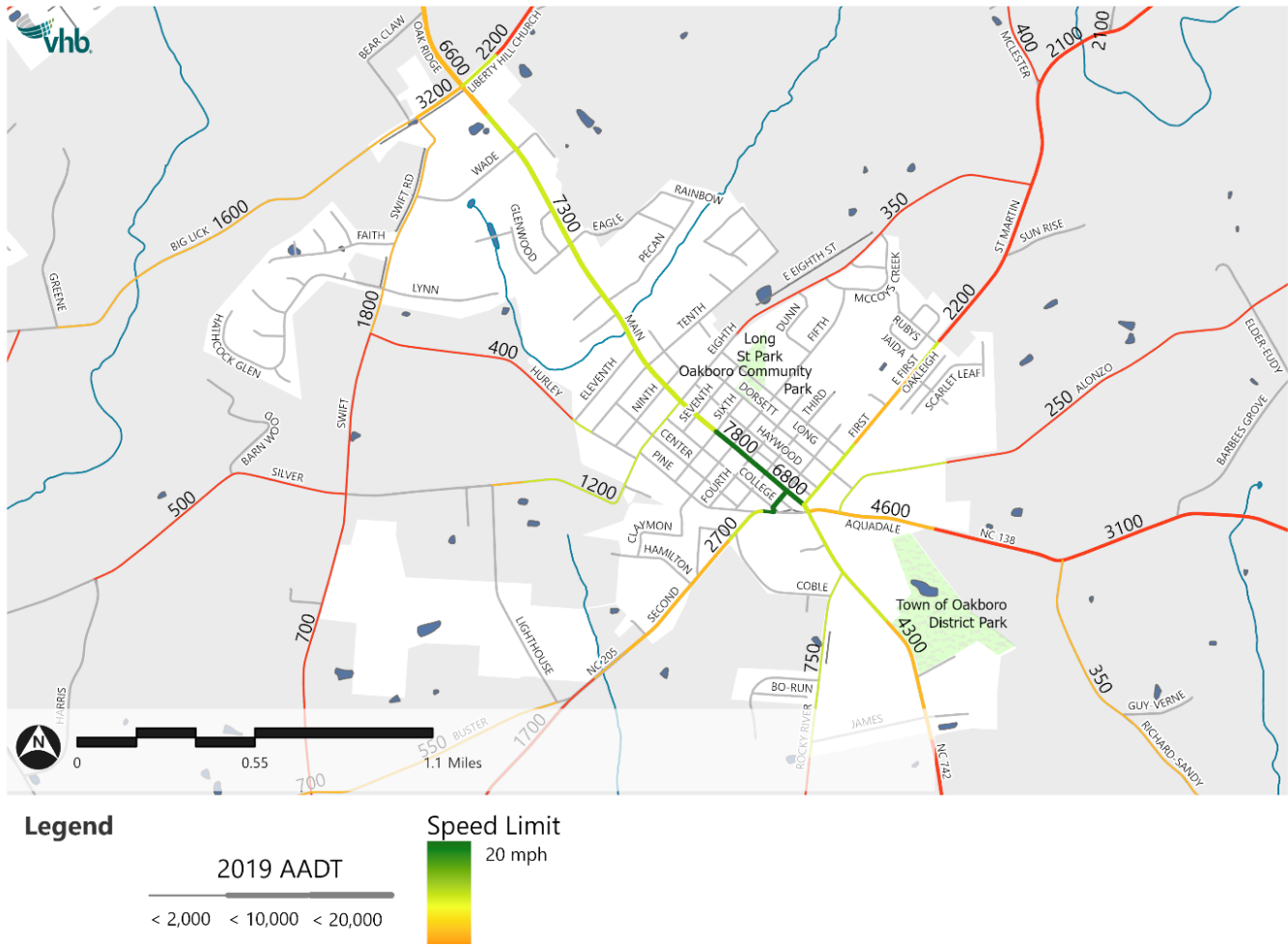


Figure 5 — Traffic Volumes (AADT) and Posted Speed

1.3.6. Safety and Crash Data

According to NCDOT crash data, there were no reported on-road pedestrian or bicycle crashes in Oakboro between 2012 and 2022. While the absence of reported bicycle and pedestrian crashes during this time may be viewed as a positive sign, there may have been other incidents that went unreported. The Pedestrian and Bicycle Information Center has reported that, “as many as 44-75 percent of pedestrian crashes and 7-46 percent of bicyclist crashes may be missing from police-reported crash data.”³ Additionally, the perception of safety—whether from crashes with motor vehicles on the roadway or personal safety when walking at night—can also play a role in a person’s likelihood to walk or bicycle.

This Plan reviewed community input on unsafe travel conditions and roadway risk factors. These concerns included roadway speeds, vehicle and truck volumes, lack of enhanced marked crossings, and absence of walking

³ USDOT, Pedestrian and Bicycle Information Center, “Safety,” https://www.pedbikeinfo.org/factsfigures/facts_safety.cfm. Accessed April 2023.

and bicycling facilities. The Steering Committee identified several areas in Oakboro with safety concerns and safety issues. One of the major issues is the poor lighting along Main Street, which poses a threat to both traffic and personal safety. Additionally, there is a lack of crosswalks, making it difficult for pedestrians to safely cross the street. Excessive vehicle speed along Main Street is also a significant concern, with the Town's Police Department reporting 200 motorists stopped in a given month and 80 citations issued (with many of those drivers stopped going 15 miles above the posted speed limit).

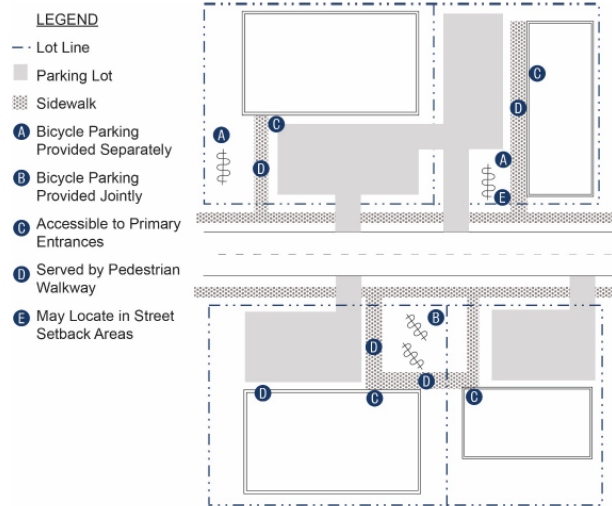
Residents report the area east of Main Street, from First to Eighth Street is congested during PM peak hours and lacks pedestrian-scale lighting. This area sees high relative pedestrian activity, with residents parking, crossing, and picking up orders at local restaurants and shopping at local businesses. The Town's rolling topography can limit sight distance and pedestrian visibility, making crossing conditions difficult. For example, the stretch of Main Street from 2nd Street to 3rd Street is of particular concern due to visibility issues at crossings. Furthermore, the sidewalks along the Main Street stop at Pecan Drive, with a gap in sidewalks between downtown Oakboro and Oakboro Choice STEM School. The Five Point intersection at the southeastern end of downtown (South Main Street, Aquadale Road and East 1st Street) presents a challenge and a barrier to bicyclists and pedestrians. While signalized, this intersection lacks pedestrian signal heads and is confusing for pedestrians and bicyclists to navigate safely. Existing railroad crossings at West 2nd Street and South Main Street lack ADA-accessible pedestrian facilities.

1.4. Relevant Plans and Policies

This section reviews relevant local and regional plans and policies applicable to Oakboro active transportation planning recommendations. Figure 6 illustrates planned bicycle and pedestrian facilities in Oakboro based on past plans including Stanly County Comprehensive Transportation Plan and Carolina Thread Trail Plan for Stanly County.

The UDO includes specifications for where and how sidewalks and bicycle facilities should be constructed in accordance with the Town’s Engineering Standards and Procedures Manual (latest edition) or NCDOT specifications. The UDO includes corresponding regulations and design guidance for private walkways, street lighting, landscaping, signage. As can be seen in Figure 7 below, the UDO provides both general recommendations- like considering traffic calming devices- and more specific requirements mandating curb extensions on streets where on-street parking is allowed as well as pedestrian refuge islands as part of crossings on all roadways classified as major thoroughfares.

Figure 58 - Bicycle Parking



d. *Shared bicycle parking spaces.* Nothing shall limit uses on the same block face from establishing shared or consolidated bicycle parking spaces in central or mid-block locations, provided there are sufficient bicycle parking spaces for all uses sharing the required bicycle parking.

Figure 69 - Pedestrian Crossing

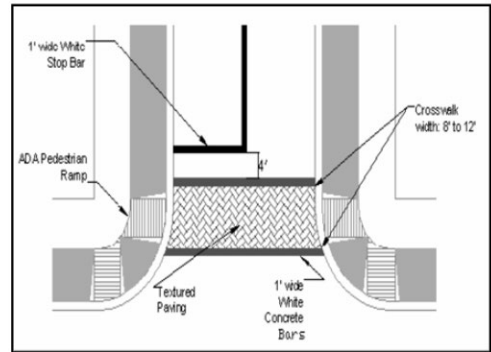


Figure 7 Figures from Oakboro’s Unified Development Ordinance

Stanly County Comprehensive Recreational Master Plan (1999)

The Stanly County Comprehensive Recreation Master Plan guides the development and growth of parks and recreation facilities, recreational programs and activities, and greenways and trails in Stanly County for the next fifteen years. The plan includes a resource inventory, standards for recreation development, and recommendations for each town in Stanly County. Recommendations support the plan’s goals for acquiring land for future parks, upgrading existing parks and facilities, developing parks in a cost-effective manner to provide recreation opportunities, and consider greenbelt systems to link recreation resources.

Oakboro is included in Subdistrict IV, which covers the southwest quadrant of the County. The plan notes that school facilities are currently providing a substantial percentage of recreational facility needs in the area. The plan prioritizes development of a District Recreation Complex in the Subdistrict, followed by the development of three community parks and a civic park located on a parcel behind West Stanly High School by 2014 (Figure 8). The plan further identifies \$8.3 million dollars in park and facility capital improvements over 15 years to fund three miles of multi-use trail, three playgrounds, one basketball court, one football field, one racquetball court, one swimming pool, and one tennis court.

STANLY COUNTY RECREATION MASTER PLAN SUMMARY OF NEEDS

SUBDISTRICT IV	
<u>1999 NEEDS</u>	
PARKS:	2 Community Parks 1 District Recreation Complex
FACILITIES:	1 Basketball Court 1 Football Field 2 Miles of multi-use trail 15 Picnic Tables 3 Playgrounds
<u>2004 NEEDS</u>	
PARKS:	1 Community Park
FACILITIES:	No additional facilities needed
<u>2014 NEEDS</u>	
PARKS:	1 Community Park 1 Civic Park
FACILITIES:	1 Mile of multi-use trail 1 Racquetball Court 1 Swimming Pool 1 Tennis Court

Figure 8 Stanly County Recreation Master Plan
Summary of Needs

Stanly County Comprehensive Transportation Plan (2011)

The Stanly County Comprehensive Transportation Plan is a long-range multimodal transportation plan created by the North Carolina Department of Transportation, in conjunction with local agencies, that outlines transportation needs in the County through 2035 (Figure 9). Recommendations for bicycle and pedestrian improvements include implementing the planned Carolina Thread Trail segment along the existing rail corridor between Stanfield and Norwood. Highway improvements that incorporate bicycle and pedestrian improvements include STAN0012-H, which will widen NC-205 from Union County to the Red Cross planning area to accommodate bicycles, and STAN0014-H, which will widen NC-138 from NC-742 to Albemarle, Badin, and New London. Additional recommended pedestrian improvements include:

- Add sidewalk north along NC 205 (N. Main Street) from existing sidewalk at 8th Street to Oakboro Choice STEM School.
- Add sidewalk south along NC 742 (S. Main Street) between existing sidewalk at 2nd Street and Oakboro District Park at American Drive.
- Add sidewalk on NC 138 between NC 205/NC 742 and Alonzo Road (in conjunction with STAN0014-H).
- Add sidewalk along Third Street from College Street to Haywood Street.
- Add sidewalk along Fourth Street from NC 205 (Main Street) to Haywood Street.

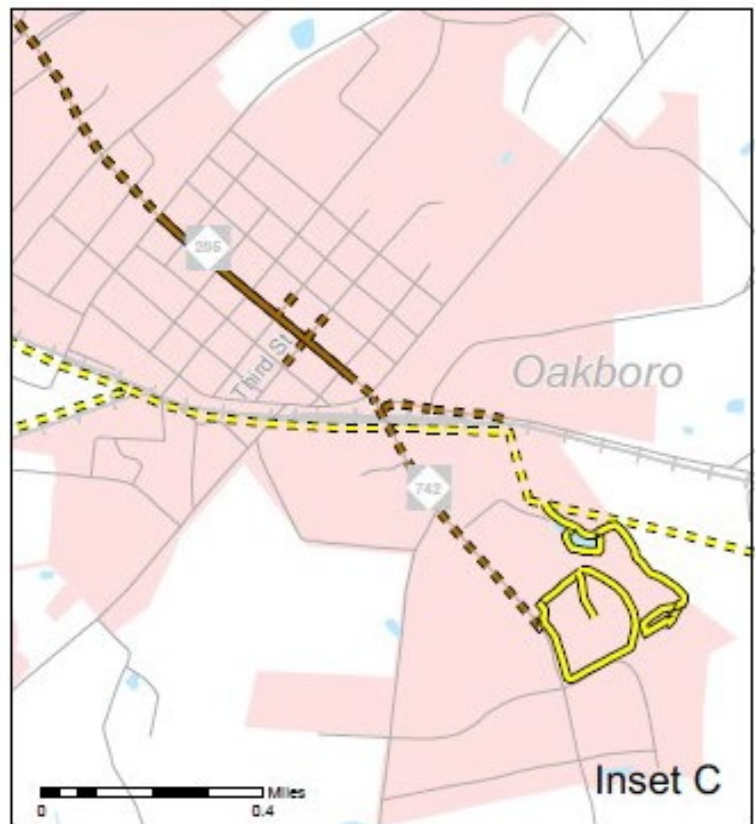
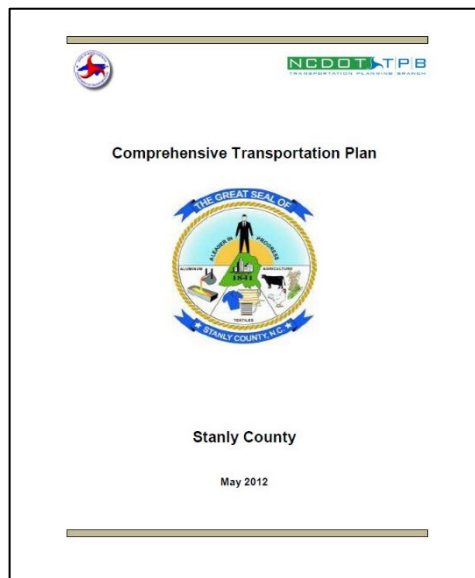


Figure 9 Stanly County CTP Bicycle and Pedestrian Recommendations, Town of Oakboro Inset

CONNECT Beyond: Regional Mobility Initiative (2021)

CONNECT Beyond is a regional mobility plan led by Centralina Council of Governments⁴ intended to guide and coordinate mobility investments and implement key recommendations in a 12-county area around the Charlotte metropolitan area to ensure a high quality, seamlessly connected multimodal transportation network (Figure 11). The plan focuses on a broad vision for a “total mobility network”, particularly transit and microtransit networks, and the mobility connection points, mobility friendly places, Transportation Demand Management (TDM) strategies, and mobility user tools needed to support the network. One recommendation in the plan that directly impacts Oakboro is the implementation of commuter rail on the existing rail corridor between Charlotte and Norwood, with a mobility hub recommended at Stanfield.

CONNECT Beyond Mobility Hub Locations

CONNECT Beyond identified **74 locations** throughout the region where mobility hubs can be implemented and serve as important connection points for the region's recommended strategic mobility corridors.

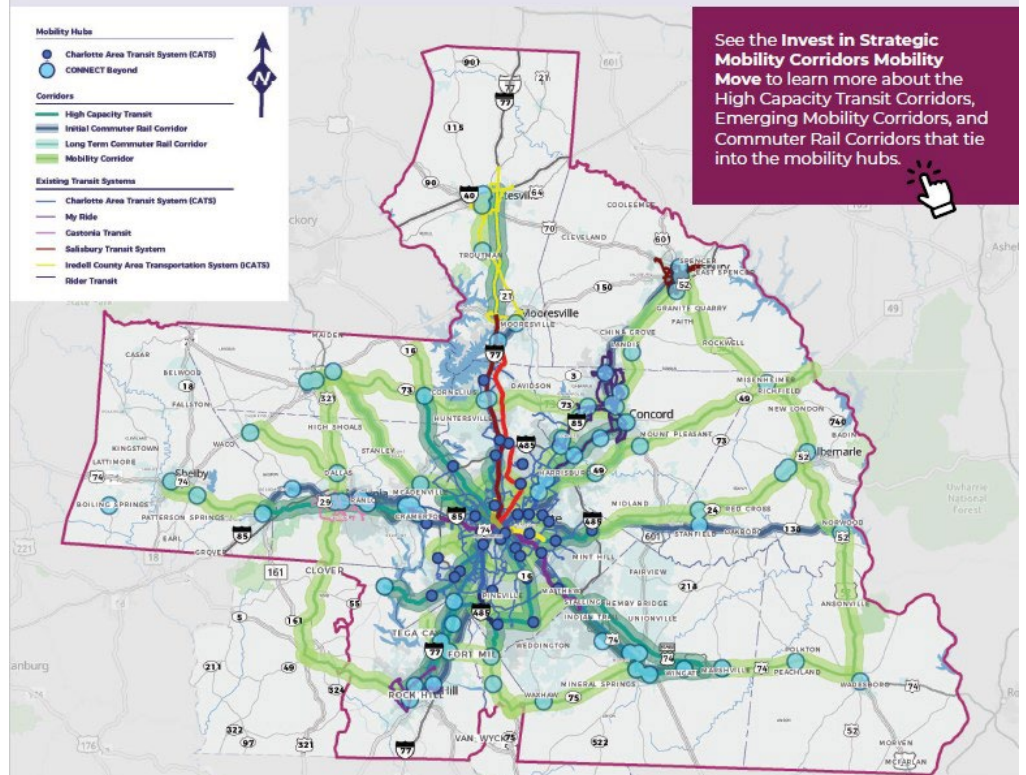


Figure 11 – Connect Beyond Mobility Hub Locations and Future High Capacity Transit Corridors.

Central Park Regional Bicycle Plan (2014)

The Central Park region of North Carolina is comprised of eight counties in the south-central Piedmont: Anson, Davidson, Montgomery, Moore, Randolph, Richmond, Rowan, and Stanly Counties.⁵ Developed by the Piedmont Triad Council (PTRC), with planning funds provided by the North Carolina DOT Division of Bicycle and Pedestrian Transportation, the Central Park Regional Bicycle Plan outlines the existing bicycle network and provides recommendations for future bicycle routes and improvements to the existing system such as widened shoulders and bicycle lanes. Recommendations relevant to Oakboro include Improvements on route segment #5, the South Uwharrie Loop, which runs from Peachland to Oakboro. The route runs on North Main Street through downtown Oakboro, and recommendations consist of the installation of a bike lane for 0.5 miles on North Main Street to West 8th Street, a 4' paved shoulder along South Main Street for 0.3 miles, and a 6' paved shoulder along NC 742 south of Town for 5.9 miles. The other recommendation is located along route segment #6 which runs from

⁴ [CONNECT Beyond Regional Mobility Plan - Centralina Regional Council](#)

⁵ [Central Park Regional Bicycle Plan \(arcgis.com\)](#)

Oakboro to Stanfield; this route recommendation includes the addition of a 4' shoulder on North Main Street to 8th street, and a 6' shoulder on 8th Street west along Silver Road.

2. Project Prioritization

The Town of Oakboro Bicycle and Pedestrian Project Acceleration Implementation Plan builds upon the local vision and objectives to identify the key priority projects to target for near-term implementation.

2.1. Plan Process

The planning process began with a virtual Kickoff Meeting with the Town staff, Rocky River RPO staff, and NCDOT IMD staff on February 25, 2023. Project team members discussed the study schedule, key tasks, expectations, and immediate next steps.

Three Steering Committee meetings took place during the study process. The first meeting took place on March 7, 2023 at the Oakboro Town Center (in-person). The study team conducted a field visit on the same day as the first Steering Committee, to review existing conditions along some of the key corridors in town. The Steering Committee meeting was attended by key stakeholders, including representatives from the town, NCDOT, local businesses, and the community. The group discussed the study process and schedule that includes a review of prior plans, an assessment of existing conditions, and the identification of project opportunities and challenges through a group mapping exercise. The group identified a number of safety issues (Figure 12) for walking and biking to key destinations in Town, especially along Main Street where speeding, poor pedestrian-scale lighting, and the lack of appropriate crossing locations were concerns.

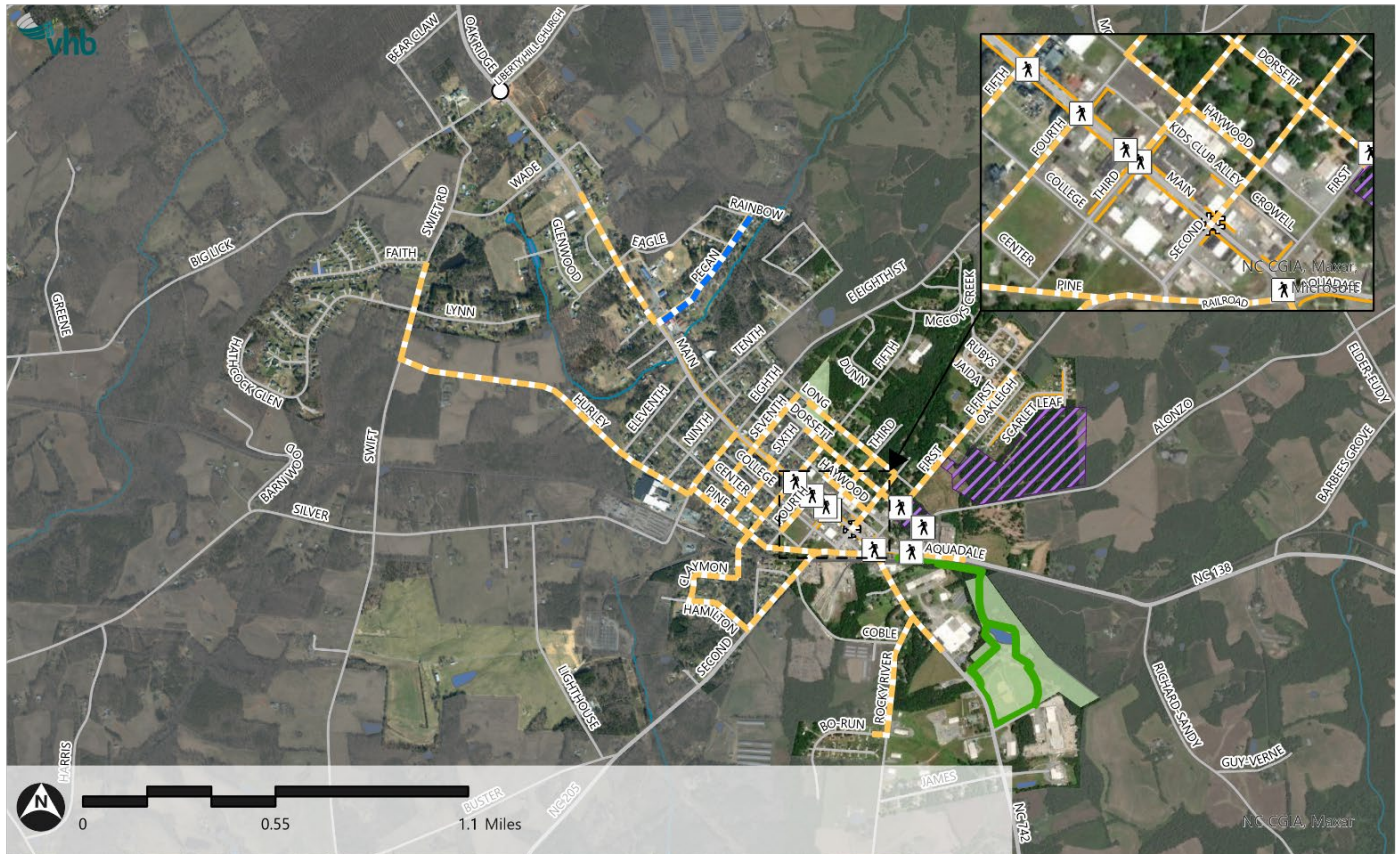
The Steering Committee identified the following issues related to safety and desired improvements:

- Congestion is observed from East of First to Eighth Street during peak PM hours along Main Street. The Steering Committee recommended targeting improvements in area of Main Street from 2nd to 3rd Street, including better lighting and traffic calming measures to address the poor visibility caused by the changes in topography.
- Pedestrians tend to not use the marked crosswalks, indicating either the inadequacy of the existing location, the need for public education on pedestrian safety, or both. Education efforts could be made using programs like "Watch for Me NC" to educate residents on the importance of using crosswalks and safe pedestrian practices.
- South Oakboro lacks sidewalks, making it difficult to access Main Street from the south side of Town. The Steering Committee recommended adding sidewalks in this area (an upgrade from existing narrow shoulder/berm), while also addressing the frequent driveways and parking lots that connect to main roads, which presents a conflict for pedestrians and bicyclists as they navigate numerous driveways.
- The lack of pedestrian crossings at the Five Point intersection of Main Street and Aquadale is a concern that needs to be addressed. The Steering Committee recommended studying this area to determine the best course of action, such as adding crosswalks, pedestrian signals, or other safety measures.
- Side streets generally feel safe

- Improvements are needed to lighting along Main Street. The Steering Committee recommended adding more lighting to improve traffic and personal safety, while also increasing the number and quality of marked crossings to make pedestrian travel safer.
- High vehicle speeds on Main Street are a perceived problem by the Town, and the Steering Committee recommended continuing the current enforcement efforts, which have resulted in stopping 200 cars in a month with 80 citations issued. Additional measures, such as traffic calming measures or speed cameras, were mentioned to improve safety on Oakboro's highest volume roadway.

Steering Committee Recommendations

Oakboro Project Acceleration Plan | Stanly County, NC



Committee Recommendations

- Crossings
- New Housing Development
- Sidewalk
- Bicycle

Existing Facilities

- Roundabout
- Shared Use Path
- Sidewalk
- Bike Lane
- Shared Lane Markings
- Crosswalks
- RailroadTrack

Source: Stanly County GIS

Figure 12 Steering Committee Recommendations for Bicycle and Pedestrian Improvements

The Steering Committee held its second meeting in virtual format on Tuesday, June 20th to review the updated Vision, Goals and Objectives, a draft recommended projects list and draft scoring criteria for the projects. Some changes and modifications were made to the draft project list and scoring criteria based on the Steering Committee feedback. Details for the planned public engagement event (scheduled for June 29, 2023 to coincide with the 4th of July week of festivities) were discussed.

The third Steering Committee meeting took place on Thursday, September 21, 2023, in-person. Updated project recommendations as well as priority projects were reviewed with the Steering Committee during the third meeting. Policy and program recommendations were reviewed. The Steering Committee members were provided with an overview of the draft play layout by section.

2.2. Public and Stakeholder Engagement

As part of public and stakeholder engagement, feedback from the Steering Committee was taken into account. One public engagement event took place and an online survey was set up to collect additional public feedback regarding draft project recommendations.

An online public feedback survey was set up from June 28th to July 30th 2023, with links posted to the Town website and on the Town Facebook page. Survey code cards were handed out during in-person public engagement; in addition, cards with survey code were provided at the Town Hall.

A pop-up public engagement event was held for the plan on Thursday, June 29th from 5:30-8 PM, during the week of the 4th of July festivities. This date earlier in the week-long festival was expected to attract a higher number of local residents and families with children than some of the later events. The study team was able to interact with approximately 125 community members and pass out cards with the survey link. An online survey was set up for the period of June 28th-July 30, 2023. In addition to passing out survey cards during the public engagement event, the study team left survey link cards for distribution at the Town Hall and the Oakboro Regional Museum of History.

Community members who stopped to look at the map of recommended improvements were generally supportive of the draft recommendations identified, with a couple new additions suggested. The following comments were received during the pop-up public engagement event:

- "8th Street has cut-through traffic and is very narrow."
- "There is a lot of traffic on their way to the beach on the weekends, and sometimes drivers get stopped by trains and get impatient."
- "Need more bike lanes!"
- "It would be nice to be able to ride bikes in town."
- "Need more lights along Main Street."
- "Wish it was easier to walk to Food Lion."
- "Sidewalks need to be improved."
- (There are) "busted up sidewalks and maintenance issues along Main Street."
- "Crossing Main Street feels unsafe."
- "Need crosswalks on Main Street."

- “Do not close the alleys in town-they are invaluable, leave them open and use them for this project (bicycle and pedestrian improvements); once they are gone, they are gone forever.”
 - i.e., Damon’s Alley
- “Consider the alleys for improvement.”
- “Add to the list of recommendations: sidewalks along Fifth Street and Dunn Street (to connect to Eighth Street)”
- “Open the community and attract (more visitors from) the area.”
- “Golf carts are important in the Town of Oakboro.”



Oakboro 4th of July Celebration (Left) and Study Team Pop Up Public Engagement Booth (Right)

2.2.1. Summary of Online Survey Results

In addition to the in-person pop up public engagement event, an online survey was set up during the period of June 28th to July 30th. The link was shared through the Town’s social media, and survey link cards were shared during the pop-up public engagement event and available for members of the public at the Town Hall building.

There were 48 survey responses received for the online survey. Questions included project priorities, types of improvements desired, and open-ended questions on bicycle and pedestrian facility and safety needs. As part of the online survey, survey participants were asked to indicate their preferences for amenities and bicycle and pedestrian encouragement, education, and enforcement programs.

Survey Rankings for Facilities, Amenities, and Encouragement Programs

As part of the survey, participants were introduced to a variety of potential bicycle and pedestrian facilities, with illustrations of facility types included. Participants were then asked to generally rank their preferred types of bicycle facilities and preferred types of pedestrian facilities (in two separate questions). Figure 13 below illustrates the expressed preferences for bicycle facilities types; Figure 14 illustrates the expressed preferences for pedestrian facilities types. Among the proposed bicycle and pedestrian facilities, separated bicycle lanes were the preferred first choice for bicycle facilities and sidewalks were favored as the first choice for pedestrian facilities based on responses received.



Poster with Public Engagement Comments Received

Rank the Following On-Road Bike Facilities from Most to Least Preferred

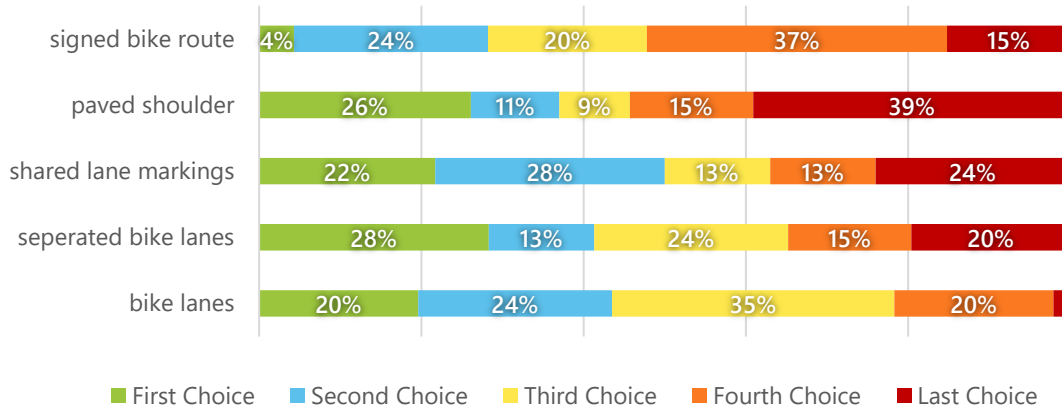


Figure 14 Bicycle Type Facility Rankings (from most preferred to least preferred)

Rank the Following Pedestrian Facilities from Most to Least Preferred

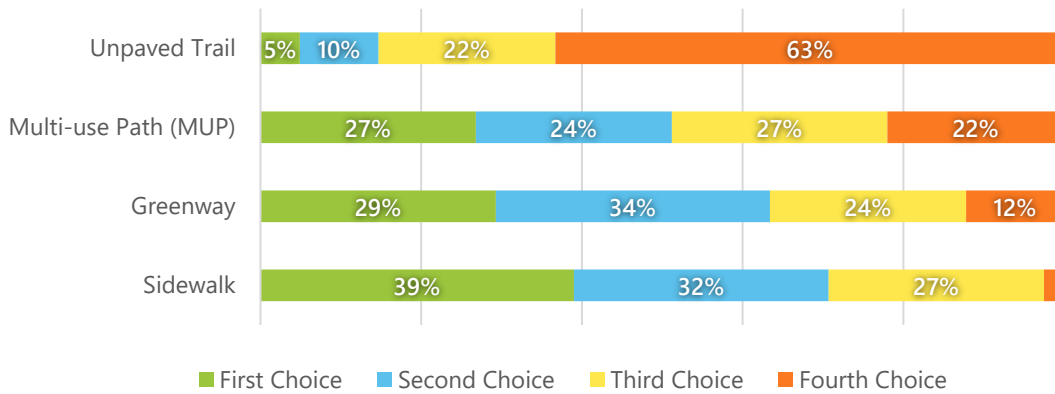


Figure 14 13 Pedestrian Type Facility Rankings (from Most Preferred to Least Preferred)



Example of Pedestrian Scale Lighting in Downtown Anderson, SC (Left); Oakboro Pedestrian Scale Lighting and Wayfinding Signage (Right)

As part of the survey, participants were asked to rank their preferred amenities from a list provided (Figure 15); the list of amenities included the following options: lighting, wayfinding signage, bicycle parking, rest area and public art and placemaking. When reviewing potential amenities, from lighting to benches and public art, additional lighting was the most preferred amenity selected by the survey respondents, followed by wayfinding signage.

Rank the Following Amenities from Most to Least Preferred

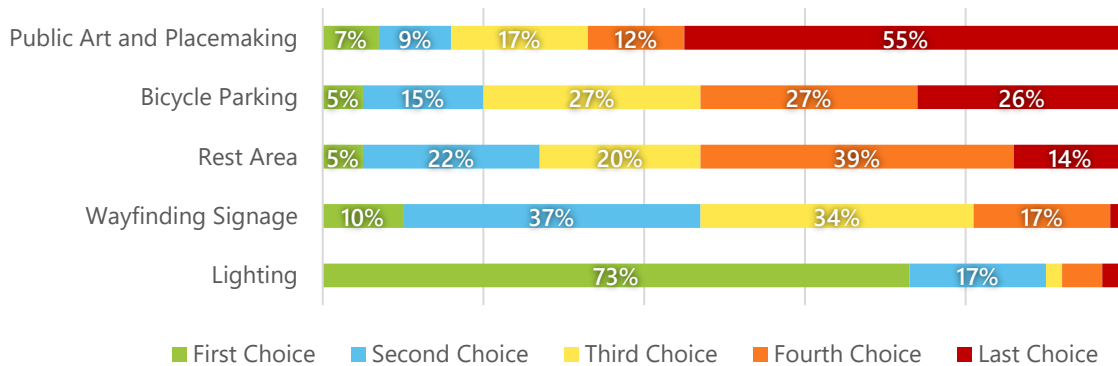


Figure 15 Amenity Rankings based on Survey Responses (from Most Preferred to Least Preferred)

Survey participants were also asked to select their preferred bicycle and pedestrian encouragement activities, based on the following list provided: open street events (e.g., temporary street closure for festivals), group walks/bicycle rides; learn to ride events for children; bicycle touring routes and ribbon-cutting events. Survey respondents selected open street events (including temporary street closure for festivals) as the most favored encouragement program option illustrated in Figure 16.

Rank the Following Bicycle/Pedestrian Programs from Most to Least Preferred

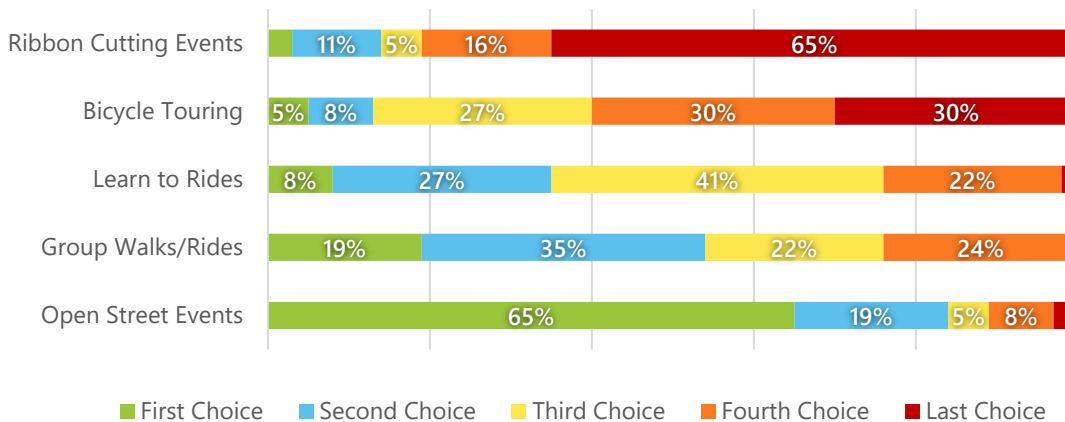


Figure 16 Bicycle and Pedestrian Encouragement Programs and Events Rankings (from Most Preferred to Least Preferred)

Survey Responses to Specific Projects

For the purposes of survey questions related to specific project recommendations, projects were grouped into three geographic focus areas (Central/Downtown, Northwest, and Southwest Oakboro), with a separate grouping for priority projects. All of the priority projects received relatively high ratings, with the improvements to improve pedestrian safety at intersections (Int-01, Int-05) receiving 95.8% support, enhancing pedestrian scale lighting throughout the downtown area (Ped-11, Ped-16) receiving 89.6% support, and enhancing pedestrian connections to businesses and services in the downtown area (Ped-28, Ped-29) receiving 90.6% support.

Open-ended Survey Comments Received

The most frequent survey comments received in open-ended format are summarized by topic below:

Sidewalks, Multi-Use Paths, Lighting--Preference for:

- Increased presence of sidewalks in Central Oakboro
- Increased lighting in the Town's center
- Pedestrian connections to the Town's grocery store and community destinations
- Pedestrian crossings at S Main St and Aquadale Rd

On-road Bicycle Lanes, Bicycle Sharrows:

- Concerns about bike safety on roads extending outside the Town's center.

Additional Comments:

- Increased walkability
- Concerns about safety of cyclists and pedestrians in downtown areas
- Additional crosswalks in areas of high pedestrian activity
- Pedestrian and bike safety can coexist with small-town charm.
- Mutual respect between bikers and motorists

2.3. Project Vision and Goals

The Study's Steering Committee provided feedback to help develop the vision and goals for the Bicycle and Pedestrian Project Acceleration Plan (also referred to as "the Plan" throughout Section 2.2). The Vision Statement for Oakboro Bicycle and Pedestrian Project Acceleration Plan is as follows:

The Town of Oakboro's Project Acceleration Plan envisions a community where all residents and guests have safe and accessible means of transportation, regardless of age or ability. The plan prioritizes transportation projects that safely connect all neighborhoods, support the local economy, and encourage an active community and improved quality of life. The plan will achieve the vision by managing growth, preserving open space, and maintaining the Town's small-town warmth and charm.

A shorter Project Acceleration Plan vision was developed as well:

A safe and accessible transportation system for residents and guests that preserves Oakboro's charm and guides its growth.

As part of the project vision, four goals were identified for the Bicycle and Pedestrian Project Acceleration Plan. These goals directly relate to the Plan's vision and seek to set up comparative measures of the success of the Plan. These goals and their respective objectives are as follows:

1. Safety

- *Improve bicyclist and pedestrian safety through new expanded facilities for users of all ages and abilities:* Bicycle and pedestrian facilities should reduce conflicts with vehicles, increase user visibility, and increase comfort for children through older adults regardless of ability.
 - Expand the network of low-stress bicycle facilities.
 - Expand the network of accessible sidewalks and shared-use paths.
 - Increase the number of enhanced marked crossings along Main Street and to key destinations.
 - Reduce vehicle speeds through Town along bicycle and pedestrian corridors.
 - Reduce conflicts between bicyclists, pedestrians, and alternative modes of transportation such as scooters and golf carts.

2. Connectivity

- *Expand and improve the bicycle and pedestrian network to connect Oakboro's neighborhoods to other neighborhoods, key destinations, and recreation and natural sites:* The ability to walk and bike promotes a more connected community and allows for more personal interactions with people and places.
 - Establish ADA-accessible sidewalk and bicycle connections between all Town neighborhoods and Main Street.
 - Provide bicycle and pedestrian access to Oakboro District Park.
 - Establish walking routes for residents and visitors.
 - Enhance and promote Oakboro's regional bicycle routes and regional Carolina Thread Trail greenway connections.

3. Equity

- *Promote bicycle and pedestrian access for all residents:* Address health and economic disparities through bicycle and pedestrian projects that reduce barriers and increase transportation options for residents with low incomes, who lack of access to a personal vehicle, or who are unable or prefer not to drive.
 - Incorporate equity in transportation project prioritization.
 - Increase public and community involvement from underserved neighborhoods.
 - Develop projects that address the specific transportation barriers and needs of Oakboro's residents.

4. Managed Growth

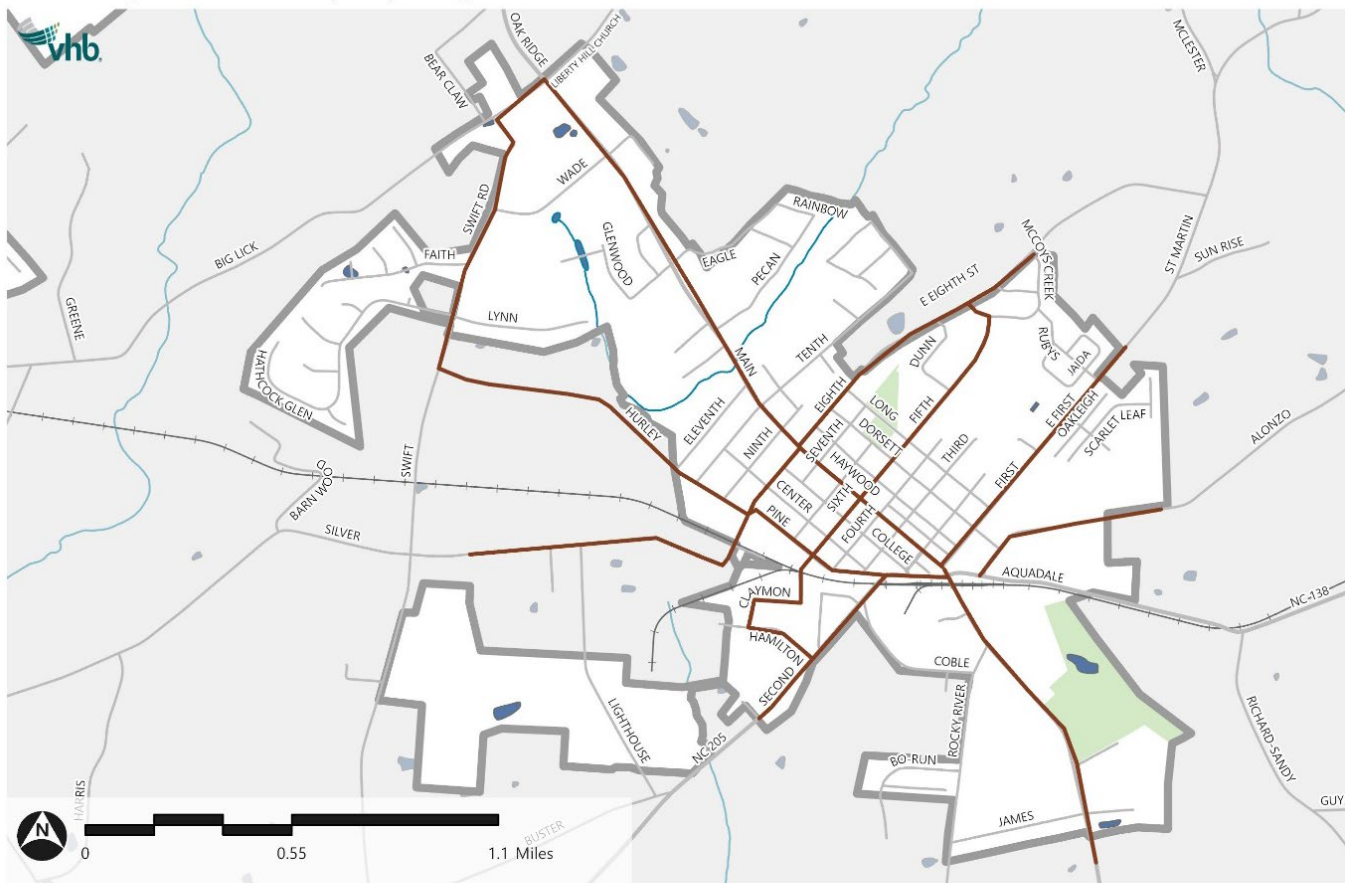
- *Support a vibrant and growing community through incorporation of bicycle and pedestrian connections in new developments:* The Plan both acknowledges the Town's growth of businesses and residents and desire to preserve the Town's charm while also improving access for people to walk and bicycle.
 - Incorporate pedestrian and bicycle amenities and facilities in new development.
 - Establish easements in new developments to preserve opportunity for greenways and shared-use paths.
 - Provide enhanced marked crossings between new developments, key destinations, and the existing pedestrian and bicycle network.
 - Revise the Plan on a regular basis to reflect project implementation and the Town's growth.

2.4. Priority Corridors

The priority corridors for the Bicycle and Pedestrian Project Acceleration Plan focus on the major routes of the Town of Oakboro. The priority corridors focused on routes that connected to employment, social services, commercial centers, and tourist hotspots. The following roadways were identified as priority corridors: Main St, Fourth St, Hurley-Pine Street, Fifth St-Claymon-Hamilton, Silver Road-Eight St. Figure 17 below shows the locations of these priority corridors within the Town.

Priority Corridors

Oakboro Project Acceleration Plan | Stanly County, NC



Legend

— Oakboro Priority Corridors

Figure 17 Oakboro Bicycle and Pedestrian Project Acceleration Plan Priority Corridors

2.5. Facility Recommendations

This section outlines the process for developing recommendations and the final list of recommended infrastructure projects.

Drafting a list of recommended facilities is a multi-step process. The first step was a review of the Town's prior plans and any related plans where bicycle and pedestrian facilities may be recommended, including Stanly County Comprehensive Transportation Plan, Carolina Thread Trail Master Plan for Stanly County, CONNECT Beyond Regional Mobility Initiative, Oakboro Unified Development Ordinance, projects funded in the State Transportation Improvement Program and other related documents. An inventory of existing and proposed facilities was created to understand where there are gaps in existing bicycle and pedestrian networks. A field visit was carried out to identify facilities requiring an upgrade, new facilities that should be proposed, and known locations with safety issues. Field visit results and feedback from the Steering Committee were used to supplement the knowledge based on prior plans review..

Once the initial draft of recommended facilities was complete, the project team reviewed these recommendations with the Steering Committee; opportunities and barriers were highlighted for those projects. Steering Committee feedback and input from the public was considered, and the draft list of recommendations was revised. The projects were scored and ranked according to a set of evaluation criteria described in the following section. The project team considered Steering Committee feedback, geographic distribution, significant destinations, the existing bicycle and pedestrian network, and priority corridors to identify these projects. Specific facility recommendations, such as sidewalks and on-road bicycle facilities, were identified based on best practices for active transportation planning and design. These recommendations are expected to be further refined during the project development process, if funded for implementation.

The scored list of recommended facilities was then shared with the Steering Committee, and the draft list of recommendations was revised slightly.

Based on the existing conditions, a detailed needs assessment, and a review of prior plan recommendations, 68 bicycle and pedestrian facility projects were identified. Of these projects, there are 27 pedestrian sidewalk projects, 15 shared use path projects, 5 bicycle projects, 19 intersection projects, 1 culvert project, and 1 greenway project. Table 3 shows the projects that involve improving intersections and upgrading crossings, while Table 4 includes the recommendations for linear facilities such as sidewalks, bike facilities, and shared use paths. Projects are organized by type and listed in order of their project number.

Table 3 — Oakboro Bicycle and Pedestrian Point Projects with Opportunities and Barriers

Oakboro Recommended Point Projects with Barriers and Opportunities					
Project ID	Facility Type	Description	Project Type	Opportunity	Barrier
Culv-01	Culvert Improvement	Culvert improvement where stream runs under Main St to allow construction of bike lanes	Crossing Upgrades	Allows for Shared Use Path along Main Street to connect to school parcel; connects Big Lick Road and North Main Street	Higher posted speed and vehicles per day, speeding concerns, stream crossing.
Greenway-01	Crossing improvement	Upgrade existing pedestrian crossing at railroad near Main Street and Aquadale Road for existing shared use path.	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects railroad tracks and sidewalk/bikepath with Aquadale Road	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity; shoulder and sidewalk, multiple driveways, telephone/power lines lined on the road
Int-01	Crossing Improvement	Bicycle parking and Crossing at all approaches at the intersection of 5th St and Main St. High visibility crossing markings all approaches, warning signage, include bicycle parking, curb bulb-outs (consider half-domes or other features)	Crossing Upgrades	Adds pedestrian crossings and increase visibility along Main Street	Higher vehicles per day with multiple driveways and pullouts along main. High pedestrian activity increases conflict points
Int-02	Crossing and Gateway	Gateway crossing at 10th St, crossing improvement at 3 approaches (Main, and 2 on 10th), install 4 new ADA curb ramps and pedestrian scale lighting.	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects East 10th Street and North Main Street	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity; sidewalk and shoulder on one side, multiple driveways, telephone/power lines lining the road
Int-03	Crossing and Gateway	Implement pedestrian crossing at intersection of Rocky River Rd and Main St, including new ADA curb ramps and marked crossings at two approaches across Rocky River and Main St	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects Rocky River Road, NC-742 South and South Main Street	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity; no shoulder/no sidewalk, telephone/power lines line side of street

Oakboro Recommended Point Projects with Barriers and Opportunities

Project ID	Facility Type	Description	Project Type	Opportunity	Barrier
Int-05	Pedestrian Signal with Crossing	Pedestrian crossing at 5-way intersection (Main Street/Railroad Street/E 1st St) with high visibility markings at crosswalks, curb bulb-outs with mountable curb for truck use, install ADA curb ramps, pedestrian-scale lighting, and signal heads at all approaches. Install pedestrian refuge island on East approach on Aquadale.	Crossing Upgrades	Creates increased visibility and safety for pedestrians crossing at the existing Five Point intersection. Potential to reduce speeding into downtown; connects Railroad Street, Aquadale Road, South Main Street, Main Street and East 1st Street	Many conflict points from the Five Point intersection, higher posted speed on roadways outside of downtown, higher existing pedestrian activity, high truck and farm equipment passing through; shoulder in some areas, telephone/power lines along sides of road, traffic signal intersection
Int-06	Crossing improvement	Implement crossing at the intersection of Pine St and 2nd St, install 2 high visibility marked crossing and ADA curb ramps on pine street and W 2nd St for greenway crossing. Include pedestrian Scale lighting and warning signage.	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects Pine Street, West 2nd Street and Railroad Street	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity; small ditch, telephone/power lines lined along road
Int-07	Crossing improvement	Improve crossing at the intersection of 2nd St and Main St. Upgrade existing bar crossings to high visibility crossings markings at all approaches. Install warning signage, in-roadway yield to pedestrians in crosswalk signs, and formalize curb bulb-outs with half-domes.	Crossing Upgrades	Adds pedestrian crossings and increase visibility along Main Street; connects College Street with Main Street to just past Long Street	Higher vehicles per day with multiple driveways and pullouts along main. High pedestrian activity increases conflict points; crash barrier preventing you to get to College Street, multiple driveways, telephone/power lines on both sides (East 2nd Street)
Int-08	Crossing improvement	Implement Crossing at intersection of SUP-05 and SUP-06 across Rocky River Rd just north of Bo Run Drive to support pedestrian access to District Park. Evaluate for a PHB or RRFB	Crossing Upgrades	Allows for bike and pedestrian crossings outside of town to district park, creation of new local bike route for town; connects Bo Run Dr (Residential Houses) at Rocky River Drive with NC-742 South	Higher posted speed, roadways outside of downtown, lower existing pedestrian and bike activity; tiny shoulder

Oakboro Recommended Point Projects with Barriers and Opportunities

Project ID	Facility Type	Description	Project Type	Opportunity	Barrier
Int-09	Crossing improvement	Implement Crossing at intersection of SUP-06 and SUP-07 across NC 742 just south of American Dr to support pedestrian access to District Park. Evaluate for a PHB or RRFB	Crossing Upgrades	Allows for bike and pedestrian crossings outside of town to district park, creation of new local bike route for town; connects South Main Street next to the Town of Oakboro District Park	Higher posted speed and vehicles per day on Main St, roadways outside of downtown, lower existing pedestrian and bike activity.
Int-10	Crossing improvement	Implement Crossing at intersection of Ped-07 and Ped-16, Install pedestrian scale lighting and ADA curb ramp improvements, along with marked crossings across 1st and Dorsett St.	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects Alonzo Road (intersection 20) to the Town Warehouse	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity; no sidewalk, multiple driveways
Int-11	Crossing improvement	Implement Crossing improvement at all approaches at intersection Main St and Eighth St. RRFB across East approach, high visibility crossing markings across all approaches, curb bulb-outs, and formalize curb with ADA curb ramps. Infill sidewalk and narrow the driveway openings in front of Baucom's Auto Detailing	Crossing Upgrades	Adds pedestrian crossings and increase visibility along Main Street; connects Concrete Pipe and Recast/Charlotte Pipe Warehouse with Main Street all the way past Long Street to Gleaning Mission Church	Higher vehicles per day with multiple driveways and pullouts along main. High pedestrian activity increases conflict points; ditch across street from pipe places, multiple driveways, telephone/power lines lining the street, no sidewalk

Oakboro Recommended Point Projects with Barriers and Opportunities

Project ID	Facility Type	Description	Project Type	Opportunity	Barrier
Int-12	Crossing improvement	Implement Crossing improvement at all approaches at intersection Main St and Sixth. Add warning signage, high visibility pedestrian crossings all approaches, narrow driveway opening in front of Wayside restaurant and infill sidewalk. Formalize curb cuts/curbs at intersection.	Crossing Upgrades	Adds pedestrian crossings and increase visibility along Main Street; connects Galilee Baptist Church to Main St to the park/baseball field	Higher vehicles per day with multiple driveways and pullouts along main. High pedestrian activity increases conflict points; multiple driveways, telephone/power lines on entire street (West 6th Street) on both sides
Int-13	Crossing improvement	Implement pedestrian crossing improvement with high visibility crossing markings for all approaches at intersection of Seventh Street and Main Street. Formalize curb bulb-outs and add ped crossing warning signage.	Crossing Upgrades	Adds pedestrian crossings and increase visibility along Main Street; connects College Street with Main Street to the Town Warehouse, crossing improvements for SUP recommendation north of Intersection.	Higher vehicles per day with multiple driveways and pullouts along main. High pedestrian activity increases conflict points; Water Tower north of Main Street (between N Haywood St and N Dorset St), ditch visible north of Main Street, multiple driveways
Int-14	Crossing improvement	Implement pedestrian crossing improvement with high visibility crossing markings for all approaches at intersection of Forth and Main St. Add ped crossing warning signage and formalize curb bulb-outs.	Crossing Upgrades	Adds pedestrian crossings and increase visibility along Main Street; connects Pine Street with Main Street to the end of residential houses	Higher vehicles per day with multiple driveways and pullouts along main. High pedestrian activity increases conflict points; multiple driveways, small ditch south side, telephone/power lines on entire street (West 4th Street) both sides
Int-15	Crossing improvement	Implement Rail Crossing improvement to add an ADA accessible ped walkway on Claymon Street	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects railroad tracks and West 5th Street	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity; no sidewalk on West 5th Street, multiple driveways
Int-16	Crossing improvement	Implement Rail Crossing improvement to add an ADA accessible ped walkway on Second Street	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects Railroad tracks and West 2nd Street	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity; no sidewalk on West 2nd Street, no shoulder, small ditches next to road, some driveways

Oakboro Recommended Point Projects with Barriers and Opportunities

Project ID	Facility Type	Description	Project Type	Opportunity	Barrier
Int-17	Crossing improvement	Implement Rail Crossing improvement to add an ADA accessible ped walkway on Main Street	Crossing Upgrades	Creates increased visibility and safety for pedestrians crossing at the existing Five Point intersection. Potential to reduce speeding into downtown; connects Railroad and South Main Street	Many conflict points from the Five Point intersection, higher posted speed on roadways outside of downtown, higher existing pedestrian activity, high truck and farm equipment passing through; telephone/power lines, multiple driveways, no sidewalk/no shoulder
Int-18	Crossing improvement	Implement pedestrian crossing improvement with high visibility crossing markings at all approaches at intersection of Third and Main. Add warning signage, RRFB on the east side crossing closest to Town Hall	Crossing Upgrades	Adds pedestrian crossings and increase visibility along Main Street; connects Pine Street with Main Street to the end of residential houses	Higher vehicles per day with multiple driveways and pullouts; high pedestrian activity increases conflict points; multiple driveways, intermittent sidewalk links in place; telephone/power lines along entire street (West 3rd Street) both sides
Int-19	Crossing improvement	Implement Crossing improvement at Alonzo and Aquadale. Evaluate for an RRFB or a PHB.	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects Aquadale road with Alonzo drive, starts at Oakboro family	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity, small shoulder, sidewalk on Aquadale Road
Int-20	Crossing improvement	Implement Crossing Improvement at Alonzo and Dorsett. Evaluate for an RRFB or a PHB.	Crossing Upgrades	Creates increase visibility and safety for pedestrians accessing key destinations; connects Alonzo Road through intersection 10 to the Town Warehouse	Higher posted speed, roadways outside of downtown, lower existing pedestrian activity; no sidewalk, multiple driveways

Table 4 Oakboro Recommended Linear Projects with Barriers and Opportunities (*Designates a Priority Project)

Oakboro Recommended Linear Projects with Barriers and Opportunities (*Designates a Priority Project)						
Project	Facility	Roadway	From	To	Opportunity	Barrier
Bicycle Projects						
Bike-01b* (Part of BikePed-01)	Bicycle Lane	Main St	5th St	8th St	Increase transportation options along Main St as well as to support cyclists who visit Town. Connect local school to Town's center; connects Oakboro Choice Stem School to Main Street, down to Town Hall	Lengthy corridor that would require sections of paved shoulder to be repurposed; sidewalk along entire length on East side, sidewalk on west side begins on West 8th street, multiple driveways and cross streets
Bike-01a* (Part of BikePed-01)	Bicycle Lane	Main St	Osborne Dr	5th St	Increase transportation portfolio along Main St as well as to capitalize on cyclists who visit Town. Connect local school to Town's center; connects Oakboro Choice Stem School to Main Street all the way down to Town Hall	Lengthy corridor that would require sections of paved shoulder to be repurposed; sidewalk along entire length on East side, sidewalk on west side begins on West 8th street, multiple driveways and cross streets
Bike-01c* (Part of BikePed-01)	Shared Lane	Main St	5th St	1st St	Increase transportation portfolio along Main St as well as to capitalize on cyclists who visit Town. Connect local school to Town's center; connects Oakboro Choice Stem School to Main Street all the way down to Town Hall	Lengthy corridor that would require sections of paved shoulder to be repurposed; sidewalk along entire length on East side, sidewalk on west side begins on West 8th street, multiple driveways, and cross streets
Bike-02	Paved Shoulders	Eight St	8th St at Main St	McCoy's Creek Rd	Provide alternative transportation opportunity to residents living along 8th St; connects Main Street to Gleaning Mission Church	May create tension between communities on opposing sides of Main St. Narrow shoulder and lanes; no sidewalks, no curbs, telephone/power lines line the street
Bike-03	Paved Shoulders	First St	1st St at Dorsett St	Ruby's Way	Provide alternative transportation opportunity to residents living along 1st St; connects Ruby's Way to Dorsett Road, connects residential houses towards main street	Portions of thin shoulder; thin shoulder, some driveways, no curb
Sidewalk Projects						
Ped-01	Sidewalk	Swift Rd	Swift Rd at Hurley Rd	Big Lick Rd	Connect communities along Lynn Rd, Faith Rd, and Hathcock Glen Dr to the Town's center via proposed shared use path SUP-	Length of sidewalk means higher cost; north of Wade Rd population density is much lower; lack of curb and gutter;

Oakboro Recommended Linear Projects with Barriers and Opportunities

(*Designates a Priority Project)

Project	Facility	Roadway	From	To	Opportunity	Barrier
					01; east side has less conflicts with utility poles	
Ped-02	Sidewalk	Big Lick Rd	Big Lick Rd at Swift Rd	Main St	Connect Swift Rd and Ped-01 to Main St via small sidewalk segment.	Low population density in the area; lacks curb and gutter; drainage ditch; utility poles on both sides
Ped-03	Sidewalk	Haywood St	Fifth St	E First St	Offers parallel connection to Main Street connecting First to Fifth, Downtown Pedestrian network.	Low population density along corridor; multiple driveways, no sidewalk or shoulder
Ped-04	Sidewalk	Seventh St	7th St at Main St	Center St	Give pedestrian access to 7th St, immediate to Main St and Long St Park.	Would require new pedestrian crossing.
Ped-05a	Sidewalk	Fifth St	5th St at Main St	Long St	Give pedestrian access to 5th St and Pine St, immediate to Main St and Long St Park.	Would require new pedestrian crossing; multiple driveways, no existing curb
Ped-05b	Sidewalk	Fifth St	5th St at Main St	Pine St	Give pedestrian access to 5th St and Pine St, immediate to Main St and Long St Park.	Would require new pedestrian crossing; multiple driveways, no existing curb
Ped-06	Sidewalk	Alonzo Rd	Alonzo at Aquadale Rd	Town Boundary	New residential developments in the area pose as opportunity to install sidewalks; connects Aquadale Road with Alonzo Road, starts at Oakboro Family Dentistry	Lengthy sidewalk segments and relevancy bias; sidewalk that extends the length of Oakboro Family Dentistry, but then ends.
Ped-07	Sidewalk	First St	Dorsett St at First St	Alonzo Rd	Connect proposed residential developments to Town; connects Alonzo Road to East 1st Street by way of Dorsett Street	Housing is not yet developed, usage would be heavily dependent upon its presence; no sidewalk, houses being developed
Ped-08a	Sidewalk	Second St	Main St	Long Street	Connect SUP-04 to Main St and North Downtown; connects College Street with Main Street to just past Long Street	Pedestrian crossing needed to connect to Main St. Usage depends on SUP-04. Existing guard rail prevents access to College Street, multiple driveways, telephone/power lines on both sides
Ped-09	Sidewalk	Main St	Main St at Axis Labs	Main St at proposed pedestrian crossing Int-05	Provide pedestrian access over local railroad; on South Main Street	Would require coordination with rail team; railroad tracks no sidewalk

Oakboro Recommended Linear Projects with Barriers and Opportunities

(*Designates a Priority Project)

Project	Facility	Roadway	From	To	Opportunity	Barrier
Ped-10	Sidewalk	Rocky River Rd	Rocky River Rd at Bo Run Dr	Main St	Enables Bo-Run and Horse Hair communities to reach Main St by means other than car; connects Bo Run Drive (Residential Houses) at Rocky River Drive with Main Street	The lengthy sidewalk portion creates fiscal tension. Heavily dependent upon the status of SUP-03
Ped-11	Sidewalk	Main St	Main St at Osborne Dr	8th St	Offers sidewalk that connects Osborne and Walter Dr to Main St	Culvert would need to be modified to accommodate sidewalk; sidewalk on east side of the street, street is lined with telephone/power lines
Ped-12	Sidewalk	Eight St	8th St at Main St	Long St	Connect 8th St to Main St; connects Main Street to Long Street with 8th street	Reliant upon connection to Ped-13 as access to Long Park; no curb, no sidewalk, telephone/power lines on both sides of the street, multiple driveways
Ped-13	Sidewalk	Long St	Long St at 8th St	5th St	Connect perpendicular streets to long park via sidewalk; East 7th Street to East 5th Street	Lengthy sidewalk portion that depends upon surrounding recommendations to be useful; no curb, no sidewalk
Ped-14a	Sidewalk	Sixth St	Main St	Dorsett St	Connect Pine St and Dorset to Main St; Connects Galilee Baptist Church to Main Street to the baseball field/park	May create tension between communities on opposing sides of Main St; multiple driveways, telephone/power lines line the entire street (West 6th Street) on both sides of the street
Ped-14	Sidewalk	Sixth St	Main St	Pine St	Connect Pine St and Dorset to Main St; Connects Galilee Baptist Church to Main Street to the baseball field/park	May create tension between communities on opposing sides of Main St; multiple driveways, telephone/power lines line the entire street (West 6th Street) on both sides of the street
Ped-15	Sidewalk	Long St	Long St at 5th St	1st St	Provide access to park space; connects East 5th Street to East 1st street	Heavily depends upon Ped-13; skinny road, no sidewalks, no curbs
Ped-16	Sidewalk	First St	1st St at Crowell Dr	Dorsett St	Connect 1st St to Main St via sidewalk; connects Dorsett Road to Crowell Drive	Gas station nearby may create dangerous conditions for pedestrians looking to cross to Main St; tiny shoulder, no sidewalks, no curb
Ped-17	Sidewalk	Third St	Long St	Main St	Connects downtown residents to Main Street; On East 3rd Street connects Main Street to Long Street	Would require new pedestrian crossing; existing sidewalk on East 3rd for one block, no sidewalks afterwards, telephone/power lines on both sides of street

Oakboro Recommended Linear Projects with Barriers and Opportunities

(*Designates a Priority Project)

Project	Facility	Roadway	From	To	Opportunity	Barrier
Ped-18	Sidewalk	Dorsett St	First St	Seventh Street	Connects downtown residents to perpendicular downtown streets; On North Dorsett Street, connects Town Warehouse to East 1st Street	Would require new pedestrian crossing; no curb, no sidewalk, no crossing at each street
Ped-19	Sidewalk	Pine St	Second St	Eight St	Connects Second Street to Eight, creating pedestrian connection along Pine to access south Oakboro; On Pine Street connects West 8th Street to West 2nd Street	Railroad Corridor and higher speed/design width road; multiple driveways, no curb, no sidewalks
Ped-20*	Sidewalk	Claymon Rd and Hamilton Rd	Pine St	Second	Connects Priority Environmental Justice community with Downtown	Railroad Crossing and Small ROW; goes over railroad tracks
Ped-21	Sidewalk	Center St	Seventh St	Fourth St	Connects downtown residents/businesses to perpendicular downtown streets while offer and parallel connections from Main St; connects West 7th Street to East 4th street	Would require new pedestrian crossing; needs pedestrian crossing, no sidewalks, no curbs, small street
Ped-22a	Sidewalk	Fourth St	Long Street	Main St	Connects downtown residents to Main Street; connects North Center Street to Main Street to Long Street	Would require new pedestrian crossing; small ditch on south side of Main Street, no crosswalks, no curbs, no sidewalks, telephone/power lines line the street
Ped-24	Woonerf (shared street)	Damon's Alley	Second St	Fourth St	Connects downtown residents to Main Street; connects North Center Street to Main Street to Long Street	Small ditch on south side of Main Street, no crosswalks, no curbs, no sidewalks, power lines line the street
Ped-22b	Sidewalk	Fourth St	Center Street	Main St	Connects downtown residents to Main Street; connects North Center Street to Main Street to Long Street	Would require new pedestrian crossing; small ditch on south side of Main Street, no crosswalks, no curbs, no sidewalks, telephone/power lines line the street
Ped-23	Sidewalk	Fifth St	Long St	Eight St	Connects Dunn Street community to Downtown and Provides connectivity to Ped-13	ROW (right of way) and easement challenges

Oakboro Recommended Linear Projects with Barriers and Opportunities

(*Designates a Priority Project)

Project	Facility	Roadway	From	To	Opportunity	Barrier
Shared Use Paths						
SUP-01	Shared Use Path	Hurley St	Hurley Rd at Swift Rd	8th St	Connect proposed sidewalk Ped-01 to the Town's center and provide outdoor recreational opportunities.	Lengthy segment jeopardize fiscal viability; runs along unincorporated parcel boundaries; no sidewalk or shoulder
SUP-02	Shared Use Path	Main St	Main St at Pecan St	Liberty Hill Church Rd	Connect Ped-02 to Ped-03 to offer residents a safe way to access local gym and Town center.	Large corridor and narrow lanes may undermine feasibility; small ditches along both sides of the street; telephone/power lines along both sides of the street, multiple driveways
SUP-03*	Shared Use Path	US 742 (Main St)	Main St at American Dr	Railroad Tracks before Aquadale Rd	Connect Main St to the District Park; connects Main Street to Tol-Co Road	Requires coordination with railroad representative, 2 new crossings would need to be installed; crosses over railroad tracks, has small shoulder for a portion of the area, telephone/power lines line both sides of the corridor
SUP-04*	Shared Use Path	Second St	2nd St at Hamilton Rd	2nd St at College St	Enables Rock Church and Hamilton communities to connect with the Town's center as well as providing an outdoor recreational opportunity.	Would require crossing to be installed to connect to 2nd St; no sidewalk, no shoulder, crosses over railroad tracks
SUP-05	Shared Use Path	Bo Run Dr	Bo Run Dr parcel line	2nd St at SUP-04	Provide recreational opportunity to Hamilton, Bo-Run, and Horse Hair communities and creates cohesive loop connecting other major linear recommendations.	Lengthy portions would be costly. Heavily dependent upon surrounding linear recommendations. Would require new pedestrian crossing; small shoulder no curb
SUP-06	Shared Use Path		Rocky River Rd	SUP-03	Connect SUP-05 and affected communities to District Park.	Parcel boundaries restrict shape. 2 new pedestrian crossings would need to be built; not on a road will need a crossing to cross street to park
SUP-07	Shared Use Path	Main St	Main St at James Rd	Main St at American Dr	Connect James St to District Park.	Location may restrict use due to low population density; no sidewalk

Oakboro Recommended Linear Projects with Barriers and Opportunities

(*Designates a Priority Project)

Project	Facility	Roadway	From	To	Opportunity	Barrier
SUP-08	Shared Use Path	Eight St	8th St at Hurley St	Main St	Connect SUP-01 to Bike-02; On West 8th Street connects Charlotte Pipe Warehouse to Main Street	Would likely need pedestrian crossing; multiple driveways, tiny shoulder, telephone/power lines line both sides of the street
SUP-09	Shared Use Path	Seventh St	7th St at Main St	Long St	Give pedestrian access to 7th St, immediate to Main St and Long St Park	Would require new pedestrian crossing; Water Tower in between North Haywood Street and North Dorset Street, small ditch on side of road, no existing curb
SUP-10	Shared Use Path	Long St	8th St	7th St	Connects 8th Street to Seventh, providing bike and pedestrian access to Long Street Park	Small Project with visibility challenges on Seventh Street left turn, ROW required on Northside of Long.
SUP-11	Shared Use Path	Pecan Dr	Main St		Connects the Pecan Dr community to Main Street, provides pedestrian and cyclist connections to Oakboro Community Pool	ROW, topography, and easement challenges. Requires collaboration with Homeowners and Community Pool Property owner
SUP-12	Shared Use Path	Pine St	Main St	2nd Street	Part of Carolina Tread trail proposed Corridor, connects existing rail trail to 2nd Street and Proposed Shared use path SUP-04	Within Railroad Corridor ROW, requires coordination with Norfolk Southern, would require Utilities moved
SUP-13	Shared Use Path	Railroad	West of Swift Rd	Hurley Rd	Part of Carolina Tread Trail proposed Corridor, extends existing rail trail down Aquadale out of town to the east.	Within Railroad Corridor ROW, requires coordination with Norfolk Southern, would require Utilities moved
SUP-14	Shared Use Path	Railroad	Railroad Crossing off Aquadale Rd	East of Barbees Grove	Part of Carolina Tread trail proposed Corridor, Creates bike and Pedestrian trail access from the south of town to 5th Street and Southwest Downtown Oakboro	Within Railroad Corridor ROW, requires coordination with Norfolk Southern, would require Utilities moved
SUP-15	Shared Use Path	Railroad	Tributary in South Oakboro	Railroad crossing at Claymon Rd	Part of Carolina Tread trail proposed Corridor, creates bike and Pedestrian trail access from the West of town to SUP-01 on Hurley Street	Within Railroad Corridor ROW, requires coordination with Norfolk Southern, would require Utilities moved

2.6. Evaluation Criteria

The list of draft recommended projects was scored based on four scoring criteria. These scoring criteria were developed based on the Plan’s vision and goals set forth at the beginning of the planning process. The scoring guidelines assigned a score out of 100 possible points to each project. The criteria used for scoring included connections to destinations (points of interest), pedestrian and bicycle safety based on roadway traffic volumes, transportation equity, and completion or extension of the existing bicycle and pedestrian network.

Table 5 Oakboro Bike Ped Project Acceleration Plan Scoring Criteria Matrix

Criteria	Score
Points of Interest*	25
Project connects to 7+ destinations	25
Project connects to 4 – 6 destinations	15
Project connects to 1 – 3 destinations	5
Criteria-Continued	Score
Safety-based on Roadway Volume	25
AADT greater than 5,000 and project provides roadway separation	25
AADT 2,001 – 4,999 and project provides roadway separation	15
AADT 2,000 or less	0
Equity	25
Affordable Housing within ¼ mile of project or project south of the railroad (in South Oakboro)	15
Transportation Disadvantage Index (TDI)** score of 11-18	10
Transportation Disadvantage Index (TDI)** score of 6-11	5
Completing the Network	25
Bonus: project overcomes a barrier (bridge, culvert, railroad crossing) in addition to connecting to existing network	10
Project connects to at least two sections of the existing bicycle and pedestrian network of compatible mode (i.e. new sidewalk or sidepath connects two sidewalk links)	15
Project connects to at least one section of the existing bicycle and pedestrian network of compatible mode (i.e. new greenway connects to one sidewalk link)	5
*Destinations defined as schools, colleges/universities, parks, grocery stores, social services, commercial centers, libraries, theaters, town hall, and multi-family residential complexes	
** The 2020 TDI Index Score is comprised of 6 transportation disadvantaged population categories including: Elderly Individuals (Aged 65+), Youth, Zero Vehicle Households, Households in Poverty, and Concentration of Minority based on Race/and /or Ethnicity <i>An updated version of this tool which now includes populations with Limited English Proficiency (LEP) within their analysis of socioeconomic factors can be found on NCDOT’s website</i>	

2.6.1. Project Scoring

Tables 6 below illustrates the results of applying the scoring to the draft list of projects. The top five projects were identified based on the scoring results, and are discussed further in Section 3, Implementation Plan. Cut sheet visuals were developed for the top five priority projects.

Table 6 Bicycle and Pedestrian Infrastructure Project Scoring Results

Project Scoring Results										
Group Project ID	Project IDs	Project Name	POI Score	Volume Score	Equity	Equity Score	Completing the Network	Network Score	Total Score	Total Planning-level Cost
BikePed-01A*	Bike-01C, Int-14, Int-18, Int-07	Main Street Improvements from East of Fifth St to Five Point Intersection	25	25	7	5	6	10	65	\$ 508,787.72
Ped-03	Ped-03, Ped-07, Ped-08, Ped-15, Ped-16, Ped-17, Ped-18, Ped-23	Downtown Sidewalks NE	25	25	7	5	5	10	65	\$ 1,978,618.93
SUP-03*	SUP-03, SUP-07	Shared Use Path along NC 742 (S. Main Street) from south of railroad tracks to District Park	5	25	11.5	15	Railroad Crossing	15	60	\$ 741,982.10
BikePed-01B*	Bike-01B, Int-11, Int-12, Int-13, Int-01	Main Street Improvements West of Fifth St to Eighth St	15	25	7	5	8	10	55	\$ 791,447.57
Int-05*	Int-05	Pedestrian crossing improvements at Five Point intersection with high visibility markings at crosswalks, curb bulb-outs with mountable	5	25	7	5	3 + Railroad Crossing	15	50	\$ 1,448,631.71

Project Scoring Results

Group Project ID	Project IDs	Project Name	POI Score	Volume Score	Equity	Equity Score	Completing the Network	Network Score	Total Score	Total Planning-level Cost
		curb, ADA-compliant curb ramps, pedestrian-scale lighting and signal heads at all approaches.								
BikePed-01C*	Bike-01A, Culv-01, Ped-11	Bike Lane and sidewalk improvements along Main St from Fifth St to Osborne Dr	5	25	7	5	3	10	45	\$ 671,317.14
Gwy-01	Greenway-01	Greenway Crossing Improvement near Main Street and Aquadale Road	5	25	8.5	5	2	10	45	\$ 49,465.47
Ped-01	Ped-01, Ped-02	Swift Rd Sidewalks (from Hurley Rd to Big Lick Rd) and Big Lick Road (Swift Rd to Main St) Sidewalks	5	25	8.5	5	2	10	45	\$ 678,383.63
BikePed-01*	BikePed-01, Ped-11, Int-02, Int-11, Int-12 , Int-13, Int-07, Culv-01	Main Street Improvements	25	25	7-8.5	5	10	10	65	\$ 2,204,746.80
SUP-04*	SUP-04, Int-06, Int-16	West 2nd Street Shared Use Path from Railroad Street to Hamilton Road with railroad crossing	5	15	7	5	1 + 1 Railroad Crossing	15	40	\$ 727,849.10

Project Scoring Results

Group Project ID	Project IDs	Project Name	POI Score	Volume Score	Equity	Equity Score	Completing the Network	Network Score	Total Score	Total Planning-level Cost
		improvements and Pine Street pedestrian crossing improvements								
SUP-02	SUP-02	Shared Use Path towards Red Cross along north side of Main St Starting at Pecan St and ending at Liberty Hill Church Rd	5	25	8.5	5	1	5	40	\$ 1,010,508.95
Ped-24	Ped-24	Woonerf (shared street with streetscaping improvements) on Damons Alley from W 5th St to W 2nd St	25	0	7	5	5	10	40	\$ 311,653.68
Ped-19	Ped-19	Sidewalks on Pine Street	5	0	7-11.5	15	1	5	25	\$ 333,538.62
BikePed-03	Ped-10, SUP-05, SUP-06, Int-08, Int-09	South Oakboro Shared Use Path Improvements	5	0	11.5	15	2 + Railroad Crossing	15	35	\$ 2,105,815.86
Ped-20*	Ped-20, Int-15	Sidewalks to Claymon Community along Claymon Rd, Hamilton Rd with railroad crossing improvement	5	0	7-11.5	15	1 + Railroad Crossing	15	35	\$ 529,987.21
Bike-03	Bike-03	First St bikeable shoulder from Dorsett St to Ruby's Way	5	15	7	5	2	10	35	\$ 466,388.75

Project Scoring Results

Group Project ID	Project IDs	Project Name	POI Score	Volume Score	Equity	Equity Score	Completing the Network	Network Score	Total Score	Total Planning-level Cost
SUP-12	SUP-12	Carolina Tread Trail - Rail trail - Pine St.	5	0	11.5	10	2	15	30	\$ 494,654.73
Bike-02	Bike-02	Eighth Street bikeable shoulder	5	0	8.5	5	2	10	20	\$ 360,391.30
Ped-04	Ped-04, Ped-05, Ped-14, Ped-21, Ped-22b	Downtown Sidewalks SW	5	0	7	5	4	10	20	\$ 890,378.52
Ped-05	Ped-05, Ped-12, Ped-13, Ped-14	Downtown Sidewalks-NW Quadrant	5	0	7	5	2	10	20	\$ 975,176.47
Ped-06	Ped-06, Int-19, Int-20	Alonzo Road Sidewalks from Aquadale Rd to Dorsett St	5	0	7	5	2	10	20	\$ 812,647.06
SUP-09	SUP-09, SUP-10	Shared Use Path along 7th St and Long Ave to Long Street Park	5	0	7	5	2	10	20	\$ 515,854.22
Ped-23	Ped-23	Sidewalk to Fifth Street community along Fifth street from Long St to Fifth St	5	0	7	5	1	5	15	\$ 388,657.29
SUP-01	SUP-01	Hurley Street Shared Use Path along North side of Hurley Street starting at Swift Rd and ending at 8th St	5	0	8.5	5	1	5	15	\$ 1,180,104.86
SUP-11	SUP-11	Shared Use Path along Pecan Dr to from Main Street	5	0	8.5	5	1	5	15	\$ 558,253.20

Project Scoring Results										
Group Project ID	Project IDs	Project Name	POI Score	Volume Score	Equity	Equity Score	Completing the Network	Network Score	Total Score	Total Planning-level Cost
		connecting to Oakboro Community Pool								
SUP-13**	SUP-13	Regional Carolina Tread Trail 1 – Shared Use Path along railroad, Connecting to Hurley Road	- Regional Trail Projects not scored -							\$3,485,000.00
SUP-14**	SUP-14	Regional Carolina Tread Trail 2 – Shared Use Path along railroad, from Aquadale Road to east of Barbees Grove Road	- Regional Trail Projects not scored -							\$2,805,000.00
SUP-15**	SUP-15	Regional Tread Trail 3 – Shared Use Path along Coldwater Branch, connecting to railroad	- Regional Trail Projects not scored -							\$4,430,000.00

*Projects highlighted with an asterisk were selected as top five priority projects based on a combination of scoring and stakeholder feedback.

**Projects highlighted in green are longer regional trail sections which extend outside of Town; those were not scored due to higher expected planning-level costs and additional challenges with implementation; partnerships with regional partners expected to be required to implement those projects (i.e. Carolina Thread Trail); those projects are included in the overall list of recommendations to carry forward the recommendation from prior trail plans.

2.7. Recommended Bicycle and Pedestrian Network Plan

The Bicycle and Pedestrian Network Plan for the Town of Oakboro (as illustrated in the Figure 18 map) includes all of the bicycle and pedestrian infrastructure improvements recommendations identified as part of the planning process. Table 6 in the previous section includes a listing of recommended projects with planning-level cost estimates

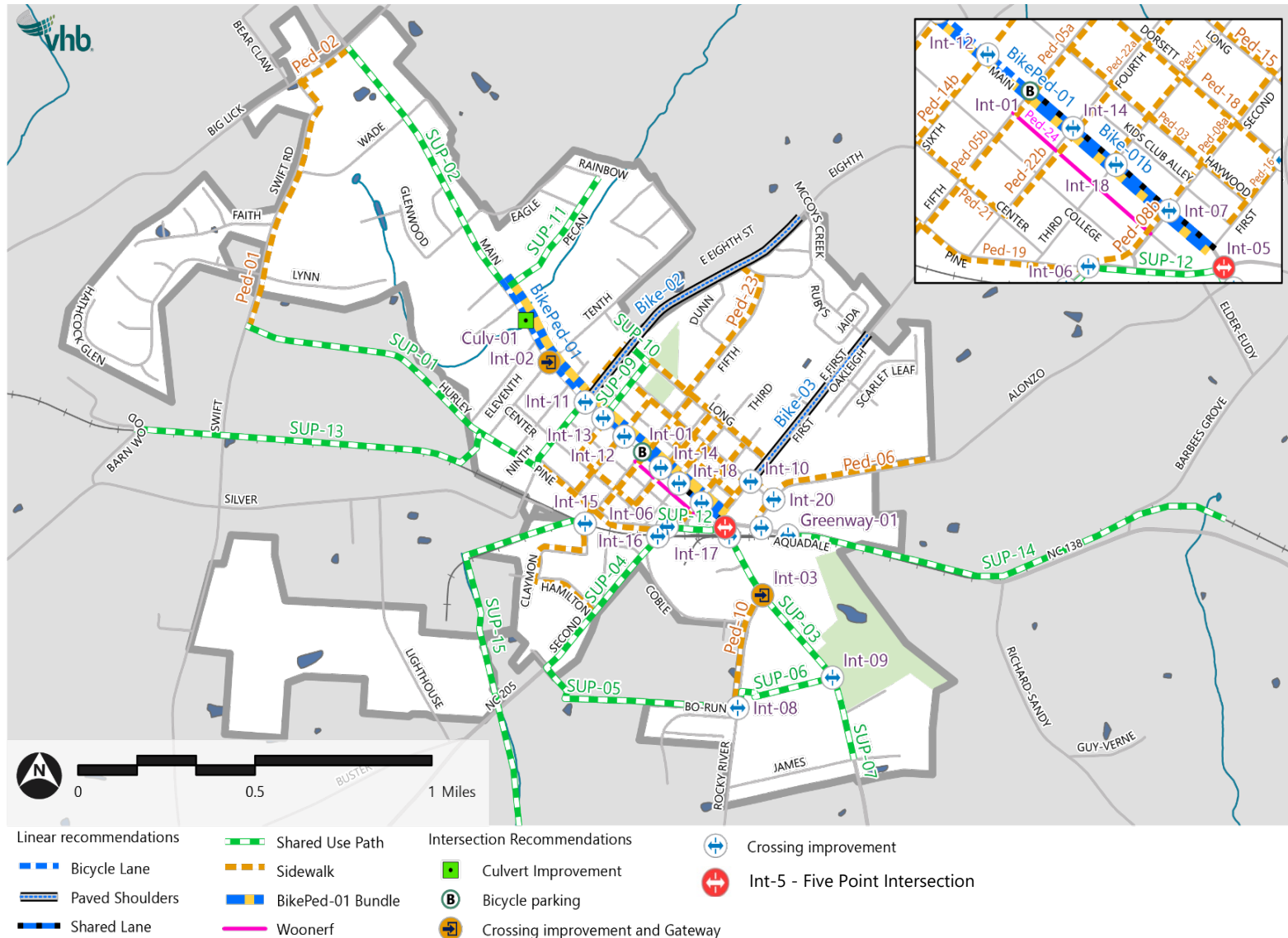


Figure 18 Oakboro Pedestrian and Bicycle Network Plan Map

2.8. Top Five Priority Projects

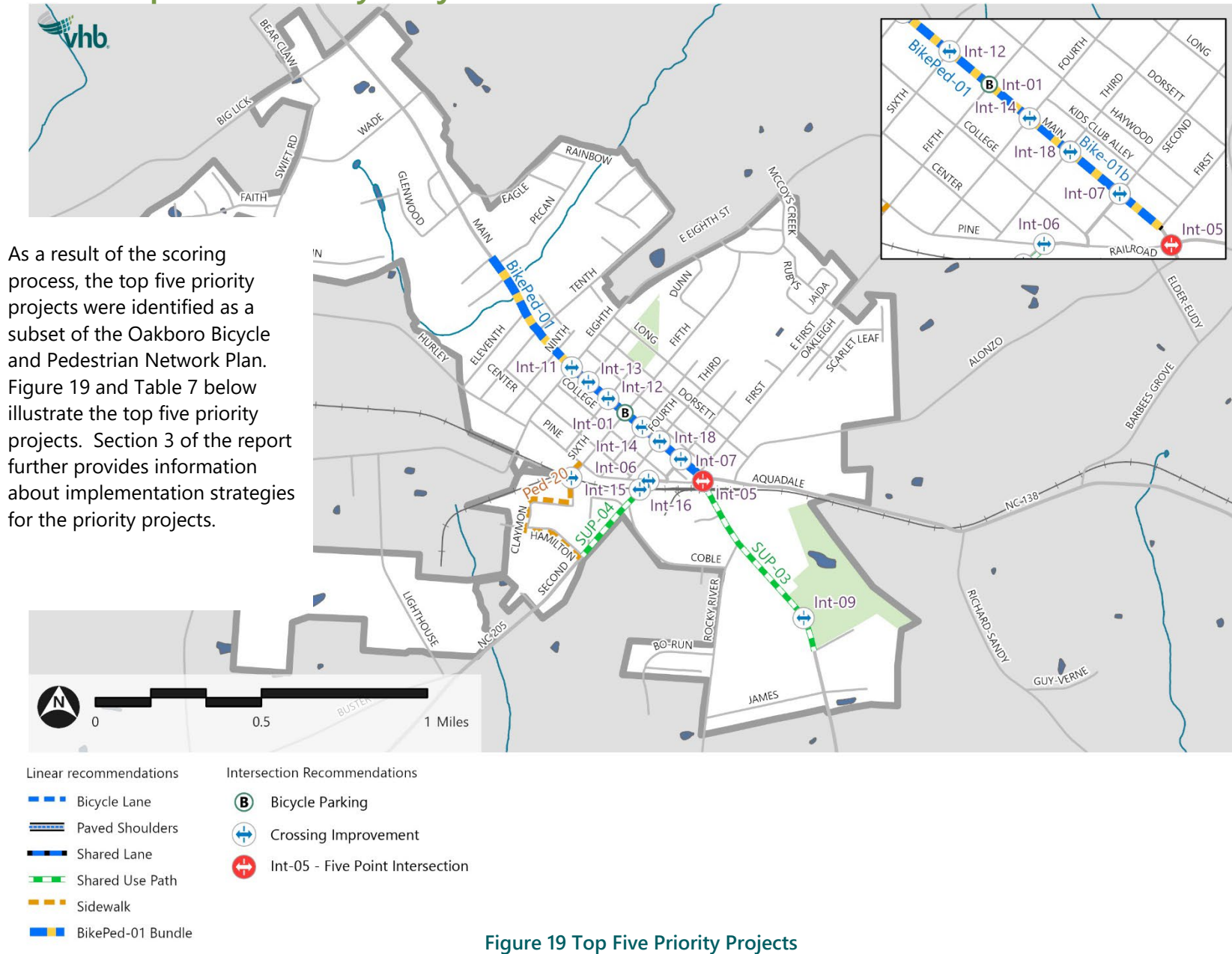


Table 7 Oakboro Bicycle and Pedestrian Top Five Priority Projects

Project IDs	Project Name	Project Description	Score	Estimated Planning-level Cost Adjusted for 2023 Inflation
BikePed-01 (Bike-01A, Bike-01B, Bike-01C, Int-01, Int-07, Int-11, Int-12, Int-13, Int-14, and Int-18)	Main Street Bicycle and Pedestrian Improvements	<i>Main Street Improvements from Osborne Street to Five Point with high visibility pedestrian crossing markings and bulb-out improvements at intersections, pedestrian scale lighting improvements, pedestrian crossings warning signage, bicycle lanes from Osborne Drive to 5th Street and bicycle sharrows along Main Street from Fifth Street to Five Point Intersection.</i>	65	\$1,971,552
Int-05	Five Point intersection improvements at Main Street, Railroad Street/Aquadale Road and East 1 st Street for pedestrian crossings and safety.	<i>Pedestrian crossing improvements at Five Point intersection (Main Street/Railroad Street/E 1st St) with high visibility markings at crosswalks, curb bulb-outs with mountable curb for truck use, ADA curb ramps, pedestrian-scale lighting and signal heads for all approaches. Implement streetscape and placemaking improvements.</i>	50	\$1,448,631
SUP-03	Shared Use Path along NC 742 (South Main Street) from south of railroad tracks to District Park	<i>Implement a Shared Use Path along NC 742 (S. Main Street) from south of Railroad to District Park. Add pedestrian scale lighting such as 12ft to 14ft lighting poles designed specifically to illuminate areas use with sidewalks, pathways, and gathering areas.</i>	55	\$741,982
SUP-04, Int-06, Int-16	Shared Use Path along W 2nd Street (NC 205) from Railroad Street to Hamilton Road with Railroad Crossing Improvement and Intersection Crossing Improvement at 2nd Street and Pine Street	<i>Implement a Shared Use Path along West 2nd Street (NC 205) with Railroad Crossing Improvements from Railroad Street to Hamilton Road. Implement crossing improvements at the intersection of Pine St and 2nd St, install high visibility marked crosswalks and ADA curb ramps at Pine Street and W 2nd Street. Include pedestrian-scale lighting and warning signage.</i>	40	\$529,987
Ped-20, Int-15	Sidewalks along Claymon Road and Hamilton Road from Pine Street to W. 2 nd Street with Railroad Crossing improvement at Claymon Road	<i>Implement a sidewalk along Claymon Road from Pine Street to Hamilton Road, and along Hamilton Road from Claymon Road to NC 205 (W. 2nd Street). Implement a Rail Crossing improvement to add an ADA accessible pedestrian walkway along Claymon Road.</i>	35	\$727,849

3. Implementation Plan

3.1. Implementation Cut Sheets for Top Five Projects

As part of project scoring, a prioritized list of top five projects was identified. This section outlines the top five Plan projects for which additional details were developed, based upon their significance to the community. The project visualizations describe in greater details the constraints, considerations, planning coordination, and roadway characteristics compared to Plan’s other recommended projects. These selected projects are examples of potential improvements, and they will require site-specific environmental review, design, and engineering analysis before construction. All five project cutsheets include an estimated planning-level project cost derived from the North Carolina Department of Transportation Integrated Mobility’s Bicycle and Pedestrian Cost Estimator Tool (BPCE), with the planning-level costs adjusted to 2023 USD (\$). These estimates include ROW acquisition, construction, utilities, and other cost estimates based on past projects from across North Carolina. Those are not engineering-level cost estimates. The BPCE costs may differ from the project costs derived through other methods and are likely to be less accurate than engineering-level cost estimates. Follow up feasibility studies and/or engineering studies would be required to identify more detailed costs and project constraints before proceeding with project implementation.

Table 8 below lists the cut sheets by project, in order in which they appear in the plan.

Table 8 Top Five Projects with Implementation Cut Sheets

Project ID	Project Name and Location
BikePed-01 Bundle	<i>Main Street Improvements from Osborne Street to Five Point with high visibility pedestrian crossing markings and bulb-out improvements at intersections, pedestrian scale lighting improvements, pedestrian crossings warning signage, bicycle lanes from Osborne Drive to 5th Street and bicycle sharrows along Main Street from Fifth Street to Five Point Intersection.</i>
Int-05	<i>Pedestrian crossing improvements at Five Point intersection (Main Street/Railroad Street/E 1st St) with high visibility markings at crosswalks, curb bulb-outs with mountable curb for truck use, ADA curb ramps, pedestrian-scale lighting and signal heads for all approaches. Implement streetscape and placemaking improvements.</i>
SUP-03	<i>Implement a Shared Use Path along NC 742 (S. Main Street) from south of Railroad to District Park. Add pedestrian scale lighting</i>
SUP-04, Int-06, Int-16	<i>Implement a Shared Use Path along West 2nd Street (NC 205) with Railroad Crossing Improvements from Railroad Street to Hamilton Road. Implement crossing improvements at the intersection of Pine St and 2nd St, install high visibility marked crosswalks and ADA curb ramps at Pine Street and W 2nd Street. Include pedestrian-scale lighting and warning signage.</i>
Ped-20, Int-15	<i>Implement a sidewalk along Claymon Road from Pine Street to Hamilton Road, and along Hamilton Road from Claymon Road to NC 205 (W. 2nd Street). Implement a Rail Crossing improvement to add an ADA accessible pedestrian walkway along Claymon Road.</i>

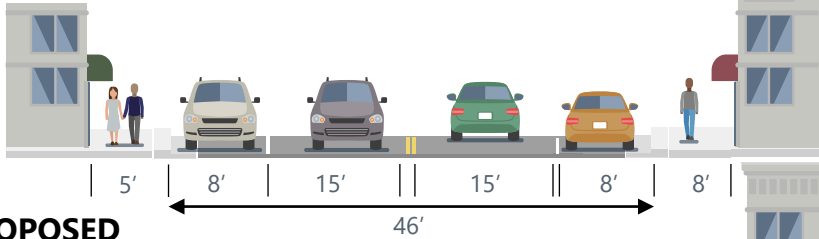
Project
BikePed
-01

Main Street Bicycle and Pedestrian Improvements

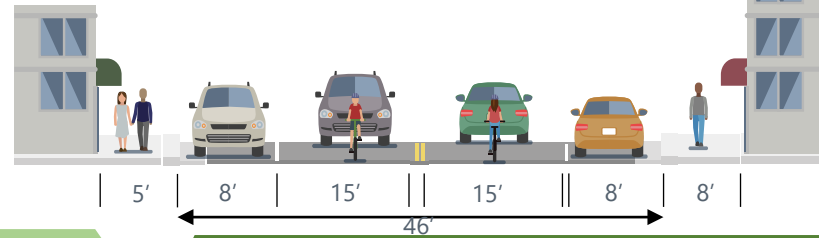
EXISTING CONDITIONS

Route	(Average Annual Daily Traffic)		Roadway Width (ft)	(Right of Way)	System
	AA DT (2020)	Speed Limit		ROW (ft)	
Main St	7,800	20 mph	25-48'	60'	NCDOT

EXISTING



PROPOSED



Person-level view of existing roadway.

CONSIDERATIONS

- Coordination with projects Int-14, Int-15, BP-55, Ped-66
- Low speed limit through town, consider lowering throughout corridor

CONSTRAINTS

- Limited roadway width - Utilities may need to be relocated
- Existing on-street parking

COST

Total Planning Level Cost: \$1,971,552

Design: \$279,208
 ROW: \$54,132
 Utilities: \$68,378
 Construction: \$1,569,834

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD (\$)



RECOMMENDATIONS

Add pedestrian and bicycle improvements along Main Street through downtown Oakboro between Osborne Drive and Five Point Intersection. Bicycle lanes from Osborne Drive to 5th Street and bicycle sharrows along Main Street from Fifth Street to Five Point Intersection with the addition of "Bicycle May Use Full Lane" signage. Add pedestrian crossing improvements including bulb-outs, high visibility crossing markings, improved pedestrian lighting. Evaluate for PHB/RRFB at unsignalized crossing locations.

Shared Lane Markings (SLMs), or "sharrows," are road markings used to indicate a shared lane for bicycles and automobiles. Although not considered as a substitute for bike lanes they help to establish the legitimacy of Bicycle traffic on the street where other facility types otherwise warranted space that is unfeasible.



Aerial conceptual rendering of Project BikePed-01, showing the proposed sharrows and pedestrian crossings with bulb-outs along Main Street.

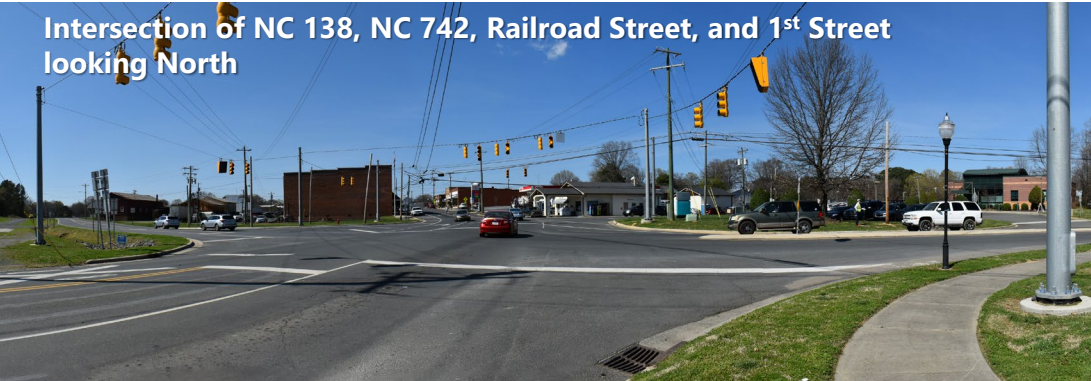
Conceptual rendering of Project BikePed-01 from person-level perspective showing the proposed sharrows and pedestrian crossings with bulb-outs along West Main Street and East Main Street.

*Project
Int-05*

Improvements to South Main Street Five Point Intersection for Pedestrian Crossing and Safety



Route	AADT (2020)	Speed Limit	Length	Roadway Width (ft)	ROW (ft)	System
NC 138 / Railroad St/ Aquadale Rd	4,600	35-45 mph	N/A	40'	80'	NCDOT
NC-742 South Main St	4,300	35-45 mph	N/A	22'	30'	NCDOT
East 1 st Street	2,200	35-35 mph	N/A'	22'	30'	NCDOT



Aerial image of the existing signalized intersection of NC 138 Railroad Street/Aquadale Road, NC 742 South Main Street and East 1st Street



CONSIDERATIONS

- Coordinate with NCDOT for roadway improvements and ROW
- Coordinate with SUP-12, Bike-01 sidewalks and bicycle facilities
- Coordinate with Norfolk Southern Railroad

CONSTRAINTS

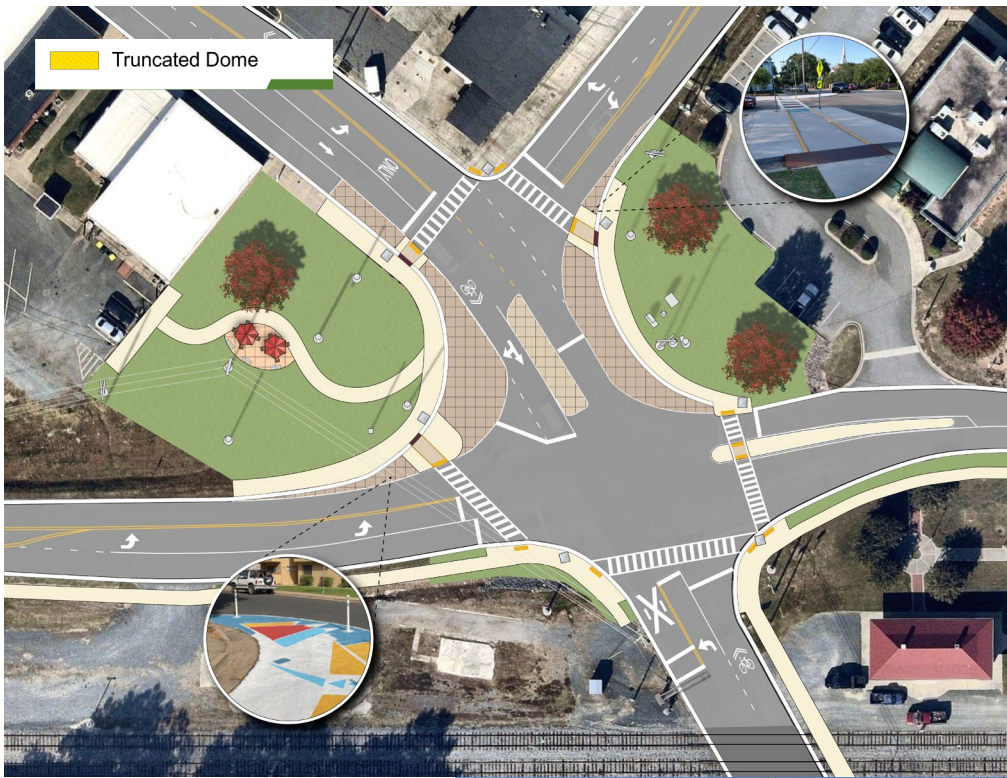
- High traffic intersection and turning movements
- Heavy freight volumes
- Railroad crossing
- Lack of sidewalks on all approaches
- Lack of pedestrian scale lighting

COST

Total Planning Level Cost: \$1,448,631

Design: \$205,153
 ROW: \$39,775
 Utilities: \$50,242
 Construction: \$1,153,562

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD (\$)



Aerial conceptual rendering of Project Int-05, showing the proposed improved crossing at the existing signalized intersection with curb bulb-outs and high visibility marked crosswalks at all approaches.



Truncated Domes are the textured ground surface strips commonly found on curb ramps, at transit stations and other high trafficked crossing locations. Truncated Domes are a form of detectable warning that communicate to people with vision impairments that they are approaching a hazard in their path.

RECOMMENDATIONS

Pedestrian crossing improvements at South Main Street Five Point Intersection (South Main Street/Railroad Street/E 1st Street) with high visibility markings at crosswalks, curb bulb-outs with mountable curb to accommodate freight vehicles turning radius, ADA curb ramps upgrade, pedestrian-scale lighting and signal heads at all approaches. Additional medians for improved traffic flow recommended for consideration as part of redesign. Optional green space next to the Town Hall recommended.

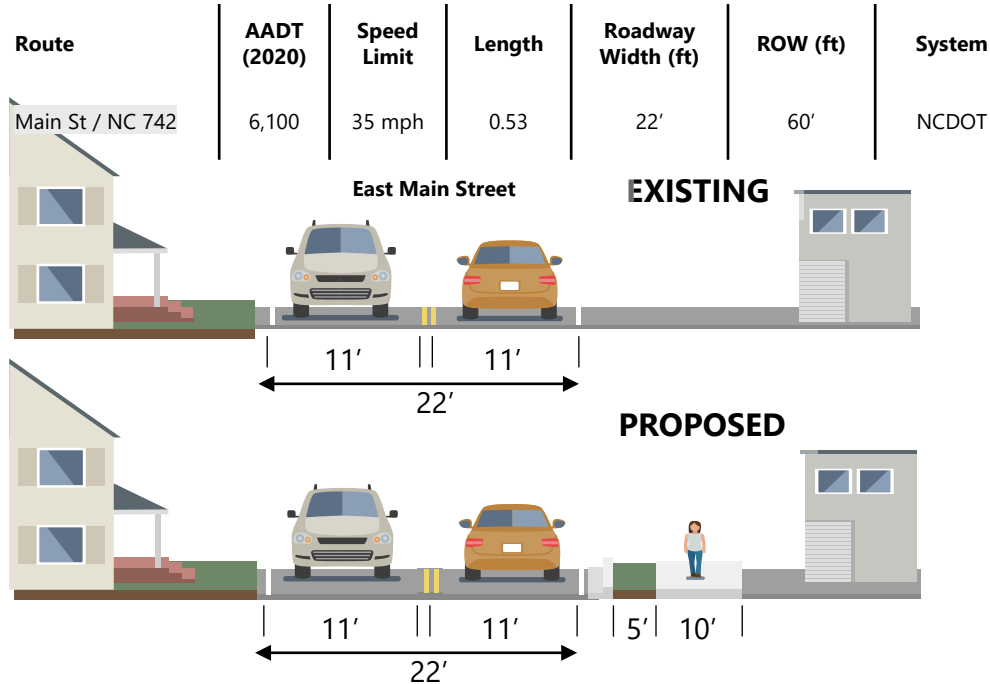


Project Int-05 conceptual rendering from person-level perspective showing the improved intersection lighting, curb bulb-outs and high visibility marked crosswalks.

Shared Use Path From South of Railroad Tracks to District Park

Project
SUP-
03

EXISTING CONDITIONS



Person-level view of existing NC 742 (S. Main Street) looking North.



CONSIDERATIONS

- Coordinate with projects BP-19, BP-55, Ped-26, Ped-34
- Connections with various retail businesses
- Desired pedestrian connection from citizens
- Coordination with Norfolk Southern Railroad

CONSTRAINTS

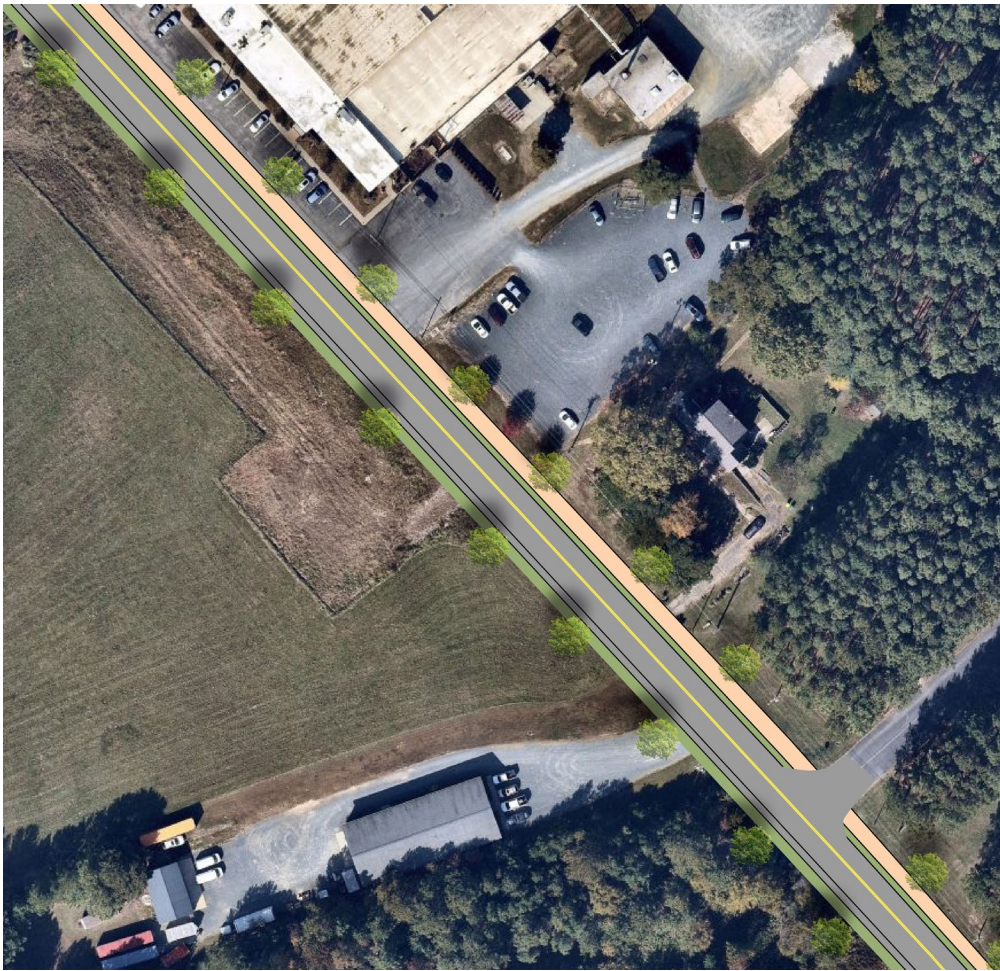
- Limited ROW and utility poles
- Partially within 100-year flood plain and challenging topography
- Lack of curb and gutter

COST

Total Planning Level Cost: \$869,000

Design: \$205,800
 ROW: \$11,400
 Utilities: \$63,000
 Construction: \$588,800

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD (\$)



Aerial conceptual rendering of Project SUP-03 showing the proposed addition of the shared use path.

RECOMMENDATIONS

Improve access for pedestrians to downtown Oakboro and District Park by adding a new shared use path link along the east side of South Main Street (NC 742) from south of the railroad tracks to District Park. Add pedestrian-scale lighting.



Project SUP-03 conceptual rendering from person-level perspective showing the addition of new shared use path along the east side of South Main Street (NC 742).

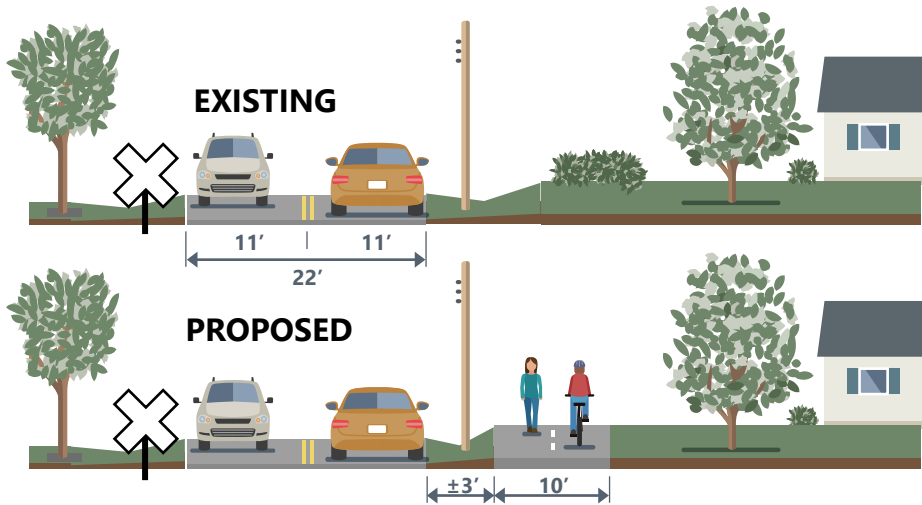
Bundle Project
SUP-04,
Int-06, Int-16

West 2nd Street Shared Use Path with Railroad Crossing Improvement



EXISTING CONDITIONS

Route	AADT (2020)	Speed Limit	Roadway Width (ft)	ROW (ft)	System
2nd Street	6,800 - 2,700	20 -35 mph	22-33'	45'	NCDOT



Person-level view of existing roadway. Credit: Town of Oakboro.

CONSIDERATIONS

- Coordination with projects SUP-12, Ped-16
- Rock Church and Hamilton communities to connect with the Town's center with Oakboro Road Shared Use Path, Gwy 02A
- Coordination with railroad required

CONSTRAINTS

- Railroad Crossing and limited ROW; goes over railroad tracks, Coordination required with ACWR (Aberdeen, Carolina & Western Railway Company)
- Lack of Curb and Gutter
- ROW needs and Utilities within the ROW

COST

Total Planning Level Cost: \$650,118

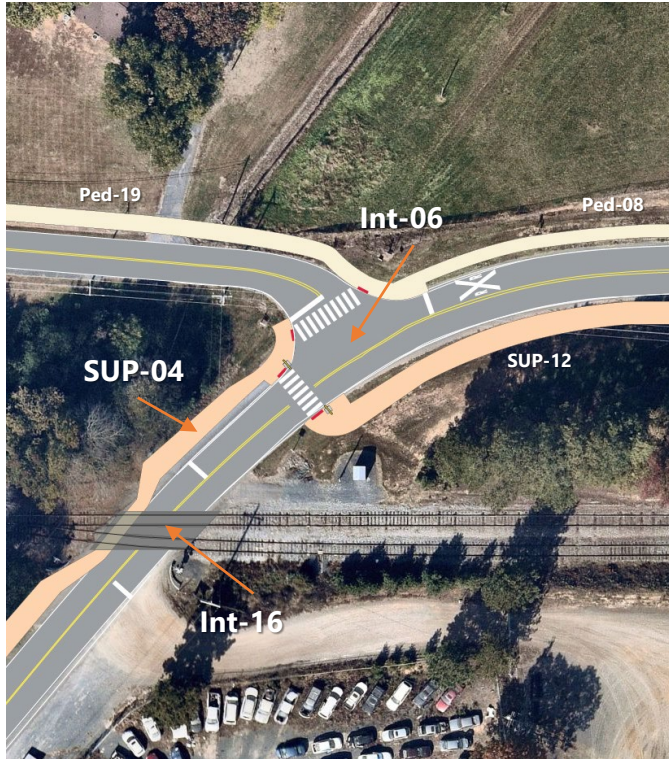
- Design: \$92,069
- ROW: \$22,547
- Utilities: \$22,547
- Construction: \$517,651

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD (\$)



RECOMMENDATIONS

Implement a shared use path along 2nd Street from Railroad Street to Hamilton Road. Implement crossing improvements at the intersection of Pine Street and 2nd Street; install two high visibility marked crossing and ADA curb ramps on Pine Street and W 2nd Street for greenway crossing. Include pedestrian-scale lighting and warning signage.



Aerial conceptual rendering of Project SUP-04, Int-16 and Int-06, showing the proposed shared use path alignment along West 2nd Street.



Conceptual rendering of Project SUP-04, Int-06, and Int-16 from person-level perspective showing the proposed shared use path along the west side of 2nd Street from intersection of Railroad Street to Hamilton Road.

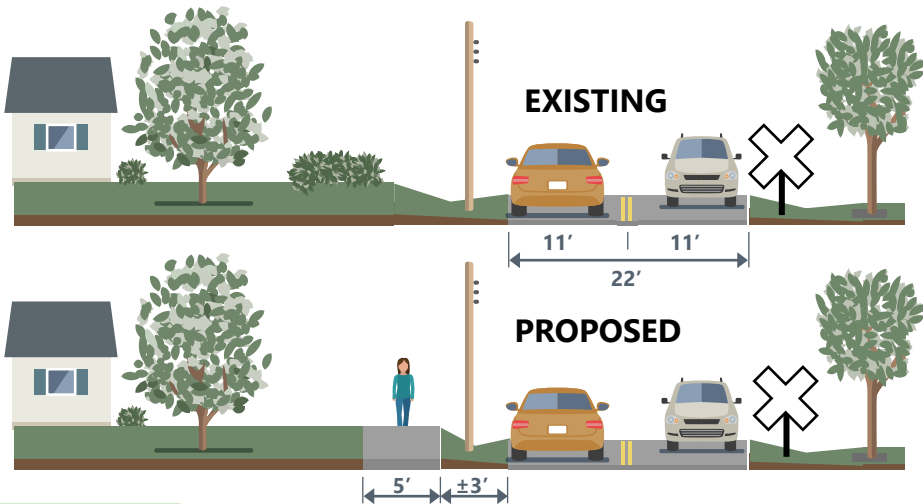


Project
Ped-20,
Int-15,

Claymon Road and Hamilton Road Sidewalks and Railroad Crossing Improvements

EXISTING CONDITIONS

Route	AADT (2020)	Speed Limit	Roadway Width (ft)	ROW (ft)	System
Claymon Rd/Hamilton Rd	N/A	20 mph	22'	30'	NCDOT



Person-level view of existing roadway (Claymon Road/W. 5th Street). Credit: Town of Oakboro.



CONSIDERATIONS

- Coordination with projects Ped-19
- Coordination with Greenway project Gwy 15
- Connects Priority EJ community south of town to Downtown

CONSTRAINTS

- Railroad Crossing and limited ROW; goes over railroad tracks, Coordination required with ACWR (Aberdeen Carolina & Western Railway Company)
- Lack of Curb and Gutter
- ROW needs and Utilities within the ROW

COST

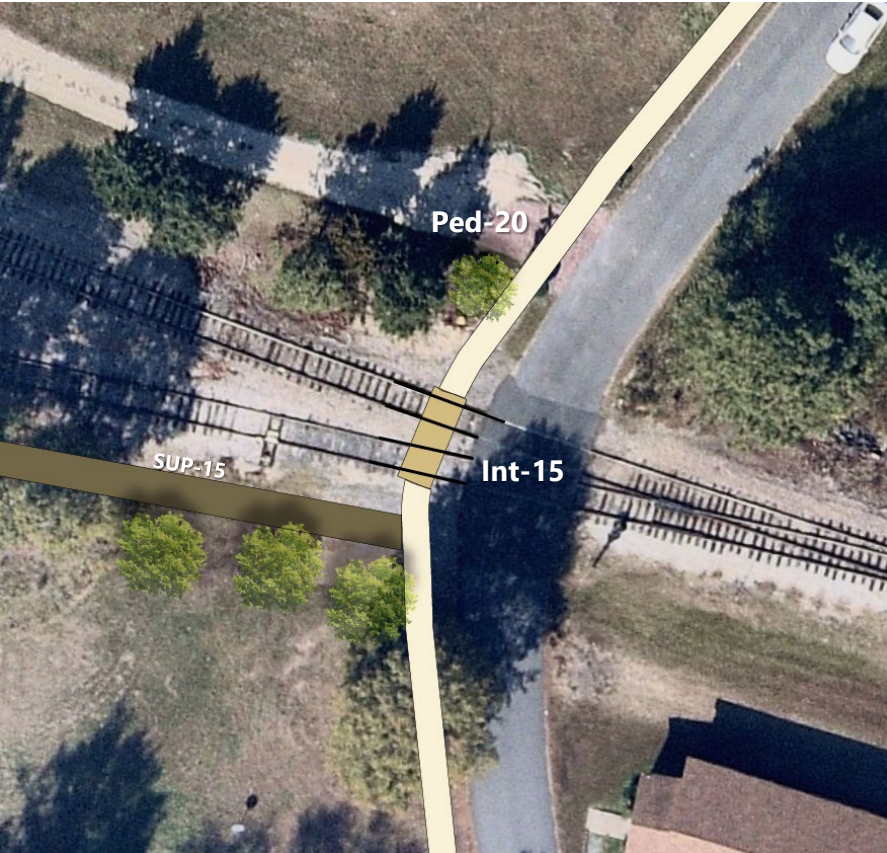
Total Planning Level Cost: \$529,987

Design: \$75,056
ROW: \$14,552
Utilities: \$18,381
Construction: \$421,998

Costs developed with NCDOT's Bicycle and Pedestrian Cost Estimation Tool and adjusted to 2023 USD (\$)

RECOMMENDATIONS

Implement a sidewalk along Claymon Road (W. Fifth Street) from Pine Street to Hamilton Road, and along Hamilton Road from Claymon Road to NC 205 (W. 2nd Street). Implement a Rail Crossing improvement along Claymon Road to support an ADA accessible walkway. The project will help connect south Oakboro to Downtown.



Aerial conceptual rendering of Project Ped-20, showing the proposed sidewalk along Claymon Road (W. 5th Street).



Conceptual rendering of Project Ped-20 and Int-15 from person-level perspective showing the proposed sidewalk along the west side of Claymon Road from Pine Street to Hamilton road.

3.2. Implementation Action Steps

This section outlines general steps to fully implement this Plan. Steps are assigned to three categories: policy, programming, and infrastructure. These actions are provided in Table 9 below with an expected timeline (immediate, near future, intermediate or long range). Please refer to the appendix A-3 for additional policy guidance and best practices.

Table 9 Action Item Timeline

Strategy	Contributing Stakeholders	Lead Agency/ Stakeholder	Expected Timeline	Duration
Policy				
Adopt this Plan	Town Board of Commissioners	Town Staff	Immediate	Initial
Amend the CTP	Town Board of Commissioners, Stanly County Commissioners, Rocky River RPO, NCDOT Transportation Planning Division	Stanly County Commissioners	Near Future	Once
Set up and Assemble a Bicycle and Pedestrian Advisory Committee (BPAC), or add a standing agenda item for GOBA (Greater Oakboro Business Association) agendas	Town Staff, BPAC, GOBA	Town Staff	Immediate	Periodic
Adopt a Complete Streets Policy⁶	Town Board of Commissioners, Town Staff, BPAC	Town Board of Commissioners	Near Future	Once
Review UDO for Potential Updates	Town Staff, Town Board of Commissioners	Town Board of Commissioners	Near Future	Periodic
Continue to Enforce State and Local Regulations	Town Staff, Law Enforcement, BPAC	Police	Near Future – Long-Range	Ongoing
Program				

⁶ <https://bikewalkcc.org/wp-content/uploads/2020/11/Complete-Streets-Ordinance-Template-Updated-Model.pdf>

ii charlotte-streets-manual_adopted_aug2022.pdf (charlottenc.gov)

Strategy	Contributing Stakeholders	Lead Agency/ Stakeholder	Expected Timeline	Duration
Create Educational Outreach Programs	BPAC	Town Staff	Near Future – Long-Range	Ongoing
Create Encouragement Outreach Programs	BPAC	Town Staff	Near Future – Long-Range	Ongoing
Establish a Monitoring and Benchmarking Program	Town Staff, BPAC	Town Staff	Immediate – Long-Range	Ongoing
Become Registered as a Walk Friendly and or Bicycle Friendly Community	Town Staff, BPAC	Town Staff	Near Future – Long Range	Periodic

Strategy	Contributing Stakeholders	Lead Agency/ Stakeholder	Expected Timeline	Duration
Infrastructure				
Identify Funding Sources	Town Staff, BPAC	NCDOT & Town Staff	Immediate – Long-Range	Periodic
Coordinate with NCDOT Road Resurfacing Projects for Implementation of Plan Elements	NCDOT Division 10, Town Staff	NCDOT and Town Staff	Immediate – Intermediate	Periodic
Perform a Road Safety Audit	NCDOT Transportation Safety & Mobility Unit, NCDOT Division 10, FHWA Division Office, Town Staff	NCDOT & Town Staff	Near Future – Intermediate	Once
Build the Priority Projects Outlined in this Plan	NCDOT, Stanly County, Town Staff, Rocky River RPO	NCDOT	Near Future – Intermediate	Ongoing
Review the Applicability of Future Projects	NCDOT, Rocky River RPO, Stanly County, Town Staff, BPAC	NCDOT	Long Range	Periodic

3.2.1 Policy Action Steps

Adopt This Plan and Integrate into Comprehensive Transportation Plans

The first step for the Town of Oakboro to build upon the existing regional plans and policies is to adopt this plan. Adoption will improve the Town’s eligibility to receive priority funding for projects.

In addition to local adoption, the Town should work with NCDOT and other agencies in Stanly County to amend the Stanly County CTP to incorporate the plan's recommendations and seek the Rocky River RPO endorsement. This inclusion in the County's CTP would solidify the plan's recommendation for both Oakboro and throughout the County and other localities.

Establish the Bicycle and Pedestrian Advisory Committee (BPAC) or Add a Standing Agenda Item to Greater Oakboro Business Association Agenda

The Town could take its existing Bicycle and Pedestrian Project Acceleration Study Steering Committee – which was established for the development of this Plan – and transform it into a Bicycle and Pedestrian Advisory Committee (BPAC). This committee would be the primary advocate for promoting bicycle and pedestrian planning and events in Oakboro and event programming and encouragement within the community. Local champions should represent many different interests within the Town, such as the schools, Town staff, police, and many others, which share the common goal of making Oakboro a safer place to walk and bike. Other North Carolina communities, such as Mebane and Greenville, have established BPACs that can serve as a model for Oakboro. Alternatively, a standing agenda item could be added to another committee meeting, such as the Greater Oakboro Business Association, to discuss bicycle and pedestrian issues in Oakboro.

Adopt a Complete Streets Policy

The Town of Oakboro should adopt a local Complete Streets Policy. The Town may reference the 2019 NCDOT policy or develop language customized to meet the objectives of this plan and local stakeholders. This will support future pedestrian *and* bicycle improvements in both the Town and NCDOT projects.⁷

Continue to Enforce State and Local Regulations

Ensuring that motor vehicles obey the speed limit, pedestrian signals, and other traffic regulations can improve the perception and desirability of walking in Oakboro. Additionally, ensuring that pedestrians and other non-motorized road users are familiar with the operation of pedestrian signals and beacons and obey traffic laws themselves can ensure that these travelers stay out of harm's way. This creates an environment that is safe for all roadway users. The NCDOT Division of Integrated Mobility offers helpful links to many of these regulations through its website: <https://www.ncdot.gov/bikeped/lawspolicies>.

3.2.2. Program Action Steps

Create Educational Outreach Programs

Education provides people of all ages with the confidence to walk and bike along Oakboro's sidewalks, multi-use path facilities, and local road network. Educational outreach should also extend to drivers of motor vehicles as well. Awareness of pedestrians and bicyclists is a skill that is learned and can be improved upon with active engagement.

⁷ An example of a Complete Sheet Policy from the City of Asheville: https://drive.google.com/file/d/1-oYaLAGU6n7kkdtGekjL2VU-Qei_lz6y/view

Create Encouragement Outreach Programs

Many of these encouragement programs serve to remind individuals how convenient and attainable an active lifestyle can be. Walk or bike to work and school events can illustrate how easy it is to complete daily activities through active transportation. Open streets bring people together, build a sense of community, and allow them to engage with the community without needing to drive and find a parking space.

Establish a Monitoring and Benchmarking Program

The BPAC should devise ways of monitoring pedestrian and bicycling activity, as well as preferred routes and destinations. The needs and preferences of the community will evolve over time. To ensure that Town officials and planners can respond effectively, there should be an established methodology for tracking these changes, evaluating current programs, and generating new priorities.

Become Registered as a Walk Friendly and/or Bicycle Friendly Community

The Town could choose to apply for a designation as a Walk or Bicycle Friendly Community through the University of [North Carolina's Highway Safety Research Center](#) (Walk Friendly) or [the League of American Bicyclists](#) (Bicycle Friendly). These designations offer the opportunity for Oakboro to assess its current conditions and receive feedback from third party perspectives. By undergoing this process, the Town may be better equipped to apply for future grant funding through organizing its existing conditions and refining its vision as a leading pedestrian and bicycle friendly community. Other Walk Friendly and Bicycle Friendly recognized communities in North Carolina include Charlotte, Davidson, Asheville, Cary, and Boone.

3.2.3. Infrastructure Action Steps

While there are several phases involved in infrastructure project implementation, the steps outlined in this section are fundamental for the Town to take as it implements the new infrastructure projects. The process for implementation depends on the funding source the Town is seeking for execution.

Identify Implementation Opportunities

Federal, state, and local funding sources will be necessary to implement this Plan. No one source should be relied upon to complete all of the proposed recommendations. The implementation strategy for each project depends on the cost, facility recommendation, roadway type, and other elements. The following are possible implementation opportunities the Town can seek:

- NCDOT Bicycle and Pedestrian Projects selected for funding in the State Transportation Improvement Program (STIP) through State Transportation Investments (STI) Prioritization process (10 to 15 years).
- NCDOT Highway Projects with bicycle and pedestrian improvements included under the [NCDOT Complete Streets Policy](#), selected for funding in the STIP through STI Prioritization process (5 to 15 years).
- [NCDOT Pedestrian Safety Improvements](#) (1 to 5 years).
- NCDOT Resurfacing Projects (1 to 5 years).
- Additional grant funding opportunities: time varies, many available as a recurrent annual grant application cycle.

Refer to the Appendix A-4 for more detail on potential funding sources.

Perform Road Safety Audits

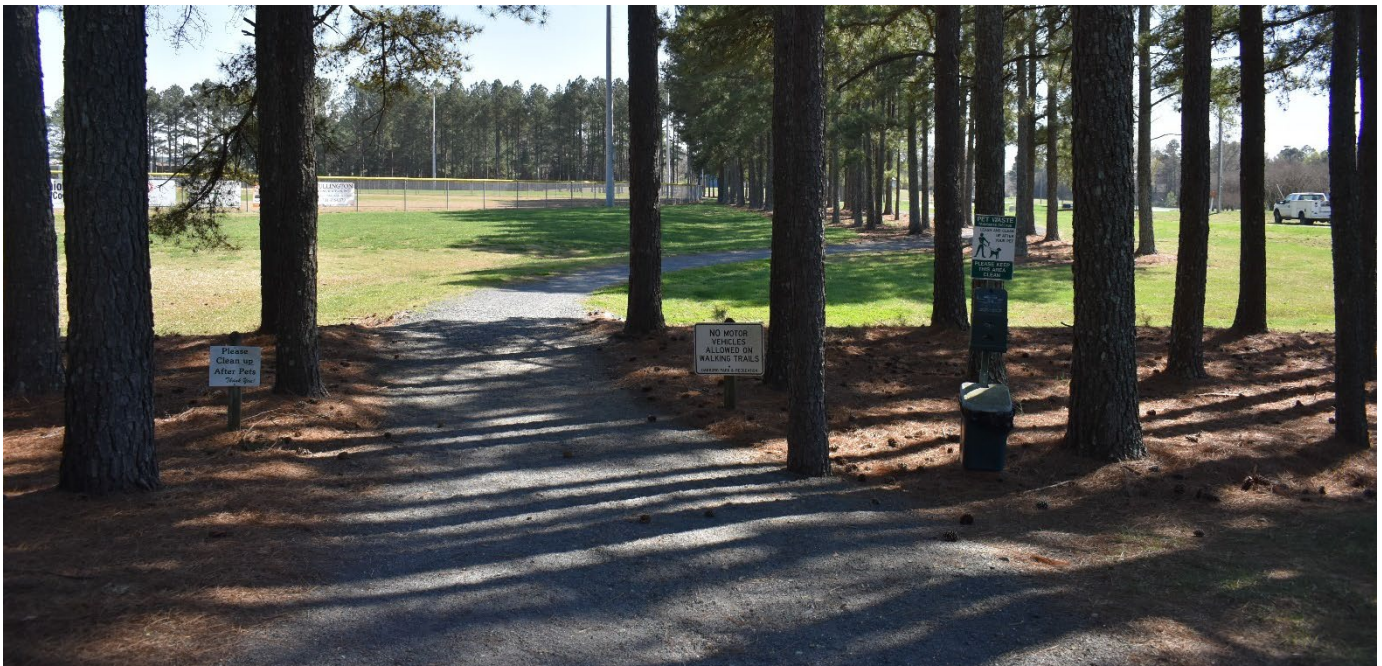
NC 138 (Aquadale Road), East 1st Street, West 2nd Street, NC 742 (South Main Street) and NC 205 (North Main Street) were identified during the study as ideal candidates for a [Road Safety Audit](#) (RSA) due to the presence of higher vehicular volumes and higher potential for crashes. An RSA is a formal examination of mobility safety performance to identify potential road safety issues and identifies opportunities for improvements in safety for all road users. The FHWA works with State DOTs and local jurisdictions to encourage RSAs along existing roads and intersections. The goal of an RSA is to identify elements of the road that may present a safety concern and recommend a standard approach to elimination or mitigation.

Prioritize Projects

The most highly scored projects in Section 3 should be considered for implementation in the near to mid-term. However, should opportunities arise to implement this Plan's projects concurrent with related capital, NCDOT, or private improvements, the Town should pursue those options to support the completion of its bicycle and pedestrian network. As the Town progresses on project implementation, it should re-prioritize the list of projects on a regular basis (e.g. every three to five years) with updated costs, facility specifications (as needed), and meeting the community's need, especially those with persistent transportation barriers. The overall plan should be considered for an update every five to 10 years to better evaluate new projects and reassess.

Review the Applicability of Future Projects

Many of the projects in this Plan, as well as others concerning transportation in Oakboro, will need to undergo more detailed site-specific evaluation as future revisions are made. Oakboro's priorities will change over time, and projects should be constantly re-evaluated for future needs. Town staff and the BPAC should work jointly to this end. These priority projects should be the Town's focus as it works with the County and the RPO for funding and implementation through local and regional plans.



Oakboro District Park

Appendix

A-1 The Importance of Bicycle and Pedestrian Facilities

A.1.1. Accessibility and Mobility

Improving walking and bicycling conditions in Oakboro would make a greater number of key community destinations accessible to the Town residents and visitors on foot and by bicycle. Improving accessibility for bicycling and walking is important to ensure that trips on foot and by bicycle are a viable alternative to driving for shorter trips. According to the US National Household Travel Survey (NHTS) approximately 12% of total trips are made by active modes, but their potential use is much greater⁸. Littman (2022)⁹ highlights the potential benefits of improving bicycling and walking conditions as a means of affordable access to economic opportunities, which can be particularly important for the transportation-disadvantaged populations. Oakboro is a small town where most destinations are located within a radius of two miles of the center of town and walking and bicycling could reduce some of the driving trips if safer facilities were available. Improving accessibility to local destinations by foot or by bicycle could reduce motor vehicle dependence, provide additional access to economic opportunities for residents and support local businesses. These improvements would be especially important along North Main Street, South Main Street and NC 138.

A.1.2. Safety

From a national perspective, pedestrian and bicycle fatalities have increased both in number of fatalities and proportion of all traffic fatalities in recent years. From 2011 to 2020, pedestrian and bicyclist fatalities increased by 32% and 27%, respectively, while total traffic fatalities increased by 16%. In 2020, 6,516 pedestrians and 938 bicyclists were killed in motor vehicle collisions, despite a drop in vehicle miles travelled due to COVID-19 restrictions.¹⁰ The increase in pedestrian fatalities highlights the urgent need for active safety-focused planning and programming to protect these vulnerable users.

The absence of sidewalks and proper crossing facilities in certain areas of Oakboro, the existing transportation network indirectly puts pedestrians at risk by encouraging them to walk with vehicular traffic or cross at unsafe locations. This is particularly challenging for vulnerable road users who may not have alternative means of transportation. Investing in infrastructure can greatly enhance pedestrian and cyclist safety. According to the Federal Highway Administration (FHWA), sidewalks can reduce pedestrian crashes by 65-89%, and crossing locations with visibility enhancements can decrease pedestrian injury crashes by up to 48%. The addition of bike lanes has also been shown to reduce total crashes along urban two-lane and local roads by 30%. These safety benefits not only reduce collisions with motor vehicles but can also minimize other injuries such as tripping or falling. Proper infrastructure and routine maintenance play a key role in ensuring pedestrian and cyclist safety.

Roadways that lack sidewalks indirectly encourage pedestrians to walk with vehicular traffic, leading to potentially unsafe conditions. Likewise, the absence of adequate crossing facilities along certain corridors within Oakboro

⁸ J. Richard Kuzmyak and Jennifer Dill (2012), "Walking and Bicycling in the United States: The Who, What, Where, and Why," TR News 280, May-June; at <https://bit.ly/3gVzhBQ>.

⁹ Todd Littman (September 16, 2022). VTPI. *Evaluating Active Transport Benefits and Costs*. <https://www.vtpi.org/nmt-tdm.pdf>

¹⁰ NHTSA Bicycle and Pedestrian Traffic Safety Facts, 2020 Data. [Accessible at https://crashstats.nhtsa.dot.gov/#!/PublicationList](https://crashstats.nhtsa.dot.gov/#!/PublicationList)

may force pedestrians to cross at unsafe intersections or mid-block locations. Bicycle and pedestrian facilities can provide easier and safer access to elderly, non-driving, and low-income residents in Oakboro.

According to Walk Bike NC, North Carolina's comprehensive plan for walking and bicycling (2012), investments in infrastructure can significantly improve pedestrian safety. The Statewide Ped/Bike Plan cites a 2008 Federal Highway Administration publication that suggests sidewalk installation results in a 65- to 89-percent reduction in pedestrian crashes.¹¹ The safety benefits reported not only include collisions with motor vehicles, but other types of injuries as well. Many injuries sustained by pedestrians and bicyclists do not involve a motor vehicle.¹² Sufficient infrastructure and routine maintenance help reduce many incidents of tripping or falling. [The NCDOT Pedestrian and Bicycle Crash Map](#) and [the Bicyclist and Pedestrian Crash Dashboard](#).

A.1.3. Public Health

Choosing to walk or cycle for short trips to and from school, local parks, restaurants, retail stores, or even work is one of the best ways to lead a healthier lifestyle. The Centers for Disease Control and Prevention (CDC) recommends 150 minutes of moderate physical activity per week. Infrastructure and encouragement programs can directly support this physical activity goal.¹³ Additionally, a 2010 study found that communities were more likely to achieve that activity goal and have lower incidences of diabetes and obesity if they tended to commute to work by bicycle or on foot.¹⁴

By connecting residences with desired destinations, residents feel empowered to walk and bike to complete daily activities for recreation. Social interactions between neighbors are another benefit of being more physically active. Steering Committee members discussed the importance of connecting destinations within downtown to exterior city limits. This not only contributes to a stronger sense of place by interweaving the North and South sections of Oakboro, but it also instills civic pride and reinforces the perception of Oakboro's small town charm.

A.1.4. Economic Impacts

Walkability and bikeability can have a positive economic benefit to the local community through indirectly increasing property values, job creation, economic development, and tourism. The Town emphasized the importance of revitalization and reinvestment in its community as part of its Bicycle and Pedestrian Planning Grant application. A 2018 study by NCDOT found that every \$1.00 of shared-use path construction supports \$1.72 annually from local business revenue, sales tax revenue, and benefits related to health and transportation.¹⁵ Additionally, Walk Bike NC suggested that a one-time public investment of \$6.7 million in paths and paved shoulders along the Outer Banks has returned \$60 million in annual revenue from tourism and supported 1,400 jobs.¹⁶ The Ecusta rails-to-trails project in Henderson County, North Carolina was estimated to potentially generate \$50 million in total benefit for the local community based on a \$13.4 million project cost.¹⁷

Investing in active transportation may also have indirect economic benefits of lowering health care costs, improving safety, and reducing congestion or improving commute times. These benefits stem from lower

¹¹ <https://safety.fhwa.dot.gov/provencountermeasures/>

¹² http://www.pedbikeinfo.org/data/factsheet_crash.cfm

¹³ <https://www.cdc.gov/physicalactivity/basics/adults/>

¹⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2937005/>

¹⁵ <https://itre.ncsu.edu/focus/bike-ped/SUP-Economic-Impacts/>

¹⁶ Institute for Transportation Research and Education at North Carolina State University. (2004). *The Economic Impact of Investments in Bicycle Facilities: A Case Study of the Northern Outer Banks*.

¹⁷ <http://www.hendersonvillenc.gov/ecusta-rail-trail-planning-study-economic-impact-analysis>

incidents of chronic disease, reduced injuries from crashes, and fewer vehicle miles driven.¹⁸ For instance, the American Heart Association estimated that every \$1 spent on building bicycle and pedestrian trails could yield \$3 in savings on medical costs.¹⁹ Additionally, the installation and maintenance of bicycle and pedestrian facilities in low-income areas will both increase access to jobs and services for these residents and provide additional revenues for Oakboro's local merchants and economy. While these are not the most visible results of encouraging active transportation, they are essential in achieving the goal of making Oakboro a more livable community for residents.

A.1.5 Environmental Benefits

Choosing an active transportation option rather than using a traditional vehicle—called mode shift—will reduce vehicular traffic along roadways and shift capacity to sidewalks or bicycle lanes. This moves toward a more efficient use of space in the transportation system. In addition to reduced roadway demand, this shift towards alternative transportation also reduces parking demand. Provision of parking is particularly important for downtowns and environmentally sensitive areas where large impervious surfaces generate the need to manage stormwater runoff. Travel mode shifts also indirectly improve air quality and reduce greenhouse gas emissions. According to the EPA, transportation accounts for roughly a quarter of all greenhouse gas emissions in the United States.²⁰ By allowing for walking or biking for short trips or trip-chaining with public transportation instead of driving, walkable communities can help reduce the number of vehicular miles traveled, and, consequently, vehicular emissions.²¹

A.1.6. Managed Growth

Sidewalk and bicycle facilities can play an essential role in managing the growth of a town. As Oakboro grows, it is critical to ensure that new development does not contribute to traffic congestion or sprawl, which can be harmful to the environment and local communities. According to the Environmental Protection Agency (EPA), transportation accounts for roughly a quarter of all greenhouse gas emissions in the United States.²² Providing sidewalks and bicycle facilities can offer residents more transportation choices, making it possible for them to leave their cars at home for short trips to local destinations, helping reduce the number of vehicular miles traveled, and, consequently, vehicular emissions.²³ By ensuring that new residential and commercial growth is connected to the Town's amenities and neighborhoods through sidewalks and bikeways, Oakboro can protect open spaces, encourage economic development, and provide safe, affordable, and efficient transportation options while retaining its small town character.

A-2 Pedestrian and Bicycle Design Guidance

This Design Guidance section documents current design guidance and standards resources in support of implementing bicycle and pedestrian improvements. This list of resources has been developed to complement the Town's Bicycle and Pedestrian Acceleration Plan and reflects best practices at the state and national level to support bicycle and pedestrian safety and comfort.

¹⁸ <https://www.ncdot.gov/bikeped/walkbikenc/pictures/EconomyImpact-Analysis.pdf>

¹⁹ http://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/m_ucm_301674.pdf

²⁰ <http://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014>

²¹ Gotchi, T. & Mills, K. (2008). Active transportation for America. Rails-to-Trails Conservancy.

²² <http://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014>

²³ Gotchi, T. & Mills, K. (2008). Active transportation for America. Rails-to-Trails Conservancy.

Most of the projects identified in the plan will require a more detailed evaluation by a professional engineer prior to implementation, with considerations for physical constraints, rights-of-way, traffic counts and speed and other data to be reviewed at the time of the engineering study.

A.2.1. National Guidance

American Association of State Highway and Transportation Officials' (AASHTO) *Guide for the Planning, Design, and Operation of Pedestrian Facilities.*

The American Association of State Highway and Transportation Officials (AASHTO) is a non-profit organization with the goal of supportive multimodal transportation for the entire United States. The *AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities* (2nd Edition, 2021) provides guidance on the planning, design, and application of various types of pedestrian facilities. The project team used this guide to help develop the recommendations in this Plan, and future updates to this Plan should involve consulting the guide. It will also provide specific guidance for design criteria of individual projects during the implementation phase.

American Association of State Highway and Transportation Officials' (AASHTO) *Guide for the Development of Bicycle Facilities*

The *AASHTO Guide for the Development of Bicycle Facilities* (4th Edition, 2012) provides similar types of guidance as the AASHTO Pedestrian Guide, and should be consulted in a similar manner as priority projects are advanced into design and construction. A new guide is anticipated in the near future.

American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets.*

A Policy on Geometric Design of Highways and Streets (2018) provides national guidance on the design of highways and streets. The 7th edition of the "The Green Book" offers an updated framework for geometric design that is more flexible, multimodal, and performance based than in previous editions.

Federal Highway Administration (FHWA) Guidance

FHWA provides guidance for accessibility, design, and facility operations for pedestrians and bicyclists, among other modes. Often, these are in the form of standalone publications that target a specific issue in transportation, such as planning in small towns, crossing guidance, and bikeway facility design. Their resources are especially helpful for state and local governments who wish to implement the best practices. Several publications of note are included below:

- ***Bikeway Selection Guide.*** [The Bikeway Selection Guide \(2019\)](#) is designed to assist transportation planners and engineers in the selection of roadway design treatments to accommodate bicycles and motor vehicles. This document is a resource to help transportation practitioners consider and make informed decisions about tradeoffs relating to the selection of bikeway types based on the local context, roadway characteristics and planned bicycle network.
- ***Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations.*** [The Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations \(2018\)](#) is developed to assist State or local transportation or traffic safety departments that are considering developing a policy or guide to support the installation of countermeasures at uncontrolled pedestrian crossing locations. This document provides guidance to agencies, including best practices for each step involved in selecting countermeasures. By

focusing on uncontrolled crossing locations, agencies can address a significant national safety problem and improve quality of life for pedestrians of all ages and abilities.

- **Pedestrian Lighting Primer.** [The Pedestrian Lighting Primer \(2022\)](#) was developed be a resource for transportation practitioners interested in the safety and security benefits of pedestrian lighting as well as lighting design considerations at locations with existing or future pedestrian activity.
- **Separated Bike Lane Planning and Design Guide.** [The Separated Bike Lane Planning and Design Guide \(2015\)](#) is the latest national guidance on the planning and design of separated bike lane facilities released by the Federal Highway Administration (FHWA). The resource documents best practices as demonstrated around the U.S.
- **Small Town and Rural Multimodal Networks Guide.** [The Small Town and Rural Multimodal Networks Guide \(2016\)](#) adopts existing street design guidance and facility types for bicycle and pedestrian safety and comfort for the context of smaller towns and rural places not addressed in guides such as the NACTO Street Design Guide and ITE Walkable Urban Thoroughfares report. The guide provides examples of how to interpret and apply design flexibility to improve bicycling and walking conditions.
- **STEP: Improving Visibility at Trail Crossings.** [STEP: Improving Visibility at Trail Crossings](#) is a resource focused on improving the driver's visibility of trail users at roadway crossings. The document presents a systemic approach to reviewing existing crossings or planning for improved at-grade trail crossings with engineering countermeasures, such as enhanced signs and traffic controls. This resource discusses ways to make crossings more visible to drivers. The document describes safety issues and countermeasures for several most frequent types of trail crossings and introduces a process for reviewing trail crossing locations for issues and opportunities to reduce the chances of fatal or severe injury crashes.

ITE Designing Walkable Urban Thoroughfares: A Context Sensitive Approach

The Institute of Transportation Engineers' (ITE) [Designing Walkable Urban Thoroughfares: A Context Sensitive Approach \(2010\)](#) was developed as a guide to support the understanding of the flexibility that is inherent in the AASHTO *A Policy on Geometric Design of Highways and Streets*. The chapters emphasize thoroughfares in "walkable communities" - compact, pedestrian-scaled villages, neighborhoods, town centers, urban centers, urban cores and other areas where walking, bicycling and transit are encouraged. It describes the relationship, compatibility and trade-offs that may be appropriate when balancing the needs of all users, adjoining land uses, environment and community interests when making decisions in the project development process.

Manual on Uniform Traffic Control Devices (MUTCD)

[The MUTCD](#) (updated in 2023) provides guidance on the use, design, and application of control devices such as signs, pavement markings, and signals. This manual defines the design criteria for specific implementation projects.

National Association of City Transportation Officials' (NACTO) Urban Bikeway Design Guide

[The NACTO Urban Bikeway Design Guide \(2011\)](#) is based on the experience of cycling cities around the world and in the U.S. and is meant provide cities with state-of-the-practice solutions that can help create complete streets that are safe and enjoyable for bicyclists.. The designs in this document were developed by cities for cities, since unique urban streets require innovative solutions. Most of these treatments are not directly referenced in the current version of the AASHTO Guide to Bikeway Facilities, although most of them are permitted under the

Manual on Uniform Traffic Control Devices (MUTCD). Non-compliant traffic control devices may be piloted through the MUTCD experimentation process. That process is described in Section 1A.10 of the MUTCD. The Federal Highway Administration has posted information regarding MUTCD approval status of all the bicycle related treatments (last updated in 2017)²⁴ and has issued a memorandum²⁵ in August 2013 officially supporting use of the document.

National Association of City Transportation Officials' (NACTO) *Urban Street Design Guide*

The National Association of City Transportation Officials' (NACTO) *Urban Street Design Guide* (2013) is a collection of nationally recognized street design standards, and offers guidance on the current state of the practice designs. Written by and for cities, NACTO's design guide centers around building streets that safely accommodate all road users, including people traveling on foot, bike, and on transit. This guide includes a toolkit of street design elements with key dimensions and applications.

United States Access Board

The US Access Board provides standards and guidelines for accessibility consistent with ADA. For more information about ADA accessibility requirements, the Town should consult the US Access Board's 1991 *ADA Accessibility Guidelines (ADAAG)* and the 2010 *Standards for Accessible Design* as minimum requirements for new construction or alterations.

The Town should also consult the 2011 *Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way* (proposed PROWAG) for additional best practices for accessibility. PROWAG has been published as a Notice of Proposed Rulemaking but is not standard as of 2022.

Shared Use Path Guidelines for Golf Carts and Pedestrians Integration

Fayetteville (GA), Peachtree City (GA), and Tyrone (GA) have distinct golf cart policies outlined in the Fayette County Master Path System Design Guidance. In Fayetteville, a permit is necessary for operation on specified streets and paths, with a focus on traffic rule adherence. Peachtree City emphasizes yielding to other modes of transport, pedestrian right-of-way, and prohibits sidewalk use. Their path user guide underscores that golf carts lack right-of-way and should exercise caution. In Tyrone, golf carts, considered motor vehicles, have a 20 mph speed limit and are allowed on certain streets with permits. Electric carts meeting criteria are permitted on paved paths.

A.2.2. North Carolina Guidelines

MUTCD (Manual on Uniform Traffic Control Devices)

North Carolina has its own supplement to the MUTCD to provide additional guidance on very specific issues, such as the implementation of speed limit signage. For more general instruction on signage and traffic markings, consult the national MUTCD provided by FHWA.

²⁴ FHWA (2017). Bicycle Facilities and the Manual on Uniform Traffic Control Devices (table). Retrieved from https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/mutcd/

²⁵ FHWA (2013). Memoranduma: Bicycle and Pedestrian Facility Design Flexibility. Retrieved from https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_flexibility.cfm

Roadway Design Manual

This document includes design specific elements and information required to prepare a detailed roadway design. The RDM is also intended to provide the designer with flexibility in the design process while still maintaining reasonable conformity to common NCDOT design practices. Part I, Chapter 4 – Cross Section Elements, describes the desirable and minimum widths for pedestrian and bicycle facilities and related projects.

Pedestrian Crossing Guidelines

This guide is designed to help local communities evaluate the existing conditions at pedestrian crossings in North Carolina. With this evaluation, it may be used to assess potential improvements based on these conditions. This guide is not designed to prioritize improvements, or assess the connectivity of a local pedestrian network. Additionally, this guide may not apply in special circumstances such as school crossings.

Complete Streets Implementation Guide and Evaluation Methodology

NCDOT describes the process for evaluating and incorporating pedestrian, bicyclist, and transit elements facilities in the Complete Streets Implementation Guide and the Complete Streets Project Evaluation Methodology. These resources are designed to help communities and NCDOT Divisions plan for a variety of transportation modes, including determining cost-share obligations. Through this multimodal approach, communities can become more active, sustainable, and connected.

Traffic Engineering Policies, Practices and Legal Authority (TEPPL)

This comprehensive resource provides a complete authority on federal and state policies and regulations regarding all transportation issues. This resource should be used a library for very intricate details regarding policy issues affecting active transportation.

A.2.3. Useful Web Links by Source

AASHTO (American Association of State Highway and Transportation Officials)

- AASHTO Publications. <https://store.transportation.org/>

FHWA (Federal Highway Administration)

- Manual on Uniform Traffic Control Devices (2023): [MUTCD 11th Edition - FHWA MUTCD \(dot.gov\)](#)
- Bicycle and Pedestrian Program Publications: https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/
- Safe Transportation for Every Pedestrian (STEP) Resources: https://safety.fhwa.dot.gov/ped_bike/step/resources/

ITE (Institute of Transportation Engineers)

- ITE Transportation Planning Resources <https://www.ite.org/technical-resources/topics/transportation-planning/>

NACTO (National Association of City Transportation Officials)

- NACTO Guides <https://nacto.org/publications/>

NCDOT (North Carolian Department of Transportation)

- Active Travel Terminology (2015)
<https://connect.ncdot.gov/projects/BikePed/Documents/NC%20Terminology%20for%20Active%20Travel.pdf>
- Bicycle and Pedestrian Project Development and Design Guidance Resources (including Bicycle and Pedestrian Facility Cost Tool; Greenway Construction Standards):
<https://connect.ncdot.gov/projects/BikePed/Pages/Guidance.aspx>
- Complete Streets Planning and Design Guidelines:
<https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx>
- Local Programs Management Handbook:
<https://connect.ncdot.gov/municipalities/Funding/Pages/LPM%20Handbook.aspx>
- Manual on Uniform Traffic Control Devices-North Carolina Supplement (2009):
<https://connect.ncdot.gov/resources/safety/Documents/>
- Roadway Design Manual: <https://connect.ncdot.gov/projects/Roadway/Pages/RDM.aspx>
- Pedestrian Crossing Guidance: [https://connect.ncdot.gov/resources/safety/Teppl/TEPPL All Documents Library/Pedestrian Crossing Guidance.pdf](https://connect.ncdot.gov/resources/safety/Teppl/TEPPL%20All%20Documents%20Library/Pedestrian%20Crossing%20Guidance.pdf)
- Traffic Engineering Policies, Practices, and Legal Authority (TEPPL):
<https://connect.ncdot.gov/resources/safety/Teppl/Pages/tepl.aspx>
- WalkBikeNC: <https://www.ncdot.gov/bikeped/walkbikenc/>

A-3 Policy and Program Recommendations and Resources

In addition to infrastructure improvements, strong programs and policies can help encourage and support a strong pedestrian and bicycle-friendly culture in Oakboro and promote active transportation. While development of facilities relates directly to engineering, pedestrian and bicycle programs are concerned with the six E's outlined in the NCDOT Safe Routes to School Program: encouragement, education, enforcement, equity, engineering, and evaluation.²⁶ Active transportation policies can improve pedestrian and bicycle-friendly design and development of both public and private sector projects. The project team encourages the Town to explore a comprehensive approach to the six E's, so that those initiatives can have a mutually-reinforcing and strengthening effect to create a walk and bicycle-friendly place. This requires ongoing communication and collaboration with a wide range of government agencies, organizations, the community, and individual stakeholders.

Many of the following activities represent continuations and/or enhancements of programs and policies that the Town is already administering. Recommendations in this section support ongoing activities to enhance overall livability and walkability for the Town's growing population. Many programs and resources listed in this section are subject to the availability of grant funding. The Town should follow up directly with the organizations listed for more information on the status of these programs or newer funding resources.

The table below illustrates a summary of some of the other "E's" focused on encouragement, education, enforcement, evaluation and equity. Additional description of the programs and policies follows after the table.

Table A-1 — Six E's Recommendation Overview

Strategy	Target Audience	Lead Agency/ Stakeholder	Partnerships for Success	Costs
Encouragement				
Non-Infrastructure Transportation Alternatives Program	Schoolchildren, Parents	Town of Oakboro	County Department of Public Health, School District	\$
Walking Maps	General Public	Bicycle and Pedestrian Advisory Committee (BPAC)	Town Staff, Volunteers	\$ - \$\$
Self-Guided / Group Walking Tours	General Public	BPAC	Town Staff, Volunteers	\$
Story Walks	Schoolchildren, Parents	Parks and Recreation	Town Staff, Stanly County Schools, Volunteers,	\$
Wayfinding Signs	General Public	BPAC	Town Staff, Tourism Bureau, Volunteers	\$ - \$\$
Awareness Days/Events	General Public	Town of Oakboro	Volunteers, Stanly County Schools	\$
Temporary Installations	General Public	Town, BPAC	Volunteers, NCDOT	\$-\$\$

²⁶ [safe-routes-to-school-description.pdf \(ncdot.gov\)](https://www.ncdot.gov/transportation/school/safe-routes-to-school-description.pdf)

Strategy	Target Audience	Lead Agency/ Stakeholder	Partnerships for Success	Costs
Town Designations	General Public	Town of Oakboro	Bicycle and Pedestrian Advisory Committee	\$
Education				
Project-Related Efforts	General Public	Town of Oakboro	NCDOT	\$
Driver Education	General Public	Town of Oakboro	NCDOT	\$ - \$\$\$
Internal Education	Town staff/ representatives	Town of Oakboro	NCDOT, Regional, County staff	\$
Let's Go NC	General Public, schoolchildren	Town of Oakboro	NCDOT, Active Route to School Coordinator	\$
Eat Smart, Move More NC	General Public	Town of Oakboro	NCDPH (NC Division of Public Health), ESMM (Eat Smart, Move More NC)	\$
Enforcement				
Watch for Me NC	Motorists	Town of Oakboro	Law Enforcement, NCDOT	\$
SeeClickFix	General Public	Town of Oakboro		\$
Speed Feedback Signs	Motorists	Town of Oakboro	Law Enforcement, NCDOT	\$\$ - \$\$\$
Motorist Enforcement	Motorists	Town of Oakboro	Law Enforcement	\$\$ - \$\$\$
Evaluation				
Bicycle and Pedestrian Advisory Committee	Town Staff / General Public	BPAC	Town Staff, Steering Committee	\$
Annual Pedestrian Count Program	General Public	Bicycle and Pedestrian Advisory Committee	Town Staff, Steering Committee	\$ - \$\$\$
Road Safety Audits	Town Staff	Town of Oakboro	Bicycle and Pedestrian Advisory Committee, NCDOT	\$\$ - \$\$\$
Community Surveys	General Public	BPAC	Town Staff, Steering Committee	\$\$ - \$\$\$
Facility Inspection/Maintenance	Town Staff	Town of Oakboro	Facilities	\$\$\$
Engineering				
Review Transportation projects and Town Design Standards for MUTCD,	Town Staff /State and Local Partners	Town of Oakboro	Town Staff, NCDOT	\$

Strategy	Target Audience	Lead Agency/ Stakeholder	Partnerships for Success	Costs
NCDOT IMD's Complete Streets compliance				
Update Roads to Town Latest Design Standards	Town Staff/State and Local Partners	Town of Oakboro	Town Staff, NCDOT	\$\$\$
Equity – Foundation of the Plan Elements, Included in All Activities				

Costs: \$ = Minimal costs/free; \$\$ = Moderate costs, may be available through local funds/investments; \$\$\$ = Requires investment, grants, additional funding resources

A.3.1 Encouragement Programs

The Town can use encouragement programs to strengthen the walking and bicycling culture within the community. Local businesses and Town departments can all play a role in encouraging pedestrian and bicycle activities through a variety of local opportunities and incentives. Increasing the amount and coverage of encouragement programs were highly recommended from the community outreach.

Lead agencies and stakeholders:

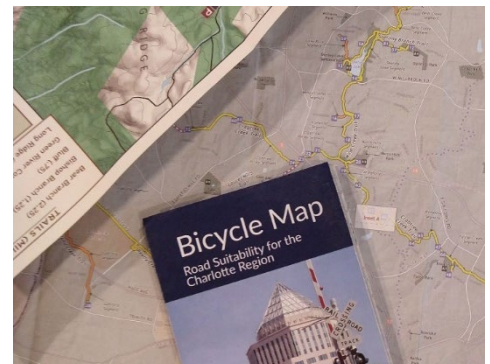
- Town staff
- County health department
- Community leaders/stakeholders

Elements of a good encouragement program:

- Provides residents casual introductions to walking in a non-competitive setting.
- Uses a variety of print and electronic strategies to disseminate pedestrian information.
- Celebrates and promotes community wins through print or online media, and word of mouth.

Non-Infrastructure Transportation Alternatives Program

NCDOT has transitioned the Active Routes to School program, a project under [NC Safe Routes to School](#), to a grant-based program funded through the Non-Infrastructure Transportation Alternatives Program. Agencies may request up to three years of funding for projects that encourage children to walk and bike to school, make walking more appealing, and facilitate the development of projects and activities to improve transportation safety near schools. Funding may be requested to support activities for community-wide, regional, or statewide programs. The Town may choose to coordinate with schools, the school district, or the County to pursue funding and recommend projects.



Bicycling and walking maps could help residents and visitors navigate Oakboro on foot and by bike.

Walking and Biking Maps

User maps are important tools for encouraging walking and bicycling. The Town can create its print and electronic maps and smart phone applications that identify common walking and/or bicycling routes, identify key destinations, and other available or planned features. The Town should refine and update the maps as they develop new facilities and should seek opportunities to distribute to residents and visitors. Colorful, graphic maps should appeal to all ages and abilities and can also include educational information about the rules of the road for drivers, cyclists, and pedestrians; safety; and etiquette.

Walking Routes and Walking and Running Clubs

Advertised recreational walking routes could encourage walking and present an opportunity for residents to socialize. By developing and advertising one or more formal walking routes in association with the walking and bicycling maps previously described, the Town could identify routes to connect pedestrians to recreational, shopping, dining, and scenic destinations. Recreational walking routes could begin with existing facilities and expand as the pedestrian network develops. The Town or the Chamber of Commerce could organize guided scheduled walking tours on the weekends to highlight the local culture and history. Alternatively, neighborhoods and local non-profits could start walking clubs for residents of a specific neighborhood, seniors, or other groups to encourage active recreation in a friendly, social format.

A running club could be another way for residents to come together in small groups and experience the Town on foot while enjoying active recreation and socialization.

Story Walks

Story walks, strolls, or trails are an interactive way to get people of all ages out walking while reading children's picture books. The StoryWalk® Project originally was created by Anne Ferguson of Montpelier, Vermont in 2007 and was developed in collaboration with the Kellogg-Hubbard Library. These walks are simple and low cost to set up, requiring at minimum only a physical copy of a children's book. Pages from the book are separated and attached to a mount or stand for people to read as they walk. Many libraries in NC have partnered with communities, colleges and municipalities to install these the book pages along local walking paths.

Wayfinding Signs

As the pedestrian system develops, and especially as sidewalks are installed and neighborhoods are connected, wayfinding will help contribute to the overall pedestrian environment. Items such as mile markers, consistent themes and logos, and regular wayfinding kiosks will become important elements to encourage walking. The Town can use services such as Walk [Your City] (<https://walkyourcity.org>) to purchase inexpensive, weather resistant signs to educate residents about the distance and direction between destinations.

Bicycle Repair Stations

Bicycle repair stations (bicycle fix-it stations) can be placed in strategic locations likely to be near the beginning of a ride to help cyclists pump up a tire or undertake a simple repair or adjustment on their bicycle.

Awareness Days and Events

The Town can devote specific days of the year to raise awareness related to walking and bicycle promotion and encourage socializing, especially in the Downtown. Events can be held in parks, schools, Town facilities, or similar

venues. The Town already has existing successful events where a portion of downtown is closed off to traffic for a festival (i.e. Mount Mitchell Craft Fair).

The Town can use national events to increase use of pedestrian and bicycle facilities, create new versions specific to local events, and add pedestrian topics to existing Town events. Examples of national events include National Walk to Work Day (April), Earth Day (April 22), National Trails Day (First Saturday in June), PARK(ing) Day (September), National Open Streets Day (September), and National Walk to School Day (October).

Temporary Installations and Open Streets

The Town can use temporary installations to get the public invested and excited about Oakboro’s multimodal future. There are several types of temporary projects the Town can conduct:

- Open Streets: an event where a section of a street or multiple connecting streets are closed to cars and activities occur in the public right-of-way, often including bicycle rides, outdoor seating, and other potential uses for the public space. These events often occur on a weekend and engage the community in imagining community-focused public spaces. This type of activity could be sponsored by the Town, arts groups, or the County. <https://openstreetsproject.org/>
- Demonstration Projects: short-term installations of bicycle or pedestrian infrastructure using low-cost and temporary materials. These projects can evaluate the effectiveness of different facilities or recommendations without investing in the development of them. Potential examples include application of continental crosswalk marking patterns and curb extensions with flex posts and pavement markings.

[The NCDOT Interim Design Safety Pilot Program](#) serves as a resource and outlines a process (Figure 18) for evaluating the process for deploying low-cost, interim design safety countermeasures on state owned and maintained roadways.



Figure 18 - Interim Design Safety Pilot Program Process

- Pop-up bicycle parks: short-term bike installations can be a quick solution to implement a safe space for recreational biking. A pop-up bicycle park installation can be created to help participants of all ages learn and develop safe bicycling skills and gain experience with navigating a more difficult terrain. The Town of Oakboro District Park could be a potential location for short term pop-up bicycle park implementation.



Asheville Coxe Avenue Demonstration Project Included Temporary Installation of a Separated Bicycle Lane and a Street Mural

National Programs in Support of Walk Friendly Community Designations

Several national recognition programs encourage towns and cities to promote pedestrian activity. The Town can pursue or strive for progress towards one of the programs that recognize communities that are working to improve access, safety, mobility, and transportation options. Recognition programs include the following examples:

- Walk Friendly Community <http://www.walkfriendly.org/>
- Active Towns <https://www.activetowns.org/>
- AARP Age Friendly Communities <https://www.aarp.org/livable-communities/network-age-friendly-communities/>
- CDC Healthy Communities Program <https://www.cdc.gov/nccdphp/dch/programs/healthycommunitiesprogram/index.htm>

Encouragement Program Resources

- Healthy Places By Design <https://healthyplacesbydesign.org/resources/>
- Non-Infrastructure Transportation Alternatives Program <https://connect.ncdot.gov/projects/BikePed/Pages/Non-Infrastructure-Alternatives-Program.aspx>
- *Healthy Aging Research Network Archives*. <http://depts.washington.edu/hprc/resources/products-tools/healthy-aging-research-network-archives/>
- *Livable Communities: Livable in Action*. <http://www.aarp.org/livable-communities/livable-in-action/>
- Story Walk <https://letsmovelibraries.org/storywalk/>

- Move More Walking Map Guide. <https://www.eatsmartmovemorenc.com/resource/walking-map-guide/>
- National Center for Safe Routes to School. <http://saferoutesinfo.org/>
- Walk Wise, Drive Smart: A Senior Pedestrian Safety Program in Hendersonville, North Carolina. http://www.pedbikeinfo.org/cms/downloads/WalkWise_Hunter.pdf

A.3.2 Education Programs

The Town can take advantage of existing educational materials from state and federal programs and tailor these to the specific needs of the community. The educational materials should promote safe behaviors, rules, and responsibilities for all roadway users including bicyclists, pedestrians, and motorists, and overcome barriers to bicycling on shared facilities. Local businesses, Town departments, and local advocates can all play a role in developing and distributing education materials. Bicycle education events (bicycle rodeos) already organized by PATH ([Programs to Advance Transportation Health](#)) on an annual basis could be supplemented with additional bicycle education events at local elementary schools to target children. Such events usually require support from non-profit agency partners to organize volunteers, and the use of a large parking lot for skills practice area.

Lead agencies and stakeholders:

- Town staff
- Stanly County health department
- Dedicated and committed community leaders/stakeholders

Elements of a good education program:

- Provides the community with information on bicycle and pedestrian laws, safe behaviors, and skills.
- Reaches people of all skill levels, physical abilities, and ages.
- Delivers information through a variety of print and electronic messages and hands-on training.
- Includes all roadway users: motorists, bicyclists, and pedestrians.

Project-Related Efforts

The Town should coordinate closely with NCDOT and other local stakeholders when elements of the Plan and other pedestrian, bicycle or roadway improvements with complete streets elements are planned or implemented. Public involvement and education are essential throughout the project process. Communication with the public during the planning phase ensures the community is aware of upcoming events or potential impacts to their roadway, construction schedules, improvements, and proposed completion dates. This also provides an opportunity for community feedback, which can help inform future educational efforts on the project. Once a project is completed, education efforts should provide information on how to use the facility. Project-related



Bicycle Rodeo at Lions Park, Raleigh NC, Credit: Harry Lynch

coordination efforts can be distributed through local media outlets, on-site, at special events/community events, project-related meetings, local and Town websites, and in coordination with NCDOT outreach.

Driver Education

Town staff, Bicycle and Pedestrian Advisory Committee members (when formed), and community leaders can work together to identify priority educational topics, key audiences, and outreach methods (e.g., signage, workshops, print media). Potential educational campaigns could follow one of the following potential templates:

- General rules of the road training conducted at community centers and churches (for young residents)
- AARP Driver Safety courses geared toward older drivers
- The NC Friendly Driver Program provides important information and links to resources to help motorists safely co-exist with bicyclists and other vulnerable road users. <https://www.bikewalknc.org/safety-education/education-resources-for-motorists/> Friendly Driver Certification Program: see Little Rock example at <https://www.littlerock.gov/for-residents/bikeped-little-rock/education/friendly-driver-program/>
- Street Smart NJ – Drive Smart/Walk Smart Campaign <https://bestreetsmartnj.org/>

Internal Education

Education is not limited to the community, but should also include all key staff involved in Plan implementation. This includes Town staff, Board members, and Steering Committee members as well as NCDOT Division staff and regional or county staff, when relevant. Opportunities for education include, but are not limited to, the following:

- Staff presentations on sessions or conference events.
- Meetings or retreats on the Plan to discuss the status of the Plan, potential funding opportunities, roadblocks to implementation, or other similar pertinent information.
- Coordination between agencies and departments, such as information or resource sharing between transportation, planning, health, facilities, parks and recreation, and other such City or county departments.
- Training opportunities—webinars, brown bag lunch presentations—to educate staff on pedestrian guidelines and designs and best practices from across the state and nation.

Let's Go NC – Pedestrian and Bicycle Curriculum

NCDOT sponsors this free educational program and provides instructional lesson plans, videos, and other downloadable programming to teach elementary age children how to walk and bicycle safely. Instructors do not need to receive training. The Town should work with local agencies, schools, or community organizations to identify one or more individuals willing to take responsibility for conducting the training.

Eat Smart, Move More NC

Eat Smart, Move More NC is a North Carolina program that promotes physical activity and healthy eating. They provide free, downloadable resources to encourage communities, schools, grocery stores, and similar businesses to make the healthy choice the easier choice. Community-based tools support creating active outdoor play spaces, information on coalitions to support the movement, and handouts for distribution, among others.

Education Program Resources

- Eat Smart, Move More NC. <https://www.eatsmartmovemorenc.com/>
- *Guide to Creating Active Outdoor Play Spaces*. <https://www.eatsmartmovemorenc.com/wp-content/uploads/2019/08/PlaySpacesGuide-HiRez.pdf>
- *Eat Smart, Move More Coalitions*. <https://www.eatsmartmovemorenc.com/resource/eat-smart-move-more-coalitions/>
- *Eat Smart, Move More Manual*. https://www.eatsmartmovemorenc.com/wp-content/uploads/2019/08/070317_lpan_manual.pdf
- Federal Highway Administration Pedestrian and Bicycle Safety. http://safety.fhwa.dot.gov/ped_bike/.
- Institute for Transportation Research and Education: Education and Training – Bicycle and Pedestrian. <https://itre.ncsu.edu/training/bike-ped/>
- Let's Go, NC! <https://www.ncdot.gov/initiatives-policies/safety/lets-go-nc/Pages/default.aspx>
- National Highway Traffic Safety Administration Pedestrian Safety. <https://www.nhtsa.gov/road-safety/pedestrian-safety>
- NCDOT Integrated Mobility Division. <https://connect.ncdot.gov/projects/BikePed/Pages/default.aspx>
- Pedestrian and Bicycle Information Center. <http://www.pedbikeinfo.org/>
- WalkBikeNC. <https://www.ncdot.gov/bikeped/walkbikenc/>

A.3.3 Enforcement Programs

Much like education programs, the purpose of enforcement programs can be used to educate all roadway users about traffic laws and encourage safer behaviors. Programs include periodic reminders or events to obey traffic rules and ongoing monitoring of public spaces. Enforcement programs also reinforce and support the other E's.

Lead agencies and stakeholders:

- Law enforcement agencies
- Town staff

Elements of a good enforcement program:

- Reviews and updates North Carolina laws that impact safety.
- Ongoing enforcement of relevant laws.
- Reduces the number of pedestrian crashes.

Watch for Me NC

This statewide pedestrian and bicycle safety campaign is designed to reduce pedestrian and bicycle injuries and deaths through education and enforcement. Watch for Me NC targets all roadway users and provides useful resources and tools for municipalities and residents. The program provides free training to law enforcement on state traffic laws supporting pedestrian safety, in exchange for commitments to conduct an operation campaign locally. The program also provides free safety materials for distribution during local operations or special

community events. The Town can use the program to improve relationships between residents and law enforcement through educational events and safety materials giveaways (such as reflective gear and bike lights). It can also deploy the vehicle enforcement operations to those locations with higher failure to yield to pedestrians incidents along its higher speed and higher volume arterials such as those identified in for RSAs in the evaluations efforts section below.

SeeClickFix

Community members can use this website to report neighborhood concerns related to infrastructure, such as potholes, streetlight issues, or graffiti. The comments are routed to the local officials who can respond to the comment with information. The Town can use this resource to better track community concerns and identify areas in need of attention.

Speed Feedback Signs

The Town can use temporary traffic calming devices at key locations. These devices are mobile and can be placed along North Main Street, East 1st Street, West 2nd Street and other locations where motorists may be traveling at higher speeds and pedestrians may be walking or using mobility devices in the roadway due to lack of pedestrian infrastructure.

Motorist Enforcement

Local police should work together with Town officials to use any of the programs and resources to coordinate one-time or ongoing motorist enforcement campaigns. Enforcement may include monitoring vehicle speeds and traffic signal compliance.

Another approach to motorist enforcement is to incentivize or offer rewards for appropriate behavior. Local law enforcement can conduct a pedestrian enforcement campaign that commends pedestrians for using crosswalks. The Town can work with local business owners to provide gift certificates, coupons, or other small tokens as rewards. The Town should conduct these enforcement efforts at highly visible locations and publicize them in the community and via social media.

Enforcement Program Resources

- FHWA *Partnering with Law Enforcement*. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/ntpp/partner_law.cfm
- NCDOT Watch for Me NC. <http://www.watchformenc.org/>
- NHTSA *Resource Guide on Laws Related to Pedestrian and Bicycle Safety*. <https://one.nhtsa.gov/people/injury/pedbimot/bike/resourceguide/index.html>
- SeeClickFix. <https://seeclickfix.com/>
- Pedestrian and Bicycle Information Center Training and Events. <http://www.pedbikeinfo.org/training/index.cfm>
- Pedestrian and Safety Guide and Countermeasure Selection System. <http://www.pedbikesafe.org/pedsafe/>

A.3.4 Evaluation Efforts

The Town can use evaluation efforts to understand how well the strategies in the plan are working over time. Evaluation activities include setting goals, collecting baseline data (where possible), setting timetables, and collecting follow up data for all projects. Not all evaluation activities are data-driven; qualitative feedback and partnerships can assist with achieving the goal of evaluating program/strategy effectiveness and identifying improvements.

Lead agencies and stakeholders:

- Pedestrian Committee
- Steering Committee
- Town staff
- Public Works maintenance staff

Elements of a good evaluation effort:

- Dedicated staff or volunteer who will take responsibility of monitoring all elements of the Plan.
- Established metrics that are measurable and have associated timelines.

Town of Oakboro Bicycle and Pedestrian Advisory Committee

The Town should establish a Bicycle and Pedestrian Advisory Committee (BPAC) and engage with the Steering Committee for its initial membership. The Bicycle and Pedestrian Advisory Committee should be responsible for moving the plan towards implementation and tracking success. Alternatively, a standing agenda item on the GOBA (Greater Oakboro Business Association) meeting agendas focused on bicycle and pedestrian infrastructure improvements could bring ongoing attention to the bicycle and pedestrian issues in the community

Steering Committee members can help champion the Plan by working closely with the BPAC to help measure success, work as liaisons with the greater community, and help identify solutions to barriers during implementation. The BPAC can provide guidance for policies, projects, and programs managed by the Town to promote more active lifestyles and safety for walking and cycling.

Annual Bicycle and Pedestrian Count Program

The Town and the Bicycle and Pedestrian Advisory Committee can work together to conduct annual bicycle and pedestrian counts to identify high-traffic locations. Volunteers from schools or community organizations can conduct manual observational counts at different times of the day and days of the week. Counts for specific locations should be done prior to implementation of a project to establish a baseline and then continue annually or on a two-year cycle. Observational qualitative data can also be used to identify locations for specific safety, enforcement, and educational efforts.

Conduct Road Safety Audits

Town staff and representatives can conduct Road Safety Audits on priority corridors to identify more specific engineering-related improvements. This is a formal and detailed process that involves a multidisciplinary team to identify roadway elements that present the most safety concerns and formulate solutions to eliminate or mitigate the safety issues. The Town may request support from NCDOT Division 10, the NCDOT Traffic Safety Unit, and

even request technical assistance from the Federal Highway Administration (alternatively, the Town can consider hiring an outside consultant to organize and conduct RSAs).

Corridors that may be suitable candidates based on their traffic volumes, speeds, numbers of lanes, pedestrian crashes, pedestrian-focused land uses, and recommended facilities include:

- West 2nd Street
- North Main Street/South Main Street
- Aquadale Road
- Alonzo Road

Vision Zero /Local Transportation Safety Plan

Going beyond a Road Safety Audit for one specific corridor, the Town could pursue a Local Transportation Safety Plan or a Vision Zero plan for the Town of Oakboro to undertake a comprehensive review of transportation safety issues and to improve safety for all users. Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safety, healthy and equitable mobility for all through a safe system approach. Multiple municipalities across North Carolina have undertaken Vision Zero plans in recent years, including the City of Greensboro and the City of Charlotte. Additional Vision Zero and Local Transportation Safety Plan resources are available as follows:

- Vision Zero Network <https://visionzeronetwork.org/resources/>
- NC Vision Zero is a great resource for communities in NC interested in learning more about Vision Zero and connects to a number of resources <https://ncvisionzero.org/>
- FHWA Local Road Safety Plan Resources https://safety.fhwa.dot.gov/provencountermeasures/local_roads.cfm

Community Surveys

The Town can use surveys and other similar feedback mechanisms as tools to gauge community-wide acceptance and understanding of new projects; needs and interests for other future projects; and other community concerns that may be addressed through Encouragement and Education programming. The Town should work with stakeholder groups who reach broad audiences to help disseminate survey tools and collect feedback. This Plan demonstrated the Town's outreach through electronic surveys was capable of reaching multiple residents of varying status from across the Town.

Facility Inspection and Maintenance

A key piece of evaluation is measuring and identifying maintenance needs, particularly after implementation. Public Works maintenance and facility staff should conduct routine maintenance checks of installed pedestrian projects to identify general wear and tear and immediate fixes—such as potholes and broken asphalt—that may impede use. The Town should establish a plan and timeline for addressing such issues. This encouragement initiative relies upon crowd-sourcing to report maintenance needs.

Evaluation Resources

- National Center for Safe Routes to School – Walkability Checklist. http://walkbiketoschool.org/wp-content/uploads/2017/01/walkability_checklist.pdf
- Pedestrian and Bicycle Information Center – Counts. http://www.pedbikeinfo.org/planning/tools_counts.cfm
- FHWA – Road Safety Audits. <https://safety.fhwa.dot.gov/rsa/>

A.3.5 Policy Best Practices

The NCDOT Integrated Mobility Division web page includes references and links to state and federal policies to support accommodation of pedestrians as part of the transportation system. See <https://www.ncdot.gov/divisions/bike-ped/Pages/bike-ped-laws.aspx> along with the summaries below.

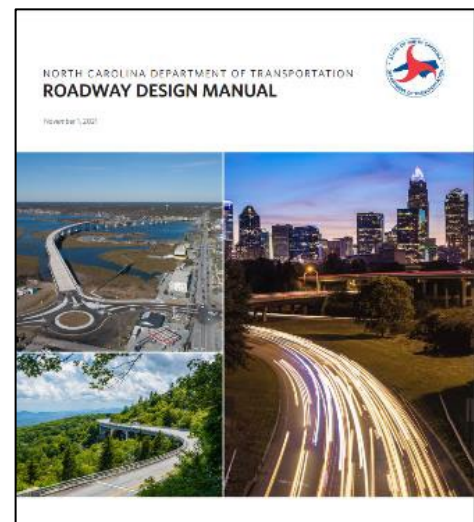
Complete Streets Policy and Guidelines

The USDOT defines Complete Streets as “streets designed and operated to enable safe use and support mobility for all users...[including] people of all ages and abilities, regardless of whether they are travelling as drivers, pedestrians, bicyclists, or public transportation riders.”²⁷ The Town of Oakboro does not have a Complete Streets policy or design guidelines as of 2023.

NCDOT adopted its first Complete Streets Policy in 2009, revised it in 2019, and updated implementation guidance in 2022.²⁸ The updated policy and guidance documents reinforced that NCDOT is committed to partnering with local agencies to deliver Complete Streets. NCDOT highway projects (as defined by the STIP with a primary purpose of improving mobility for motor vehicles) that do not yet have an environmental document (as of August 30, 2019) are subject to the new policy. Revisions or clarification to the policy and guidance will be considered by a NCDOT Complete Streets Technical Team on an ongoing basis.

The 2019 policy and updated guidelines require NCDOT staff to incorporate multimodal facilities into the design of all transportation projects led by NCDOT, with few exceptions. Those exceptions may include facilities where non-motorized travel is prohibited by law (i.e. interstates and controlled access highways); areas with low densities of population and employment; areas with low demand for transit service; emergency repair or some routine maintenance projects.

The NCDOT Roadway Design Manual is the authoritative reference for Complete Streets design for NCDOT projects. NCDOT has recently moved to use the roadway cross sections developed for the SPOT process as illustrative examples for Complete Streets. There are additional resources to the standard roadway drawings, including curb ramp details.



²⁷ USDOT <https://www.transportation.gov/mission/health/complete-streets>

²⁸ <https://connect.ncdot.gov/projects/Project-Management/Documents/CS%20Policy%20Update%20Memo%20Secretary%208.28.19.pdf>

The Town of Oakboro should adopt a local Complete Streets Policy. The Town may reference the 2019 NCDOT policy or develop language customized to meet the objectives of this plan and local stakeholders. An Oakboro Complete Streets Policy should include the following elements as recommended from Smart Growth America and the National Complete Streets Coalition²⁹:

Table A-2 Complete Street Policy Recommendations

	Recommendation	Description
1	Vision and intent	Includes an equitable vision for how and why the community wants to complete its streets. Specifies need to create complete, connected, network and specifies at least four modes, two of which must be biking or walking.
2	Diverse users	Benefits all users equitably, particularly vulnerable users and the most underinvested and underserved communities
3	Commitment in all projects and phases:	Applies to new, retrofit/reconstruction, maintenance, and ongoing projects.
4	Clear, accountable exceptions	Makes any exceptions specific and sets a clear procedure that requires high-level approval and public notice prior to exceptions being granted.
5	Jurisdiction	Requires interagency coordination between government departments and partner agencies on Complete Streets.
6	Design	Directs the use of the latest and best design criteria and guidelines and sets a time frame for their implementation.
7	Land use and context sensitivity:	Considers the surrounding community's current and expected land use and transportation needs.
8	Performance measures	Establishes performance standards that are specific, equitable, and available to the public.
9	Project selection criteria	Provides specific criteria to encourage funding prioritization for Complete Streets implementation.
10	Implementation steps	Includes specific next steps for implementation of the policy.

Recommendation: The Town of Oakboro should adopt a local Complete Streets Policy that summarizes principles and goals, references design best practices, identifies responsible parties and activities for implementation, and defines exceptions to application of the policy.

²⁹ Smart Growth America, "The Elements of a Complete Streets Policy," 2018, <https://smartgrowthamerica.org/resources/elements-complete-streets-policy/>

A-4 Organizational Framework and Funding for Implementation

A.4.1 Organizational Framework

Successful implementation of the Plan will require the cooperation of several agencies and organizations. Many of these partnerships already exist, and this Plan will build on those partnerships. Examples of these partnerships include the relationships between NCDOT, the Town, and the Rocky River Rural Planning Organization (Rocky River RPO). Still other connections will be formed through the implementation of this Plan. These coalitions will likely be formed within the community itself, as the Town coordinates its efforts with local schools, athletic associations, and other community groups.

Role of NCDOT

As the administrator of the Multimodal Planning Grant Initiative and the primary agency concerned with transportation planning, engineering, and construction in the State of North Carolina, NCDOT will be an important partner in the implementation of this Plan. After the adoption of this Plan, NCDOT should continue to provide technical assistance and consulting regarding pedestrian and bicycle transportation planning in Oakboro. NCDOT Division 10 is responsible for construction of pedestrian facilities along state owned roads in the Town. The maintenance responsibility of NCDOT for pedestrian facilities outside of incorporated Town limits is dependent on the maintenance agreements between NCDOT and the local jurisdictions where such projects are located.³⁰ Generally, NCDOT is not responsible for the maintenance or upkeep of pedestrian facilities such as repairing defects or clearing snow, ice, and or other debris within municipal limits. It will be the primary partner for the design and construction of recommended projects made in Section 3 of this Plan.

The Strategic Prioritization Office of Transportation (SPOT) process prioritizes most NCDOT division projects, per the state's Strategic Transportation Investment (STI) law. SPOT is a data-driven approach to project prioritization for all transportation mode projects, including bicycle and pedestrian project improvements. STI provides three funding tiers for transportation projects: Statewide Mobility, Regional impact, or Division needs. Standalone pedestrian projects are eligible for funding as part of the Division Needs category. Bicycle and pedestrian projects compete against highway and other transportation projects in this category. Half of the score is based on data-centric methodology determined by NCDOT and the other half of the score is dependent on local input from the NCDOT Division 10 office and the Rocky River RPO.

The NCDOT Division of Integrated Mobility is the primary resource for guidance on bicycle and pedestrian policies, laws, and safety education (Section 4). It is also the administrator for a wide variety of statewide initiatives aimed at promoting safety and participation in active transportation. As the Town progresses with the implementation of this Plan, it should consult the online resources available through the Division of Integrated Mobility for guidance on specific pedestrian treatment issues.

Role of the Rocky River Rural Planning Organization

As the Rural Planning Organization (RPO) is responsible for transportation planning within Anson, Stanly, and portions of Union Counties, the Rocky River RPO would be a key stakeholder involved in implementing the

³⁰ [19A NCAC 02D .0406](#) "Construction and Maintenance of Sidewalks"

projects recommended in this Plan. For the infrastructure needs of Oakboro to be met, Rocky River RPO should continue to consider the multimodal transportation needs of the Town in the region's comprehensive transportation plan (CTP). Opportunities to improve the bicycle and pedestrian environment should be taken when roadways are scheduled for maintenance or construction. Some of the projects outlined in this report can be good candidates for funding through the STI Prioritization process to include a project in the State Transportation Improvement Program (STIP). Other improvements can be achieved as part of resurfacing projects or supported through economic development and private grant applications or local funding.

Role of Stanly County

While Counties in North Carolina typically do not own or maintain roadways, planning by the Stanly County government has a direct effect on the Town of Oakboro. Especially when it comes to implementation and maintenance of sidewalk and multi-use path links outside of Oakboro town limits or on sections connecting two incorporated areas through an unincorporated area, the County would have to be a partner to support long term maintenance of implemented facilities under an agreement with the Town of Oakboro and NCDOT.

The County is the primary organization governing land use planning, transportation planning, and public health initiatives in and around the Town. It is vital that these plans align with common goals that span municipal boundaries. There are several crucial ways for the County to support this Plan:

- Support active transportation through regional trails and networks.
- Promote active transportation and public health through county-wide programming.
- Consider pedestrian and bicyclist mobility and safety as part of economic development and tourism-oriented projects

Role of the Town of Oakboro

Oakboro is responsible for implementing this Plan and responsible for the maintenance and upkeep of any pedestrian facility within the incorporated limits of the Town per municipal maintenance agreements.³¹ Through its adoption, the Town will be empowered to act as a champion for bicycle and pedestrian needs. The Town should form pedestrian and bicycle advisory committees that will serve as leaders for bicycle and pedestrian planning in Oakboro. As champions of active transportation, committee members should encourage the full implementation of this Plan. This includes advocating for the project and programmatic recommendations in this Plan, as well as developing other events and programs as they work in the community. A great example of this is in practice is a wayfinding signage program. This would be functional for pedestrians and would enhance the sense of community and aesthetics in Oakboro.

³¹ [19A NCAC 02D .0404](#) "Maintenance Within Municipalities" / [19A NCAC 02B .0315](#) "Negotiation with Municipalities And Municipal Agreements"

A.4.2 Funding Sources

The list below provides a description of some of the key funding sources available to support implementation of active transportation improvements. This is not meant to be an exhaustive list.

Federal

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) is a core federal-aid program that provides funding for safety projects and programs on any publicly owned roadway to reduce fatal and serious injury crashes. The FHWA has developed a variety of resources to help states plan, implement, and evaluate the effectiveness of the efforts. HSIP funding can be used for either location-based or systemic projects or programs, but obtaining funding requires detailed data evaluation to ensure the best use of funds. In North Carolina, NCDOT oversees the project selection for HSIP funding. The North Carolina Strategic Highway Safety Plan guides the priorities for HSIP project selection in North Carolina.

National Priority Incentive Programs (Section 405) and State and Community Highway Safety Program (Section 402)

National Highway Traffic Safety Administration (NHTSA) administers the highway safety grants included in the Bipartisan Infrastructure Law and distributed to Highway Safety Offices in all 50 states, the District of Columbia, United States territories, and the U.S. Department of the Interior's Bureau of Indian Affairs. Those highway safety grants generally fall under two categories:

- State and Community Highway Safety Program (Section 405): this program covers initiatives such as high-visibility enforcement campaigns and other safe driving campaigns, as well as enforcement of and education about state laws on seat belt use and risky driving; in addition, this program supports improving traffic records and support programs on the proper use of child safety seats, including inspection stations where caregivers can confirm the proper installation of their child safety seats.
- National Priority Incentive Program (Section 405): this program includes categories of projects such as impaired driving countermeasures; state traffic safety information systems to help states build databases related to crashes; occupant protection including seat belt education and enforcement; distracted driving prevention; pedestrian and bicyclist safety programs; and motorcyclist safety.

In North Carolina, NCDOT Governor's Highway Safety Office is the agency that collects grant applications on an annual basis for projects to be funded with Section 402 and Section 405 funds.

Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Discretionary Grant Program

RAISE discretionary grant funding program, previously known as TIGER grants and then later as BUILD grants, includes eligibility for a wide variety of transportation projects planning and implementation. RAISE grants are expected to help communities carry out projects with significant local or regional impact. A competitive grant application process is required. The minimum award amount for planning projects is \$5 million (\$1 million in rural areas), and the maximum amount differs between two funding streams (\$25 million if funded through Bipartisan Infrastructure Bill (BIL) funding and \$45 million if funded through the FY 2022 Appropriations Act funding). A 20% local match is generally required, with a few exceptions in the following cases:

- Rural communities

- Areas of Persistent Poverty
- Historically Disadvantaged Communities are eligible to apply for 100% federal funding

Active Transportation Infrastructure Investment Program

This is a new funding program in the Infrastructure Investment and Jobs Act (IIJA, also known as the Bipartisan Infrastructure Bill (BIL). Under the Active Transportation Infrastructure Investment Program, local, regional, state, and tribal governments can apply to receive funding for active transportation projects and planning grants that build upon a local, regional or state network or key network corridors. The infrastructure projects and planning studies funded under this program have to account for safety and facilitate more people walking and biking.

Safe Streets and Roads for All (SS4A) Grants

The Safe Streets and Roads for All (SS4A) discretionary program was a new program established under the Bipartisan Infrastructure Law (BIL). SS4A grant program is available for both safety action plans and implementation. A 20% local match is required. Funding amounts range as follows:

- For action plans, the range is between \$200,000-1 million (for municipalities) or up to \$5 million (for MPOs).
- For implementation applications, the range is \$5 million-30 million for municipalities, \$3 million-30 million for rural areas and \$5 million-50 million (for MPOs).
- Any jurisdiction outside of an Urbanized Area or any Urbanized Area < 200,000 in population is considered "rural" for the purpose of this grant application.
- Carbon Reduction funding is offered by NCDOT and each RPO also gets an allocation to spend.

Surface Transportation Block Grant (STBG)-Transportation Alternatives Set-Aside

The Surface Transportation Block Grant Program (STBG) provides a flexible funding source to best address State and local transportation needs and covers a wide variety of potential projects including highway, bridge, transit capital and bicycle and pedestrian projects. A minimum of 20% local match is required. The State of North Carolina receives an apportionment on an annual basis based on an established allocation formula. NCDOT allocates STBG funding that is not designated for larger MPOs through the STI Prioritization process that informs the STIP development every two years. More information is available at here: [Transportation Alternatives - Environment - FHWA \(dot.gov\)](#)

State

Great Trails State Program

The Great Trails State Program 2023-2025 budget approved by the North Carolina General Assembly last week allocates a total of \$54.9 million towards the enhancement of trail and greenway infrastructure in North Carolina. This includes the establishment of a new \$25 million Great Trails State Program, which will provide \$12.5 million annually for two years in competitive grants for both paved and natural surface trails. The grant program, designed to be competitive, will support the creation of new trails and the expansion of existing ones, including paved trails, greenways, and natural surface trails for activities such as biking, hiking, walking, equestrian use, and paddling. The Town of Oakboro could apply for these competitive grants to enhance quality and expand the reach of the Carolina Thread Trail and/or new trails recommended in this plan. The North Carolina Department of

Natural and Cultural Resources (NCDNCR) will oversee the fund. The funds can be used for various purposes such as planning, design, environmental assessment or permitting, land and easement acquisition, trail construction, trail structures like bridges, trail amenities like trailhead parking and signage, and maintenance. They can also serve as matching funds for federal or other non-state grants. A minimum of a 25% flexible match, which can be cash, in-kind services, or asset donations, is required. The maximum grant amount per project is capped at \$500,000. The budget also increases the Complete the Trails Fund by \$5 million, supporting 15 authorized state trails including the Overmountain Victory State Trail, the Wilderness Gateway Trail, and the Mountains-To-Sea State Trail. Additionally, it allocates \$24.9 million in non-recurring funds for specific trail and greenway projects throughout the state.

STI Prioritization and STIP

NCDOT manages the [STI Prioritization](#) process which results in an update to the State Transportation Improvement Program every two years. STIP identifies construction funding for transportation projects, funded through a combination of federal and state funding sources. The Town of Oakboro could submit a project through the Rocky River RPO process to be considered for STI Prioritization and scoring and inclusion in the STIP. Both stand-alone bicycle and pedestrian improvements and roadway projects with inclusion of complete streets elements may be submitted.

NCDOT HSIP Hazard Elimination Program

[The HSIP Safety grant program](#) utilizing federal and state funding to address safety and potential safety issues. Projects are selected based on a cost-benefit ratio with safety benefits being classified in terms of crashes reduced.

Governor's Highway Safety Program Grant

Safety grant program specifically related to preventing crashes on North Carolina roads. More information is available at <https://www.ncdot.gov/initiatives-policies/safety/ghsp/Pages/Grants.aspx>

Eat Smart, Move More NC

This program provides a variety of links and resources, including potential funding sources for public health initiatives. More information is available at <https://www.eatsmartmovemorenc.com/>

Bicycle Amenities Program

The [NC Division of Public Health \(DPH\)](#) conducts a competitive grant program for funding bicycle racks and repair stations. Once awarded, communities must pick up the racks and fixit stations from the state's distribution facility and transport and install in their community. Contact the DPH Built Environment & Physical Activity Coordinator for more information and funding cycles.

Bicycle Helmet Program

The NCDOT Integrated Mobility Division provides helmets to communities through the annual Bicycle Helmet Initiative. Communities submit an application to IMD that describes how they plan to distribute helmets to low-income children. More information is available at <https://www.ncdot.gov/initiatives-policies/safety/bicycle-helmets/Pages/default.aspx>

Non-Infrastructure Transportation Alternatives Program

Provides funding for programs and activities that aims to shift community behavior, attitudes, and social norms through education, encouragement, and enforcement strategies to increase the safety and convenience for children to walk and bicycle to school. Additional information available is at

<https://connect.ncdot.gov/projects/BikePed/Pages/Non-Infrastructure-Alternatives-Program.aspx>

NC Parks and Recreation Recreational Trails Grants

The North Carolina Division of Parks and Recreation manages grant funding under the Recreational Trails Program (RTP). The Recreational Trails Program (RTP) is a \$1.5-million federal grant program designated to help states provide and maintain trails for motorized and non-motorized recreational trail use; RTP funding is provided on a reimbursement basis where the funds must be spent and reimbursement requested upon completion of the project; a state, federal or local government or qualified nonprofit organization is an eligible entity. Additional information available is at <https://trails.nc.gov/trail-grants>

Trust Fund PARTF Program

Since 1994, the North Carolina Parks and Recreation Trust Fund (PARTF) has been awarding matching grants to local governments for parks and recreational facilities. 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. The appraised value of land to be donated to the applicant can be used as part of the match. Grant applications are typically due in February. Additional information available at

<https://www.ncparks.gov/more-about-us/parks-recreation-trust-fund/applicants>

Community Development Block Grant Program

State Community Development Block Grant (CDBG) funds are provided by the U.S. Department of Housing and Urban Development (HUD) to the state of North Carolina; smaller communities may apply for assistance for community projects that benefit low to middle income households. Projects are intended to support decent housing and suitable living environments and expanding economic opportunities. All North Carolina small cities are eligible to apply for funds except for 23 entitlement cities that receive funds directly from the U.S. Department of Housing and Urban Development (HUD) (Oakboro does not receive direct funds). Each year, CDBG provides funding to local governments for hundreds of critically needed community improvement projects throughout the state. Priority is given to the counties in the top 80 ranking based on economic distress; Stanly County currently falls outside of the list of the 80 priority counties. Additional information is available at

<https://www.nccommerce.com/grants-incentives/public-infrastructure-funds/infrastructure-state-rural-grants>

Economic Development Grants

There are a variety of state grant funding categories that are geared towards economic development or other purposes not specific to transportation, that could have a positive impact on transportation mobility and safety.

For example, the Rural Transformation Grant program (first call for projects held in the spring 2022 with several future calls expected)³² can fund a variety of projects including but not limited to “Main Street and downtown investment and revitalization efforts” and “Initiatives that help create resilient neighborhoods”; sidewalk improvements are eligible as part of this grant. Additional information about the Rural Transformation Grants available at <https://www.nccommerce.com/grants-incentives/rural-transformation-grants>

Implementation as Part of Roadway Projects Implementation and Complete Streets Improvements

As part of roadway projects planning and implementation, NCDOT reviews roadway projects for multimodal elements based on the Complete Streets Policy. Pedestrian, bicycling, and transit stop improvements can be included as part of a roadway project, if recommendations for those improvements are reflected in a local or regionally adopted plan.

Implementation as Part of Maintenance Activities

Municipalities and NCDOT can implement some safety treatments as part of typical maintenance activities. For example, when repaving a secondary road, where sufficient width exists, NCDOT can add reflective shoulder striping as a low cost, high impact safety measure. NCDOT provides five-year plans that include resurfacing schedules. The following website includes a link to an interactive map of corridors scheduled for maintenance in over the current five-year cycle: <https://connect.ncdot.gov/resources/Asset-Management/HMIP/Pages/default.aspx>

Clean Water Management Trust Fund

The Clean Water Management Trust Fund is available to any state agency, local government, or non-profit whose primary purpose is the conservation, preservation, and restoration of North Carolina’s environmental and natural resources. Conservation projects have to address one or multiple of the following target areas:

- enhance or restore degraded waters;
- protect unpolluted waters, and/or
- contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits;
- provide buffers around military bases to protect the military mission;
- acquire land that represents the ecological diversity of North Carolina; and
- acquire land that contributes to the development of a balanced State program of historic properties.

Additional information is available at nclwf.nc.gov/grants

³² North Carolina Department of Commerce. Rural Transformation Grants. <https://www.nccommerce.com/grants-incentives/rural-transformation-grants#resilient-neighborhoods>

Regional

Complete Streets Implementation

Under the NCDOT Complete Streets Policy, as part of roadway projects planning and implementation, complete streets elements including bicycle, pedestrian and transit improvements recommended in local and regional plans are included. A local match is generally not required and Carbon Reduction funding is distributed by all MPOs and RPOs.

Municipal/Local

Implementation as part of Residential and Commercial Development

As required in the Unified Development Ordinance, the Town should continue to monitor new developments to ensure that required sidewalk, greenway connections (or greenway easements for subdivisions with less than 10 lots), on-road bicycle improvements and bicycle parking facilities are included and constructed up to required standards where applicable. Periodic updates to the Unified Development Ordinance might be needed to address the elements currently missing or not specific enough to address a variety of situations.

Municipal Property Tax

Municipal property tax proceeds are broadly eligible for transportation projects. Additional funds would require either raising the tax rate or re-allocating funding from other purposes.

Municipal Vehicle Tax for Transportation Improvements

NC statutes authorize the levy of an annual municipal vehicle tax upon vehicles registered in the town/municipality to be used to fund projects on public streets. Municipalities can designate a dedicated line item in the annual budget and Capital Improvement Program for neighborhood traffic calming, intersection, and safety improvements. As an example, the Town of Waxhaw, North Carolina sets aside funding for "Small Transportation Project Fund" partially funded with municipal vehicle tax.

Powell Bill Funds

North Carolina municipalities receive financial assistance from the State to help pay for the construction, maintenance, and repair of municipal streets, bikeways, and sidewalks. North Carolina levies motor fuel taxes under a formula that increases taxes when the wholesale price of motor fuels increases. The State appropriates a certain percentage of this revenue, plus an additional percentage of the North Carolina Highway Trust Fund's net proceeds, to eligible municipalities across the State. The legislation that first established this distribution is known as the Powell Bill. The available funds are distributed among eligible municipalities. Powell Bill funds can be used for street, sidewalk, and bikeway maintenance, improvements, and design, among other transportation uses.

General Obligation Bonds

Long-term bonds may be approved through voter referendum, to be repaid by property taxes. The purpose is established prior to the referendum vote. Transportation projects can be a specified purpose of a bond referendum package.

Municipal Service Districts (MSDs)

Municipalities can designate Municipal Service Districts, where additional property taxes may be assessed to fund projects and services within the districts. Downtown Municipal Service Districts are the most common.

Occupancy Tax for Infrastructure Expenses in Support of Tourism

While the Town of Oakboro does not currently have any hotels, vacation rentals could become more popular in the surrounding areas over time.

Chapter 434 of the 2001 Session Laws of North Carolina³³ currently allows an occupancy tax of up to 6% in Stanly County; the proceeds from an occupancy tax are expected to be utilized for tourism-related expenses, including tourism-related capital expenditures, and to promote travel and tourism. The Town of Oakboro is encouraged to work with the Stanly County Tourism Development Authority to identify opportunities to use a portion of the occupancy tax proceeds for bicycle and pedestrian capital improvements in the Town of Oakboro that could support tourism.

Private Foundation Grants

Carolina Thread Trail Regional Trail Implementation Grant Program

The Carolina Thread Trail is an umbrella effort supporting a regional network of trails that would connect 2.9 million people in 15 counties in North and South Carolina, and Stanly County is part of the Carolina Thread Trail network. The Carolina Lands Conservancy is a local non-profit conservation group leading the Carolina Thread Trail implementation efforts. Local communities in the 15-county area can apply for a Regional Trail Implementation grant in support of planning for and building sections of the Thread Trail. The following project types with expected funding amounts were designated in recent calls for projects:

- Trail Construction (to complete construction of segments of the Carolina Thread Trail that may include varying trail types, such as natural surface, unpaved aggregate or stone material, and asphalt or concrete pavement); maximum grant request: \$50,000;
- Trail Project Design (to conduct site due diligence, permitting, construction budgeting, and drawing for segments of the Carolina Thread Trail); maximum grant request: \$30,000;
- Land Acquisition (to acquire land or purchase easements or development rights for segments of trail that align with the Carolina Thread Trail Master Plan); maximum grant request: \$30,000;
- Detailed Corridor Planning (to identify trail alignment on parcel by parcel basis by working with landowners on a specific segment of the Carolina Thread Trail Master Plan and develop the scope of work necessary to successfully implement the plan and construct the trail); maximum grant request: \$15,000;
- Canoe/Kayak Launch Construction (to complete construction of canoe or kayak launches into designated Carolina Thread Trail Blueways (Rocky River, South Fork River, Catawba River, Pee Dee River)); maximum grant request: \$5,000.

³³ North Carolina 2001 Session Laws, SL 2001-434. <https://www.ncleg.net/EnactedLegislation/SessionLaws/HTML/2001-2002/SL2001-434.html>

Additional information about the Carolina Thread Trail grant funding is available at <https://www.carolinathreadtrail.org/resources/grant-program-funding-sources/>

AARP Community Challenge Grants

The [AARP Community Challenge](#) grant funding cycle in 2021 awarded \$3.2 million to support 244 quick-action projects across the U.S., funding a variety of improvements in urban, rural and suburban communities to support residents of all ages. Community Challenge grants help improve public spaces, transportation, housing, and civic engagement with an emphasis on the needs of people 50 or older. Bikeway and pedestrian improvements are eligible. Typically, those grants are under \$20,000 each.³⁴

American Hiking Society's National Trails Fund Grant

This organization offers grants (\$500-\$5,000) through the [National Trails Fund \(NTF\)](#) that allow recipients to create, expand and renovate hiking trails throughout the country. In addition, the organization announces an annual [National Trails Day® micro-grant program](#) with ranging funds (\$1,500 in 2024) to active members of the alliance of hiking organizations to improve hiker access or hiker safety. Recipient organization must be a 501(c)(3) non-profit.

Better Block Foundation Grants

[The Better Block Foundation](#) is a 501(c)3 nonprofit that educates, equips, and empowers communities and their leaders to reshape and reactivate built environments to promote the growth of healthy and vibrant neighborhoods. Its services support the reimagination of public spaces to include active transportation like walking and bicycling.

National Association of Realtors Placemaking Grants

The Placemaking Grant funds the creation of new, outdoor public spaces and destinations in a community, and it is accessible through state and local REALTOR® Associations. Potential funded projects include demonstration projects like parklets, pop-up parks, pedestrian plazas, bike lanes, and amenities like street furniture, paint, signage, materials, landscaping, and murals. Applicants can learn more about the grant and the different levels of funding at <https://realtorparty.realtor/community-outreach/placemaking/>

³⁴ AARP (July 28, 2021). AARP Community Challenge 2021 Grantees. <https://www.aarp.org/livable-communities/community-challenge/info-2021/2021-grantees.html>



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