# CHARLOTTE ROAD/MAIN STREET CORRIDOR IMPROVEMENT STUDY

## Rutherfordton, Spindale, Forest City, and Rutherford County, North Carolina

Final Report | May 2018

# TABLE OF CONTENTS

**Introduction** Acknowledgments + Project Overview

**The Site** Study Area + Project Context

**Enhancing the Vision** Defining Project Strategy + Outcomes

**Previous Recommendations** Past Projects + Plans Previously Completed for each jurisdiction

**Preferred Recommendations** The Design + Visualizations

# INTRODUCTION

## A Vision for Charlotte Road/Main Street

# ACKNOWLEDGMENTS


**Steering Committee**

Aubrey Clay, Rutherford County

Chris Guffey, NCDOT Division 13

Danny Searcy, Rutherford County

Doug Barrick, Rutherfordton

Jerry Stensland, Rutherford Outdoor Coalition

Brendan Merithew, NCDOT Division 13

John Condrey, Forest City

Clark Poole, Rutherford County Chamber of Commerce

Scott Webber, Spindale

Nastasha Earle-Young, NCDOT, TPD

Karyl Fuller, Isothermal RPO/IPDC

Steve Garrison, Rutherford County

Amy Bridges, Forest City

**Consultant Team**

alta PLANNING + DESIGN

# INTRODUCTION

The Isothermal Rural Planning Organization (RPO), in partnership with Alta Planning + Design, developed a corridor study for the Isothermal RPO that focused on enhancing the bicycle and pedestrian connectivity network through the implementation of Complete Streets design interventions. Through stakeholder input, the team identified and prioritized enhancements for areas of concern, including concepts for safer intersections, gap-closures for the on-street pedestrian network, new bicycle facilities along a portion of the 5.5-mile corridor of Charlotte Street/Main Street, and connections to the Thermal Belt Rail Trail.

**This project considered corridor enhancements from the intersection of Charlotte Road and US 221 and ending at Yarboro Street in Forest City that rebalance the corridor for all modes of travel and promote a healthy, vibrant, and safe community. The study's recommendations address the gap in the pedestrian network along Charlotte Road/Main Street in order to maximize the corridor's potential as a valuable part of the community's active transportation network.**

**Recommendations include:**

- At-grade crossing improvements
- Facility and network enhancements
- Concepts for block development in specific locations in Rutherfordton, Spindale, and Forest City.

An Active Mobility Vision for Charlotte Road/Main Street

# THE SITE

## Opportunities on Charlotte Road / Main Street

# OPPORTUNITIES

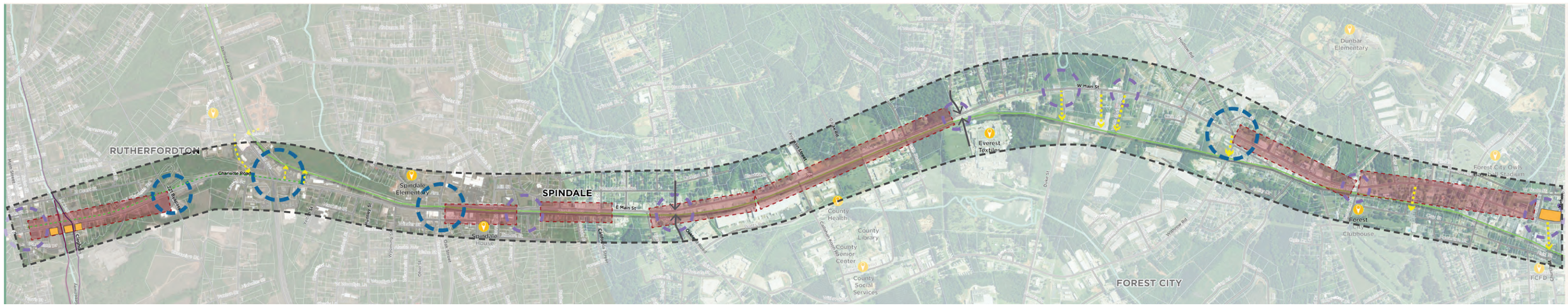
Pedestrian connections to the Thermal Belt Trail and the Purple Martin Trail

Improved roadway intersections for pedestrians

Access management through medians with turn pockets and reduction in driveways

Incorporating proposed developments, plans, and roadway designs

# STUDY AREA



# CONSTRAINTS

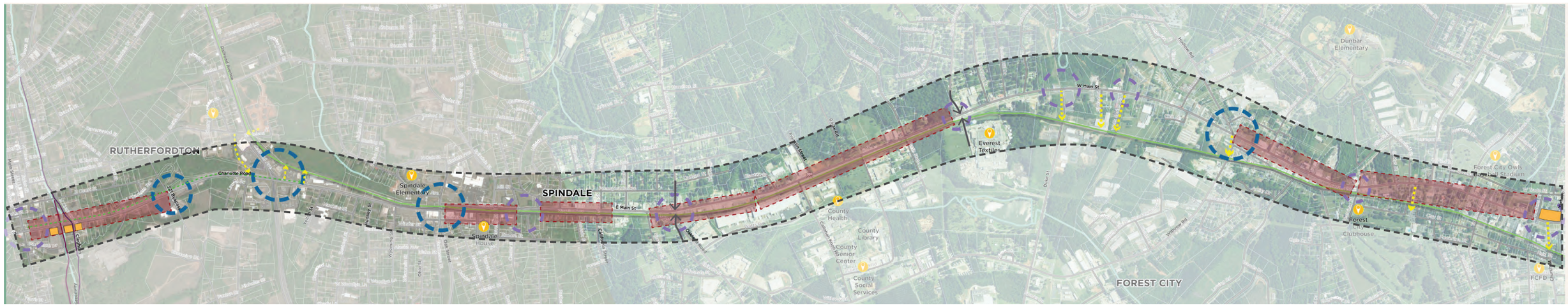
Continuous turn lane and multiple private driveways along the corridor

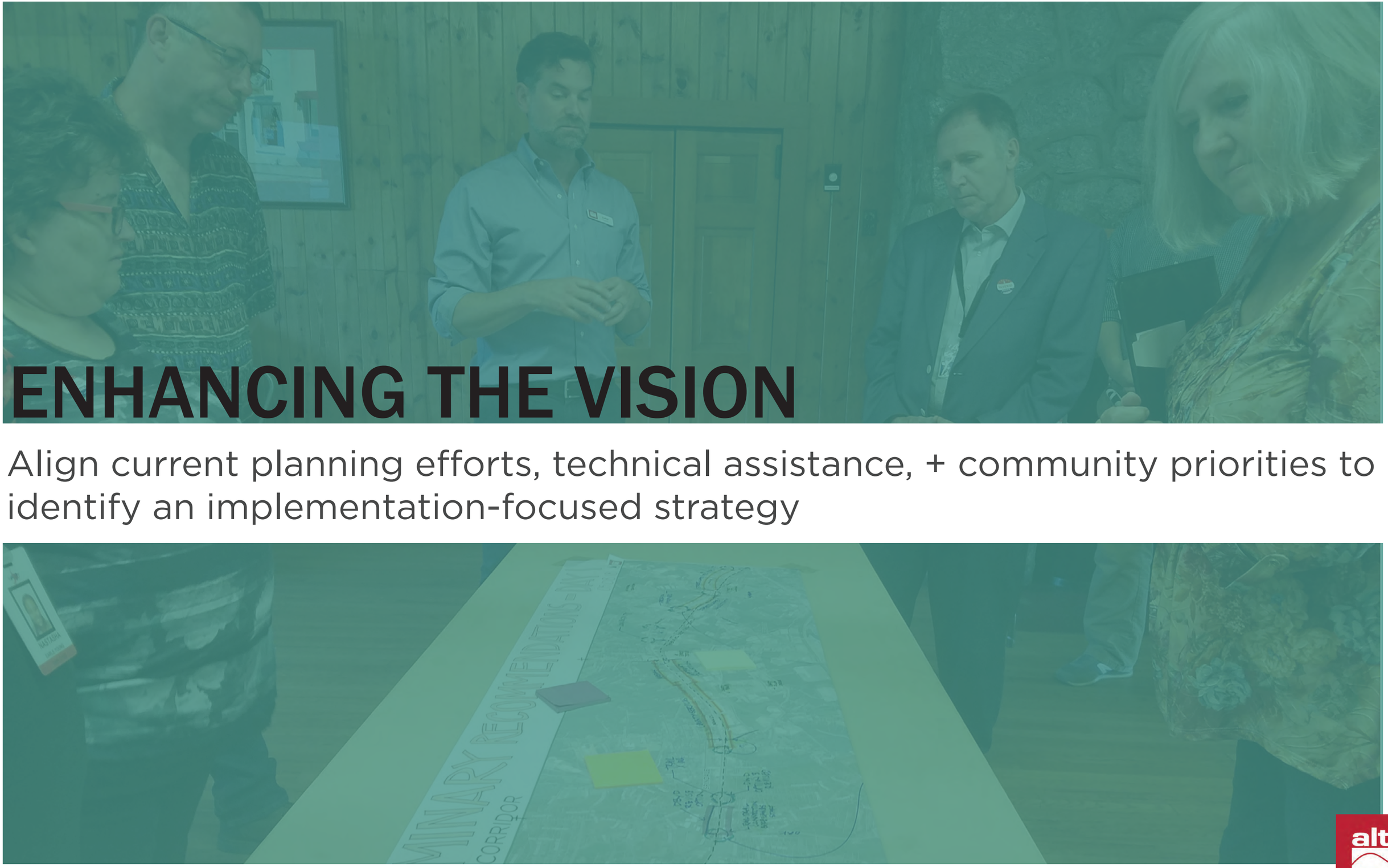
Poor access to future greenways (Thermal Belt Rail Trail / Purple Martin)

Lack of corridor identity and connectivity

Construction of a new bypass of US 221

# STUDY AREA





# ENHANCING THE VISION

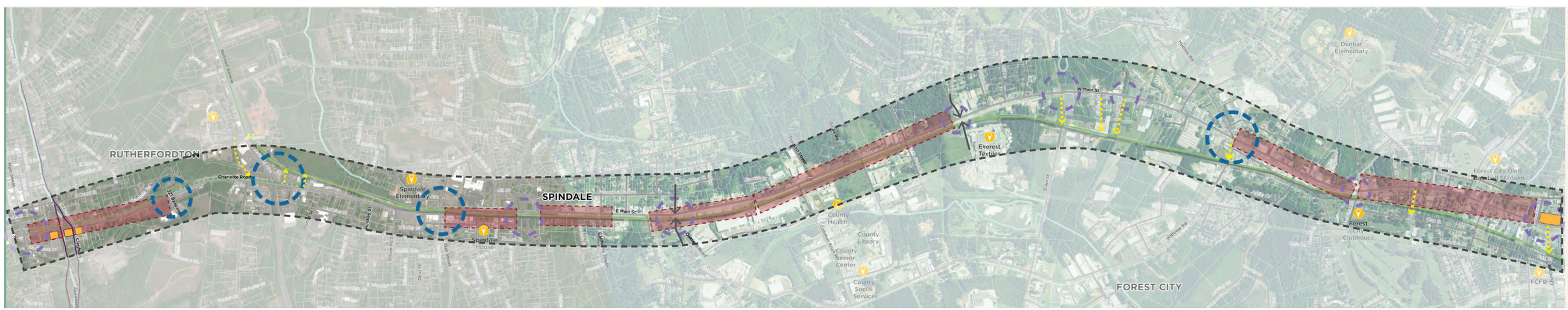
Align current planning efforts, technical assistance, + community priorities to identify an implementation-focused strategy

# DESIGN FOR CONNECTIVITY

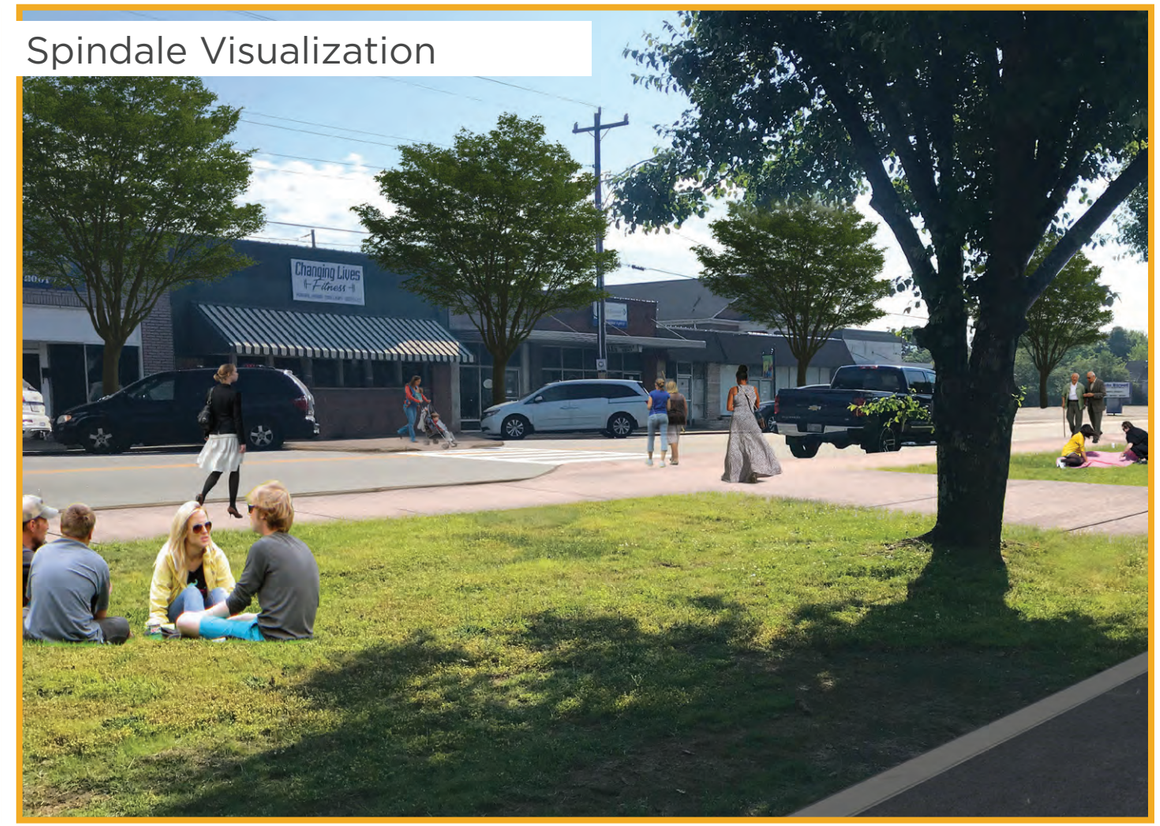
Connect Purple Martin and Thermal Belt Rail Trail to Charlotte Road/ Main Street

Bridge gaps in bike + pedestrian network

Implement trailheads + visual cues to connect key areas in Rutherfordton, Spindale, Forest City, and Rutherford County to the regional greenways



# DESIGN FOR ECONOMIC DEVELOPMENT



# OUTCOMES

Thriving development opportunities

Vibrant + diverse public spaces

Multimodal options for transportation

Enhanced brand of Isothermal, Rutherfordton, Spindale, and Forest City

# THE CHARRETTE

3-day workshop with nightly pin-up sessions

Stakeholder meetings + walking tours to discuss solutions

Designed on-site with public input as a guide

Final presentation to show conceptual recommendations on last night + receive feedback

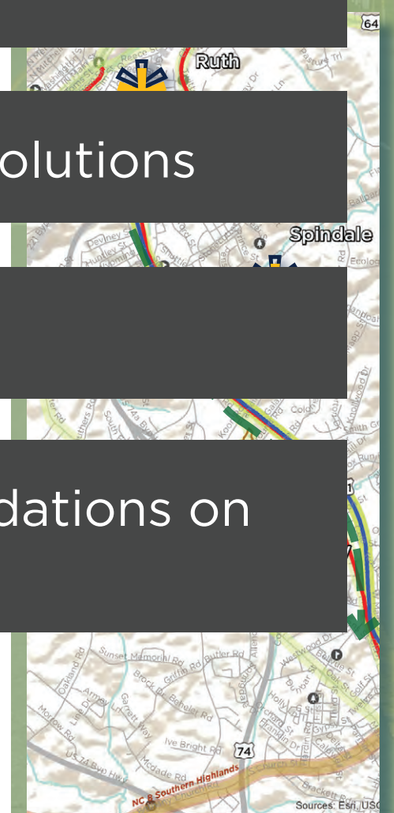
The charrette was an integral part of the design process; public feedback informed opportunities and constraints for Charlotte Road/Main Street and helped the consultant team, client, and community form a **shared vision** for the corridor.

Isothermal Rural Planning Organization

## CHARLOTTE ROAD / MAIN STREET CORRIDOR IMPROVEMENT STUDY

# DESIGN CHARRETTE

A **charrette** is an intensive planning session where citizens, designers and others collaborate on a vision for development.




PROJECT EXTENTS
MAIN ST CORRIDOR
THERMAL BELT RAIL TRAIL

### MAY 8, 2018

roductory Presentation **(Open to the Public)** 6:00pm - 7:30pm

### MAY 9, 2018

Design Studio **(Open to the Public)** 10:00am - 12:00pm

Design Pin-Up **(Open to the Public)** 5:00pm - 6:00pm

### MAY 10, 2018

Design Studio **(Open to the Public)** 10:00am - 12:00pm

Final Presentation **(Open to the Public)** 6:00pm - 7:30pm

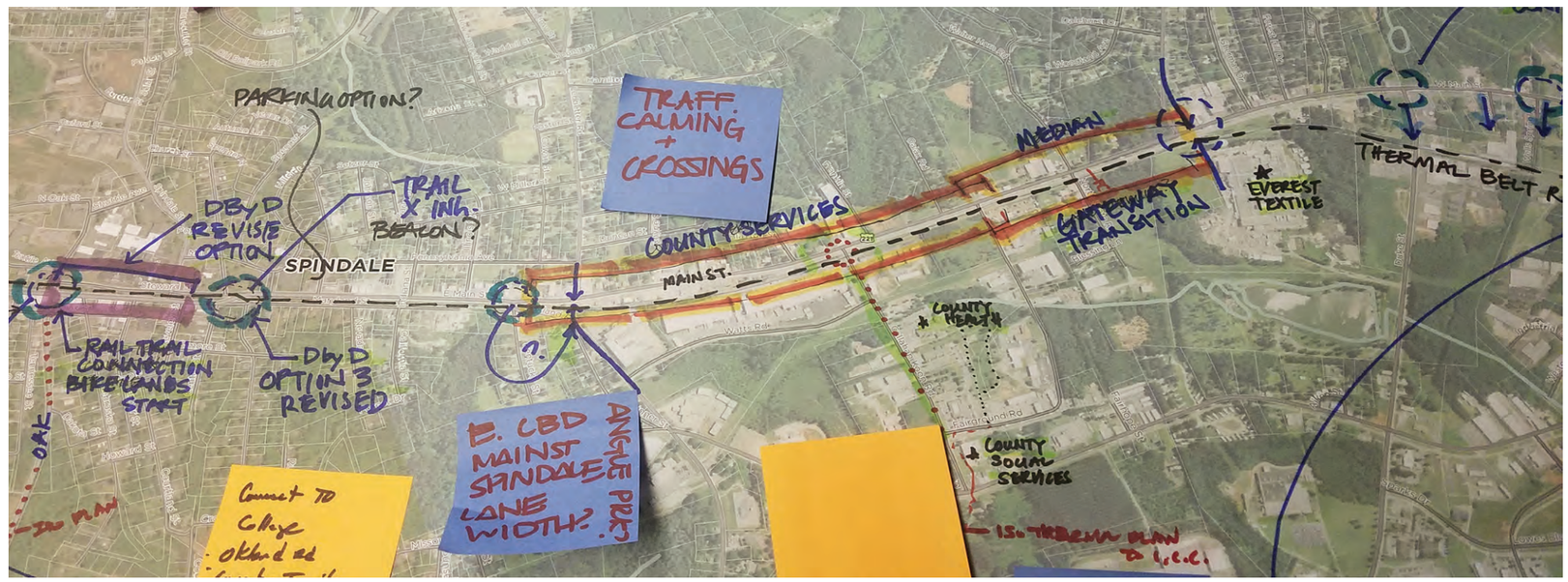
Share your thoughts with planning staff: How can we improve connectivity between Rutherfordton, Spindale, and Forest City on the important Main Street corridor? What would encourage you to walk and bike more? How can we better connect you to your destinations?

**WHERE:**
**Forest City Club House**
**141 Westview St**
**Forest City, NC 28**

alta PLANNING + DESIGN

# WHO WE HEARD FROM...

- Community leaders and stakeholders
- NCDOT-Transportation Planning Department
- Town of Spindale Planning Department
- Spindale Parks and Recreation
- Forest City Planning Department
- Rutherford County
- Town of Rutherfordton
- Police and Fire departments
- Developers
- Main Street Committee
- Isothermal Rural Planning Organization




The workshop consisted of Alta team + key stakeholders developing preliminary recommendations in an open studio environment. Staff + stakeholders were invited to provide input and participation at key meeting times + were able to actively participate or drop-in to the open studio work sessions.

# WHAT WE HEARD:

## From RPO staff

- **Connect to Thermal Belt Rail-Trail** (safely cross Charlotte Road/ Main Street)
- **Economic development**
- Improved streetscapes
- Provide **fiscally feasible** recommendations
- **Access Management**

## From Public + Stakeholders

- Serve **destinations** + new development
- Walking + biking **connections**
- Connect across Charlotte Road/ Main Street
- Provide for **multimodal options:** car access, parking, transit, and bikes
- Enhance identity for tourism and locals alike
- Expand + connect **open space/public space:** thermal belt rail-trail, downtowns, parks, schools, churches, etc.
- Include **placemaking:** wayfinding, trailheads, history, streetscapes

"Make intersections accessible for pedestrians"

"There are lots of individual plans that need to be tied together"

"Include connections to Thermal Belt rail-trail"

# PREVIOUS RECOMMENDATIONS

## Past plans + recommendations that pertain to corridor study

# Corridor plans previously completed for Isothermal Regional Bike Plan

## 17 MAIN STREET - RUTHERFORDTON TO FOREST CITY SEPARATED BICYCLE LANES

***Length:*** 5.5 miles

***Jurisdictions:*** Town of Rutherfordton, Town of Spindale, Town of Forest City, Rutherford County

***Trip Generators:***
- Downtown Rutherfordton
- Downtown Spindale
- Downtown Forest City
- Businesses along corridor
- Thermal Belt Trail
- Purple Martin Greenway

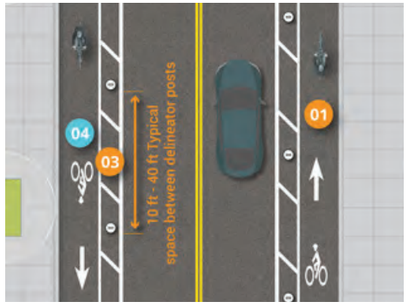
***Support in Other Plans:***
- Rutherford County CTP Draft
- Charlotte Street/Main Street Complete Streets Enhancements Design Charrette (2018)
- Rutherfordton Bicycle & Pedestrian Plan (2017)

***Potential ROW Needs:***
- TBD

***Potential Partnerships:***
- Town of Rutherfordton
- Town of Spindale
- Town of Forest City
- Rutherford County
- Developers and businesses along corridor
- NCDOT

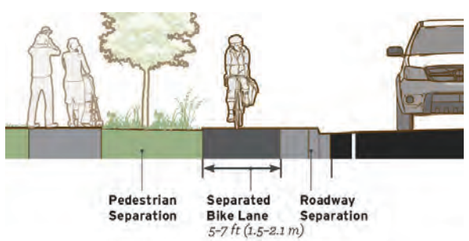
***Estimated Construction Costs:***
- $ *[TBD]*

### DESIGN OPTIONS & CONSIDERATIONS



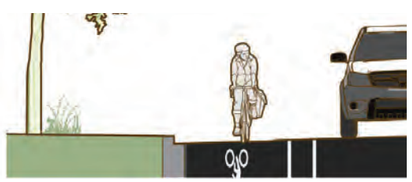

*Physically Separated Example*

For design options and further detail, please see the Separated Bike Lane Planning and Design Guide at - https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page0cfm#chapter5_dir.




*Physically Separated Example*

Several configurations are possible to create physical separation from automobile traffic. These options should be explored during the design phase. See example graphic to the lef from the Small Town and Rural Multimodal Network Design Guide. Further detail can be found at - http://ruraldesignguide.com/physically-separated/separated-bike-lane.



*Visually Separated Example*

While less ideal, construction of a bicycle lan with a painted buffer rather than a physical buffer can be a significant improvement for bicycle and motorist safety and comfort, whi still reserving space for constructing a physic buffer in the future. Further detail regarding visually separated bike lanes can be found in the Small Town and Rural Multimodal Netwo Design Guide at http://ruraldesignguide.com visually-separated/bike-lane.

## 17 MAIN STREET - RUTHERFORDTON TO FOREST CITY SEPARATED BICYCLE LANES

This project would connect to the newest segment of the Purple Martin Greenway.

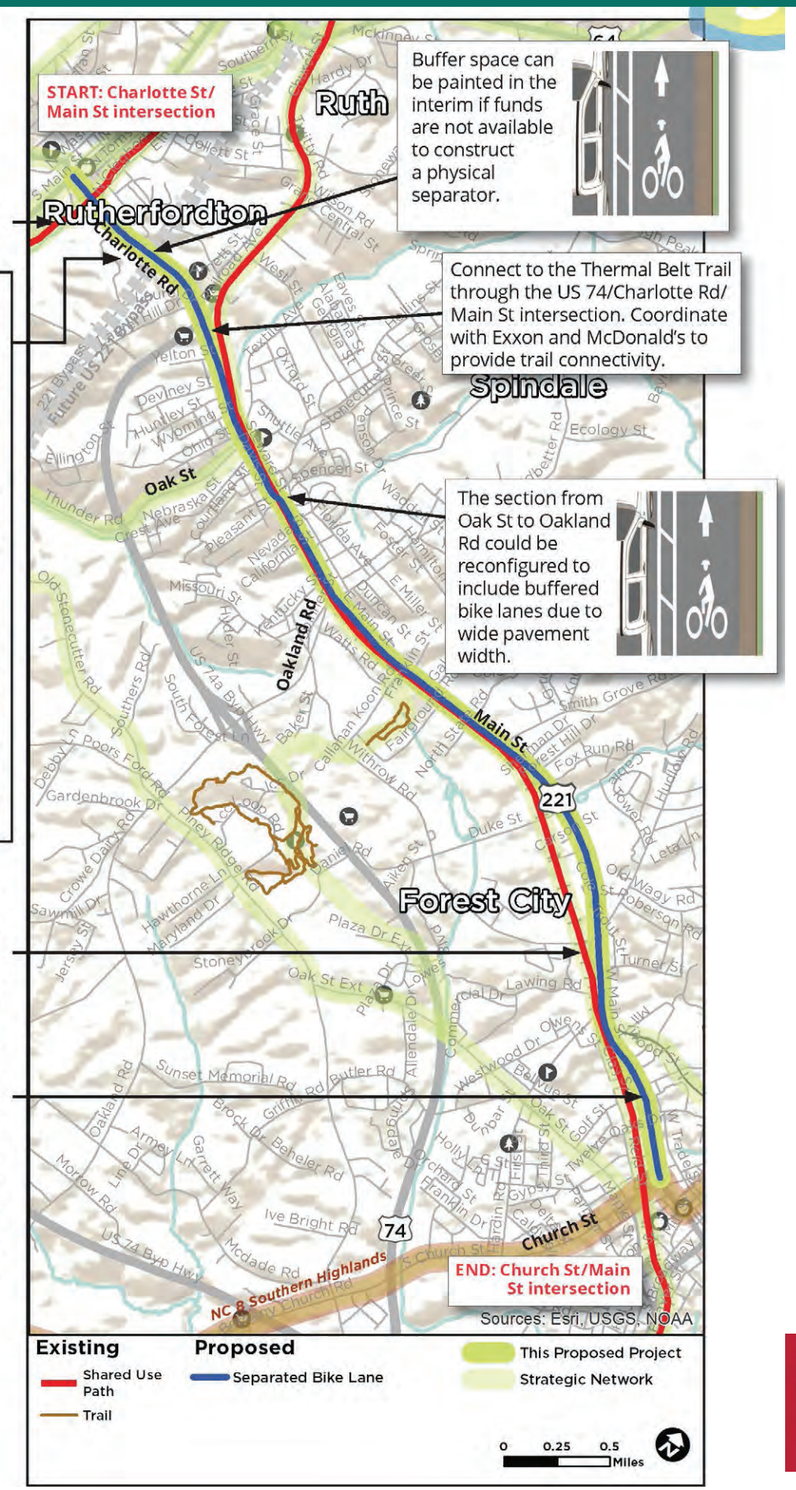
Charlotte Road, from Main Street to US 74 is a five-lane road with 52' pavement width, traffic volumes of 12,000 AADT and a 35 mph speed limit. Appropriate bicycle facilities for all ages and abilities will require physical separation from automobile traffic.

Charlotte Road should be converted from five travel lanes to three (two travel lanes with a center turn lane), and separated bicycle lanes in each direction. Bike lanes should include a 2'-3' buffer and 6'-7' operating space for the bicyclist. Charlotte Road's width, lower traffic volumes, connectivity to downtown Rutherfordton and connection to the Purple Martin Greenway makes this section a candidate for lane narrowing.

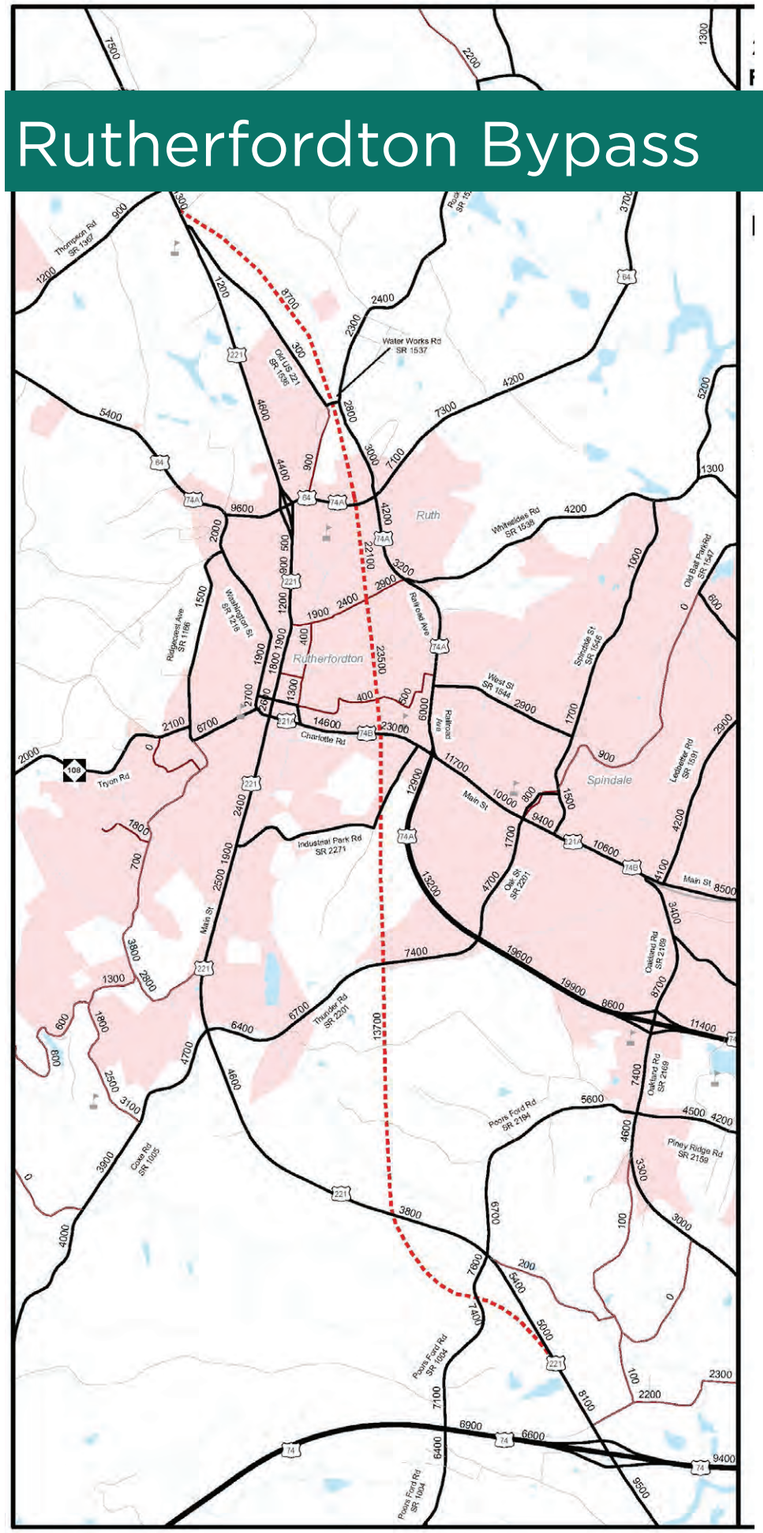
The future US 221 Bypass will have an interchange at Charlotte Rd with exit/entrance ramps - this design should incorporate separated bicycle facilities through the project footprint.

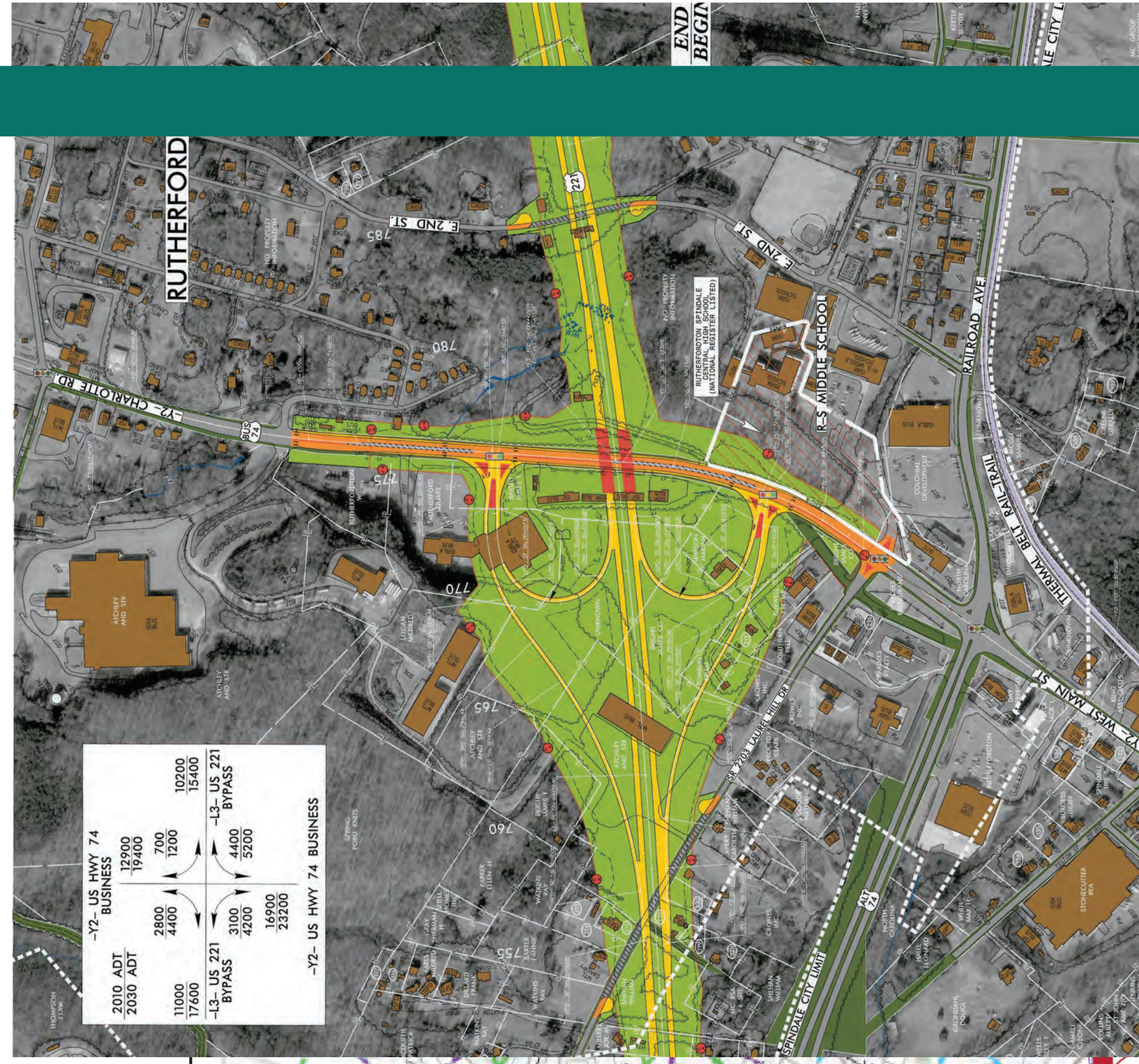
For much of the section of Main Street east of the US 74/Charlotte Rd intersection, the Thermal Belt runs parallel to the corridor, staying within 10'-800'. Numerous connectivity opportunities should be explored.

Main Street east of Oakland Road to Church Street will need to be expanded to include separated bike lanes. This is due to the traffic volumes that range between 7,000-17,000 AADT, a 35 speed limit, and pavement width that is too narrow at approximately 37'. If roadway expansion cannot be accomplished in the short-term, ensure frequent connectivity options to the Thermal Belt Trail at a minimum.



# Rutherfordton Bypass



# Rutherfordton Bike and Pedestrian Plan

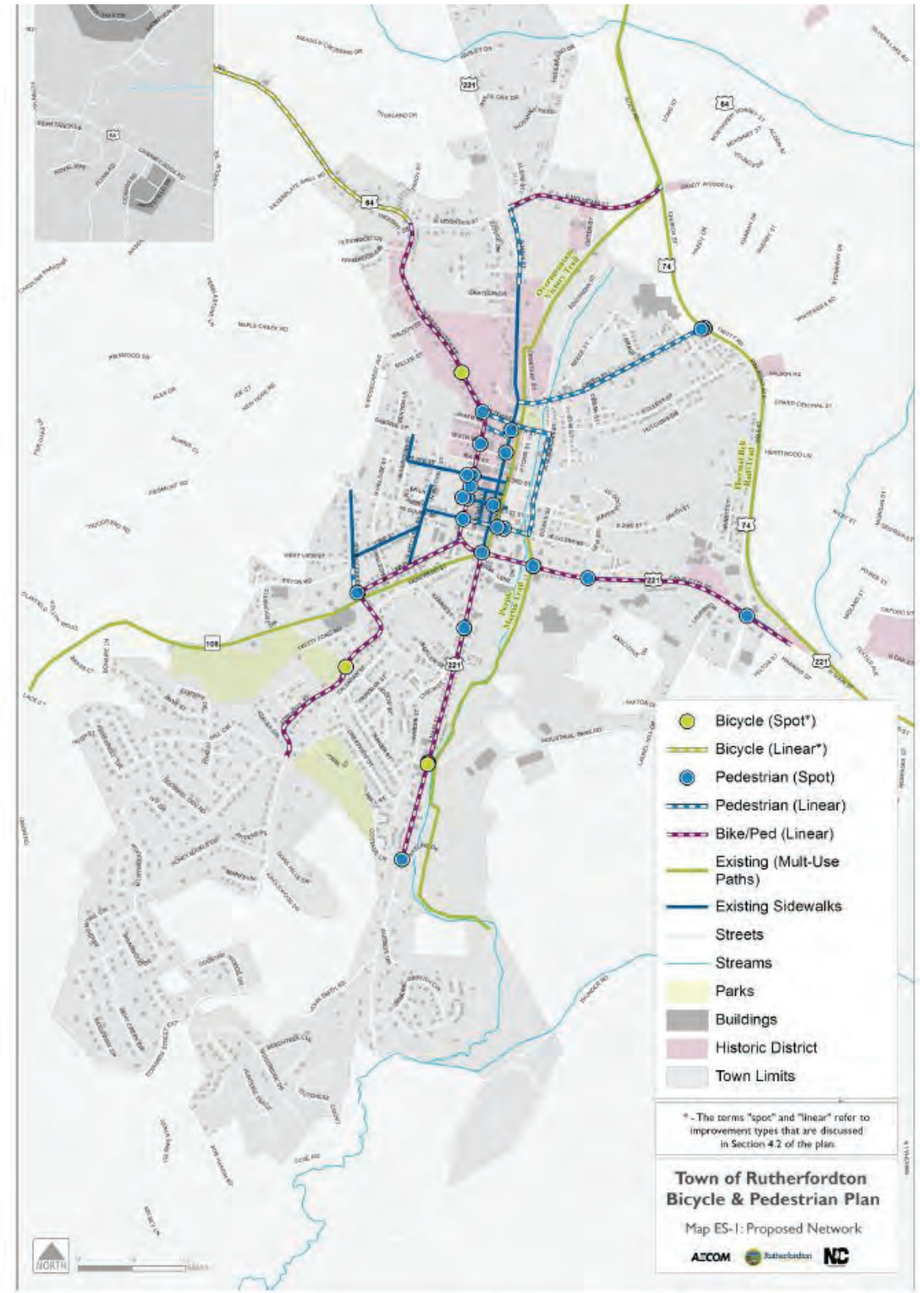
Figure 4-1: Charlotte Road recommended corridor improvements

Table 4-4: Charlotte Road corridor improvements

| Mode | Type | Description | Location/Extent | Cost* |
|---|---|---|---|---|
| **Short Term Recommendations** | | | | |
| Pedestrian | Spot | High-visibility crosswalk including pavement markings, pedestrian signals, and converting existing concrete median dividers to pedestrian refuges. | Charlotte Rd/US 74 | $192,000 – $204,000 |
| Pedestrian | Spot | High-visibility crosswalk including pavement markings and pedestrian signals | Charlotte Rd/Main Street | $58,000 - $66,000 |
| Pedestrian | Spot | High-visibility crosswalk including pavement markings and pedestrian signals | Charlotte Rd/Cleghorn St | $19,000 - $21,000 |
| Pedestrian | Spot | High-visibility crosswalk including pavement markings | Charlotte Rd/Old Charlotte Rd | $9,000 - $9,700 |
| Pedestrian | Linear | Construct 5-foot sidewalk on the north/side of Charlotte Rd | Main St to eastern Town Limits | 870,000 – 1,300,000 |
| **Long Term Recommendations** | | | | |
| Bicycle | Linear | Pavement markings to reallocate road space to include bike lanes. | From Main Street to eastern town limits | Requires further NCDOT analysis |

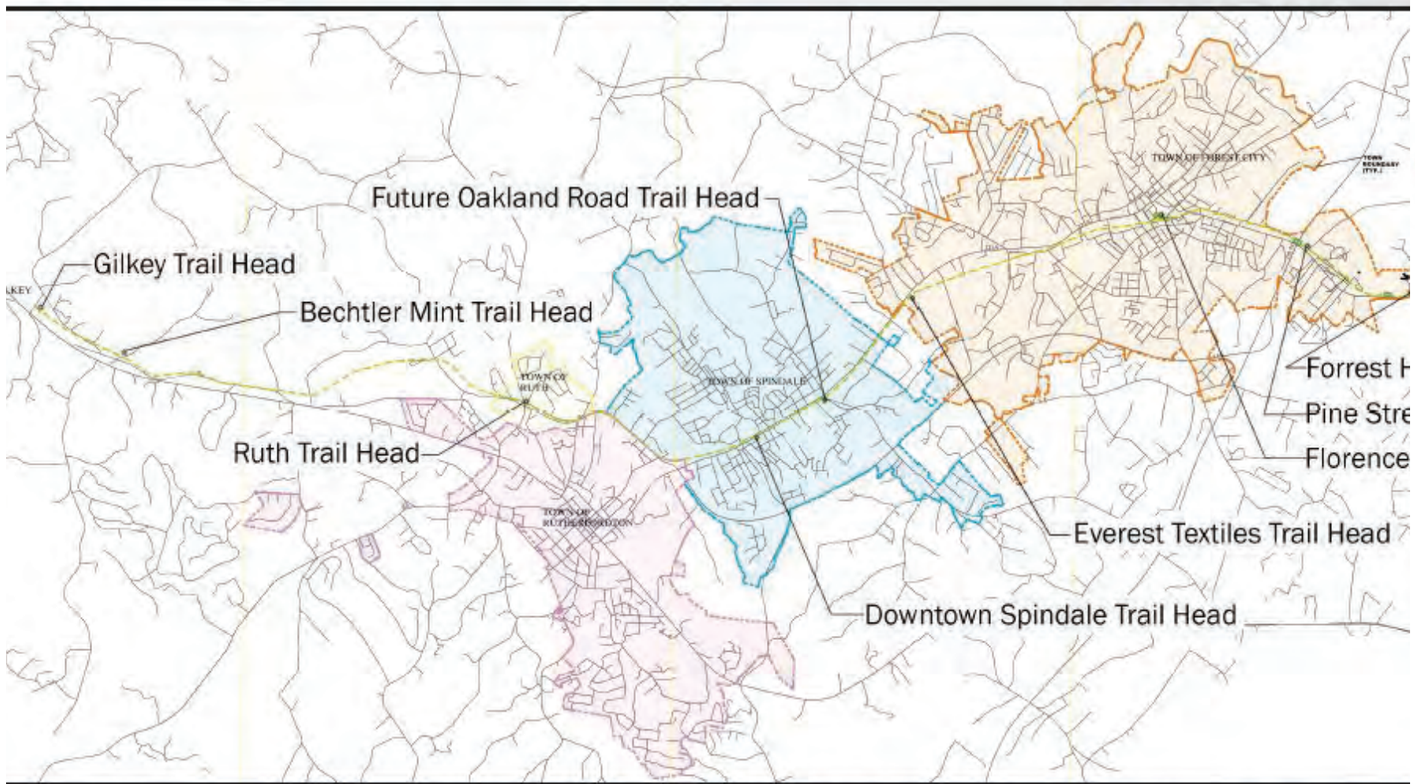
*The range of costs is discussed in further detail in Section 4.6.

Recommendations – Town of Rutherfordton Bicycle and Pedestrian Plan | Page 59



# Ongoing projects + future development in Spindale

## TRAIL HEAD LOCATIONS

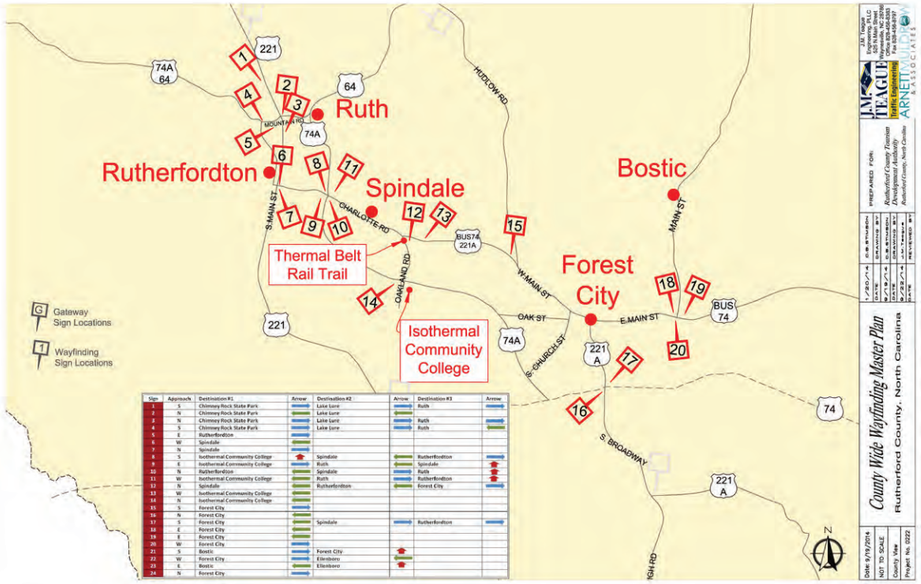


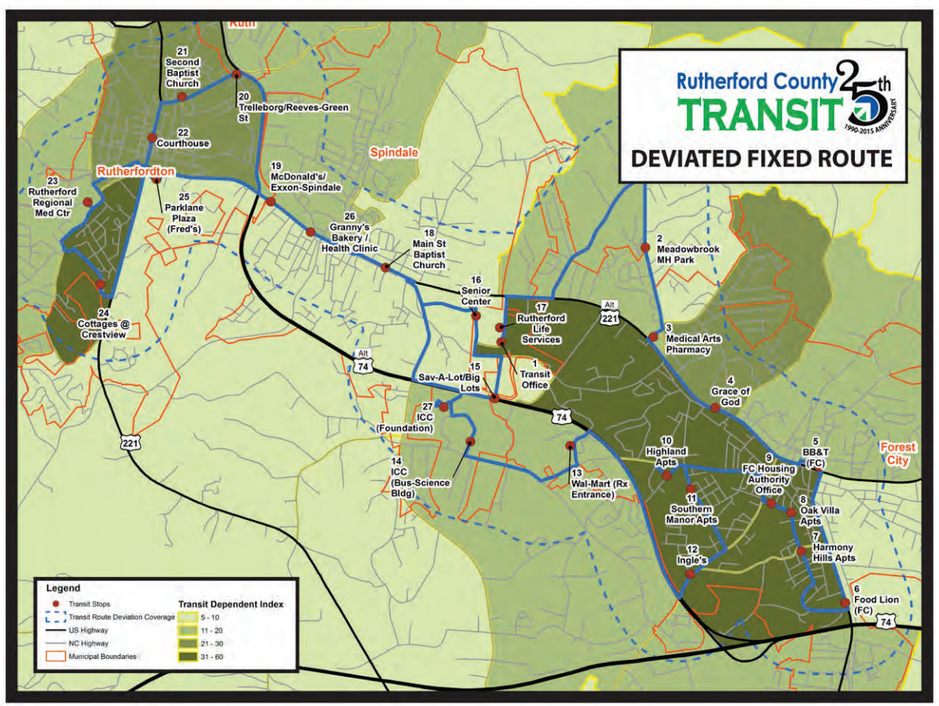

ail heads provide valuable support to trial users, such as parking, orientation and wayfinding, educational opportunities and public gathering
ail head facilities and amenities are rendered on pages 18-23.

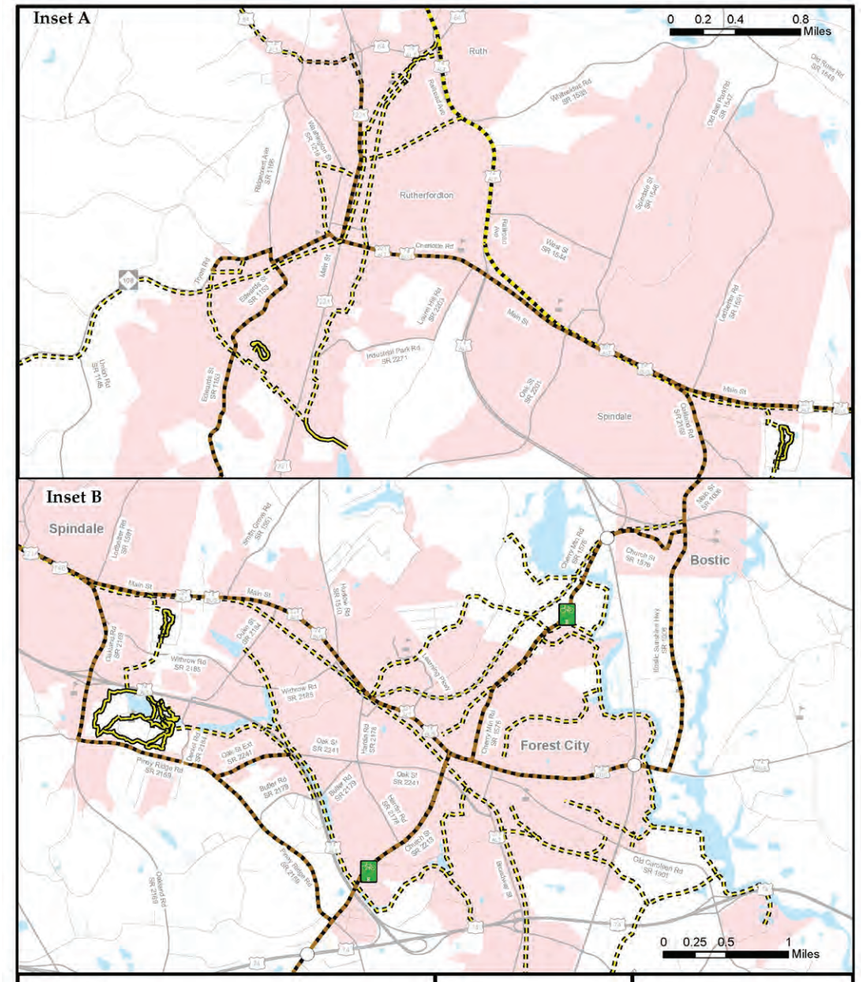
## TRAIL HEAD CONCEPTS

Everest Textile Mill Trail Head

# Rutherford County Plans




**Legend**

On-Road
- Existing
- Needs Improvement
- Recommended

Off-Road
- Existing
- Needs Improvement
- Recommended

Multi-Use Paths
- Existing
- Needs Improvement
- Recommended

- Existing Grade Separation
- Proposed Grade Separation

N W E S

Sheet 4A of 5

*Base map date: January 12, 2015*

Refer to CTP document for more details

**Bicycle Map Insets A & B**

**Rutherford County**
North Carolina

**DRAFT**

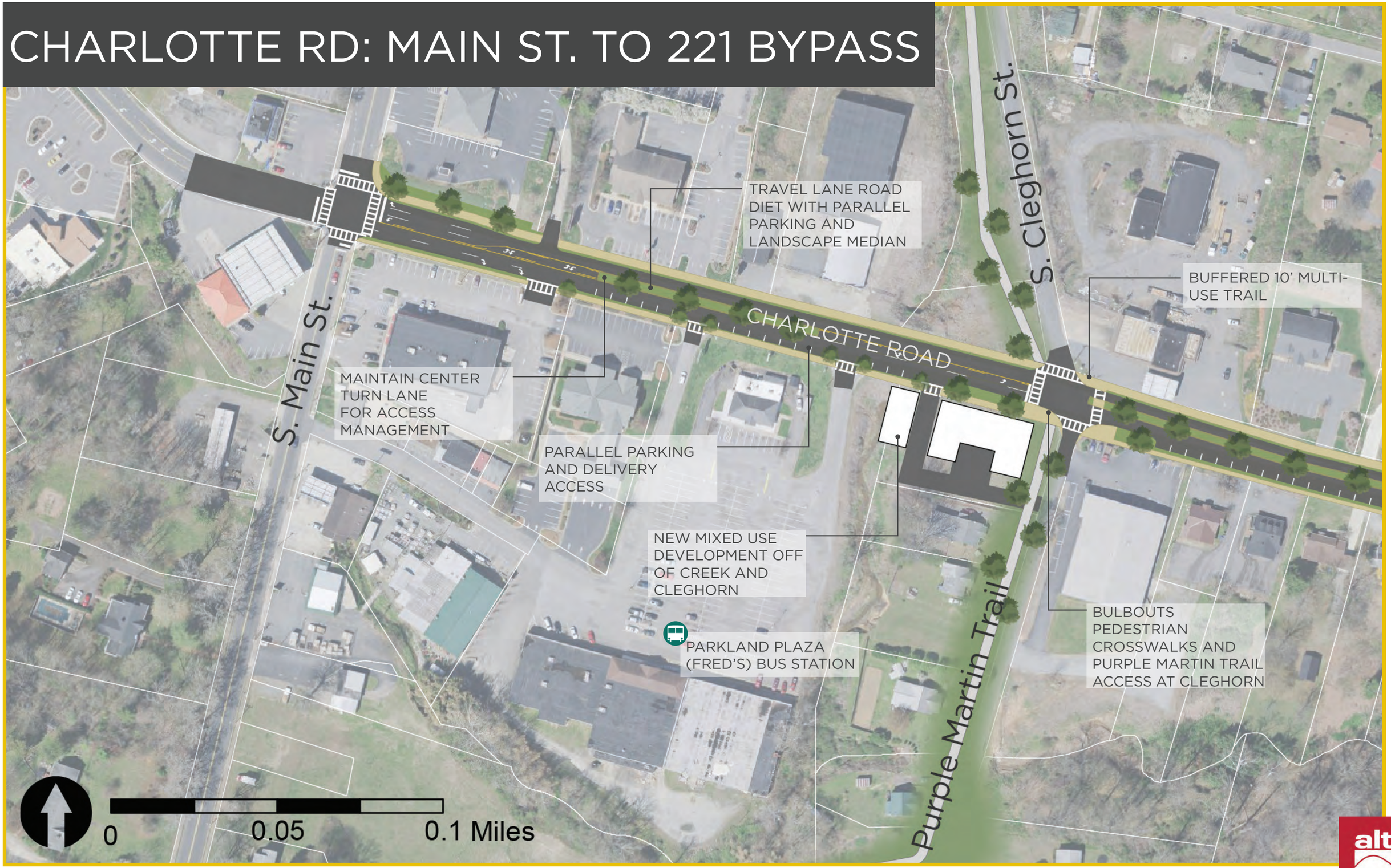
**Comprehensive Transportation Plan**

Plan Date: 6/21/2017

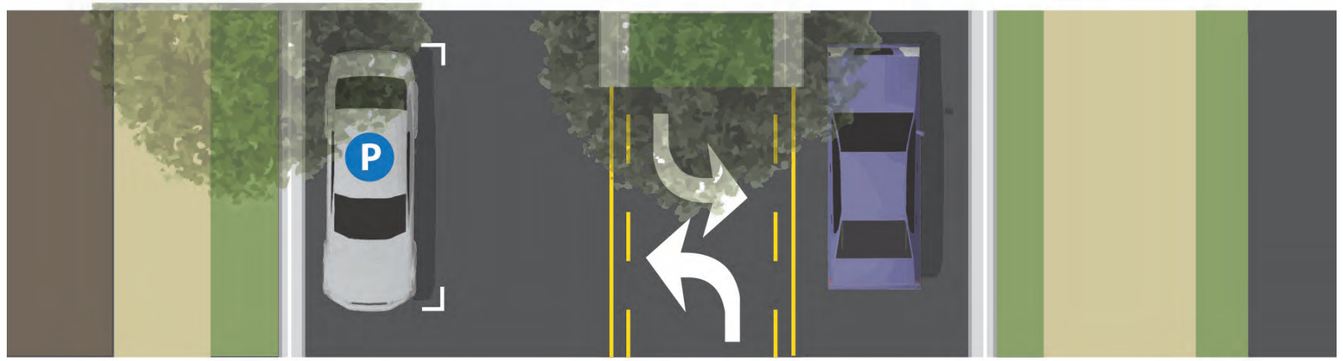
# PREFERRED RECOMMENDATIONS

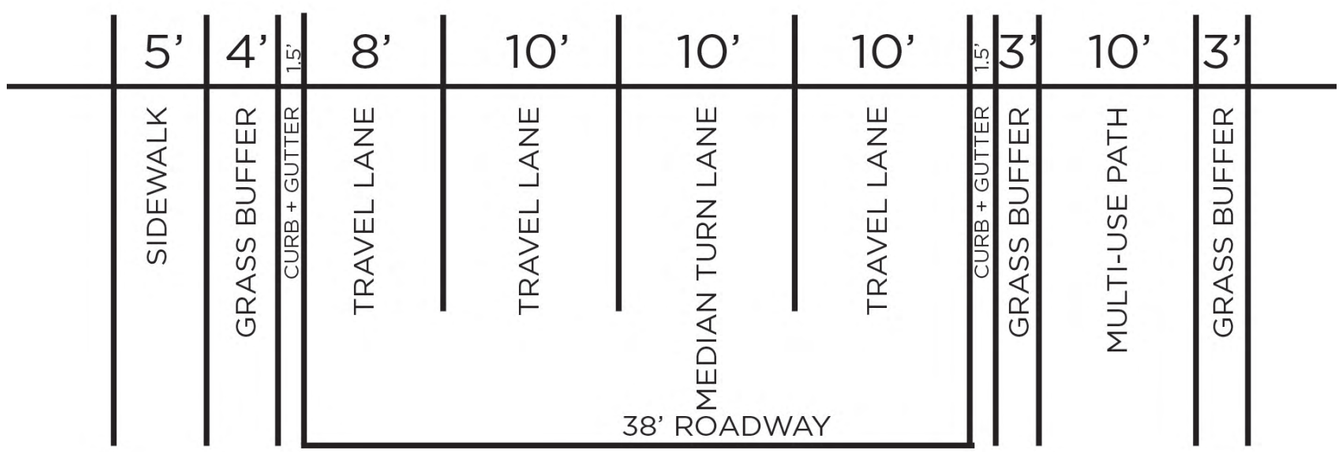
## Final recommendations + connectivity improvements for Corridor Study Area

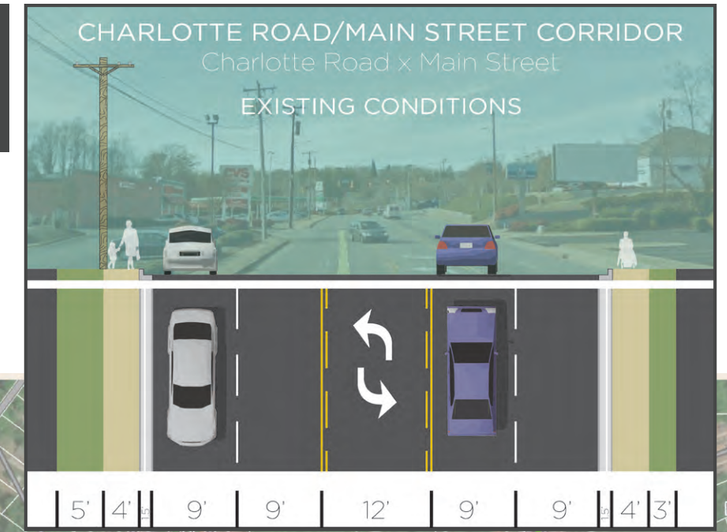
# CHARLOTTE RD: MAIN ST. TO 221 BYPASS

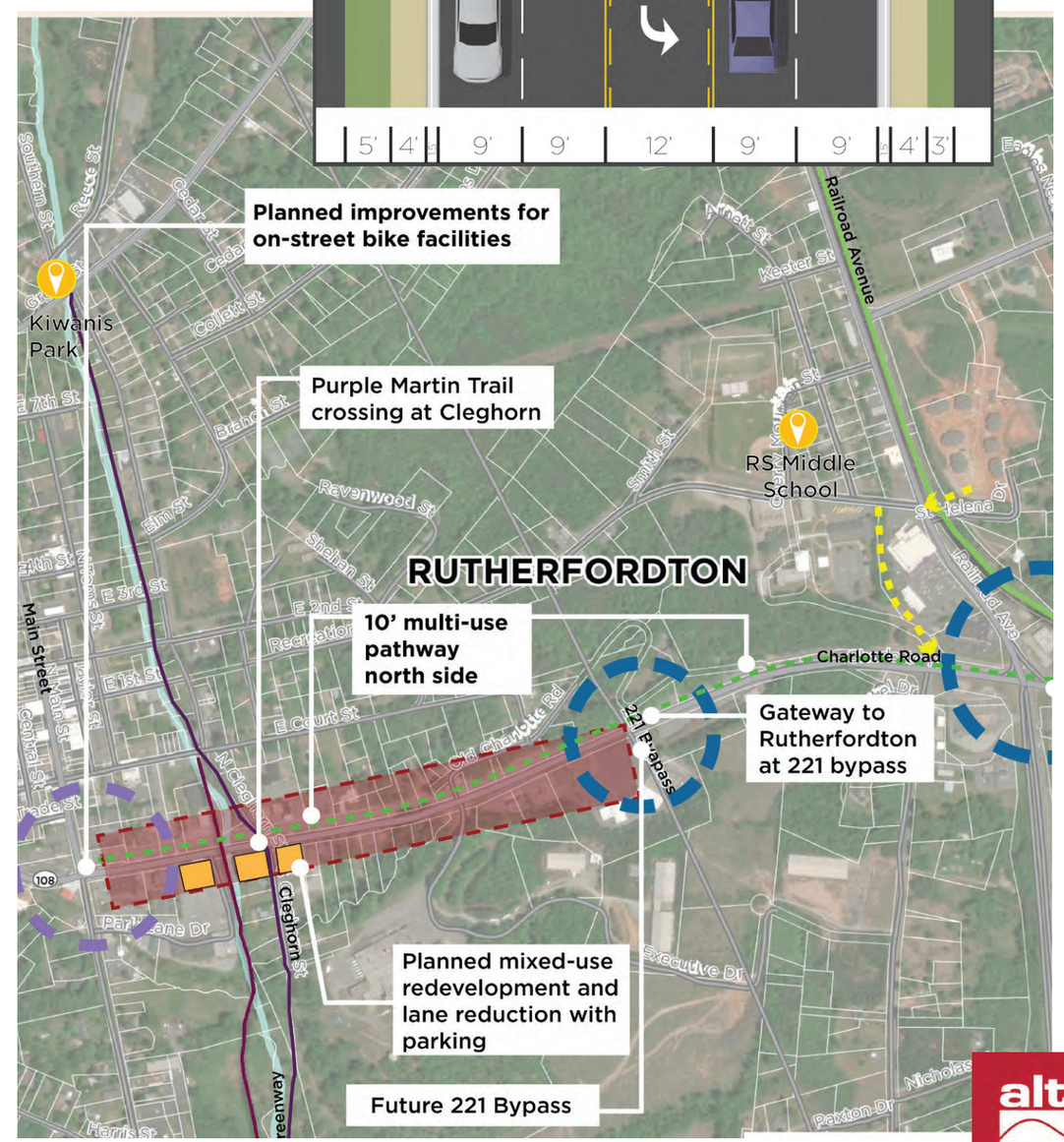


# CHARLOTTE RD: MAIN ST. TO 221 BYPASS





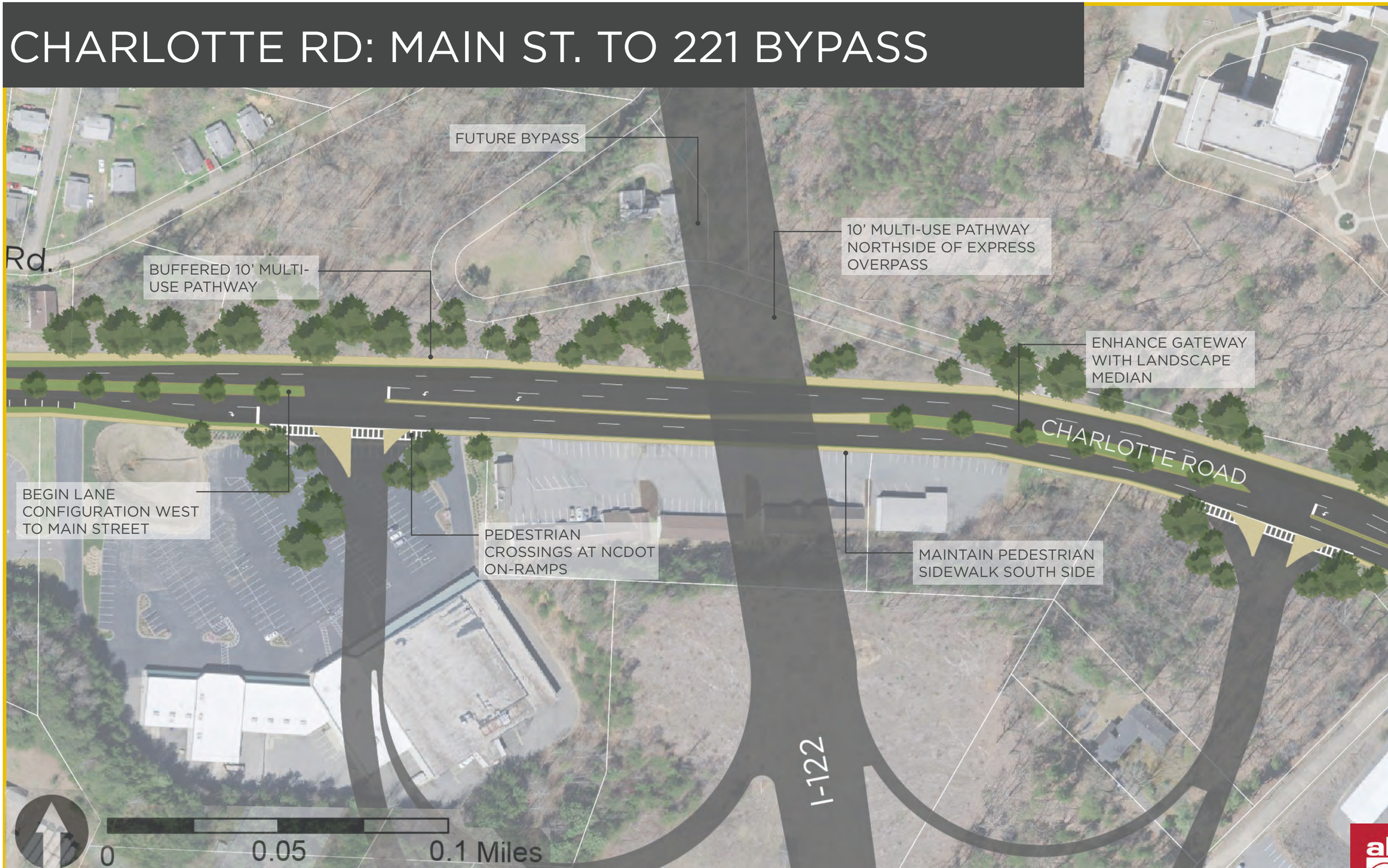



# CHARLOTTE RD: MAIN ST. TO 221 BYPASS

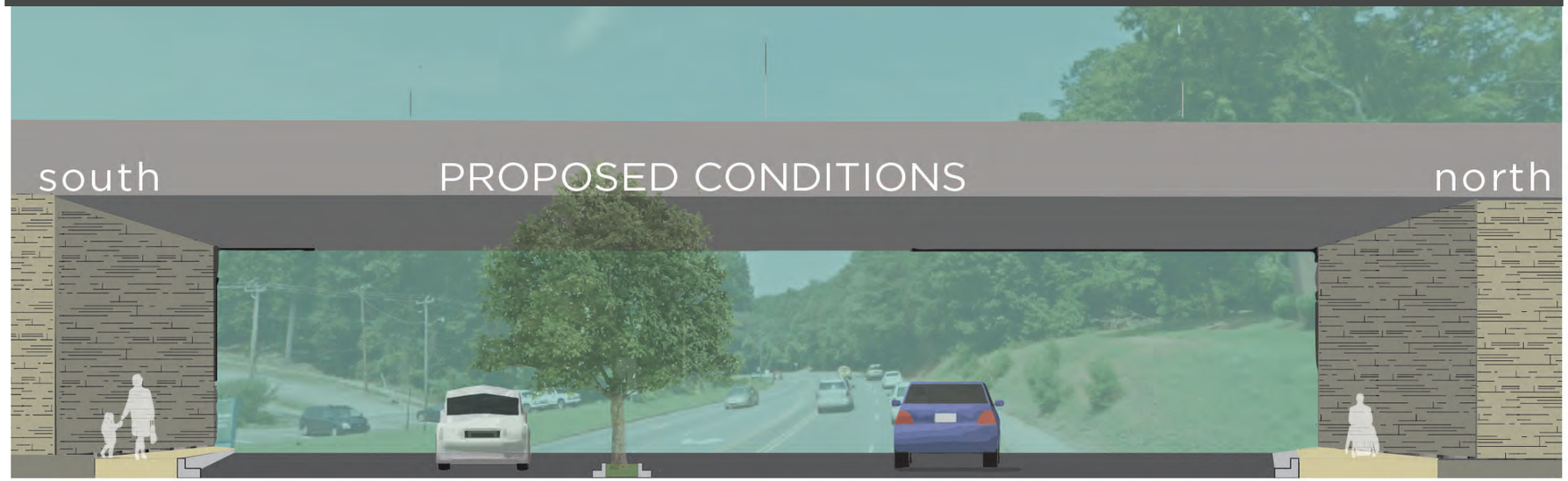
(Above) Existing conditions at Charlotte Road and Cleghorn Street.

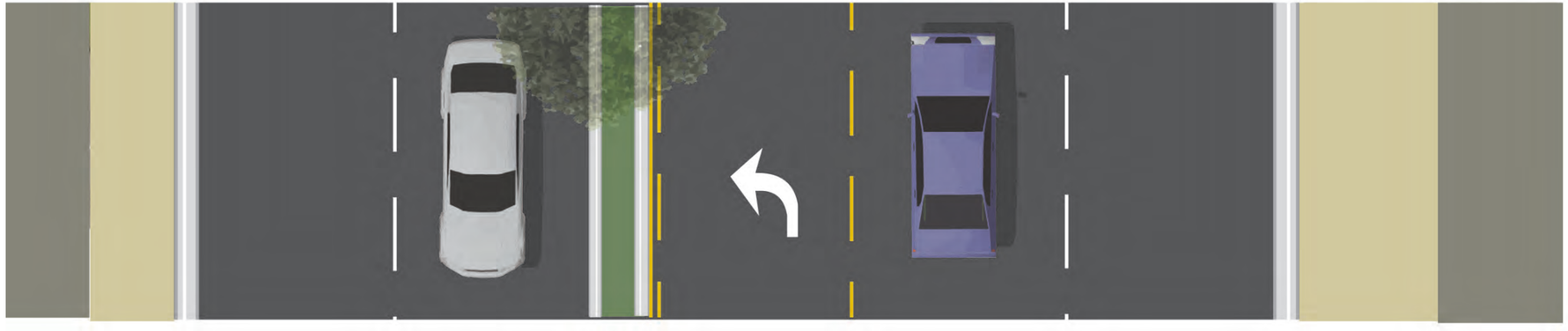
(Left) Proposed lane diet and ten foot multi-use path. Streetscape improvements include wide sidewalks lined with street trees along Charlotte Road. Simulation is shown with future mixed-use buildings lining the south side of the street. On-street parking could also be considered on this block as part of a lane (road diet) configuration.

# CHARLOTTE RD: MAIN ST. TO 221 BYPASS



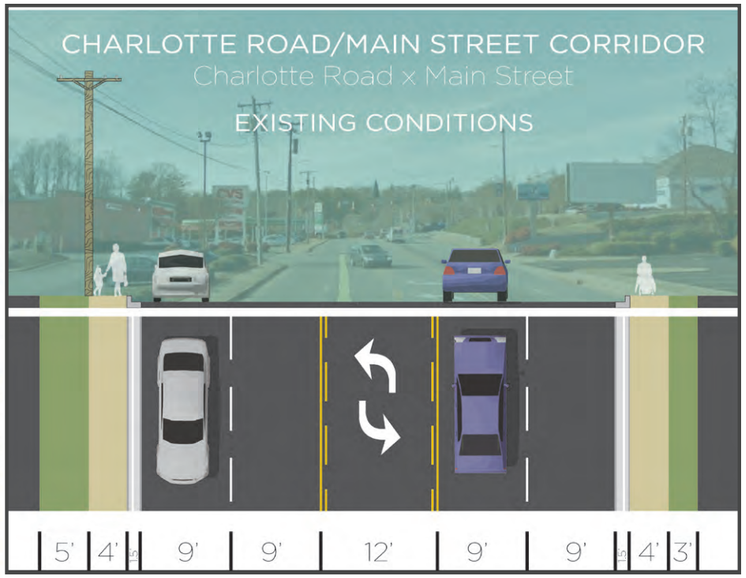
# CHARLOTTE RD: MAIN ST. TO 221 BYPASS

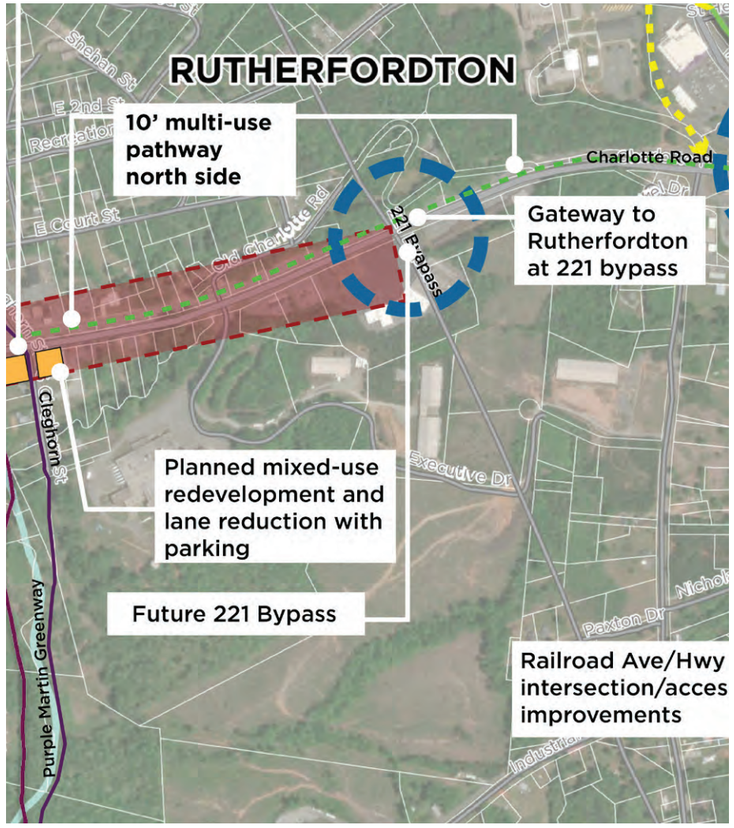


| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PROPOSED 221 OVERPASS | 5' | 1.5' | 12' | 12' | VARIES | 13' | 13' | 13' | 1.5' | 10' | PROPOSED 221 OVERPASS |
| | SIDEWALK | CURB + GUTTER | TRAVEL LANE | TRAVEL LANE | MEDIAN | LEFT TURN LANE | TRAVEL LANE | TRAVEL LANE | CURB + GUTTER | MULTI-USE PATH | |

67' ROADWAY

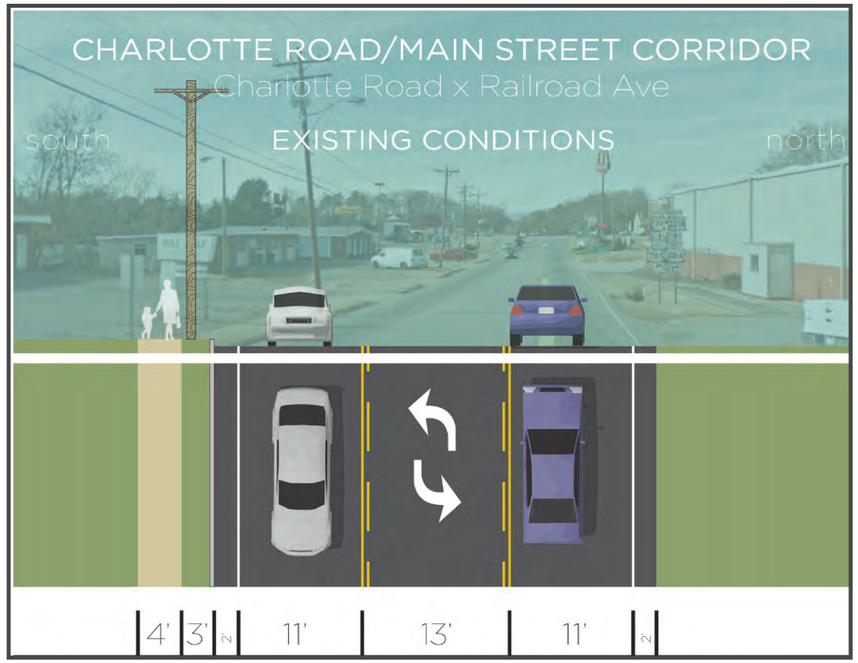


# CHARLOTTE RD: RAILROAD ST. TO YELTON

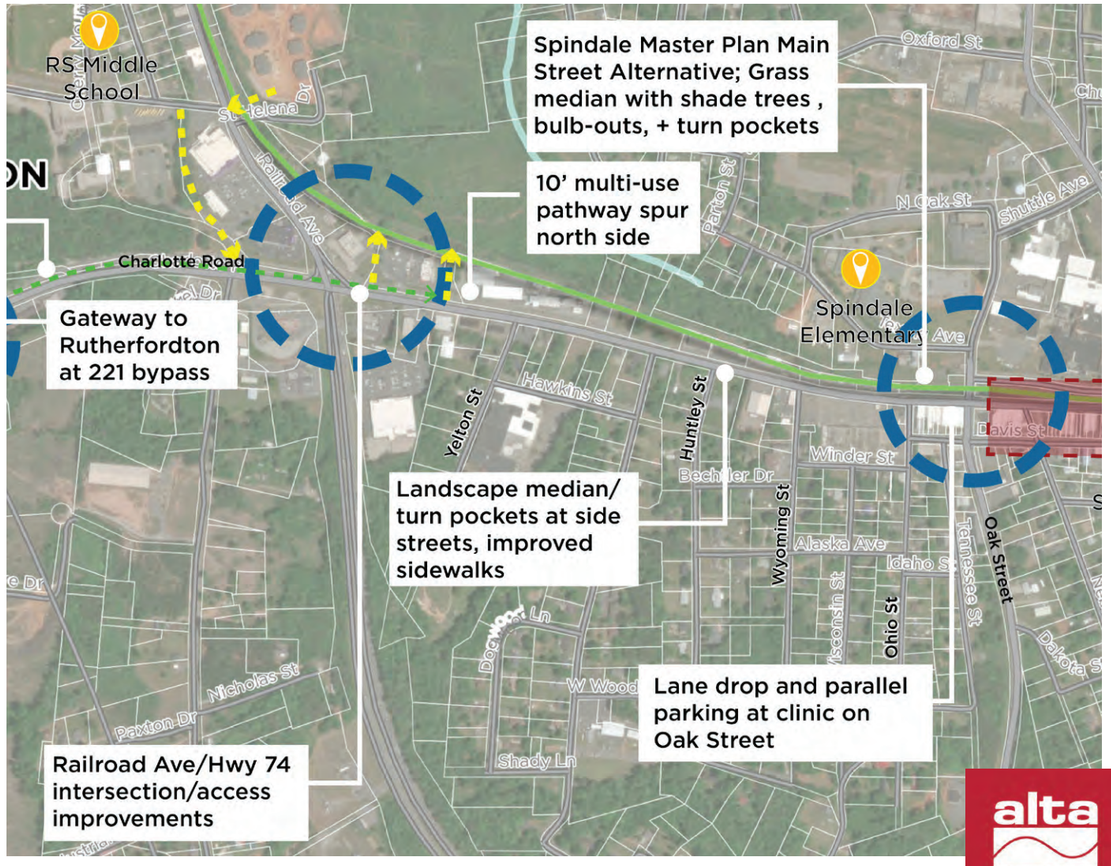
# MAIN ST: DEVINEY ST. TO OHIO ST.

# MAIN ST: RAILROAD ST. TO OHIO ST.




| ADJACENT PARKING | SIDEWALK | GRASS BUFFER | PAVED SHOULDER | TRAVEL LANE | MEDIAN TURN LANE | TRAVEL LANE | PAVED SHOULDER | MULTI-USE PATH VARIES | ADJACENT PARKING |
|---|---|---|---|---|---|---|---|---|---|
| | 4' | 3' | 2' | 11' | 10' | 11' | 2' | 10' | |

36' ROADWAY



# SUMMARY OF PLAN VISION + RECOMMENDATIONS

**Build on Work Already Completed**

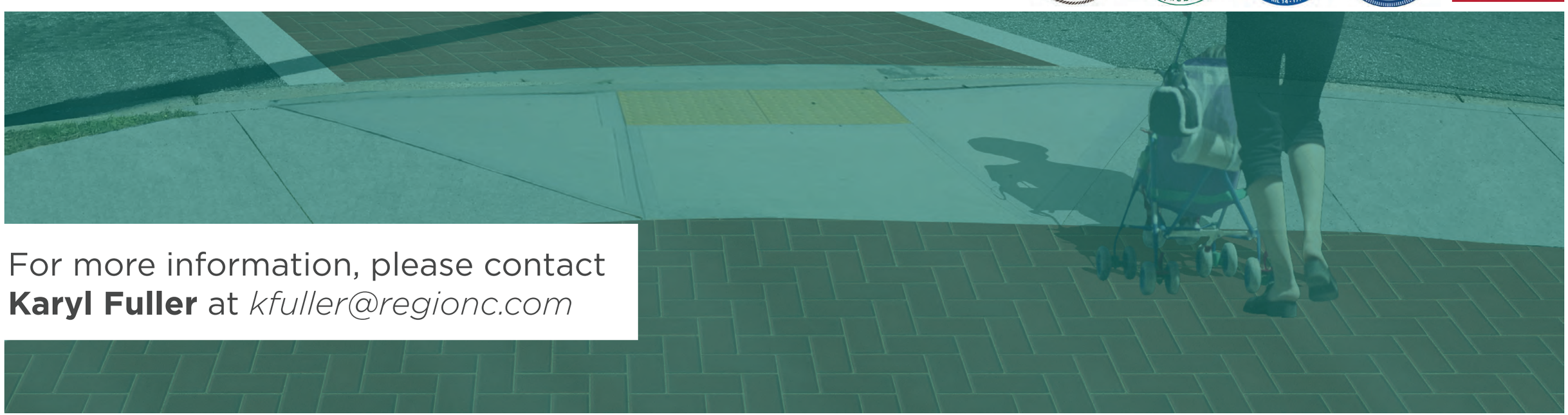
- Compiling previous recommendations + simplifying into one comprehensive, connected network

**Balance Multimodal Needs of All Users + Improve Connectivity for Bicyclists + Pedestrians**

- Implement on and off-street bike facilities
- Wider sidewalks + more safe crossing locations throughout the corridor
- Connectivity that accommodates the existing rail-trail and can be implemented during its future construction

**Develop a Realistic, Buildable Plan**

- Engineer-reviewed intersection designs
- Recommendations are flexible + easily adapted to existing + future right-of-way, and proposed development



For more information, please contact
**Karyl Fuller** at *kfuller@regionc.com*