



SAFE

SAFER ACCESS FOR EVERYONE
LUMBERTON, NC

2022 RAISE Grant Application

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Project Description

*The **SAFE** Lumberton project aims to create Safer Access for Everyone. With the help of the United States Department of Transportation (USDOT) Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant, the City of Lumberton will make over 2 miles of Complete Street type improvements along 2nd Street (NC 72). These improvements will connect areas of persistent poverty and underserved neighborhoods to jobs, services, and the heart of the City's downtown. The project will create safer conditions for pedestrians, but it will also improve safety for motorists by lowering speeds and reducing conflicts at intersections.*

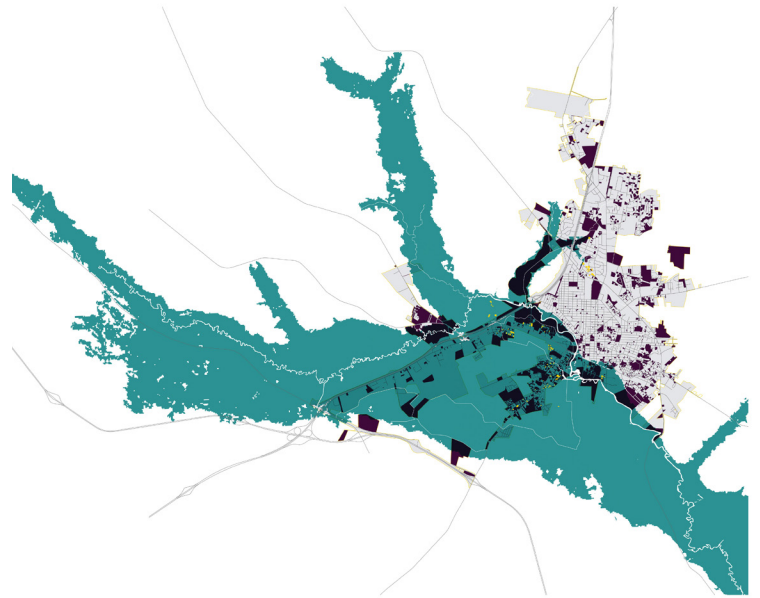
SAFE Lumberton spans 2.1 miles along NC 72 between NC 41 and NC 211 and is divided into six sub-projects that will overall improve connectivity in the area. The project includes two roundabouts, several new crossings at pedestrian refuge islands, systemic pedestrian safety improvements at multiple signalized intersections, a Road Diet, and other intersection safety improvements.

If awarded the RAISE grant, the project will improve existing transportation safety conditions and implement Complete Street type corridors to create new pedestrian connectivity and crossings between Areas of Persistent Poverty and other disadvantaged populations. SAFE Lumberton will also improve access to public services, greenways, and jobs.



***"We have patients who
walk to the clinic.
It is important that they
have safe ways to
walk here and
live healthier lives."***

**- Alexa Hernandez and
Brook Locklear
(Nurses at Robeson Health Care
Center, E 2nd Street)**





SAFE Lumberton Snapshot



Location:

City of Lumberton,
Robeson County,
North Carolina



Total Mileage:

2.1 miles of Complete Street
type improvements

*Combination of roundabouts,
intersection safety
improvements, sidewalks,
pedestrian refuge islands,
lighting improvements,
crosswalks, and a Road Diet*



Estimated Completion Date:

December 2025

Project Cost:

\$10,300,000



RAISE Funding Request:

\$8,200,000

NCDOT Match Support:

\$2,100,000

Areas of Persistent Poverty:

100% of corridor

Median Family Income:

\$36,935



Safety

*Creates a Complete Street type
corridor for safer walking, crossings,
and speeds for motorized and
non-motorized roadway users.*



Environmental Sustainability

*Reduces vehicle emissions and lowers
the number of vehicle miles traveled.*



Quality of Life

*Improves the quality of life for
people of Lumberton, especially the
approximate 1/3 of residents who
live in poverty, by creating safer
transportation networks for them
to access community resources and
lead more active lifestyles.*



Improves Mobility and Connectivity

*Additions of over 11,400 sq ft of
sidewalks, installation of pedestrian
refuge islands, and crosswalks will
connect over 2.1 miles of corridor from
east and west NC 72 to downtown
Lumberton.*



Economic Competitiveness and Opportunity

*Connects the residents, employees,
and employers in Lumberton to
economic development in South
Lumberton.*



State of Good Repair

*Replaces aging infrastructure,
including sidewalk and drainage
structures.*



Partnership and Collaboration

*The City of Lumberton, NCDOT, and
other local agencies support and will
partner to administer the project.*



Innovation

*Incorporates proven safety
countermeasures and creates a model
for the State to make improvements in
other smaller, more rural cities.*

SAFE Lumberton Components

NCDOT identified the project corridor for SAFE Lumberton during their Pedestrian Safety Study in 2021. As part of the study, NCDOT reviewed the entire City and applied both crash and risk-based analysis to identify needed safety improvements. The study recommended Complete Street type improvements along NC 72 and later identified additional safety needs for motorized travel.

SAFE Lumberton is conceptualized into six sections. The western sections of the corridor include improvements near downtown while the eastern portion of the corridor connects to low-income residential neighborhoods.

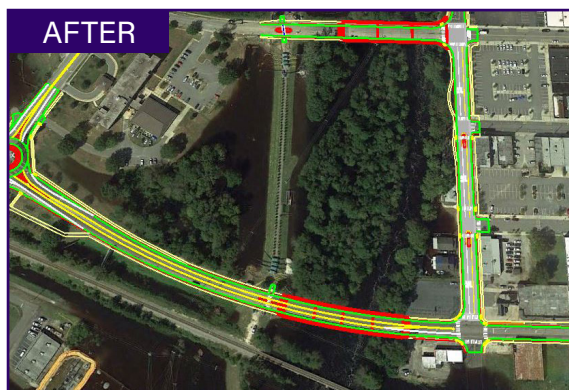
Section A: NC 41 and NC 72 Roundabout



The project corridor begins with a roundabout installation on the western side of the corridor at NC 41 and NC 72 marking the transition into the downtown area of Lumberton. This is an existing four-legged signalized intersection that NCDOT had considered, as part of project W-5806E, for improvements as part of their Highway Safety Improvement Program (HSIP).

The roundabout will include pedestrian crossings and connect destinations, such as a senior living area, public housing, a flea market, churches, and the historic downtown.

Section B: NC 41 and 5th Street and Water Street and West 5th Street Improvements



To the north of the roundabout, at the intersection of 5th and Apple Street, improvements will be made to the T-intersection to provide safe and lighted crossings in and near the flea market. This series of improvements will also connect the flea market, the 5th Street Riverwalk connection, and Mohr Plaza, housing for seniors and people with disabilities, west of the river, with downtown. The safety improvements at this intersection include high-visibility crosswalks on all approaches and installing lighting along the bridge into

downtown. The proposed project ties into an existing State project to replace both of the bridges¹ into downtown and will add sidewalk leading up to and after the bridge connecting 5th Street to Water Street. These improvements will enhance pedestrian safety at the Riverwalk crossings by enhancing pedestrian visibility to drivers and slowing traffic on 5th Street.

In addition to these planned crosswalks on each of the legs and pedestrian signal head improvements, this project component would include a leading pedestrian interval (LPI) in the pedestrian signal phase and install a pedestrian refuge island on 5th Street west of Apple Street. These improvements will provide a more comfortable crossing for pedestrians by allowing them time to begin crossing the street before drivers are given a green light, improving their visibility to drivers, and shortening the crossing distances.

The City will also make aesthetic improvements on the east side of 5th Street and Water Street. An overhead entry feature will welcome residents and visitors into the historic downtown.

A crossing will also be marked on all legs at the intersection of Water Street and 4th Street as well as Water Street and 3rd Street to improve access to the visitor center at 301 N Water Street.

Lighting Improvements

Lighting improvements will also be made to the section west of the intersection of NC 72 and 5th Street. The City of Lumberton owns the electric utility system and will use local forces to install electrical conduit and fixtures for the project.

¹ The bridge replacement project is State Transportation Improvement Program project B-5985. Construction is planned to begin in 2023.

Section C: NC 41 to 2nd Street Systemic Improvements



Traveling east along the corridor into downtown, the City will make improvements along the Riverwalk and 2nd Street intersection. The pedestrian improvements in and near downtown Lumberton will enhance pedestrian access to important destinations on both sides of the Lumber River. Additionally, they will provide safe locations for pedestrians to cross 2nd Street between the downtown plaza and the Robeson County Library, Exploration Station, and Lumberton Christian Care Center. These improvements were originally identified in the recently completed Lumberton Pedestrian Safety Study due to pedestrian crash risk and history in the area and the

concentration of pedestrian generators and destinations.

These improvements will include installing a pedestrian refuge island at the existing marked crossing and installing lighting along the bridge into downtown. This segment of the project also ties into the existing State project to replace both of the bridges into downtown and will add sidewalk leading up to and after the bridge connecting 2nd Street to Water Street. These improvements will enhance pedestrian visibility to drivers and slow traffic on 2nd Street.

In addition to installing/repairing sidewalk and increasing the sidewalk connectivity along the corridor, specific improvements along this corridor include installing high-visibility crosswalks and pedestrian refuge islands at Elm Street and Chestnut Street to improve access to destinations on the southern side of 2nd Street. Pedestrian refuge islands will also be installed at the intersection of Sycamore and 2nd Street as well as Seneca and 2nd Street.

The project will also tie into an ongoing City project (PW 1534) funded through a FEMA grant to improve stormwater along the corridor. While the area is not located within a floodplain or influenced by the Lumber River levels, when there are significant rain events flooding occurs on 1st Street and the run-off impacts 2nd Street, between Sycamore and Chippewa Street. As part of the sidewalk repairs for this project there will be culvert/drainage improvements along 2nd Street.

Lighting Improvements

Along the 2nd Street corridor into downtown, the City will install new light fixtures, including poles, at all signalized intersections and pedestrian crossing locations.

Section D: Roundabout at 2nd and 5th St



The improvements planned for the intersection of 2nd Street and 5th Street include a roundabout to tie with McNeill Street. The roundabout will accommodate all types of vehicles and will feature aprons where needed for larger trucks. New curb and gutter will be added to prevent trucks from driving onto the sidewalk. The roundabout will also feature islands at the beginning and end of 2nd Street to calm traffic and avoid its use as a bypass lane. The roundabout will require right-of-way (ROW) from a parcel in the northwest corner of McNeil and 5th Street, however the lot is vacant and the City plans to acquire the parcel if necessary. If awarded, the City and NCDOT project team will continue to review site access needs and design improvements for the final design of the roundabout.

Section E: NC 72 Road Diet, East of 5th St



To the east and exiting the roundabout is the next component of the project, a Road Diet along the 4-lane cross section between 5th Street and NC 211 (N Roberts Avenue) will convert the cross section to a 3-lane roadway with one travel lane in each direction and center left turn lane. This 3-lane cross section will also provide more consistency with the western section of 2nd Street/NC 72. The 4-lane cross section carries fewer than 10,000 vehicles per day, making it a good candidate for a Road Diet, and the additional space can be used to construct sidewalk where there is no existing sidewalk network.

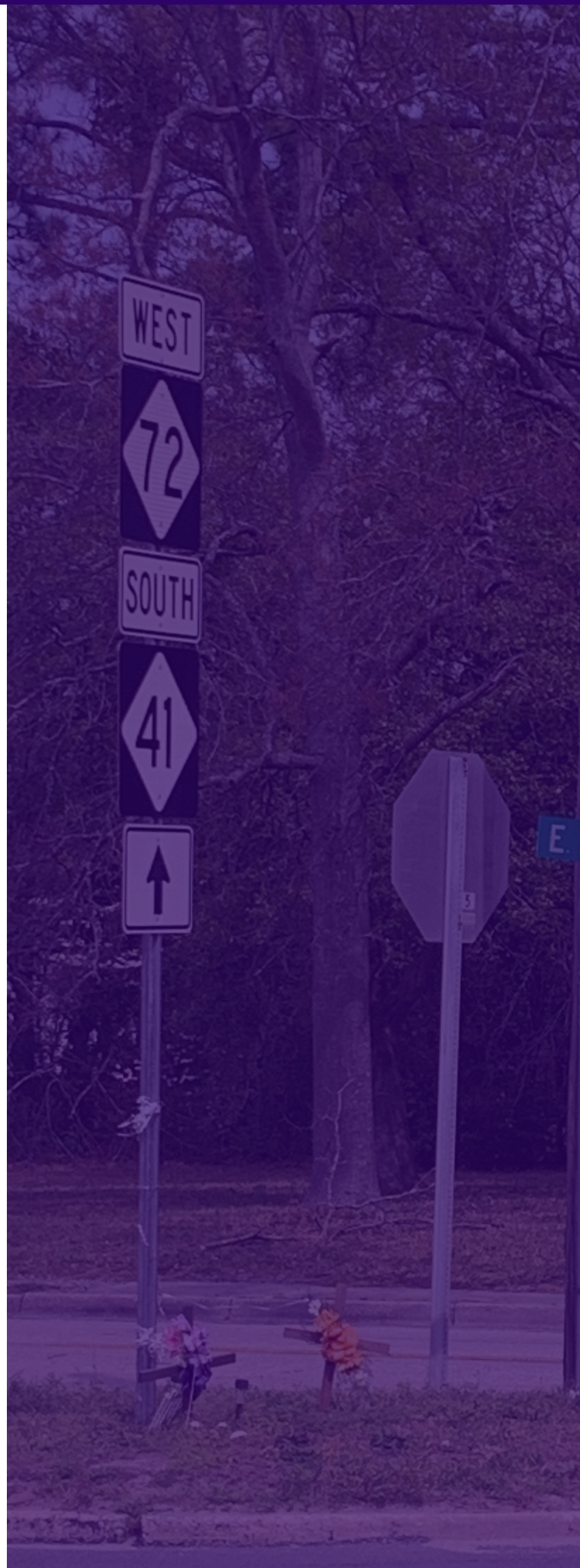
Complementary crossing improvements include adding crosswalks and pedestrian signal heads at Grace Street, North Carolina Avenue, and a marked crosswalk at the uncontrolled intersections of Linwood Avenue/East Street, and a midblock crossing approximately 600-feet west of the NC 211 intersection, near a local restaurant.

Section F: NC 72 and NC 211 Intersection Improvements



The final section of this corridor includes installing high-visibility crosswalks, pedestrian signal heads, LPI, and pedestrian refuge islands on the north and west approaches of the intersection of NC 72 and NC 211. These improvements will provide new opportunities for pedestrian crossings and increase visibility while traveling through the intersection. Additionally, sidewalk will be constructed south from the intersection to Glisson Street, north of the intersection to a nearby, frequently-visited convenience store, east of the intersection to Warwick Mill Road.

These improvements were originally recommended in the Lumberton Pedestrian Safety Study and will substantially improve the safety and comfort of pedestrians walking between the nearby mobile home communities, and essential destinations like convenience stores, restaurants, grocery stores, and even downtown.



Community Context and Support

The idea of this project was a result of NCDOT's Pedestrian Safety Improvement Program for mid-sized cities in North Carolina. The program was part of NCDOT's efforts to address pedestrian fatalities and serious injuries across the state. NCDOT selected the City of Lumberton to be part of the program, due to an overrepresentation of fatal and severe injury pedestrian crashes in both total and

per capita pedestrian crashes within the city limits, per the most recent 10 years of crash data.

SAFE Lumberton's focus on creating Complete Street type corridors and improving connectivity and access to the downtown area aligns with other City-wide plans and initiatives, included in the table below.

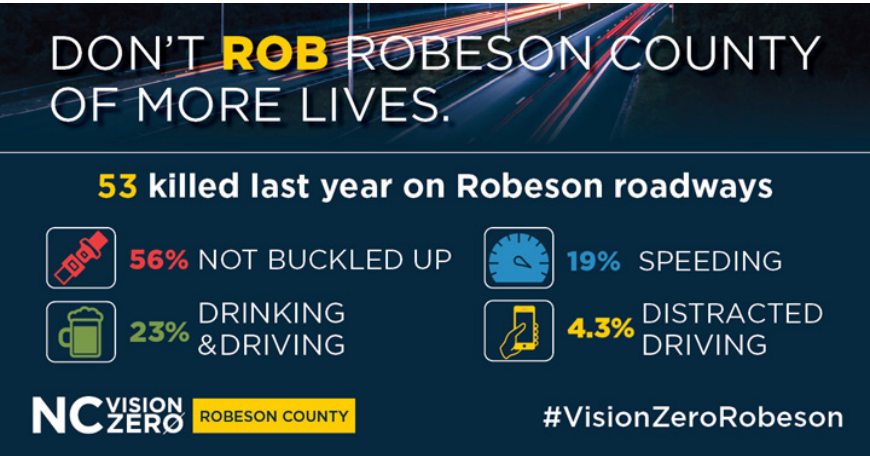
Community Plans

Planning Effort	Adoption/ Approval Date	Impact on Project	Public Engagement
Lumberton Pedestrian Safety Study	December 2021	The Lumberton Pedestrian Safety Study applied both crash and risk-based analysis to identify needed pedestrian safety improvements along NC 72 and in Downtown Lumberton.	NCDOT and the City of Lumberton followed a data-driven process and reviewed local conditions. The study did not include formal public engagement.
Lumberton Master Plan	June 2017	Shows alignment with the project area and making pedestrian improvements, including crosswalks at NC 72 (2nd St) at Elm Street and Chestnut St.	Public provided input throughout the 12-month planning process.
Lumberton Comprehensive Transportation Plan	February 2016	Shows alignment with components of the project area including sidewalk improvements and multi-use paths.	The findings of the Comprehensive plan were based on public input. The CTP is being updated through 2022.
Lumberton Tomorrow Land Use Plan	August 2015	Shows alignment with implementing Complete Streets and making pedestrian crossing upgrades at Elm St and at 5th St/NC 72. Discusses implementing a road diet along NC 72.	Administered a public input survey to over 675 people.
Lumberton Floodprint	2019	Discusses need for creation of porous surfaces (i.e., more sidewalk/greenspaces), which aligns with improvements for this project.	The City and North Carolina State University hosted multiple community meetings.
Lumberton Comprehensive Recreation Plan	2016	Identifies need for increasing walkability between neighborhoods and to destinations.	Numerous outreach and public visioning meetings.



Robeson County Vision Zero

Leaders in Robeson County established the first county-wide Vision Zero Task Force in North Carolina in 2018. [Robeson County Vision Zero](#) is a comprehensive approach targeted towards changing driver behavior and eliminating roadway fatalities and serious injuries. The Task Force meets 5 times a year and has been working to reduce risky driver behaviors that have contributed to the county be the deadline county in the State. The Task Force has focused on reducing speed-related crashes and has performed Road Safety reviews on corridors in the county. Robeson County Vision Zero supports initiatives that are focused on reducing fatalities and serious injuries.



Facebook image from Robeson County Vision Zero social media toolkit

“Speed and no crosswalks are problems for Water Street and 2nd Street. Improving safety for people walking helps us (the African American Cultural Center) and Downtown Lumberton.”

- John Staton and Alphonzo McRae (Board members of Robeson County African American Cultural Center)



Project Location

SAFE Lumberton is located in the City of Lumberton, North Carolina, which is the largest city in Robeson County. The City of Lumberton has approximately 19,000 residents and consists largely of historically-marginalized communities. African Americans are 35.3% of the population and American Indians are 12.9%, which is higher than the rates for the state². The median household income is \$36,486. The City of Lumberton residents experience significant levels of poverty, and environmental injustice and transportation disadvantages.

The City of Lumberton, located in the state's Coastal Plains region of southeastern North Carolina, is a regional hub of business activity positioned at the crossroads of Interstate 95 and Interstate 74 (US 74). Lumberton is a designated NC Main Street Community and is committed to creating high-quality places and building a stronger community through preservation-based economic development. The Lumbee Tribe of North Carolina, a state-recognized tribe, is also located in Robeson County with many Lumbee call Lumberton home.

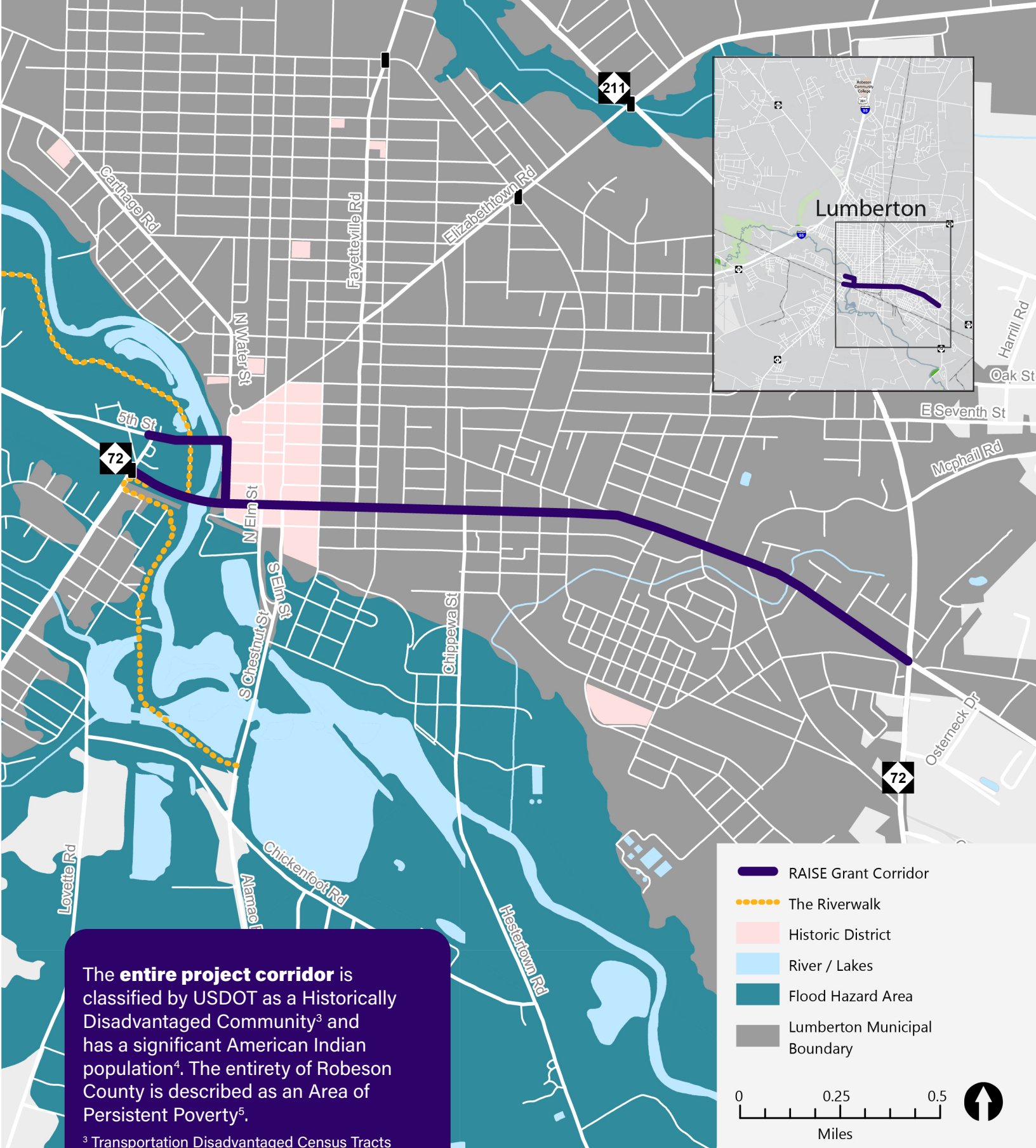
² <https://www.census.gov/quickfacts/fact/table/lumbertoncitynorthcarolina,NC/PST045221>

Robeson County is the state's largest county by land area, and it is a member of the Lumber River Council of Governments. There are no urbanized areas, as defined by the U.S. Census, in the county.

Running through the heart of Lumberton is the Lumber River, which is designated as a National Wild and Scenic River. The Lumber River is also one of North Carolina's Top Ten Natural Wonders - meandering over 115 miles and connecting to the Lumber River State Park. Much of Lumberton and the project area lies within the 100-year floodplain. The City has been deeply impacted by insufficient flood control and two major hurricanes. Together, the two hurricanes, Hurricane Matthew in 2016 and Hurricane Florence in 2018, caused \$21.8 billion in damages to the state.

Creating a more equitable and safe transportation system for people living and working along the project area is the most important benefit of the SAFE Lumberton project.





The **entire project corridor** is classified by USDOT as a Historically Disadvantaged Community³ and has a significant American Indian population⁴. The entirety of Robeson County is described as an Area of Persistent Poverty⁵.

³ Transportation Disadvantaged Census Tracts (Historically Disadvantaged Communities)

⁴ U.S. Census Bureau Quick Facts

⁵ Areas of Persistent Poverty

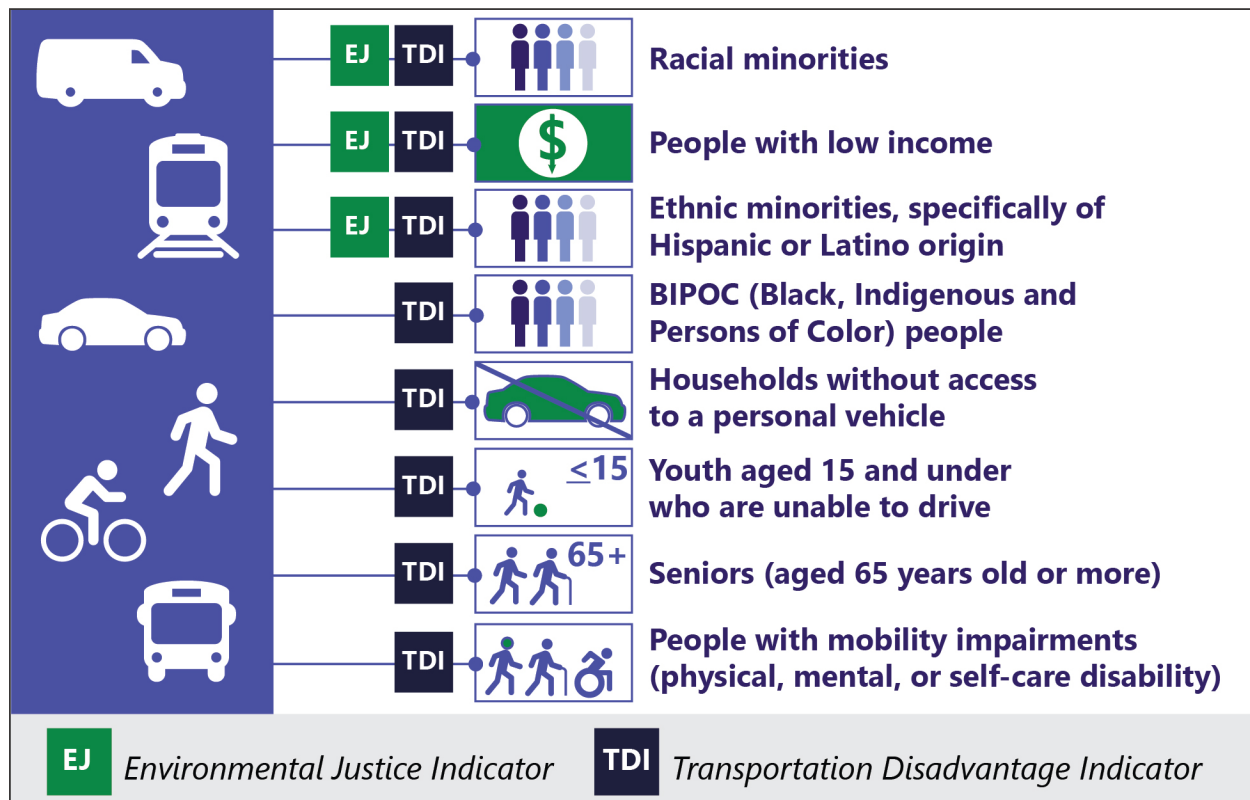
Areas of Persistent Poverty

The residents of Lumberton and Robeson County experience poverty at significantly higher levels than other residents of North Carolina. According to the 2015-2019 American Community Survey, approximately 24% of North Carolina residents and 41% of people living in Robeson County are below 150% of the poverty line; in the City of Lumberton area, the share of people living in poverty increases to 43%. All of the Census Tracts in the SAFE Lumberton project area are considered Areas of Persistent Poverty. From frequent flooding, to disinvestment in rural areas—especially communities of color - the City has experienced severe financial costs and has limited funding to address critical infrastructure needs.

Understanding and Addressing Environmental Justice and Transportation Disadvantage

NCDOT developed tools that describe environmental justice and transportation disadvantage to help internal and external partners understand and visualize the disproportionate impact of transportation barriers on communities of color, as well as help inform policies, planning, and project development decision making.

These tools, the Environmental Justice (EJ) index and the Transportation Disadvantage Index (TDI), visualize the relative concentrations of the following demographic and household factors that are related to transportation access and mobility, such as racial and ethnic minority status, household vehicle status, youth 15 and under, seniors, households with low income, and people with mobility impairments.



Factors included in NCDOT's EJ and TDI Equity Evaluation Tool



Environmental Justice

For NCDOT, environmental justice focuses on identifying and addressing potentially disproportionately high and adverse human health or environmental effects from transportation projects on minority and low-income populations. The NCDOT EJ Index score is based on the relative concentration of racial minorities, ethnic minorities, and people with low incomes relative to the statewide average, and the score ranges from 0 to 12 with an average score of six (6). All of the Census Block Groups in the Lumberton area score from 6 to 12, with an average score of 8. This indicates that Lumberton overall has higher concentrations of protected populations than the state overall, and some areas with the highest levels.



Transportation Disadvantage

Improving transportation access for all North Carolinians is vital to ensuring everyone is able to reach necessary goods, services, and employment, particularly for those without other means of transportation. The Transportation Disadvantage Index (TDI) is a composite score based on concentrations of six indicators of potential transportation disadvantage: vehicle access, poverty level, mobility impairments, youth aged 15 and under, seniors, and BIPOC population. The TDI score can range from 6 to 18, with the average statewide score of 10. The Lumberton area TDI average score is 13, with a range from 9 (below average transportation disadvantage), to 16 that indicates nearly the greatest level of barriers to accessing transportation compared to the statewide average. Most of the Block Groups within a ½ mile of the proposed project area have a TDI score of 14, indicating significantly higher transportation disadvantage than both the state and the City of Lumberton itself.

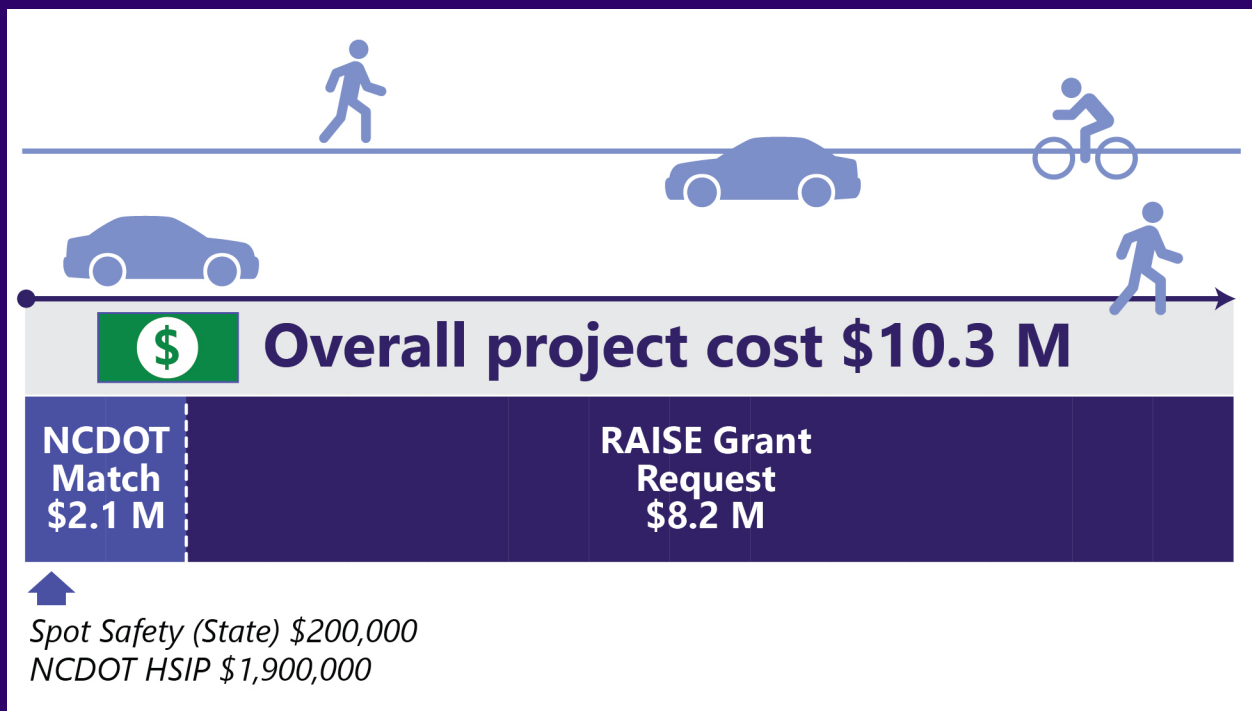
Grant Funds, Sources and Uses of all Project Funding

The SAFE Lumberton project is estimated to cost \$10,300,000. Total Federal contribution of \$10,300,000 include \$1,900,000 in funds secured by NCDOT's Highway Safety Program and \$200,000 in Spot Safety (State) funds. SAFE Lumberton is requesting \$8,200,000 in RAISE funding from USDOT to aid in implementing the multimodal improvements along NC 72 in Lumberton.

NCDOT Commitment to SAFE Lumberton

The City has partnered with NCDOT to administer the SAFE Lumberton project. As a result of the hurricanes and flooding, the City has limited staff and resources to provide funding for the project. However, NCDOT, in support of Lumberton and their commitment to this project, will provide money through their Highway Safety Improvement Program (HSIP) and Spot Safety (State) funds to implement Complete Street type improvements and help make Lumberton a safer place.

Funding Sources



Merit Criteria



Safety

SAFE *Lumberton's focus is safety – and creating a space that provides safer access for everyone. More specifically, this project is focused on implementing Complete Street type improvements and creating a connected corridor that helps the residents of Lumberton reach their destination safely and promotes alternative forms of transportation.*

The SAFE Lumberton project corridor has a high crash rate for all roadway users—ranging from 2 to 3 times the state average. From 2nd Street to 300 feet east of NC 41 (MLK Jr Drive) / Apple Street to 300 feet west of 5th St is 2 times higher than the statewide crash rate and the section of 5th Street 150 west of MLK to 150 feet east of Water Street is 3 times higher than the statewide crash rate.

SAFE Lumberton's project corridor is also a hot spot of non-motorized crashes in the City. Within 300 feet of the corridor there were a total of 15 pedestrian and bicycle crashes from 2010 to 2019. Of those crashes, people of color were overrepresented. In Lumberton, 35% of the population is African American and 13% is Indian American, however, along the project corridor, 40% of the pedestrian and bicyclist crash victims are African American and 20% of pedestrian and bicyclist crash victims are Indian American.

SAFE Lumberton will improve safety along the corridor for pedestrians and motorists through select countermeasures.

Pedestrian Safety

In its current state, the NC 72 project corridor lacks safe crossings and networks for pedestrians. As part of the Lumberton Pedestrian Safety Study, NCDOT performed a network screening risk analysis in the project area and along the project corridor and assigned a score to each segment of road based on a combination of factors:

- ▶ Location Specific
 - Number of lanes
 - Speed limit
 - Traffic volume
 - Traffic presence
 - Pedestrian crash history
- ▶ Pedestrian Volume Surrogates
 - Stores
 - Restaurants
 - Schools
 - Libraries
- ▶ Socio-economic
 - Income
 - Rentals
 - Vehicle ownership
 - Population density
 - Employment density

NCDOT also reviewed the most recent historic pedestrian and bicycle crash data (from 2009 to 2018) and identified crash clusters and fatal and severe injury crash locations. The study identified crash clusters near the intersection of NC 41 and Apple Street, NC 72 and the flea market, on NC 72 and Elm Street, and at the intersection of NC 72 and NC 211.



Vehicular Safety

SAFE Lumberton means safer access for everyone – nonmotorists and motorists. Over the last 5 years, there have been 452 total crashes along the project corridor⁶. The number of crashes occurring along the segment are 2 to 3 times the statewide average, demonstrating that the area needs safety support and that safety countermeasures could reduce the number of crashes that are occurring.

Specifically, the crashes are highest at the intersections of Apple/2nd Street and 2nd/5th Street as well as along the section between Apple (NC 41) and 5th Street. Along the section between Apple (NC 41) and 5th Street the crash rate is 1.84 times the statewide crash rate. At the intersection of Apple/2nd Street, the crash rate increases to 2.98 times the State average. The intersection of 2nd/5th Street has the highest crash rate, which is 3.70 times the State average for crashes.



The SAFE Lumberton project corridor has a significant crash rate, 2-3 times the State average. This map highlights the high-risk pedestrian crossing locations, as well as locations where pedestrian and bicyclist crashes have occurred.

⁶ Crash data source: NCDOT Traffic Engineering Accident Analysis System Intersection Analysis Report, 2016 – 2021

- Pedestrian Crash Location
- Bicycle Crash Location
- ⬢ Existing Signalized Intersection
- High Risk Pedestrian Crossing Locations
- RAISE Grant Corridor
- The Riverwalk
- Historic District
- Flood Hazard Area

Countermeasure Selection

SAFE Lumberton includes several of the Federal Highway Administration's Proven Safety Countermeasures⁷ to protect reduce crashes along the project corridor. The table below identifies each of the safety countermeasures in SAFE Lumberton and describes the safety benefits.



SAFE Lumberton Countermeasures

Countermeasure	Description of Treatment	Safety Benefit
High-visibility crosswalks	Is a pattern that is visible to both the driver and pedestrian and is visible from further away compared to traditional traverse line crosswalks.	Reduces pedestrian injury crashes up to 40%.
Pedestrian refuge island	Median with a refuge area to help protect pedestrians crossing the road.	Reduces pedestrian crashes up to 32%.
Signalized Intersection: Pedestrian Signal	A pedestrian signal phase that allows pedestrians to cross while conflicting vehicles are stopped.	Reduces pedestrian crashes by 25% (when converting from a permissive left-turn phase to protected only or protected/permissive phasing).
Signalized Intersection: LPI	A signal phase that provides pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication.	Reduces pedestrian-vehicle crashes at intersections by 13%.
Roundabout	Intersection with a circular configuration that minimizes the number of conflict points.	Reduces fatal and injury crashes by 82% (when converting from a two-way stop-controlled intersection) and by 78% (when converting from a signalized intersection).
Road Diet	Converting an existing four-lane undivided roadway to a three-lane roadway consisting of a center two-way, left-turn lane.	Reduces total crashes by 19-47% (when reducing from a 4-lane to a 3-lane).
Lighting	Includes improvements to illuminate the pedestrian and provide positive contrast to make it easier for motorists to see the pedestrian.	Reduces pedestrian crashes up to 42% (when used at intersections).
Sidewalk	Defined space or pathway for a person traveling by foot or using a wheelchair.	Reduces crashes involving pedestrians walking along roadways by 74%.

⁷ [Proven Safety Countermeasures | Federal Highway Administration - Safety | Federal Highway Administration \(dot.gov\)](#)



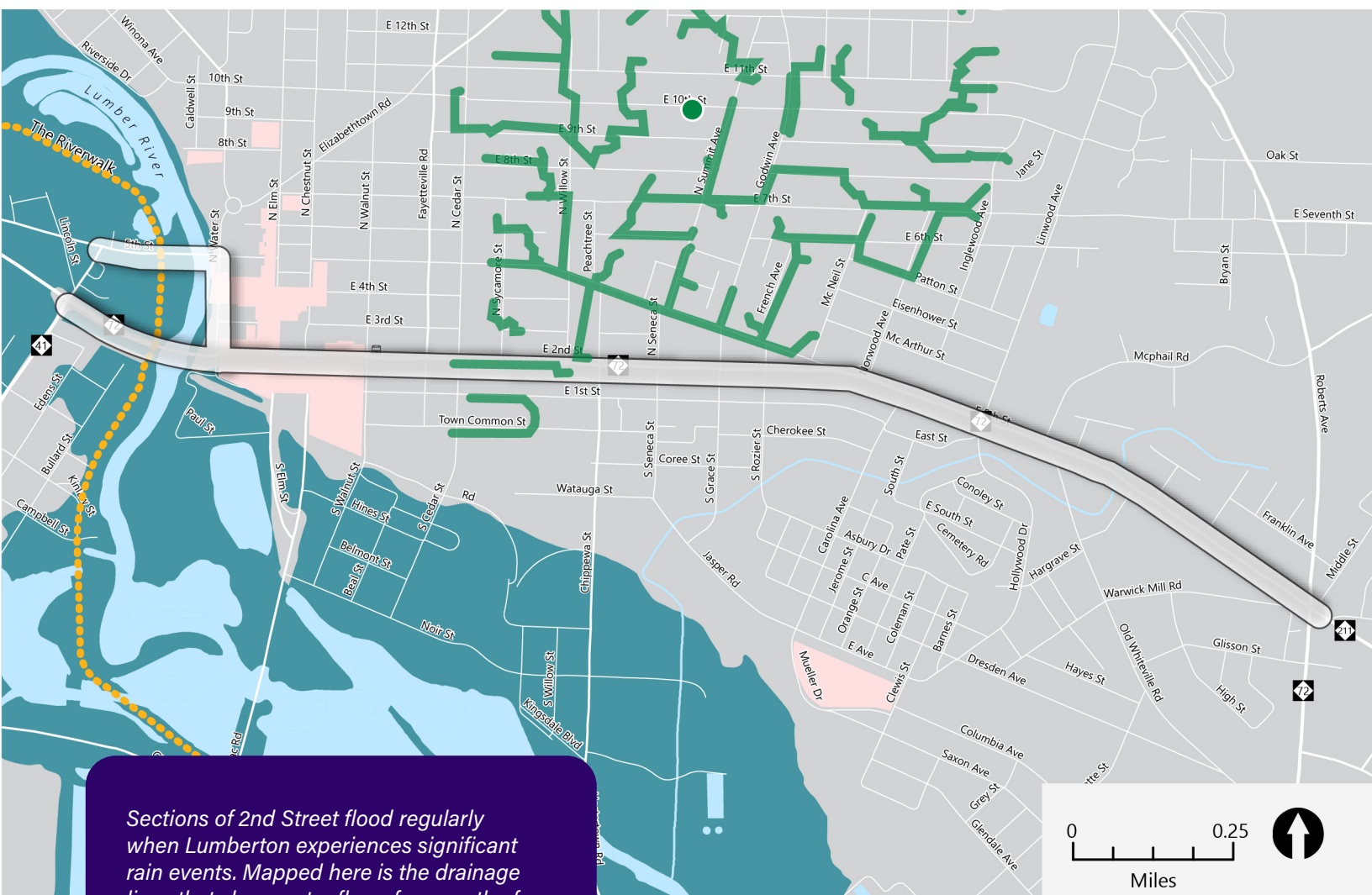
Environmental Sustainability

SAFE Lumberton promotes environmental sustainability by making drainage improvements in floodplain areas and supports a mode shift by repairing existing sidewalk and creating an environment that encourages residents to walk instead of drive.

Lumberton, and more specifically the project corridor for SAFE Lumberton, is a flood-prone area. 2nd Street is a low point in the area and is subject to flooding any time there is a significant rain event. As shown on

the drainage basin map, there are drainage lines that feed into and run along 5th Street. SAFE Lumberton will tie into an ongoing City project (PW 1534) funded through a FEMA grant to improve stormwater along the corridor. As part of the sidewalk repairs for this project there will be culvert/drainage improvements along 2nd Street.

SAFE Lumberton will have little to no impacts on air pollution and greenhouse gas emissions.



Sections of 2nd Street flood regularly when Lumberton experiences significant rain events. Mapped here is the drainage lines that show water flows from north of the project corridor onto, and flooding, this section.

- Outlet
- Drainage Lines from First Street Drainage Study
- RAISE Grant Corridor
- The Riverwalk
- Historic District
- Flood Hazard Area



Quality of Life

As mentioned throughout the application, SAFE Lumberton's objective is to improve the quality of life for all residents and visitors of Lumberton. SAFE Lumberton will increase the number of connected sidewalk miles and help people access the downtown safely. SAFE Lumberton will add 11,400 sq ft of sidewalk along major corridors and the downtown area. With the addition of sidewalk and repair of existing sidewalk, residents of Lumberton will be able to safely access the 2nd Street corridor and travel to the Riverwalk, schools, businesses, and government facilities.

In addition to repairing the sidewalk, SAFE Lumberton includes aesthetic improvements and will add new landscaping along the corridor within the pedestrian refuge islands and roundabouts. Landscaping improvements will welcome residents and visitors to the City, improve comfort for pedestrians, and reduce the ambient heat in a developed area with little greenspace. The landscaping will also help mitigate some of the flooding that occurs along the project corridor as trees, shrubs, and new open space absorb rainfall.

















SAFE Lumberton will install light fixtures at all crossings and intersections, including decorative fixtures between the intersection of NC 41 (Apple St) and 5th St. The lighting improvements will not only provide a safety benefit by lighting the crosswalks and sidewalks, it will improve the appearance of downtown and ties into Lumberton's 2017 Downtown Master Plan to promote downtown as the focal point of cultural arts, entertainment, tourism, and government in Robeson County. The aesthetic lighting treatment will also maintain and protect the historic architectural character and appearance of downtown.

SAFE Lumberton is focused on creating safer access for everyone regardless of economic status or ability. As mentioned in earlier sections of the application, the entire project area is an Area of Persistent Poverty and the residents in Lumberton experience significant levels of poverty and transportation disadvantage. A senior housing community near the intersection of NC 41 and 5th Street, a homeless shelter along 2nd Street, and an assisted senior housing center is under construction near NC 211 and NC 72. These developments increase the number of pedestrians along the corridor with limited mobility or disabilities.

The existing conditions do not provide safe access for residents in these communities. There is no existing sidewalk or marked crosswalks at NC 72 and NC 211. Instead, worn paths exist at the intersection of NC 211 and NC 72 where residents from low-income neighborhoods have traveled to local businesses. By building sidewalk along the intersection and crosswalks and pedestrian signal phases at the intersections, pedestrians will be able to travel and cross more safely.





-  School/University
  Place of Worship
  Government Building
  RAISE Grant Corridor
-  Health Facility
  Cultural/Historic
  Library
  The Riverwalk
-  Fire Station
  Parks
  Housing
  Historic District
-  Shopping
  Bus
  Low Income Neighborhoods
  Flood Hazard Area

Mobility and Community Connectivity

The goal of SAFE Lumberton is to create a more connected community. With the implementation of sidewalks, crosswalks, and pedestrian refuge islands, gaps will be closed for residents and visitors who wanted to reach destinations in Lumberton but do not have current options for safe routes or crossings. Near the Riverwalk, at NC 72 and NC 41 as well as at the 5th/Apple Street crossing, the pedestrian traffic is high between a low-income neighborhood, local flea market, and into the downtown area. Adding accessible, high-visibility crossings will create safer conditions for all travelers, especially the older pedestrians or those that are mobility impaired.

Between Water Street and 2nd Street, the high-visibility crosswalks with pedestrian countdown signals and LPI, as well as new sidewalk will fill an existing gap and support the pedestrian traffic, particularly the elementary-aged residents traveling to visit the library, local museums, and charitable organizations.

One of the largest gaps on the existing project corridor is at the intersection of NC 72 and NC 211. The current conditions include no sidewalk or marked crosswalks. SAFE Lumberton will install crosswalks on the northern and western legs of the intersection and sidewalk on each leg of the intersection. By filling one of the largest gaps on the project corridor, SAFE Lumberton is connecting residents from low-income neighborhoods to grocery stores, convenience stores, and to the downtown. SAFE Lumberton's improvements will be accessible for everyone, regardless of ability. Sidewalks and curb ramps will be designed to be compliant with ADA standards.

The roundabout designs were tested for larger vehicles, including WB67 trucks. SAFE Lumberton will have no expected negative impacts on the freight and supply chain movements along the corridor. The drainage improvements along 2nd Street will improve accessibility for first responders, as the Street often floods after heavy rainfall and makes the corridor inaccessible for larger vehicles.





Top: The image shows the City's Riverwalk improvements, which will tie into the bridge replacement project and sidewalk improvements along 5th and 2nd Street.

Bottom: This map highlights the existing sidewalk as well as the sidewalk that will be repaired and added as part of the SAFE Lumberton project.



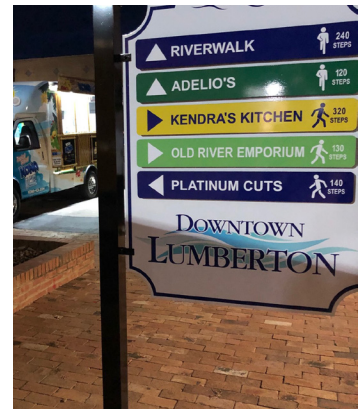
Economic Competitiveness

This project will improve long-term efficiencies, reliability, and cost competitiveness as it will help move workers and goods to improve the business climate in the historic, commercial district and the overall economy of Lumberton. The project will have no expected impact on travel time and specific elements, including the roundabouts and the Road Diet which have been designed to accommodate larger vehicles and studied for capacity to remove travel lanes.

It is important for the City to promote and strengthen the downtown area as it serves as the future for the City. The downtown is a historic centerpiece of the community and is recognized as the heart of the City. However, as with many downtowns across the United States, downtown Lumberton has faced the challenges associated with the rise of the automobile and highway expansion in the 1940s and 1950s, which contributed to people and businesses moving out of older town centers to suburban locations.

Downtown Lumberton alone has 123 buildings, many are historically and culturally valuable since most of downtown is within the Lumberton's National Registered Historic District. Collectively these buildings create 795,873 square feet of built space. Most of these buildings are two-stories and all but two of the buildings' second floors are vacant; that is nearly 400,000 sq ft of available space for reinvestment that would reutilizes materials and energy, spur new small business growth and create jobs and living spaces to support the economy. The 2017 Downtown Master Plan identified strategies to build on Lumberton's downtown assets, identifying the need for improved access to downtown as well as the development of key attractors, such as the Riverwalk.

This project, particularly its lighting, enhanced crossings, and sidewalk improvements into downtown will increase the attractiveness for tourism and will invite visitors into the downtown area to visit local commerce. This project will also make the area more friendly for pedestrians and bicyclists, increase walkability, lower traffic speeds, and create a downtown area that is more attractive to businesses, investors, and residents. Projects like SAFE Lumberton been shown to help remedy declining or stalled property values and have been proven to spur community revitalization. SAFE Lumberton will generate an investment into the City, its downtown, its residents, and create opportunities for others to reinvest in Lumberton, NC.





Partnership and Collaboration

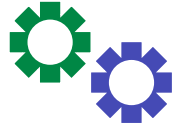
SAFE Lumberton will provide more connected multimodal options across the City of Lumberton and will serve as a model for other smaller communities in the State. The City of Lumberton, with the help of NCDOT will administer the project, if selected.

NCDOT is not the only partner who supports SAFE Lumberton. The City will look to other agencies, who provided letters of support, to be involved in the project and support its mission.

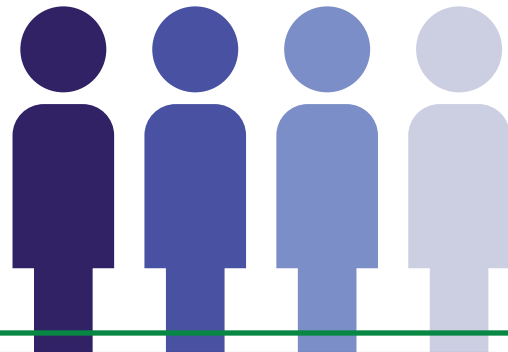
SAFE Lumberton's focus, as mentioned before, is safer access for everyone in the City. This project has been designed with equity considerations in mind for underserved, overburdened, or disadvantaged communities. These communities will be integrated into the planning, development, and implementation of the project.

ROW will need to be acquired for the roundabout at 2nd and 5th Street. The properties that will be impacted are vacant or under utilized and the City plans to acquire the property.

Innovation



SAFE Lumberton is innovative in how it will deliver the project. The City has been overwhelmed by impacts from hurricanes and is working to deliver projects to address the damages from flooding while awaiting financial relief from FEMA. NCDOT Division 6 will work with the City to administer the project, providing staff support and assistance as needed.



AGENCIES SUPPORTING SAFE LUMBERTON:

Lumberton Area Chamber of
Commerce and Visitors Bureau

NC Main Street Program

Lumber River Council of
Governments

US Senator Thom Tillis

US Senator Richard Burr

U.S. Congressman Dan Bishop

NCDOT BOT Representative and
Chair of Robeson County VZ

Robeson County History Museum

Robeson County Public Library

Exploration Station

African American Cultural Center

Robeson County Public Schools

Project Readiness: Environmental Risk

The City of Lumberton has collaborated successfully with NCDOT in the past to implement projects. The NCDOT Division administering this project has been involved in the planning process and the City's Resolution in Support will help SAFE Lumberton be implemented in a timely fashion.

Project Schedule

SAFE Lumberton will be ready to begin final design and project implementation when awarded. All of the project components will have preliminary design completed by 2023. The project schedule is illustrated on the next page. It is anticipated that construction for all project components will be completed by the end of 2025.

Project Component Development Status

Project Component	Planning and Design Status (2023)	ROW Status (2024)	Environmental Review Status (2025)
NC 41 and NC 72 Roundabout	Conceptual design and preliminary cost estimates complete	Some acquisition anticipated	Categorical exclusion anticipated
Systemic Intersection Improvements on NC 72 (2nd St) between NC 41 (Apple St) and E 5th St	Conceptual design and preliminary cost estimates complete	No ROW impacts expected	Categorical exclusion anticipated
E 2nd St and E 5th St Roundabout	Conceptual design and preliminary cost estimates complete	Some acquisition anticipated	Categorical exclusion anticipated
Road Diet	Conceptual design and preliminary cost estimates complete	No ROW impacts expected	Categorical exclusion anticipated
NC 72 and NC 211 Intersection	Conceptual design and preliminary cost estimates complete	Construction easements anticipated	Categorical exclusion anticipated
Water St and W 5th St – Crossing Improvements	Conceptual design and preliminary cost estimates complete	No ROW impacts expected	Categorical exclusion anticipated

State and Local Approvals Support

The City has included letters of support on the project website which indicate State and local support for the overall grant application and respective NCDOT match contributions.

Permits

The project study area is historically known for flooding. The City of Lumberton will coordinate closely with FEMA and NCDWR to ensure that all project designs result in a permissible project.

Other project components – ADA sidewalk and curb ramp improvements, benches and street lighting – will take place on land owned or controlled by the City. Lumberton will issue a building permit upon completion of environmental and site plan review.

NEPA Class of Action

It is anticipated that the project will be subject to a Categorical Exclusion (CE) review to satisfy NEPA, which will be completed alongside project design.

ROW Acquisition Plans

A minimal amount of ROW is needed to accommodate the project. However, in the areas that may require acquisition, the City will follow NCDOT procedures for acquiring real property for transportation projects.

Potential project risks and mitigation strategies include:

- **NEPA delays:** This approval will require NC SHPO documentation that historic resources will not be affected as the project does pass through the Lumberton Commercial Historic District; documentation from U.S. Fish and Wildlife Service to confirm that no rare/endangered species will be affected. As the project is planned to occur primarily within existing right-of-way, these documentation requirements are not expected to delay the NEPA compliance review. Only minor temporary and permanent easement acquisition is anticipated. Lumberton expects a final Categorical Exclusion decision for the project by the end of 2022.
- **Cost overruns:** Contingency costs have been built into the budget for landscaping, lighting, ROW acquisition, final design, and environmental documentation.



Project Schedule

	2022				2023				2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
NC 72 Preliminary																
Design (Pre-RAISE)																
Environmental Approval																
Final Design																
Easement and ROW																
Acquisition																
Design and Bid																
Document Approval																
Bidding Phase																
Construction																

Benefit Cost Analysis

SAFE Lumberton's Benefit Cost Analysis (BCA) calculates the benefits of the project. SAFE Lumberton will offer benefits for all residents of Lumberton by creating a more connected network and safer transportation choices.

The table below summarizes SAFE Lumberton's BCA; more detailed information on how the BCA was calculated is available at <https://connect.ncdot.gov/resources/safety/Pages/Safe-Lumberton.aspx>.

The City completed a BCA for the project corridor and weighted the costs (construction and capital expenditures) and benefits (lower CO2 emissions, crash reduction, health, economic activity) that would occur over the construction of the project and during the evaluation period, which is over 20 years (2045).

BCA Summary

Results	
Total Discounted Benefits	\$36,317,713
Total Discounted Costs	\$8,120,179
Net Present Value	\$28,197,534
Benefit-Cost Ratio	4.5
Safety (Undiscounted)	
Collision Cost Savings	\$95,337,402
Sustainability	
Reduced Carbon Dioxide Emissions Costs	\$1,177
Reduced Nitrous Oxide Emissions Costs	\$741
Health	
Healthcare Cost Savings of Newly Active People	\$443,029
Economy	
Reducing Operating Costs from Mode Shift	\$20,702
Residual Value	\$856,400

