LUMBERTON PEDESTRIAN SAFETY STUDY

JANUARY 2022

Acknowledgements

Several partners collaborated to lead the Lumberton Pedestrian Safety Study. Representatives from the following agencies and departments worked together to analyze conditions and develop recommendations for the study area described in this report. VHB Engineering NC, P.C. provided technical support to this study as a consultant to NCDOT.

Traffic Safety Unit
North Carolina Department of Transportation

City of Lumberton

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Lumberton Tech Memo

Study Purpose

This study is part of a pilot Pedestrian Safety Improvement Program (PSIP) for mid-sized cities in North Carolina. The program is one of several programs and projects NCDOT has created to address continued increases in pedestrian fatalities and serious injuries resulting from motor vehicle crashes across North Carolina. Lumberton was chosen as a priority city for this program due to an overrepresentation of severe injury and fatal pedestrian crashes for both total and per capita pedestrian crashes within the city limits, per the most recent 10 years of crash data. This study occurs in conjunction with other NCDOT Vision Zero support for Robeson County.

The primary objective of the study is to develop near-term infrastructure projects that address specific pedestrian safety deficiencies in Lumberton as identified using both crash- and risk-based approaches. These projects may be candidates for NCDOT safety funding and implementation, but project concepts may also be considered for implementation through other NCDOT activities (i.e. resurfacing) or projects (i.e. STIP, SPOT). Lumberton is encouraged to also integrate the concepts into local capital projects or studies.

In addition to the recommendations in this study, NCDOT intends to maintain a working relationship with Lumberton, continuing to monitor conditions and identify opportunities for improvement. Likewise, local agency staff and officials should participate in ongoing coordination with NCDOT, identification of pedestrian safety needs and deficiencies, and implementation of pedestrian safety improvements and proven countermeasures.

Study Approach

The study used several rounds of data analyses and stakeholder input to identify priority locations in Lumberton. After selecting Lumberton as a priority City based on an over-representation of fatal and serious injury pedestrian crashes, NCDOT Traffic Safety Unit (TSU) developed a tool to screen the road network in Lumberton for pedestrian crash risk. From this initial screening, the project team conducted informal field visits at a few, specific locations to observe conditions and behaviors on the ground.

Simultaneously, the consultant team gathered additional information and assessed local plans and projects and conducted stakeholder interviews with local agency and community group representatives to gather additional information/data. The project team then presented the existing conditions to City staff and other stakeholders to gather feedback. The project team then identified locations for further investigation through data counts, TEAAS crash analysis, or field observation. After a second stakeholder meeting to present this additional information, the project team met a third time and discussed findings and recommendations.

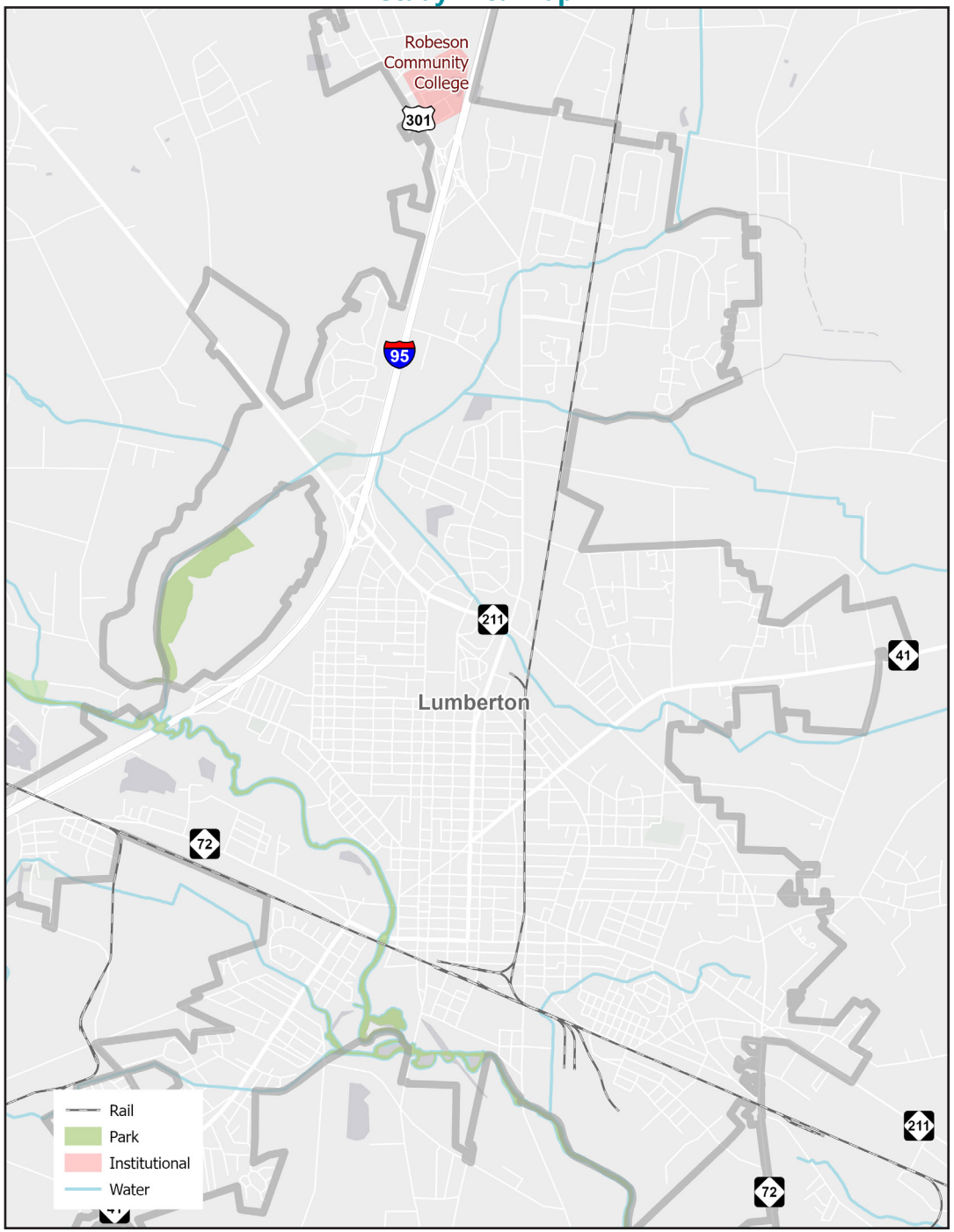
[1]*For the purposes of this program, mid-sized cities are defined as those with a population equal to or less than 75,000 (as of most recent estimates for the incorporated area).*

Existing Conditions

Study Area

The study considered locations within the Lumberton city limits. Areas outside of the city limits were not reviewed but the potential effects of development and destinations beyond the boundary on transportation within Lumberton were also considered.

Study Area Map



Safety Overview

In addition to reviewing the past ten years of historical bicycle and pedestrian crash data, TSU created a systemic network screening for Lumberton roads. The network screening considered a variety of factors, including:

Location Specific
- Number of Lanes
- Speed Limit
- Traffic Volume
- Transit Presence
- Pedestrian Crash History

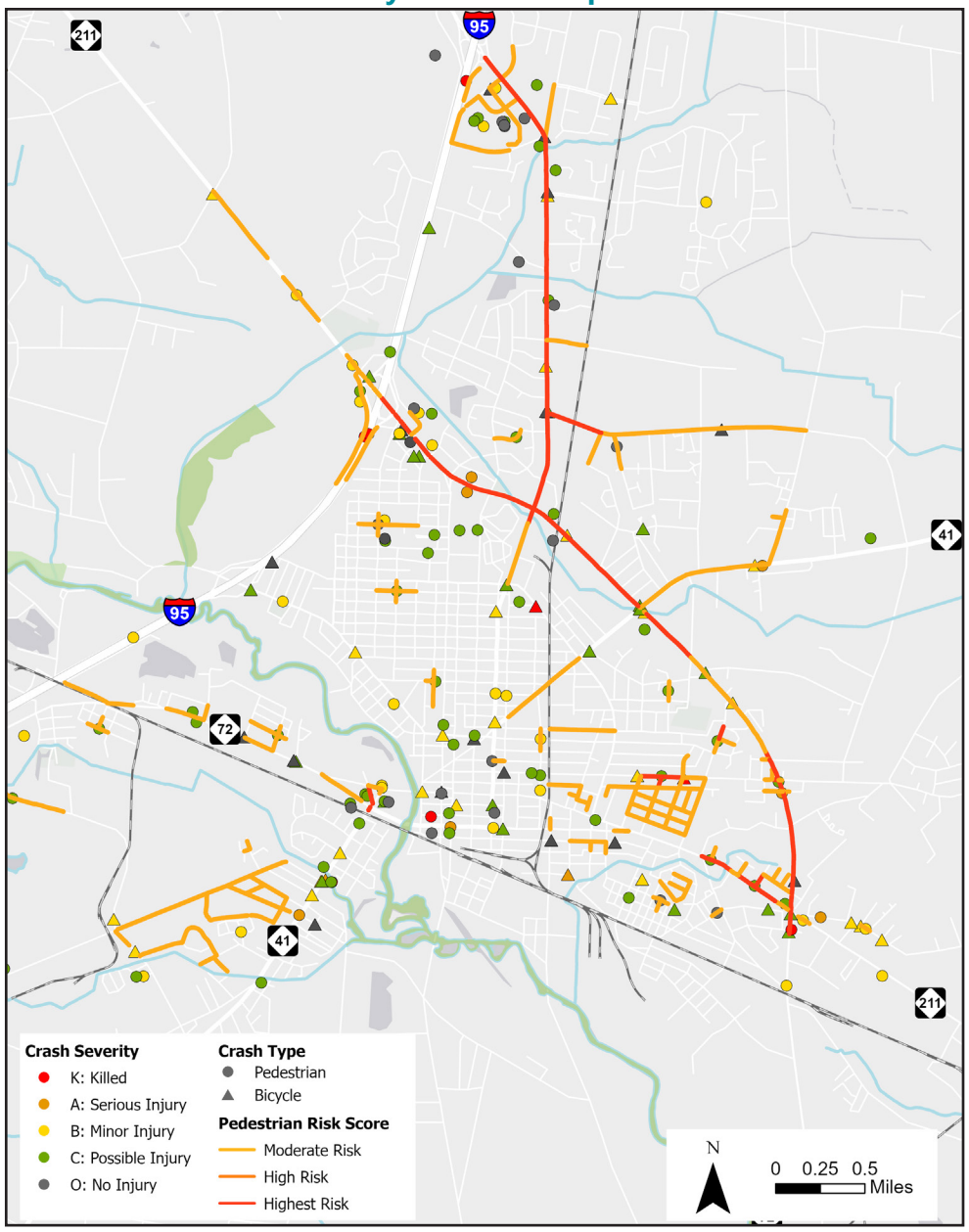
Socio-economic
- Income
- Rentals
- Vehicle Ownership
- Population Density
- Employment Density

Pedestrian Volume Surrogates
- Stores
- Restaurants
- Schools
- Libraries

The network screening assigned a risk score to each segment of road based on its combination of factors, as visualized in the Safety Map. The roads with the highest scores included NC 211 (N Roberts Avenue) between NC 41/211 (E 5th Street) and I-95 and Fayetteville Road between NC 211 (N Roberts Ave) and I-95.

The most recent historic pedestrian and bicycle crash data (2009-2018) was also reviewed to identify crash clusters and fatal and severe injury crash locations. Crash clusters are found near the intersection of NC 41 (Martin Luther King Drive) / SR 1599 (Apple Street) and NC 72 (2nd Street) and the flea market, on NC 72 (2nd Street) near Elm Street in downtown, near the intersection of NC 41/211 (E 5th Street) and NC 72/211 (N Roberts Avenue) and along Warwick Mill Boulevard, and NC 211 (N Roberts Avenue) near Kahn Drive. Fatal and severe injury crashes dispersed but tended to occur more on the outskirts of Lumberton, where speeds tend to be higher.

Safety Overview Map



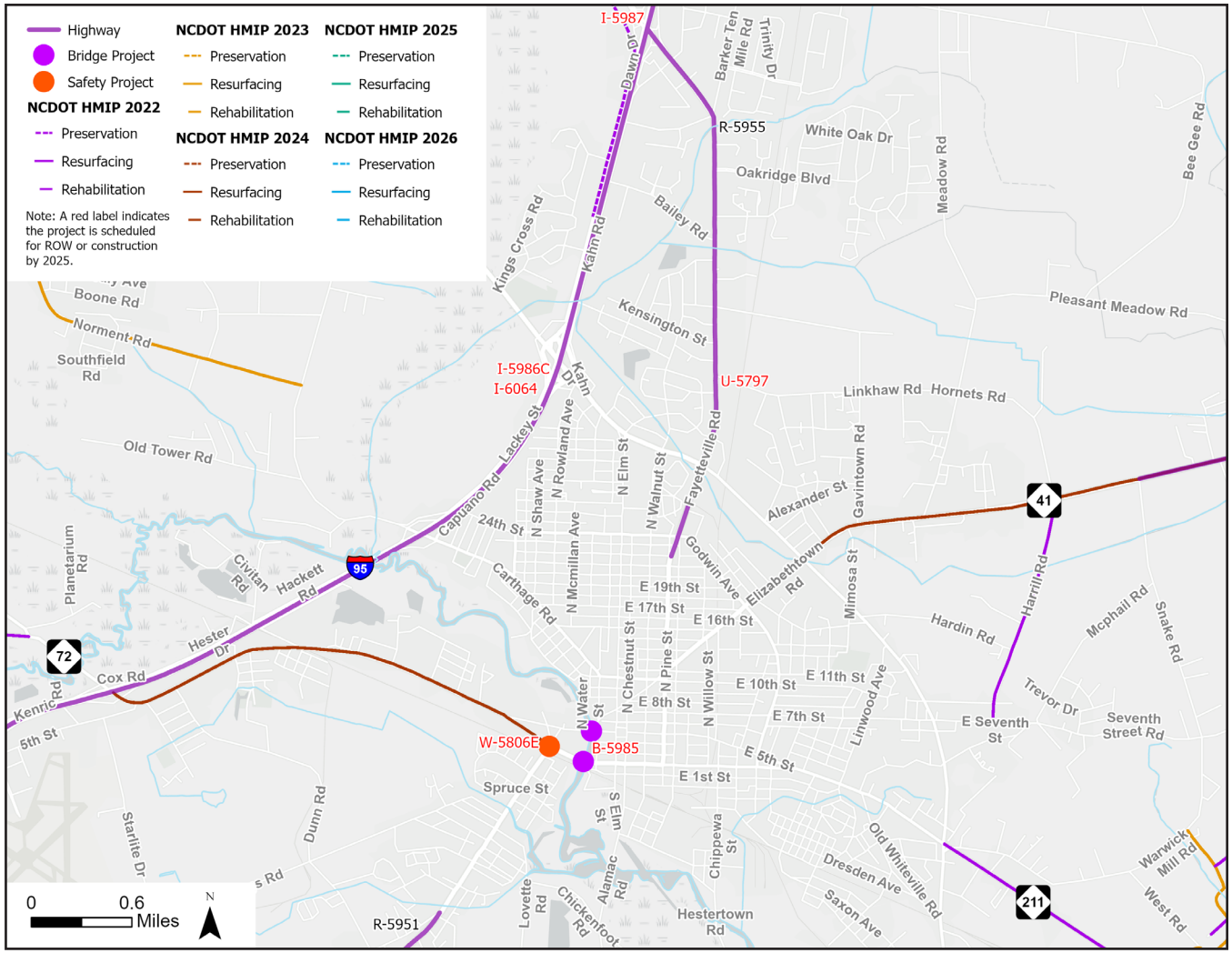
This initial analysis guided the project team's selection of locations for site visits and further data collection and in-depth crash analysis. Particular attention was paid to locations near pedestrian destinations (e.g., grocery stores and restaurants, Lumberton High School, Lumberton Towne Center, etc.), downtown Lumberton and the Riverwalk, and low-income communities.

State and Local Projects

NCDOT

- Planned road resurfacing through NCDOT's Highway Maintenance Improvement Program (HMIP) may provide opportunities to incorporate pedestrian improvements on NC 72 east of NC 41 (Apple Street/Martin Luther King Jr Drive) in 2024 and NC 41/211 (E 5th Street) west of NC 72/ NC 211 (N Roberts Avenue) in 2022.
- Relevant State Transportation Improvement Program (STIP) projects include:
  - U-5797 -Widen and add a 5 ft median to SR 1997 (Fayetteville Road) between Farringdom Street and Godwin Avenue. Construct a roundabout at Godwin Avenue. Construction is planned for 2024.
  - B-5985 – Replace bridges over the Lumber River on NC 72 (2nd Street) and 5th Street. The city has asked for a shared use path to be constructed on one side of the new 5th Street bridge to better connect the Riverwalk, flea market, and downtown. Construction is planned for 2023.
  - W-5806E - Construct signalized pedestrian crossings at NC 41 (Martin Luther King Drive) / SR 1599 (Apple Street) and NC 72 (2nd Street). Construction is planned for 2022.

Future Projects Map



Data Collection and Crash Analysis

Traffic Counts

The study team collected 16-hour vehicle, bicycle, and pedestrian counts at 6 intersections within the study area and 24-hour counts at four midblock locations, on NC 72/NC 211 (N Roberts Avenue) just north of NC 41/NC 211 (5th Street) and NC 211 (N Roberts Avenue) east of Kahn Drive. The counts were done during a typical workweek under acceptable weather conditions. The highest number of pedestrians and bicyclists were seen at the intersection of Warwick Mill Road and Ford Drive and NC 72 at NC 41 (Martin Luther King Drive) / SR 1599 (Apple Street). See appendix for additional data for pedestrian and vehicle counts for each leg of these intersections, respectively.

Crash Analysis

The study team also use the Traffic Engineering Accident Analysis System (TEAAS) to more closely analyze crash patterns of all traffic crash types at 6 locations highlighted in the initial crash history and segment risk overview. This analysis was done to identify potential patterns that could pose increased risk to pedestrians at an intersection or along a segment of corridor.

Most locations that were reviewed had few fatal or severe injury crashes and no strong crash pattern, although rear end crashes were consistently the most common crash type at intersections. One location, Warwick Mill Road from NC 211 (Fifth Street) to SR 2130 (West Road), did stand out with one pedestrian fatality and one pedestrian severe injury in the last five years, and a higher percentage of injury crashes overall (39%). These location specific, detailed TEAAS analyses can be found in the appendix.

Data Collection and Crash Anlysis Locations

Existing Plan Summary

This section summarizes existing plans relevant to pedestrian safety in the City of Lumberton. A more detailed summary can be found in the appendix.

City Plans

Lumberton Master Plan (2017)

The Lumberton Downtown Master Plan was completed in June 2017. The plan establishes a vision and strategic direction for cultivating future investment and growth in downtown, which includes a focus on pedestrian improvements. The plan identifies locations in the downtown planning area where pedestrian improvements are needed, including crosswalks at NC 72 (2nd Street) at Water Street, Elm Street, and Chestnut Street and SR 1600 (5th Street) at Water Street.

Lumberton Comprehensive Transportation Plan (2016)

The most recent Lumberton Comprehensive Transportation Plan (CTP) was adopted in February 2016. The plan is currently being updated. Relevant corridors recommended for bicycle improvements:

- Fayetteville Road (SR 1997), from Wintergreen Drive to I-95. Sidewalk was constructed on south side of road as part of recent I-95 interchange project.
- Godwin Avenue, from East 5th Street to East 7th Street (SR 2104)
- Linkhaw Road (SR 1984), from Fayetteville Road (SR 1997) to Meadow Road (SR 1945)

Relevant corridors recommended for pedestrian (sidewalk) improvements:

- US 301, from I-95 to Dawn Drive (SR 1791)
- NC 41/NC 72, from 0.1 miles west of North Water Street (SR 1536) to Water Street (SR 1536) and from North Cedar Street to NC 211
- NC 41/NC 211, from NC 72 to NC 41 and from Norwood Avenue to NC 211
- NC 72, from I-95 to 0.1 miles west of Dunn Road and from 0.1 miles east of Dunn Road to 0.1 miles east of West 5th Street (SR 1600)0.1 miles east of West 5th Street (SR 1600) to NC 41
- NC 211, from NC 41 to I-95
- Fayetteville Road (SR 1997), from East 22nd Street to NC 211; from Highland Avenue/Boomerang Drive to I-95/US 301
- Linkhaw Road (SR 1984), from Fayetteville Road (SR 1997) to Meadow Road (SR 1945)
- Martin Luther King Jr Drive (SR 1599), from NC 72 to West 5th Street (SR 1600)

The following are recommendations for new multi-use paths:

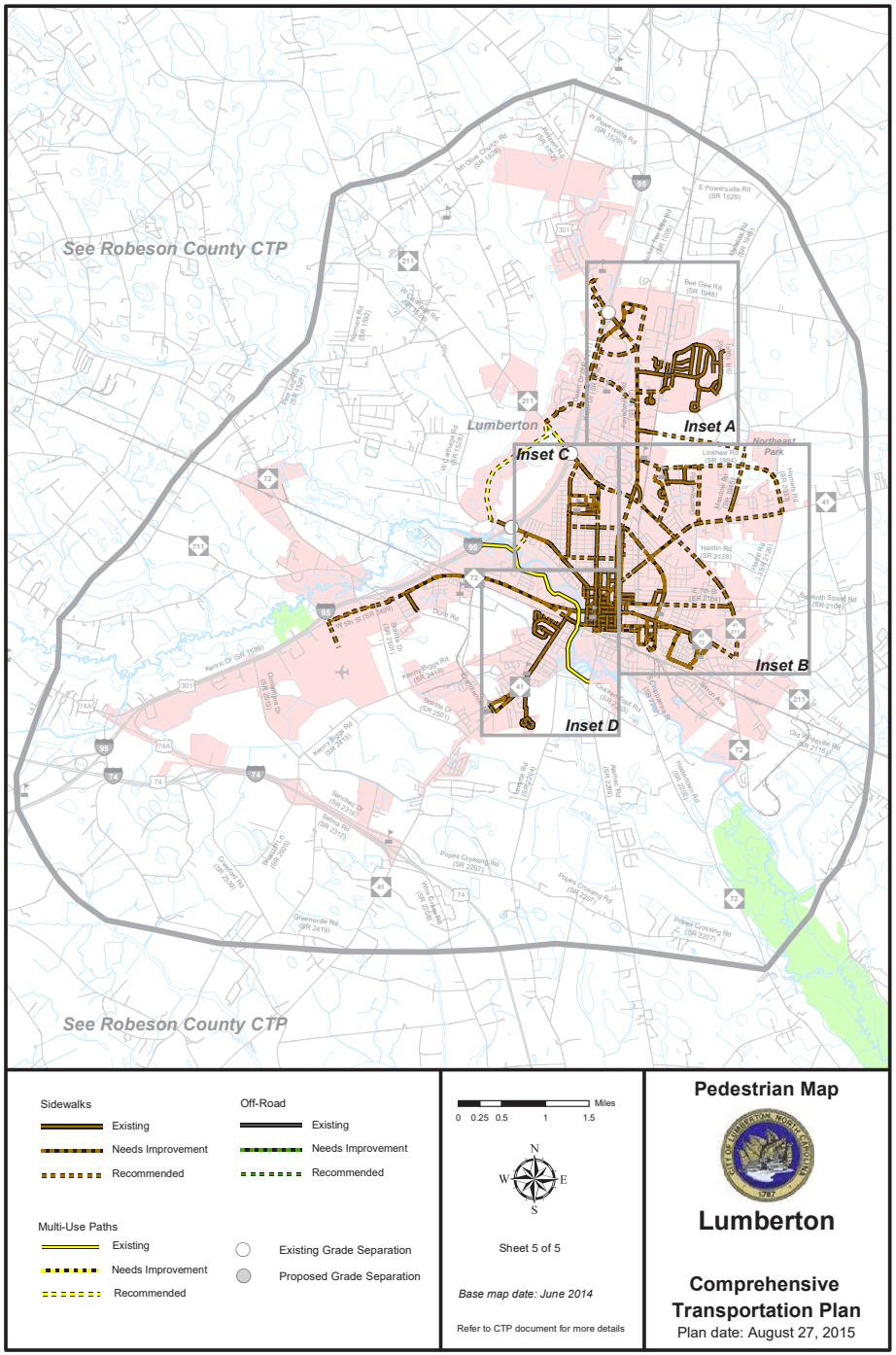
- Riverwalk Greenway Connector, from the existing Riverwalk Greenway to Velcord Drive, including construction of a bridge over the Lumber River
- Fivemile Branch Greenway, from Carthage Road (SR 1536) to NC 211, following the Fivemile Branch Creek
- NC 211, from I-95 to Saddletree Road (SR 1531) paralleling NC 211 on the north side

The Lumberton CTP also seeks to develop a fixed-route bus service throughout Lumberton via the South East Area Transit System (SEATS), Robeson County's Community Transportation Program. In addition, the CTP seeks to study the re-establishment of passenger rail service in southeastern North Carolina, including a rail passenger stop in Lumberton near South Cedar Street as well as an intermodal connector to serve as a transfer point between passenger rail service and transit service provided by SEATS.

Robeson County Comprehensive Transportation Plan (2011)

The Robeson County Comprehensive Transportation Plan (CTP) was completed in October 2011 and mimics the Lumberton CTP in calling for adherence to NCDOT policy. Pedestrian recommendations were not considered but it was noted that future updates to the CTP would include a pedestrian study.

Lumberton CTP Pedestrian Map



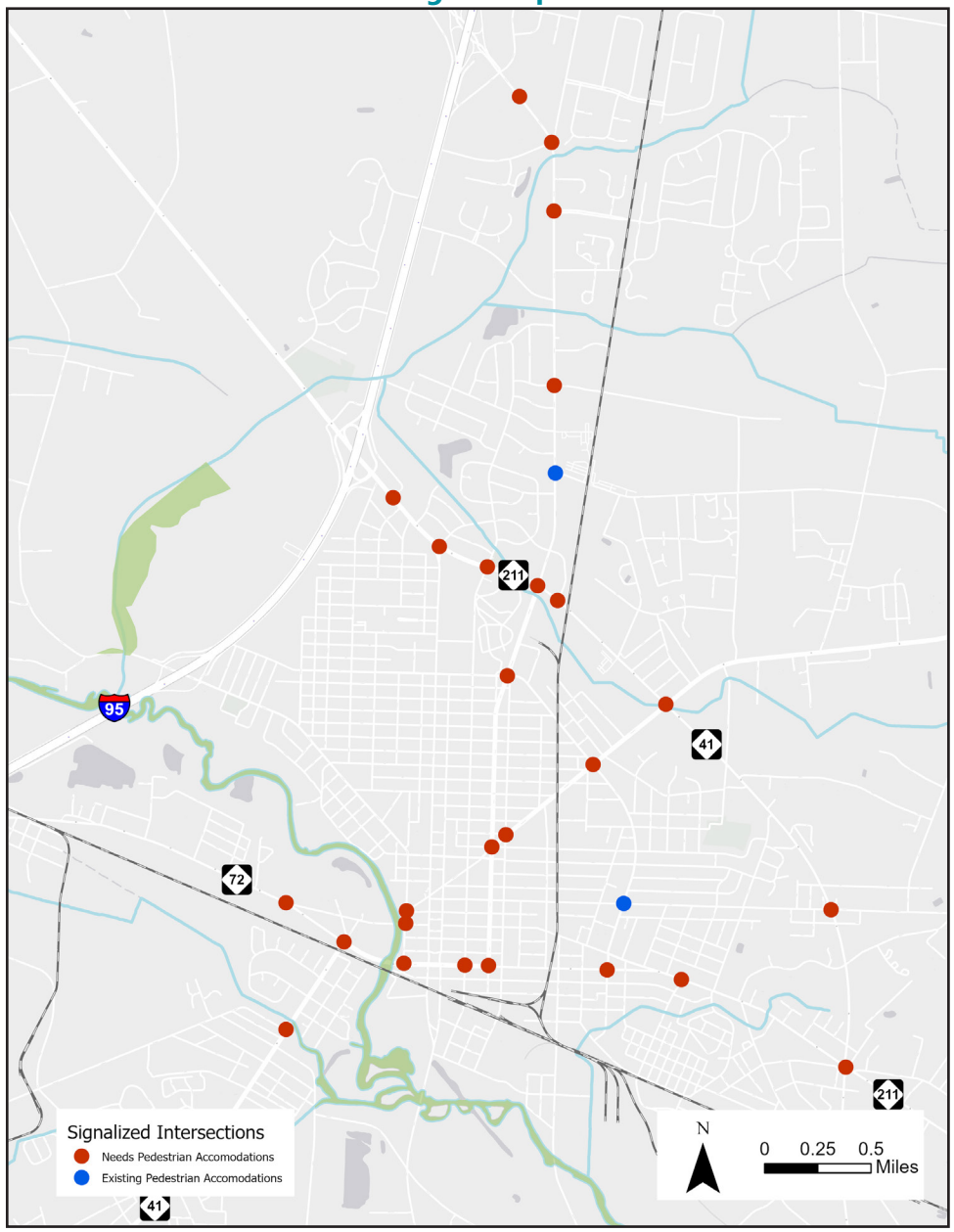
Recommendations

City-Wide

Some traffic or safety conditions are typical across the study area, such as traffic speeds above posted limits and turning movement conflicts with crossing pedestrians. Some engineering treatments can be applied more consistently in the study area to improve pedestrian safety. The following recommendations apply to wide swathes of the study area:

<u>Improve existing pedestrian crossings</u>
The signal map shows locations of signalized intersections in the city. Only two intersections (shown in blue) have marked crosswalks and pedestrian signal heads. Crosswalks and pedestrian signal heads should be added at the remaining signalized intersections when possible. Prioritize signalized intersections along high risk or high exposure corridors. Mark a minimum of two legs in an 'L' configuration but mark all approaches when practical.

Signal Map

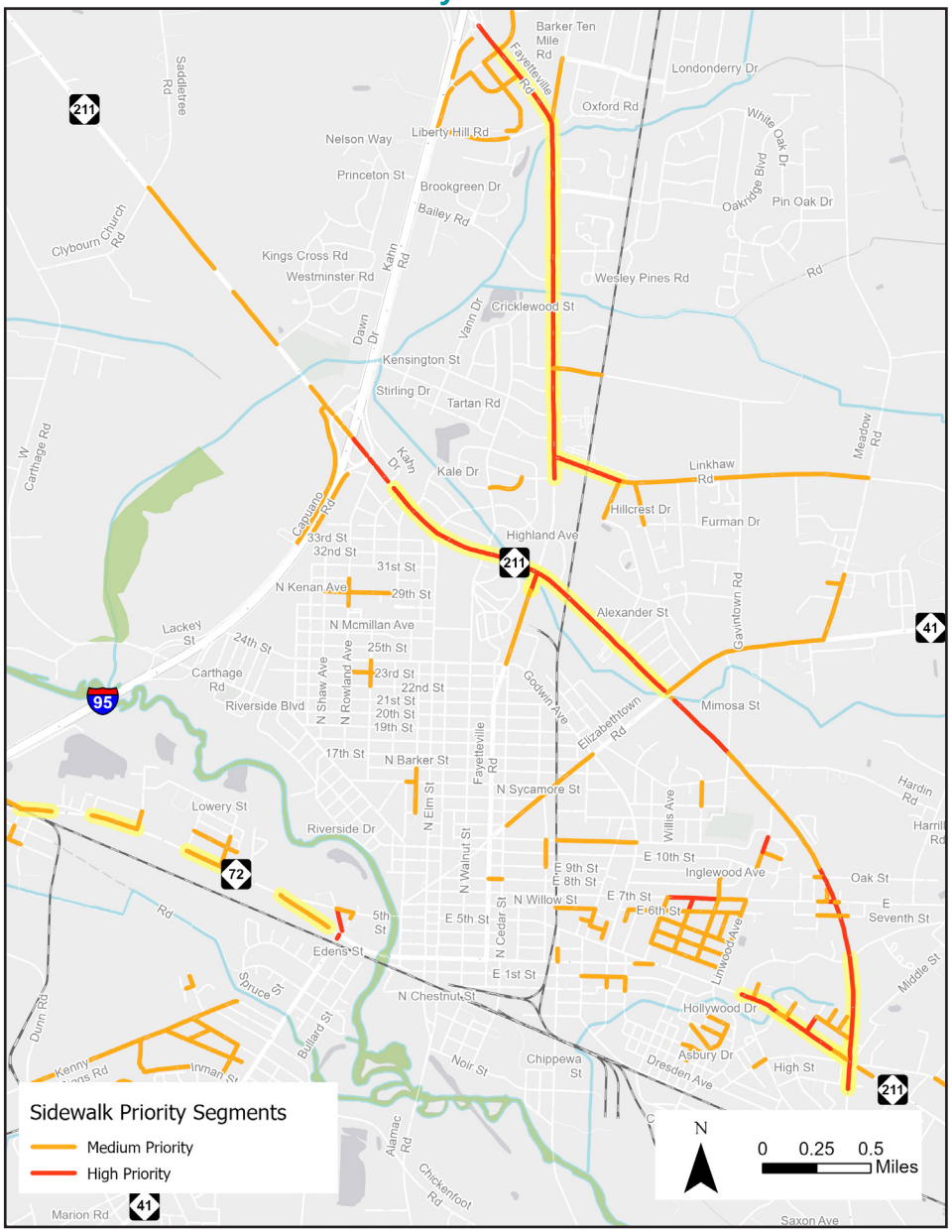


Install sidewalk on at least one side of priority corridors

The Priority Sidewalks map shows medium and high priority locations for sidewalk installation, in areas where there is not existing sidewalk and pedestrian risk is high (see the Safety Overview Map to see pedestrian risk alone). The segments highlighted in the map should be the highest priority, specifically:

- NC 72 between NC 41 (Martin Luther King Drive) and Norris Street
- NC 72/NC 211 (N Roberts Avenue) between Glisson Street and SR 1545 (McPhail Road)
- NC 41/ NC 211 (5th Street) between NC 72/NC 211 (N Roberts Avenue) and SR 1545 (McPhail Road)
- NC 211 (N Roberts Avenue) between NC 41 (Elizabethtown Road) and Kahn Drive
- SR 1997 (Fayetteville Road) from just south of Farringdom Street to Wintergreen Drive/Jackson Court

Priority Sidewalks

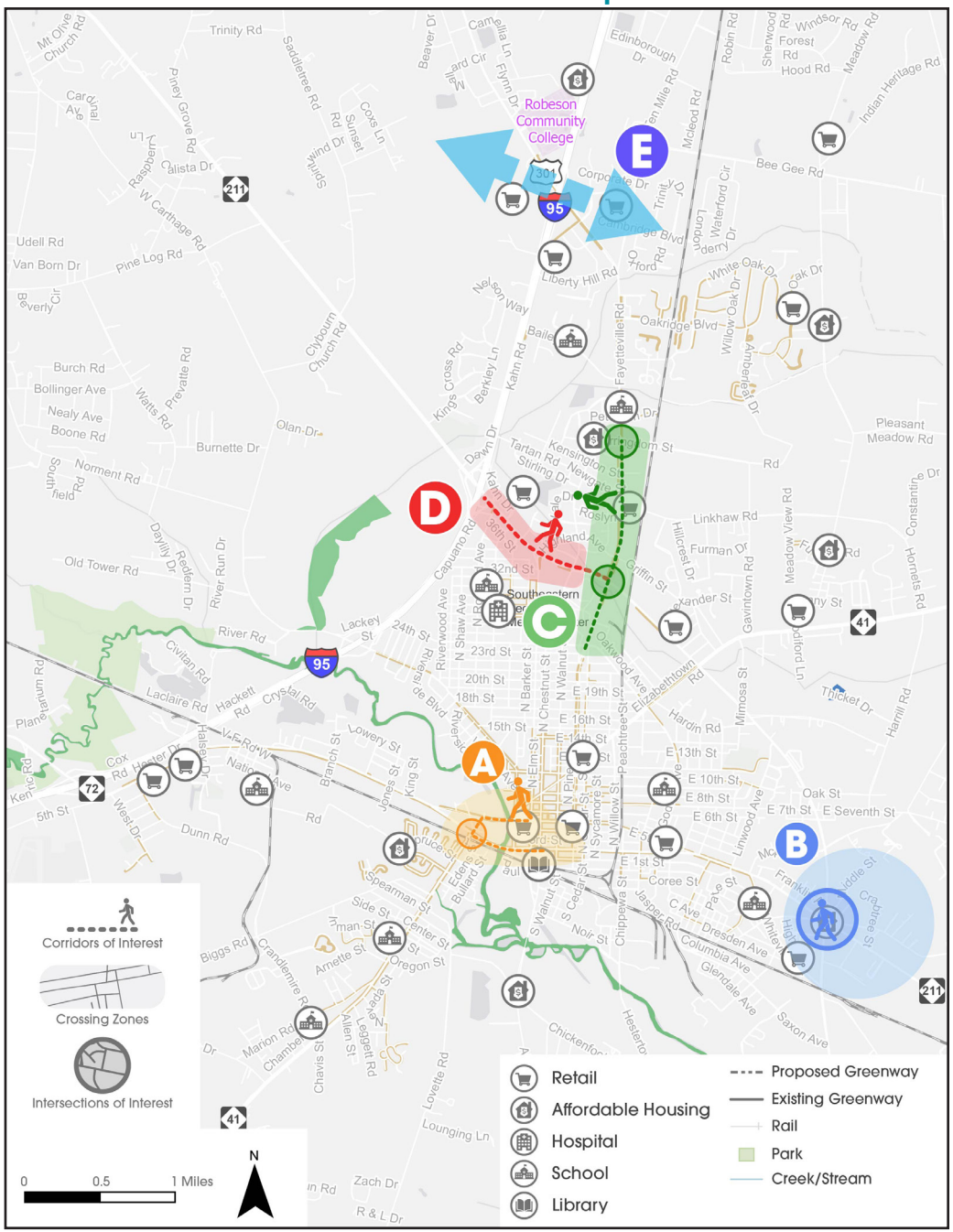


Site Specific

The project team considered each intersection, crossing, and corridor for a more tailored selection of engineering treatments. While the recommendations were informed by field observations, engineering surveys or designs were not prepared as part of this study. As the City of Lumberton and NCDOT proceed toward implementation of the conceptual recommendations recorded in this study, more detailed engineering studies and plans will be required.

NCDOT and the City of Lumberton will evaluate each of the site-specific improvements for eligibility through the Highway Safety Improvement Program (HSIP) and other local funding sources. The City of Lumberton should review this study's findings and incorporate the recommendations into current and future transportation plans, where appropriate. The City and NCDOT should continue to collaborate to move toward consistent application of safety countermeasures elsewhere in the city. The process and criteria described in this summary report may be used as a guide for identifying recommendations for improving pedestrian safety. Each of the letters (A-E) represent specific study areas within the Town. Specific opportunities and recommendations within each study area are described in the following pages of the report.

Lumberton Issues Map



DOWNTOWN LUMBERTON AND RIVERWALK A

NC 41/72 (2nd Street) is the main corridor in this focus area, providing access between I-95 and downtown Lumberton. In the focus area, the corridor runs between the flea market and affordable housing on the west side of the river, the Riverwalk, and downtown Lumberton on the east side of the river . NC 41/72 (2nd Street) transitions between a four-lane undivided cross section at NC 41 (Martin Luther King Jr Drive) to two-lanes across the bridge to three lanes with a center turn lane east of Water Street. SR 1600 (5th Street) transitions from a four-lane undivided cross section west of SR 1559 (Apple Street) to two lanes.

The annual average daily traffic (AADT) on 2nd Street ranges between 12,000-15,000 vehicles per day and the speed limit is 35 mph west of the bridge and 20 mph in downtown. The annual average daily traffic (AADT) on 5th Street is 10,000 vehicles per day and the speed limit is 35 mph. There is mostly complete sidewalk on either side of the road except on the southern side of the corridor at Water Street and northwest corner of the NC 41 (Martin Luther King Jr Drive) and NC 41/72 (2nd Street) intersection. The only existing marked crossings are at NC 41 (Martin Luther King Jr Drive) and the Riverwalk crossings.

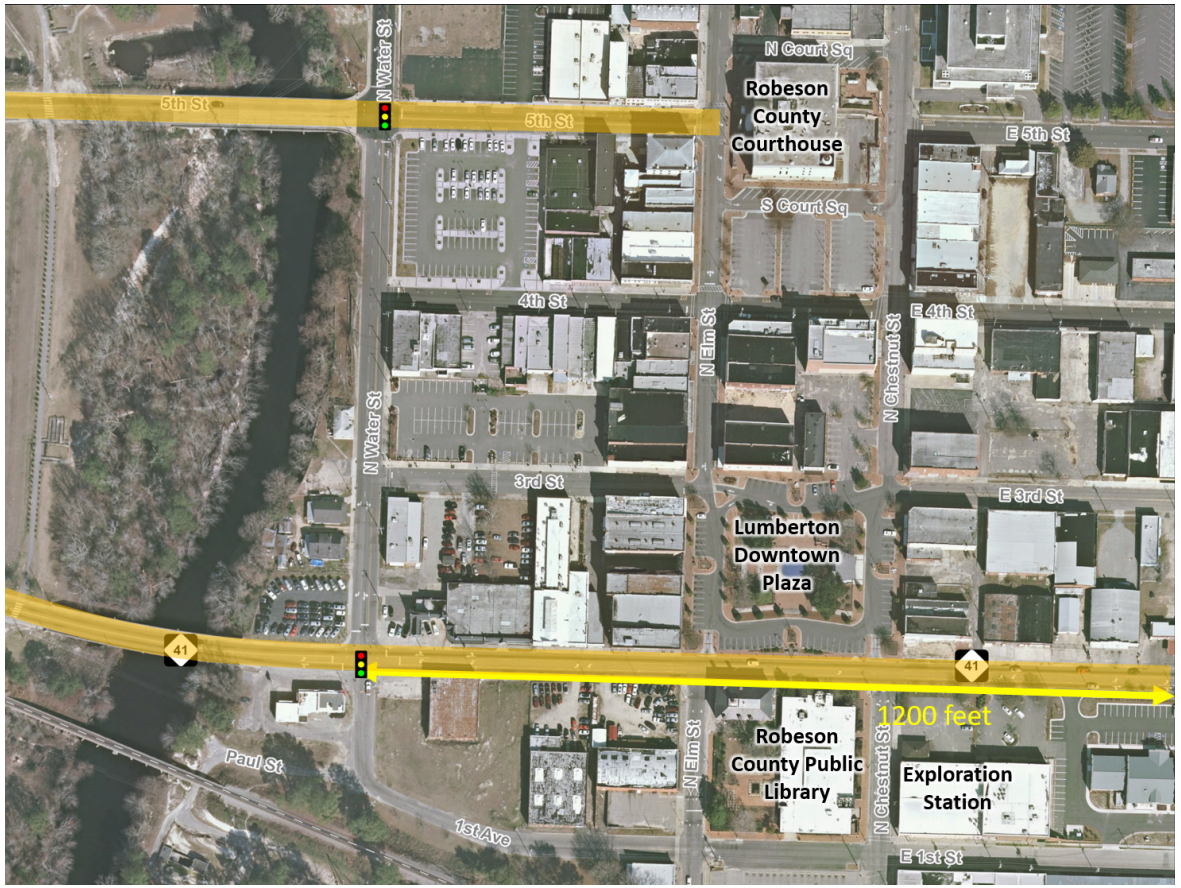
OPPORTUNITIES

- Pedestrian traffic is high between downtown, the Riverwalk, and the flea market. Mohr Plaza housing generates senior and mobility impaired pedestrian traffic.
- B-5985 will replace the bridges over the Lumber River on 2nd Street and 5th Street. The City is planning on installing lighting in conjunction with the bridge replacements and has requested a shared use path on the south side of the 5th Street bridge.
- W-5806E will add pedestrian crossings at the intersection of NC 41 (Martin Luther King Drive) / SR 1599 (Apple Street) at NC 72 (2nd Street).

Several sections of sidewalk are needed to complete the network in this area (see blue lines). Red lines indicate existing crosswalks.

OPPORTUNITIES

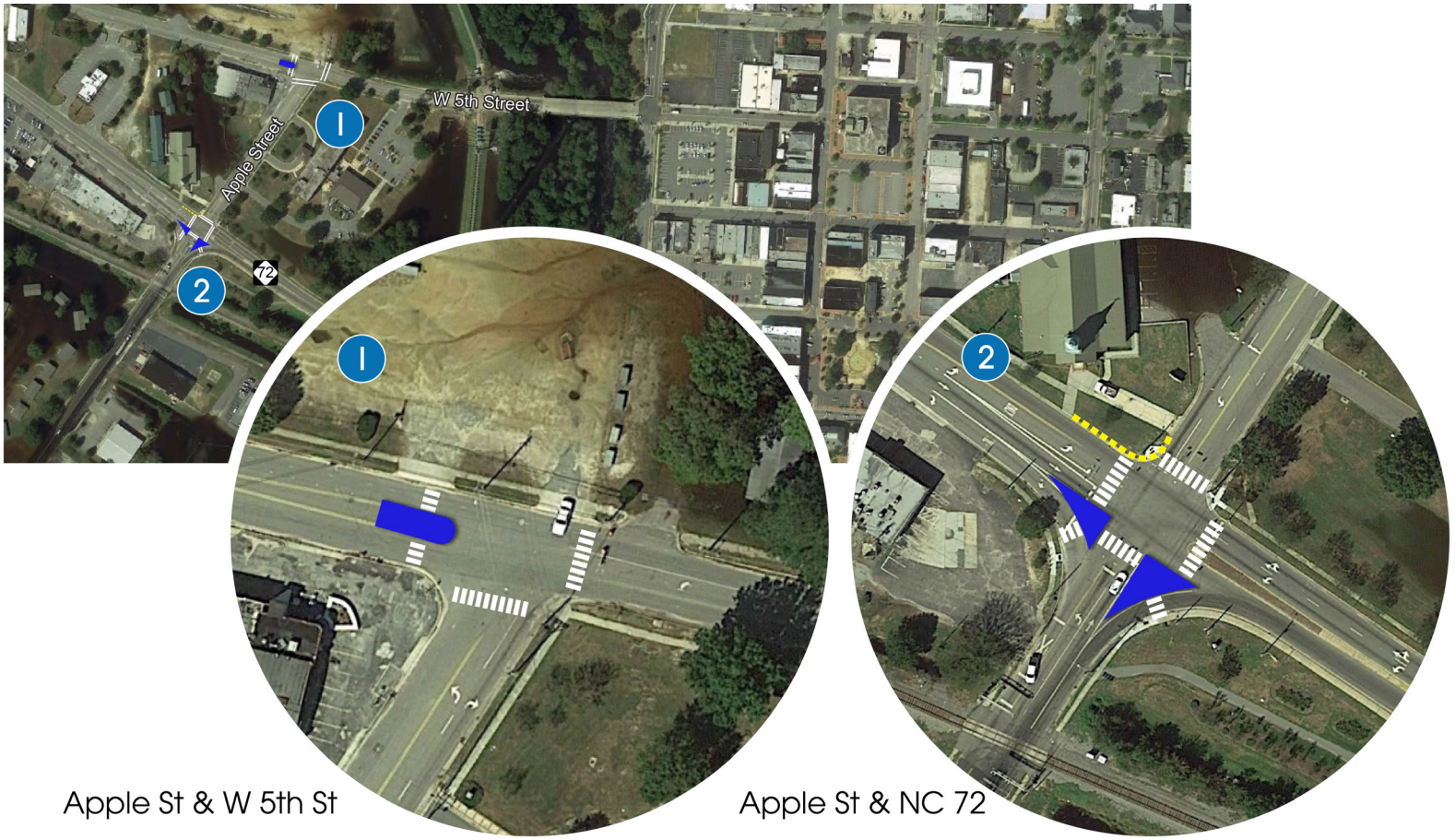
- Pedestrian crash clusters near the intersections of NC 72 (2nd Street) and NC 41 (Martin Luther King Drive) / SR 1599 (Apple Street), Elm Street, and Chestnut Street.
- The distance between signalized intersections along 2nd Street (NC 72) at Water Street and Walnut Street is roughly 1200 feet, approximately a 5 minute walk. Destinations on the southern side of NC 41, like the library, Exploration Station, and Lumberton Christian Care Center generate pedestrian traffic, particularly elementary age school children.
- Riverwalk shared use path is planned to extend from city park along western side of Water Street, cross at 5th street, and continue on northern side of 5th Street.



NC 41 (2nd Street) and 5th Street are highlighted as the main corridors between the flea market, Riverwalk, and downtown Lumberton. There are no formal pedestrian crossings for 1,200 feet on 2nd Street between Water Street and Walnut Street.

RECOMMENDATIONS

- NC 41 (Martin Luther King Drive) / SR 1599 (Apple Street) at NC 72 (2nd Street): Coordinate with the ongoing pedestrian safety project W-5806E to install high visibility crosswalks on all legs with concrete channelizing islands with cut-in pedestrian refuge islands on the southeast and southwest corners, pedestrian countdown signal heads and a leading pedestrian interval.
- NC 41 (Martin Luther King Drive) / SR 1599 (Apple Street) at SR 1600 (5th Street): Install high visibility crosswalks on all three legs with a pedestrian refuge island on the western leg, in-street 'yield here for pedestrian' signs, and pedestrian warning signs.



Apple St & W 5th St

Apple St & NC 72

RECOMMENDATIONS

- NC 72 (2nd Street) at Riverwalk Crossing: Install a high visibility crosswalk with vertical delineators approaching the crosswalk on either side to narrow the travel lane and slow vehicle speeds, and pedestrian warning signs. Potentially coordinate with B-5985 bridge replacement project.
- SR 1600 (5th Street) at Riverwalk Crossing: Install a high visibility crosswalk with a pedestrian refuge island, in-street 'yield here for pedestrian' signs, and pedestrian warning signs. Potentially coordinate with B-5985 bridge replacement project.

Riverwalk & W 5th St

Riverwalk & NC 41

RECOMMENDATIONS

- NC 72 (2nd Street) at Elm Street and Chestnut Street: Install a high visibility crosswalk with a pedestrian refuge island, in-street 'yield here
- Water Street at SR 1600 (5th Street) and NC 72 (2nd Street): Install high visibility crosswalks on all four legs with pedestrian countdown signals and a leading pedestrian interval. Consider a gateway treatment at Water Street and 5th Street to visually signal the entrance to downtown to pedestrians and drivers. Construct sidewalk on the southern side of 2nd Street at Water Street to fill the existing gap.

2nd St & Elm/Chestnut St

RECOMMENDATIONS

- Water Street at SR 1600 (5th Street): Install wide, high visibility crosswalks on western approach to enhance visibility at future intersection trail crossing. Restrict right turns on red at the approach to reduce conflicts at trail crossing. Consider a gateway treatment at Water Street and 5th Street to visually signal the entrance to downtown to pedestrians and drivers.
- Water Street at NC 72 (2nd Street): Install high visibility crosswalks on all four legs with pedestrian countdown signals and a leading pedestrian interval. Construct sidewalk on the southern side of 2nd Street at Water Street to fill the existing gap.

5th St & Water St

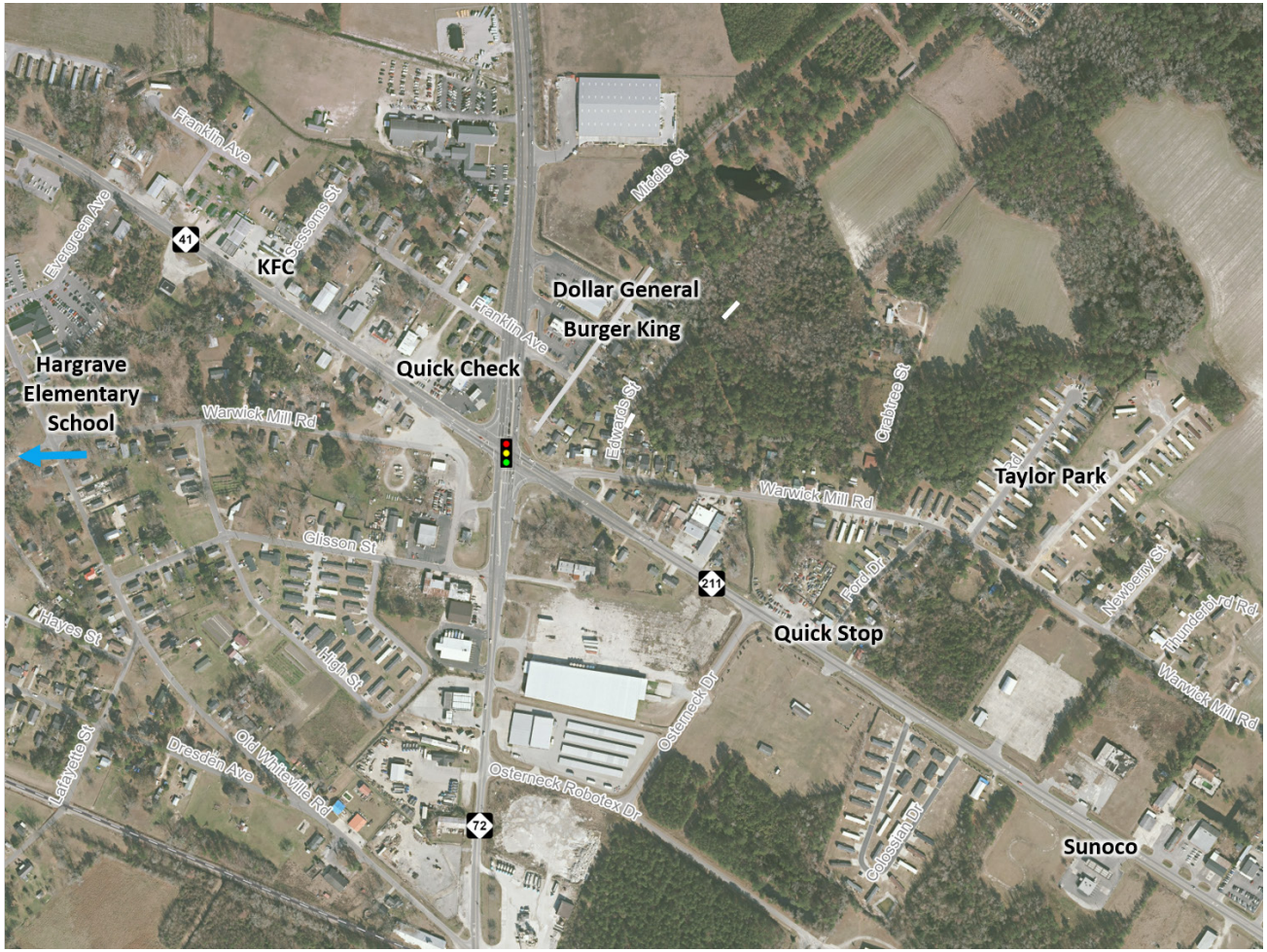
NC 41/211 (E 5TH STREET) AND NC 72/NC 211 (N ROBERTS AVENUE) B

This focus area is at the intersection of two major corridors- NC 41/211 (5th Street) and NC 72/NC 211 (N Roberts Avenue). There are several mobile home parks in the area and destinations like Dollar General, restaurants, and convenience stores.

NC 41/211 (5th Street) is a four-lane undivided cross section west of Roberts Avenue and three lanes with a center turn lane east of the intersection. The annual average daily traffic (AADT) is 9,000 vehicles per day and the speed limit is 35 mph. NC 72/NC 211 (N Roberts Avenue) a two-lane undivided cross section south of 5th Street and five lanes with a center turn lane north of the intersection. The annual average daily traffic (AADT) ranges between 11-17,000 vehicles per day and the speed limit is 35 mph.

OPPORTUNITIES

- There is no existing sidewalk or marked crosswalks in this area.
- The highest pedestrian/bicycle counts from the 8 counts done throughout the city were at Warwick Mill Road and Ford Drive. Pedestrians were also counted and observed crossing N Roberts Avenue mid-block, north of 5th Street.



Aerial of the intersection of NC 41/211 (E 5th Street) and NC 72/NC 211 (N Roberts Avenue). There is no existing sidewalk or marked crosswalks.

RECOMMENDATIONS

- In the short term, install crosswalks on the northern and western legs with a concrete channelizing island with cut-in pedestrian refuge island at the northwest corner, pedestrian countdown signal heads, and a leading pedestrian interval. In the long term, install crosswalks and pedestrian signal heads on the eastern and southern legs.
- Construct sidewalk at priority locations:
  - On the north side of NC 41/NC 211 (E 5th Street) between NC 72 and the Quick Check driveway and between NC 72 and SR 2112 (Warwick Mill Road).
  - On SR 2112 (Warwick Mill Road) between NC 211 and Taylor Park.
  - On the east side of NC 72/NC 211 (N Roberts Avenue) between NC 41/NC 211 and Dollar General.
  - On the west side of NC 72/NC 211 (N Roberts Avenue) between NC 41/NC 211 and Glisson Street.

SR 1997 (FAYETTEVILLE ROAD) BETWEEN FARRINGDOM STREET AND GODWIN AVENUE C

SR 1997 (Fayetteville Road) is the main corridor in this focus area, serving as the major north-south corridor in the city and a parallel to I-95. The land use context is a mix of residential neighborhoods, commercial destinations, and Lumberton High School. SR 1997 (Fayetteville Road) is a four-lane undivided roadway south of NC 211 (N Roberts Avenue) and five-lane with a center turn line to the north. The annual average daily traffic (AADT) ranges between 10,500-25,500 vehicles per day and the speed limit is 45 mph.

OPPORTUNITIES

- There is pedestrian traffic to and from residential areas on the west side of Fayetteville to nearby restaurants, retail, and Lumberton High School.
- There is incomplete sidewalk along Fayetteville Road and Boomerang Drive. The only marked crossing is at Linkhaw Drive and Fayetteville Road.
- U-5797 will widen Fayetteville Road to six-lanes with a 5-foot median between Farringdom Street and Godwin Avenue with a quadrant intersection at Boomerang Drive and construct a roundabout at Godwin Avenue. Current plans for the project replace existing sidewalk and crosswalks but do not add new sidewalk or crossings.

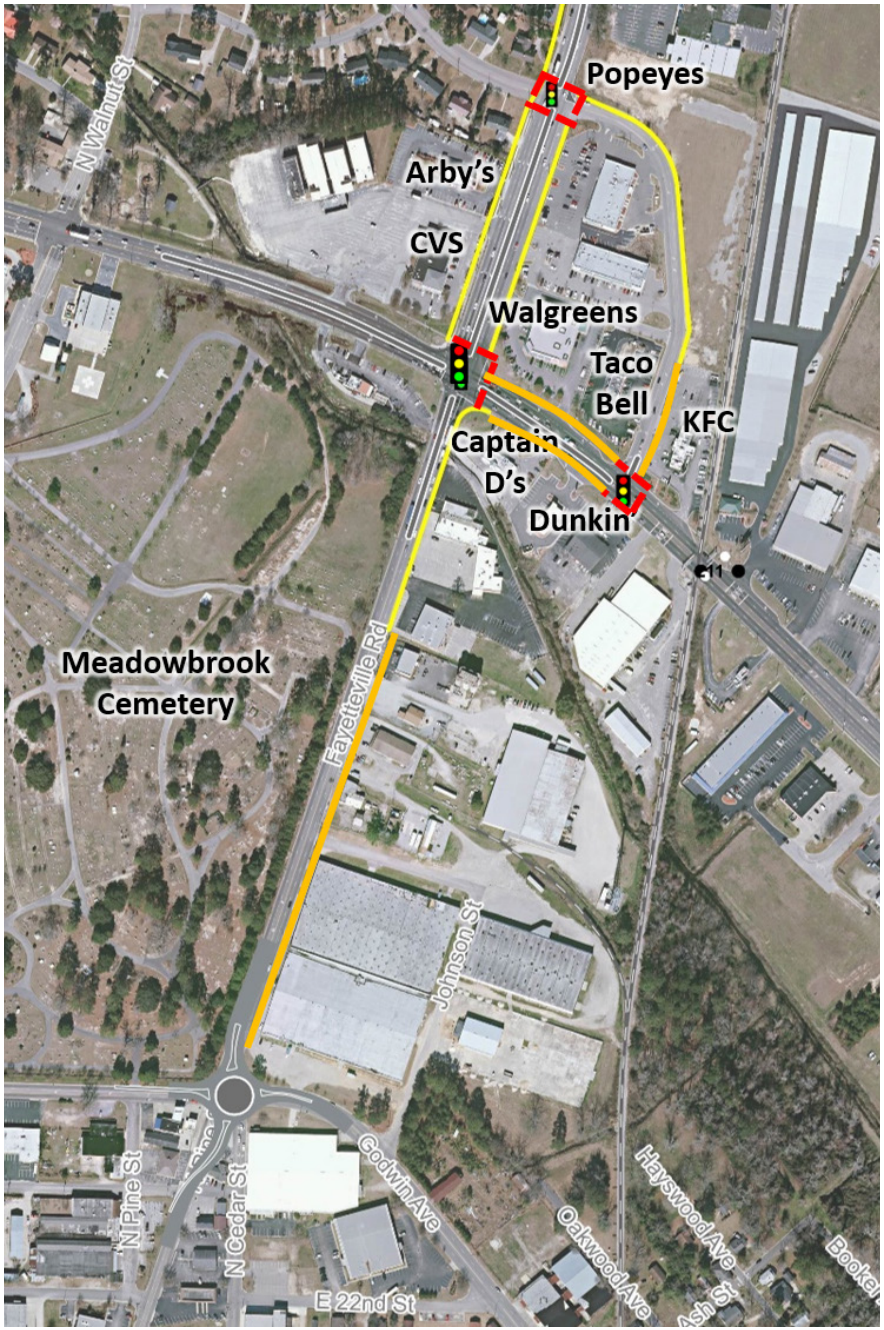
RECOMMENDATIONS

- Add crosswalks and countdown pedestrian signal heads on approaches with curb ramps at Farringdom Street.
- Construct sidewalk to fill in existing gaps along Fayetteville Road between Farringdom Street and NC 211 (N Roberts Avenue).
- Add a leading pedestrian interval at existing crossings at Linkhaw Road.
- Monitor pedestrian activity on Fayetteville Road between Boomerang Drive and Linkhaw Road for potential need for a future midblock crossing.

Aerial showing recommended pedestrian improvements in combination with the planned median and widening with the U-5797 project. Red lines indicate existing crosswalks at Linkhaw Road and recommended crosswalks at Farringdom Street.

RECOMMENDATIONS

- Construct sidewalk to fill in existing gaps along both sides of Boomerang Drive. Add pedestrian countdown signal heads and crosswalks to both Boomerang intersections.
- Add high visibility crosswalks, pedestrian countdown signal heads, and a leading pedestrian interval at NC 211 (N Roberts Avenue) and Fayetteville Road.
- Extend sidewalk south along the east side of Fayetteville Road between NC 211 (N Roberts Avenue) and Godwin Avenue.
- Install pedestrian refuge cuts in splitter islands and reserve space for future (planned) sidewalk at the planned roundabout at Godwin Avenue.



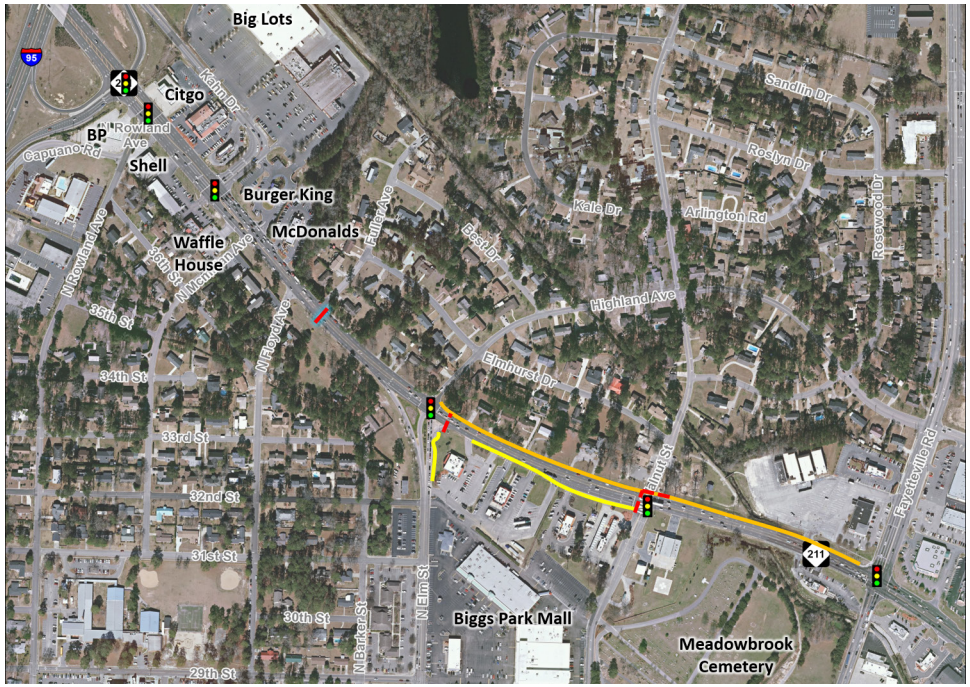
Aerial showing recommended pedestrian improvements in combination with the planned median and widening with the U-5797 project. Red lines indicate recommended crosswalks at either end of Boomerang Drive and the intersection of NC 211 and Fayetteville Road.

NC 211 (N ROBERTS AVENUE) FROM N WALNUT STREET TO KAHN DRIVE D

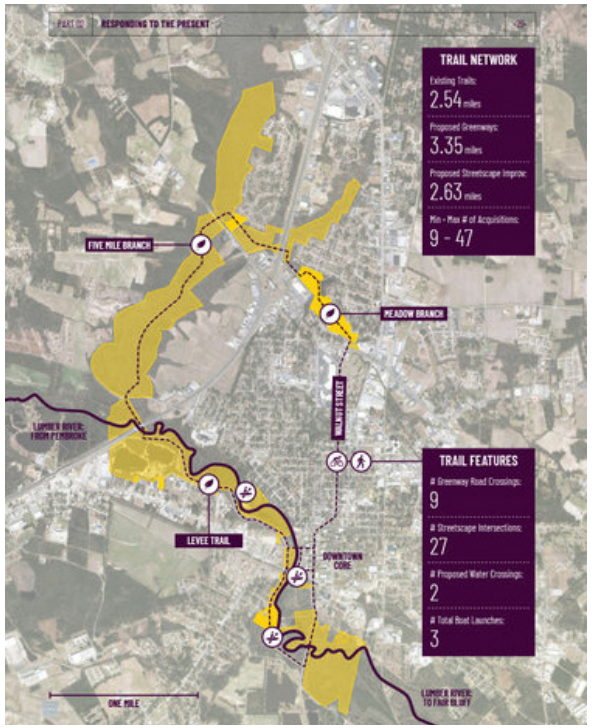
NC 211 (N Roberts Avenue) is the main corridor in this focus area, serving as a major east-west corridor in the city and parallel to I-95. The land use context is mostly commercial immediately adjacent to the corridor with residential neighborhoods on either side and major destinations (i.e., Biggs Park Mall, Southeastern Regional Medical Center) to the south. NC 211 (N Roberts Avenue) is a five lane cross-section with a center turn lane in this area. The annual average daily traffic (AADT) ranges between 23,500-25,000 vehicles per day and the speed limit is 35 mph.

OPPORTUNITIES

- The crosswalk at Fuller Ave does not connect to the sidewalk network and none of the agencies are aware of a purpose for the crosswalk in its current location.
- There are no marked crossings at the signalized intersections on the corridor
- There are residential neighborhoods to the north of the corridor and commercial uses, the mall, and hospital to the south.
- Elm and Walnut Streets are prominent north-south routes connecting neighborhoods to downtown.
- City of Lumberton Floodprint Plan called for greenway connectors along floodways parallel to NC 211 N Roberts to provide bicycle and pedestrian connectivity between (Walnut Street and I-95).



Aerial of NC 211 (N Roberts Ave). Priority sidewalk recommendations are shown in Red lines indicate the existing crosswalk at Fuller Avenue, which is recommended for removal, and recommended crosswalks at Fayetteville Road and Elm Street.



NC 211 (N ROBERTS AVENUE) FROM N WALNUT STREET TO KAHN DRIVE D

RECOMMENDATIONS

- Add sidewalks and curb ramps on the northern side of NC 211 between Fayetteville Road and N Elm Street.
- Remove the crosswalk at Fuller Avenue. Add pedestrian signal heads and high visibility crosswalks at Walnut Street and N Elm Street to connect future sidewalk and curb ramp approaches.
- Consider wide sidewalk or shared use paths, in lieu of sidewalk, to serve as pedestrian-bicycle connection as called for in Lumberton Floodprint.

Existing crosswalk at Fuller Avenue

LUMBERTON TOWNE CENTER E

SR 1997 (Fayetteville Road) is the main corridor through the Lumberton Towne Center, serving as the major north-south corridor in the city and a parallel to I-95. The land use context is commercial, with a main shopping area on the east side of I-95 and Robeson Community College and other destinations on the west side. SR 1997 (Fayetteville Road) is mostly six lanes, with two thru lanes and a turn lane in each direction. The annual average daily traffic (AADT) ranges between 19,500-25,500 vehicles per day and the speed limit is 45 mph.

OPPORTUNITIES

- There are major retail destinations (e.g., Walmart, Dollar Tree, Lowe's), hotels, and restaurants on the east side of interchange and Robeson Community College is on the west side of the interchange. There is ongoing development in the area.
- The sidewalk network is fragmented and there are few marked crossings. The recent upgrade to the I-95 interchange added sidewalks, marked crosswalks, and pedestrian signal heads at the interchange. Opportunities to add sidewalk and crosswalks; a potential opportunity is the R-5955 widening project (scheduled for 2029).

RECOMMENDATIONS

- Add sidewalks on either side of Fayetteville Road between the I-95 interchange and Liberty Hill Road.
- Provide high visibility crosswalks, curb ramps, and pedestrian countdown signal heads at the signalized intersections.

Aerial of Lumberton Towne Center. The existing sidewalk network is fragmented and there are no marked crosswalks beyond the I-95 interchange.

Location	Description	Short Term	Long Term	Appendix
A	Downtown Lumberton and Riverwalk	• NC 41 (Apple Street/Martin Luther King Drive) at NC 72 (2nd Street): Coordinate with the ongoing pedestrian safety project W-5806E to install high visibility crosswalks on all legs with concrete channelizing islands with cut-in pedestrian refuge islands on the southeast and southwest corners, pedestrian countdown signal heads and a leading pedestrian interval.	• NC 41 (Apple Street/Martin Luther King Drive) at SR 1600 (5th Street): Install high visibility crosswalks on all three legs with a pedestrian refuge island on the western leg, in-street 'yield here for pedestrian' signs, and pedestrian warning signs.	TC, CA, DC
		• NC 72 (2nd Street) at Riverwalk Crossing: Install a high visibility crosswalk with vertical delineators approaching the crosswalk on either side to narrow the travel lane and slow vehicle speeds, and pedestrian warning signs. Potentially coordinate with B-5985 bridge replacement project.	• NC 72 (2nd Street) at Elm Street and Chestnut Street: Install a high visibility crosswalk with a pedestrian refuge island, in-street 'yield here for pedestrian' signs, and pedestrian warning signs.	
		• SR 1600 (5th Street) at Riverwalk Crossing: Install a high visibility crosswalk with a pedestrian refuge island, in-street 'yield here for pedestrian' signs, and pedestrian warning signs. Potentially coordinate with B-5985 bridge replacement project.	• Water Street at SR 1600 (5th Street): Install wide, high visibility crosswalks on western approach to enhance visibility at future intersection trail crossing. Restrict right turns on red at the approach to reduce conflicts at trail crossing. Consider a gateway treatment at Water Street and 5th Street to visually signal the entrance to downtown to pedestrians and drivers.	
			• Water Street at NC 72 (2nd Street): Install high visibility crosswalks on all four legs with pedestrian countdown signals and a leading pedestrian interval. Construct sidewalk on the southern side of 2nd Street at Water Street to fill the existing gap.	
			• Add sidewalk to one or both sides of NC 72 (2nd Street) between Norris Street and NC 41 (Apple Street/Martin Luther King Drive).	
B	NC 41/211 (E 5th Street) and NC 72/NC 211 (N Roberts Avenue)	• Install crosswalks on the northern and western legs with a concrete channelizing island with cut-in pedestrian refuge island at the northwest corner, pedestrian countdown signal heads, and a leading pedestrian interval.	• Construct sidewalk on SR 2112 (Warwick Mill Road) between NC 211 and Taylor Park.	TC, CA, DC

Appendices: TC= Traffic Count CA= Crash Analysis DC= Design Concept

Location	Description	Short Term	Long Term	Appendix
B	NC 41/211 (E 5th Street) and NC 72/NC 211 (N Roberts Avenue)	• Construct sidewalk on the north side of NC 41/NC 211 (E 5th Street) between NC 72 and the Quick Check driveway and between NC 72 and SR 2112 (Warwick Mill Road).	• Construct sidewalk on the east side of NC 72/NC 211 (N Roberts Avenue) between NC 41/NC 211 and Dollar General. Construct sidewalk on the east or both sides between Dollar General and E 7th Street.	
			• Construct sidewalk on the west side of NC 72/NC 211 (N Roberts Avenue) between NC 41/NC 211 and Glisson Street.	
			• Construct sidewalk on one or both sides of NC 41/NC 211 (E 5th Street) and Linwood Avenue.	
C	SR 1997 (Fayetteville Road) between Farringdom Road and Godwin Avenue	• Add crosswalks and countdown pedestrian signal heads on approaches with curb ramps at Farringdom Street.	• Monitor pedestrian activity on Fayetteville Road between Boomerang Drive and Linkhaw Road for potential need for a future midblock crossing.	TC, CA
		• Construct sidewalk to fill in existing gaps along Fayetteville Road between Farringdom Street and NC 211 (N Roberts Avenue).		
		• Add a leading pedestrian interval at existing crossings at Linkhaw Road.		
		• Construct sidewalk to fill in existing gaps along both sides of Boomerang Drive. Add pedestrian countdown signal heads and crosswalks to both Boomerang intersections.		
		• Add high visibility crosswalks, pedestrian countdown signal heads, and a leading pedestrian interval at NC 211 (N Roberts Avenue) and Fayetteville Road.		
		• Extend sidewalk south along the east side of Fayetteville Road between NC 211 (N Roberts Avenue) and Godwin Avenue.		
		• Install pedestrian refuge cuts in splitter islands and reserve space for future (planned) sidewalk at the planned roundabout at Godwin Avenue.		

Appendices: TC= Traffic Count CA= Crash Analysis DC= Design Concept

Location	Description	Short Term	Long Term	Appendix
D	NC 211 (N Roberts Avenue) from N Walnut Street to Kahn Drive	• Add sidewalks and curb ramps on the northern side of NC 211 between Fayetteville Road and N Elm Street.	• Add sidewalks and curb ramps on one or both sides of NC 211 (N Roberts Avenue between Fayetteville Road and NC 41 (SR 2055/ Elizabethtown Road).	TC, DC
		• Remove the crosswalk at Fuller Avenue. Add pedestrian signal heads and high visibility crosswalks at Walnut Street and N Elm Street to connect future sidewalk and curb ramp approaches.		
E	Lumberton Towne Center		• Add sidewalks on either side of Fayetteville Road between the I-95 interchange and Farringdom Road.	N/A
			• Provide high visibility crosswalks, curb ramps, and pedestrian countdown signal heads at the signalized intersections.	

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