

Charlotte Road/Main Street Complete Streets Charrette

Karyl Fuller
Isothermal RPO

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Alta Planning + Design

Background



In 2017, there were several planning efforts underway in Rutherford County

Rutherford County
CTP
Thermal Belt Rail
Trail Master Plan
Rutherfordton
Bike/Ped Plan
Spindale Bike/Ped
Plan



In mid 2017, RHI Legacy agrees to fund the improvement of Thermal Belt Rail Trail from mostly natural surface to 12' wide paved trail, along its entire 13.5 mile length, through five jurisdictions—Rutherford County, Forest City, Spindale, Rutherfordton & Ruth

Background—Statewide Planning & Research Funds

- Previously, RPOs were not part of the call for SPR applications
- Starting in 2017, RPOs could apply
 - Two Page application
 - Usually applications are due sometime between January-March

FY 2020 SPR Funding Request Application

Date:

Project Contact: enter text.

Agency:

Email:

Phone:

Approved: Choose an item.

If your Organization or Business Unit is interested in applying for the State Planning and Research (SP&R) Funds provided by USDOT for transportation planning related activities, please complete the following application. Eligible activities are included in MAP-21 §52005; and 23 USC 505. The FAST Act [Fact Sheet](#) may also be helpful in determining whether an activity might be eligible for funding. In general, eligible activities include:

- Engineering and economic surveys and investigations
- Planning of future highway programs and local public transportation systems and planning of the financing of such programs and systems, including metropolitan and statewide planning
- Development and implementation of management systems, plans and processes under the NHPP, HSIP, CMAQ, and the National Freight Policy
- Studies of the economy, safety, and convenience of surface transportation systems and the desirable regulation and equitable taxation of such systems
- Study, research, and training on the engineering standards and construction materials for transportation systems described in the previous bullet, including the evaluation and accreditation of inspection and testing and the regulation and taxation of their use
- Conduct of activities relating to the planning of real-time monitoring elements

Eligibility does not mean that your request will be automatically approved. There are many demands on SP&R funds and each request will be considered in light of funds available, eligibility and other matching funds.

In addition, as per 23 CFR § 420.117, FHWA requires Transportation Planning Division to provide an annual reporting of all SPR Funds expended. As a recipient of these funds, you will be asked to complete an annual report of expenditures and accomplishments.

Project Title:

Project Start Date:

Project End Date:

Total Funding Requested: \$

	Personnel	Contractors	Data and Equipment	Travel Expenses	Training	Mapping/ Printing	TOTAL
Fiscal Year 2020: \$							
Fiscal Year 2021: \$							

Notes about Using SPR Funds

**SPR eligible

- Project Ideas—Basically, anything transportation planning related**.
- 80/20 Funding Match
 - Cannot use RPO funds or ‘regular’ match as local match
 - While it is a 20% local match, if the project is in a
 - Tier 1 County or the project includes the county, the local match is 5%. NCDOT will put in 15%
 - Tier 2 County or the project includes the county, the local match is 10%. NCDOT will put in 10%
- Federal Rules—contracting and procurement

Opportunity

- The RPO applied for \$25,000 to hold a three-day charrette that would apply Complete Streets principles to Charlotte Road/Main Street, which parallels the Thermal Belt Rail Trail and runs from Rutherfordton, through Spindale's downtown, along the County's Administrative Complex and into Forest City.

MAIN ST: DEVINEY ST. TO OHIO ST.

Process

- Contracting
- Abbreviated RFP—Under \$50,000
- Reviewed Proposals and Selected Alta Planning + Design
- Held Charrette in May 2018
- Closed the grant in June 2018

RAIL TRAIL CONNECTOR TO 10' MULTI-USE PATHWAY

ORGANIZE BUSINESS FRONTAGE WITH DIAGONAL PARKING, SIDEWALK AND PEDESTRIAN CROSSWALKS

REMOVE CENTER TURN LANE, ADD LANDSCAPE MEDIAN FOR TRAFFIC CALMING

ENCOURAGE DRIVEWAY CONSOLIDATION

GRANNY'S BAKERY/
HEALTH CLINIC BUS
STATION

INCREASE PEDESTRIAN ACCESS AND VISIBILITY AT SIDE STREET WITH CROSSWALK

0 0.05 0.1 Miles



CHARLOTTE ROAD/MAIN STREET CORRIDOR IMPROVEMENT STUDY

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

Final Report | May 2018



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



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



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

Mixed-Use Development along Charlotte Road



Spindale Visualization



Rutherfordton, NC



Forest City, NC



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.



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.

MAY 8, 2018

Introductory 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 28738



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”

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:

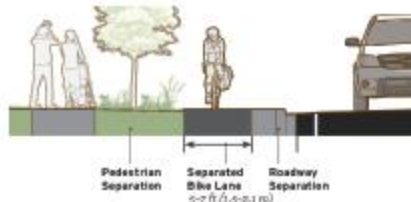
- \$ [TBD]

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 left 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 lane with a painted buffer rather than a physical buffer can be a significant improvement for bicycle and motorist safety and comfort, while still reserving space for constructing a physical buffer in the future. Further detail regarding visually separated bike lanes can be found in the Small Town and Rural Multimodal Network 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.

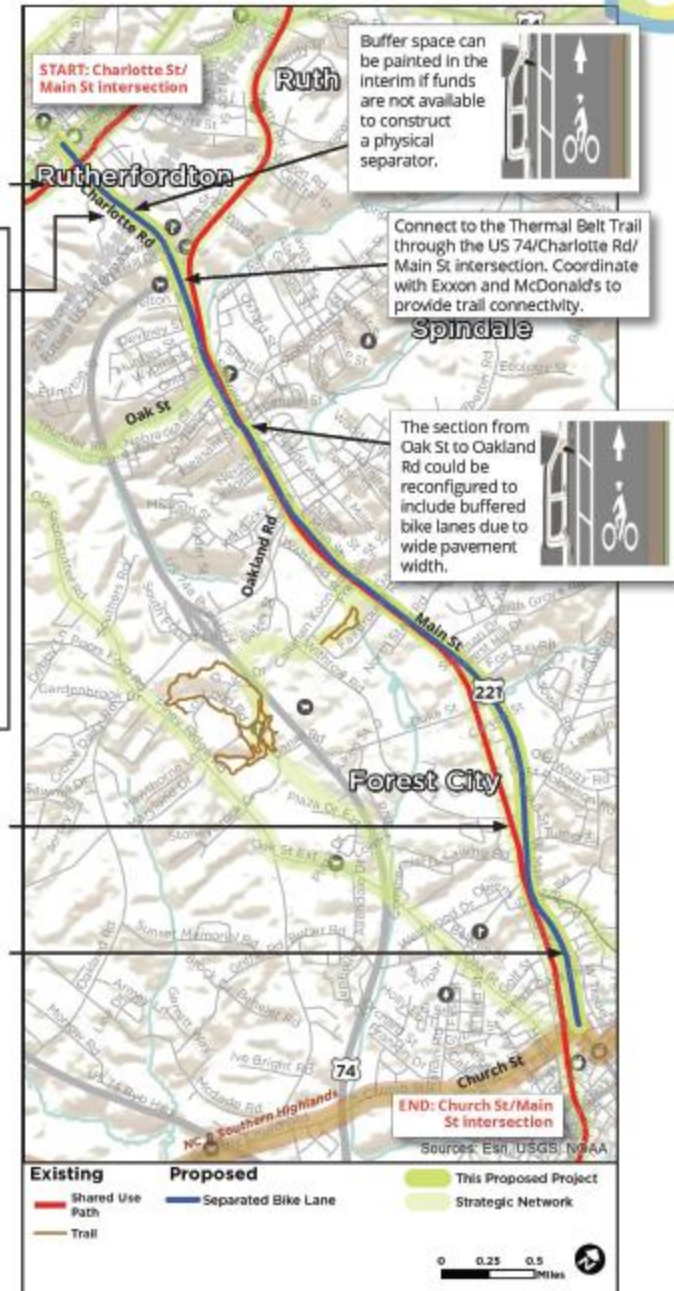
Charlotte Road, from Main Street to US 74 is a five-lane road with 52' pavement width, traffic volumes of 12,000 AADT and a 35 mph speed limit. Appropriate bicycle facilities for all ages and abilities will require physical separation from automobile traffic.

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.

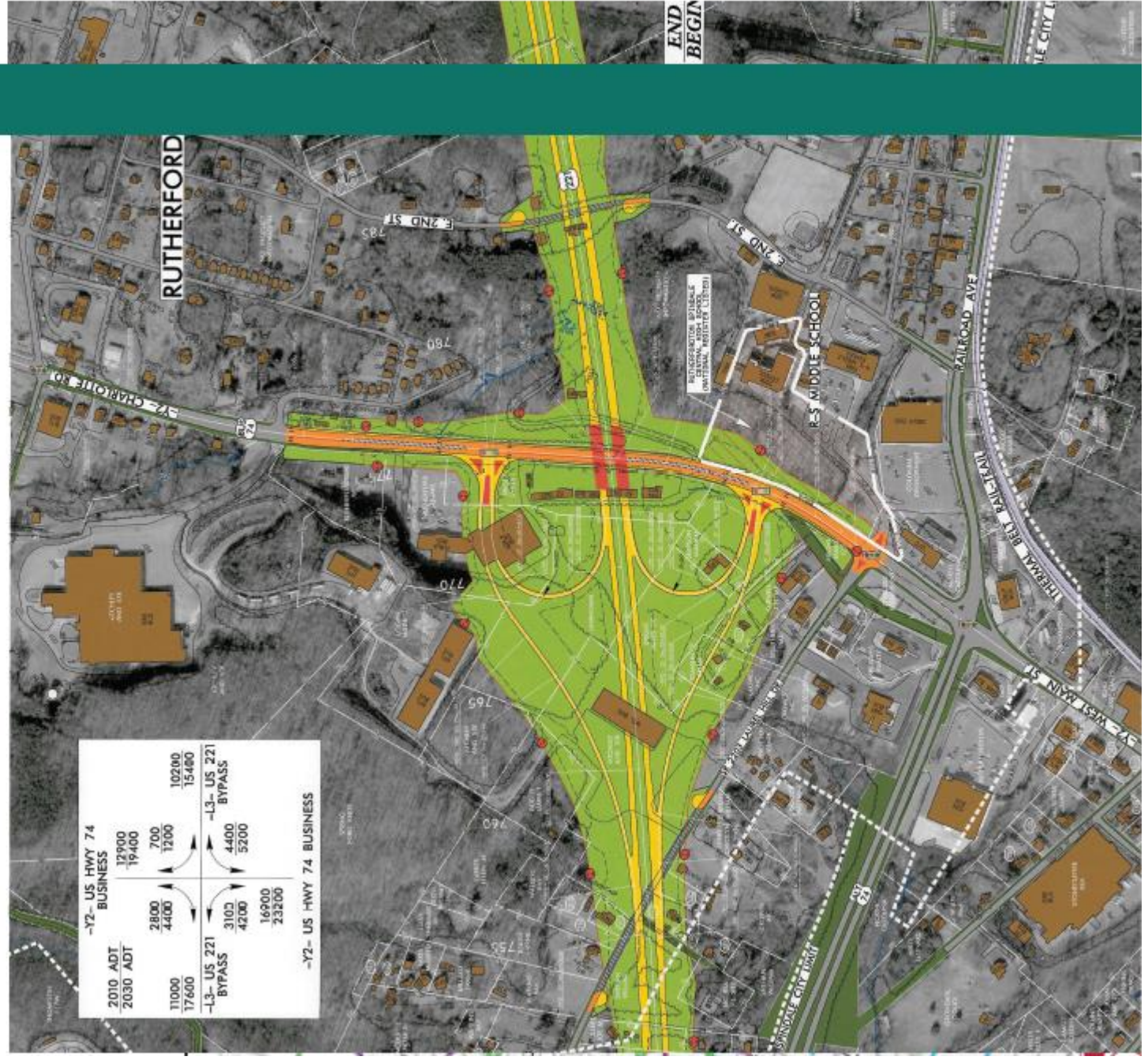
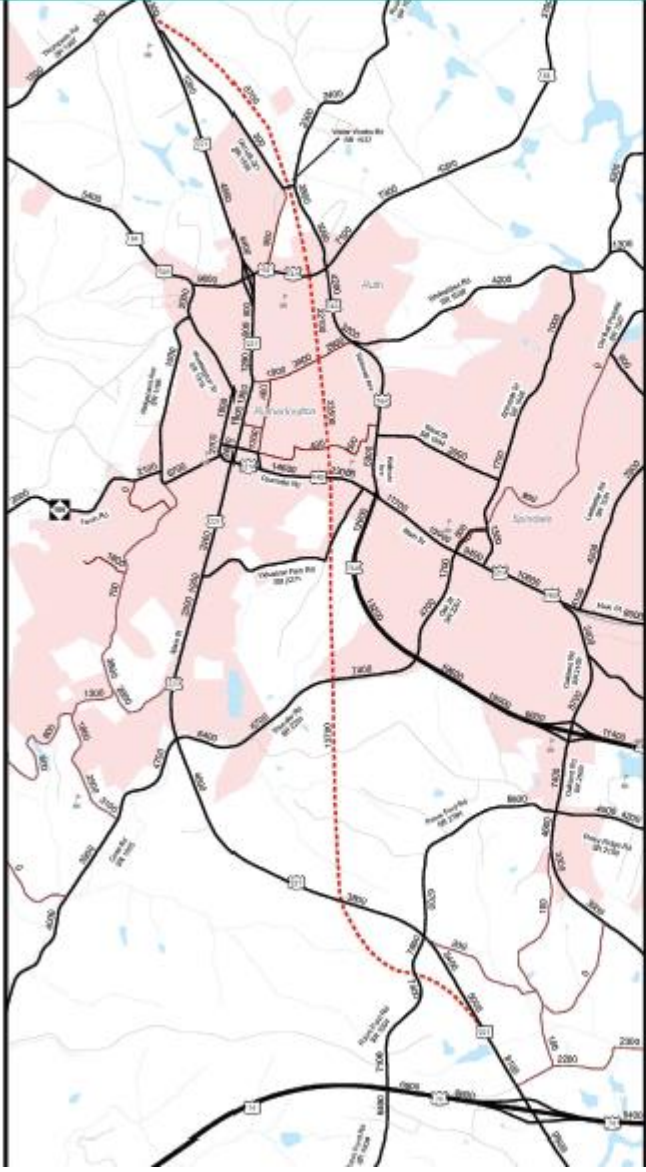
The future US 221 Bypass will have an interchange at Charlotte Rd with exit/entrance ramps - this design should incorporate separated bicycle facilities through the project footprint.

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



-Y2- US HWY 74 BUSINESS		-L3- US 221 BYPASS	
2010 ADT	12900	2800	3100
2030 ADT	19400	4400	4200
		700	4400
		1200	5200
		10200	15400
-Y2- US HWY 74 BUSINESS		-L3- US 221 BYPASS	
		16900	3100
		23200	4200

Rutherfordton Bike and Pedestrian Plan

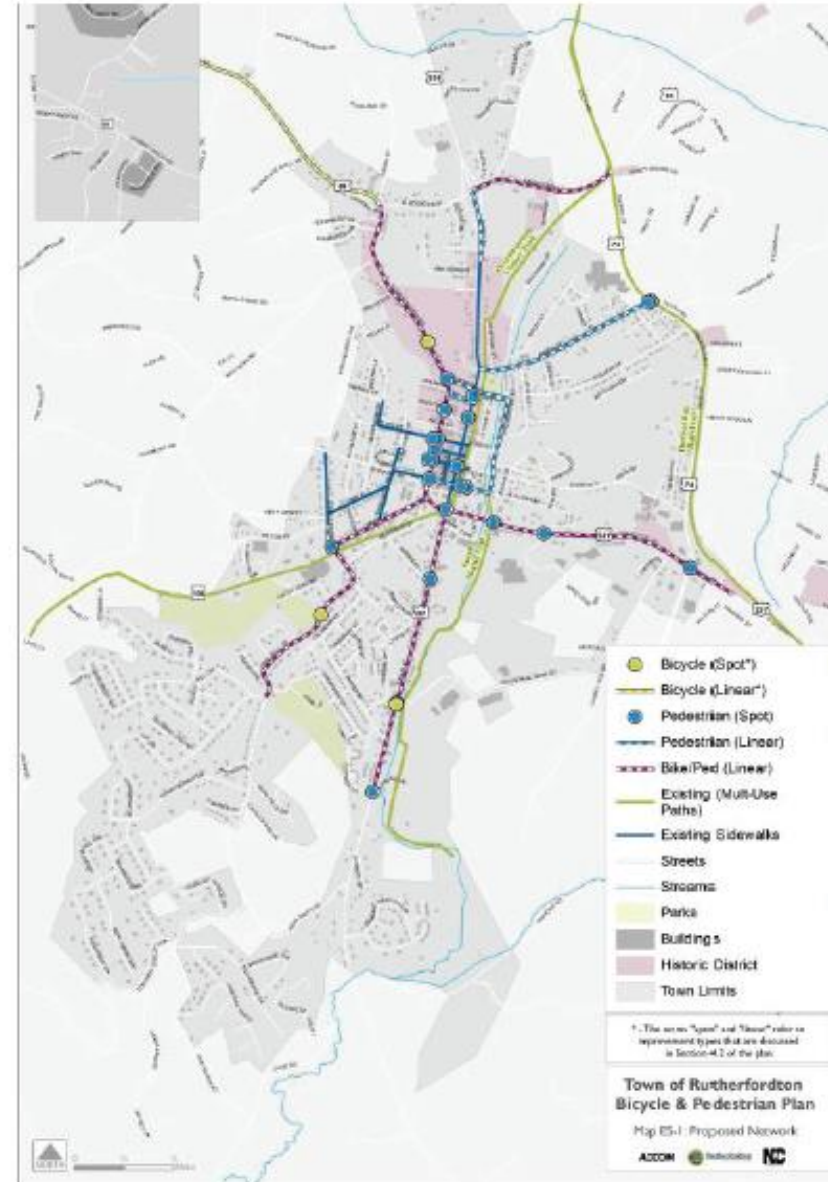
Figure 4-1: Charlotte Road recommended corridor improvements



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	\$70,000 – 1,300,000
Long Term Recommendations				
Bicycle	Linear	Pavement markings to reallocate road space to include bike lanes.	From Main Street to western town limits	Requires further NCDOT analysis

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



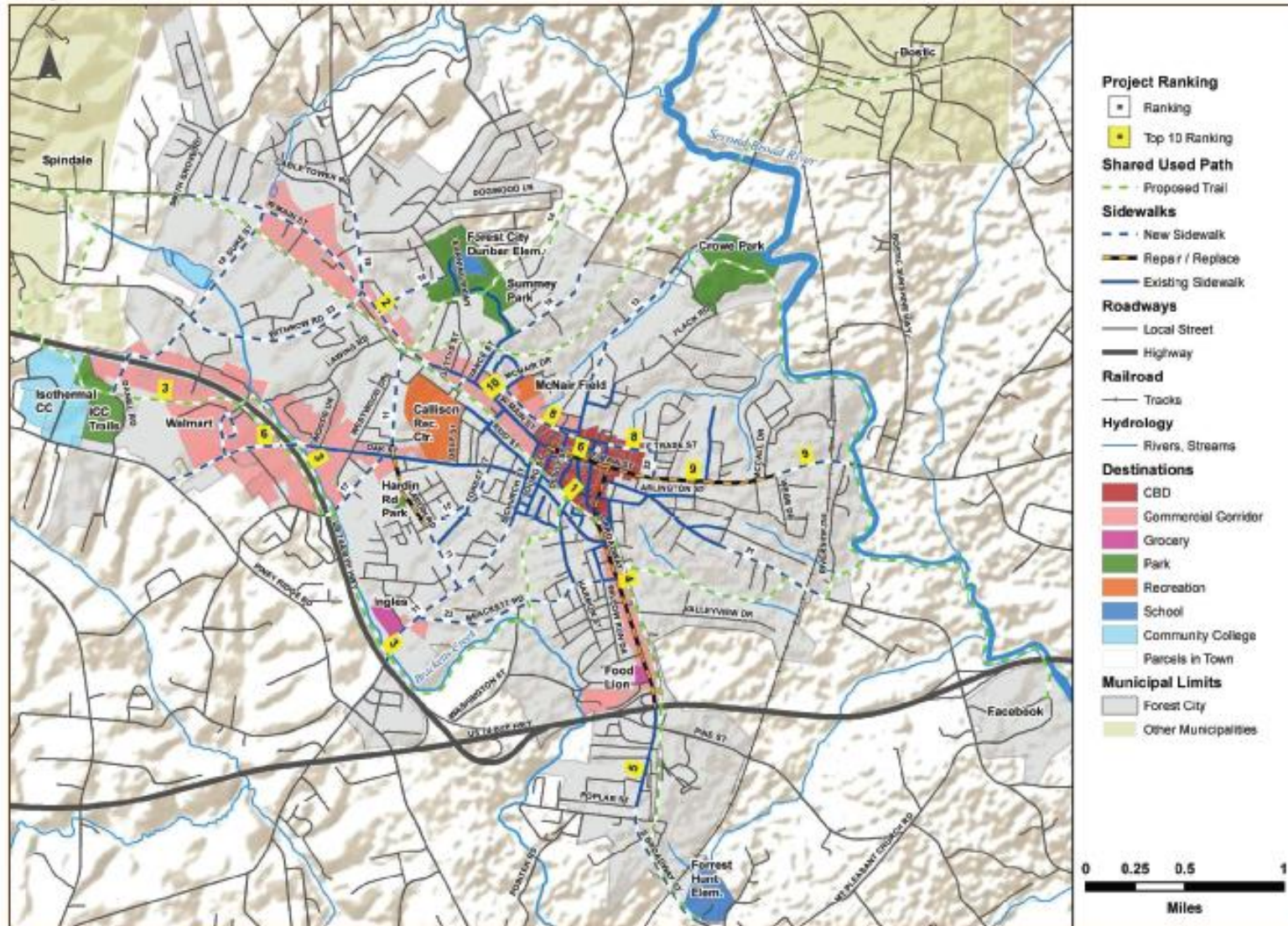


Ongoing projects + future development in Spindale



Forest City Bike and Pedestrian Plan

Exhibit 4-4
Project Recommendations



2 West Main Street Smith Grove Rd to Gettys St

Rural Avenue

Construct a 6-foot wide sidewalk buffered by a five-foot planting strip along both sides of West Main Street (north side preferred if only one side is chosen). Crosswalks and intersection upgrades to modern standards at signals and public streets should be included with this project to facilitate safe crossing of the corridor and connection to the rail-trail. Right-of-way does not appear to be a major constraint.

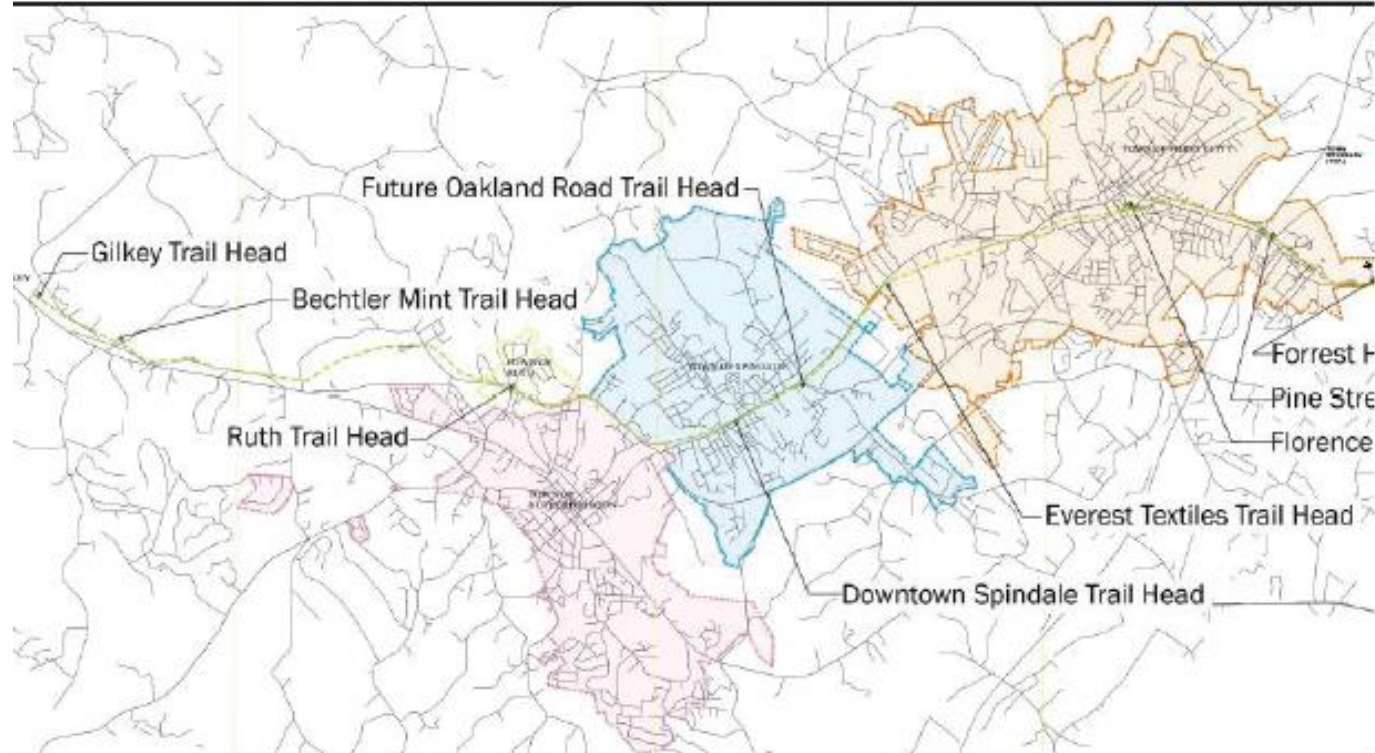
Influences:

- Busy highway corridor with no sidewalks
- Route has documented crash history
- Neighborhoods west of downtown
- Businesses along West Main Street
- Access to future rail-trail

Cost Estimate:	\$1,730,000
Length:	1.7 miles
Health Impact:	High
Economic Impact:	Moderate

Thermal Belt Rail-Trail Master Plan

TRAIL HEAD LOCATIONS



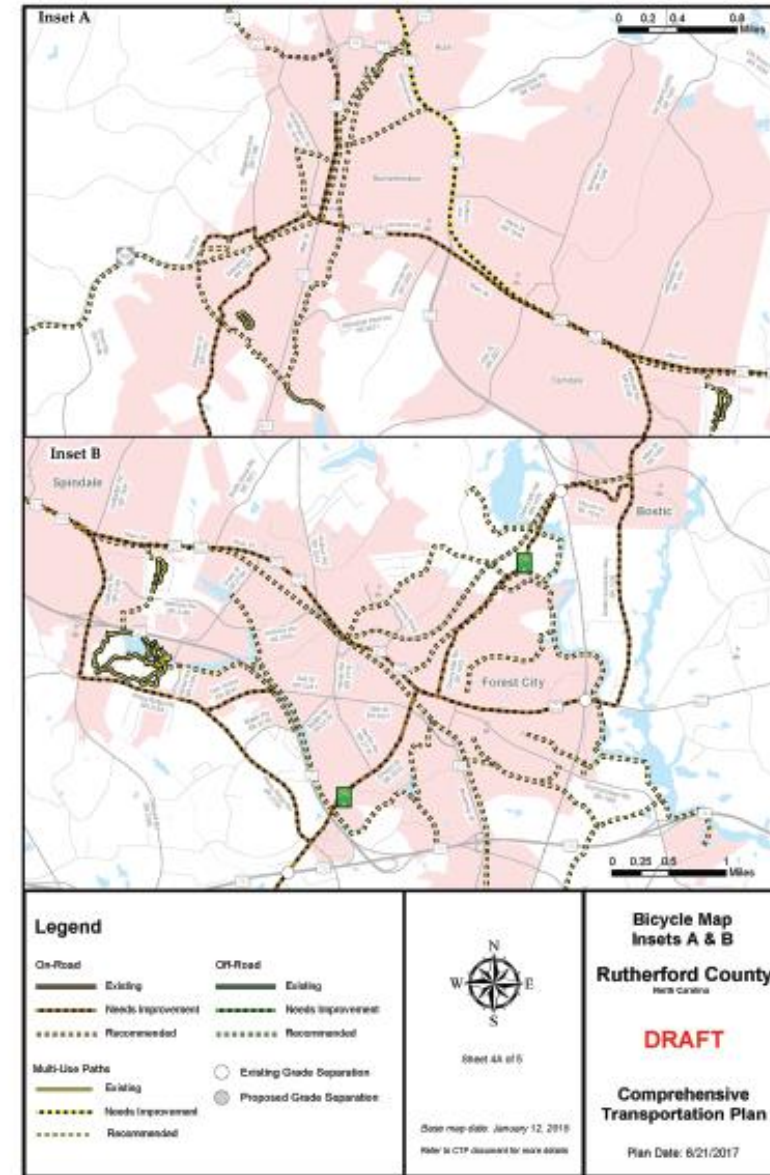
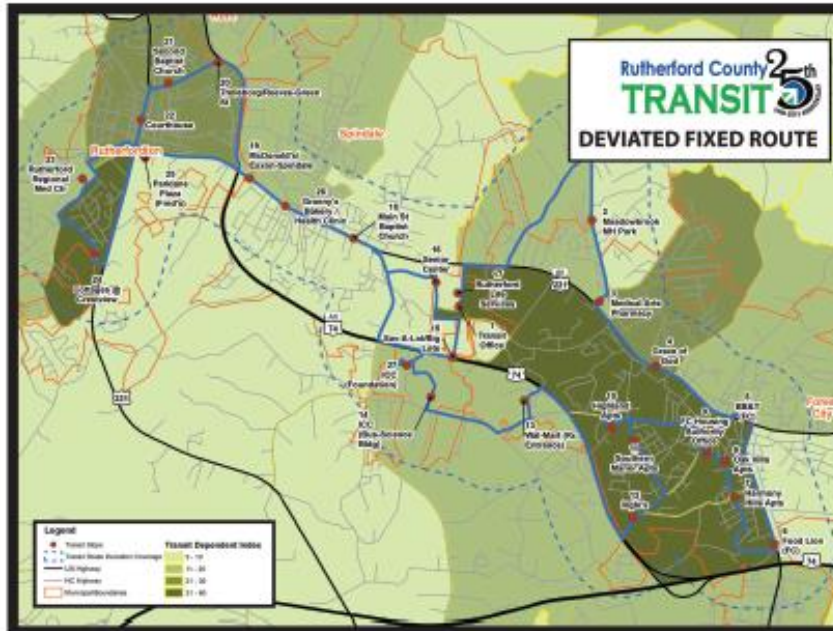
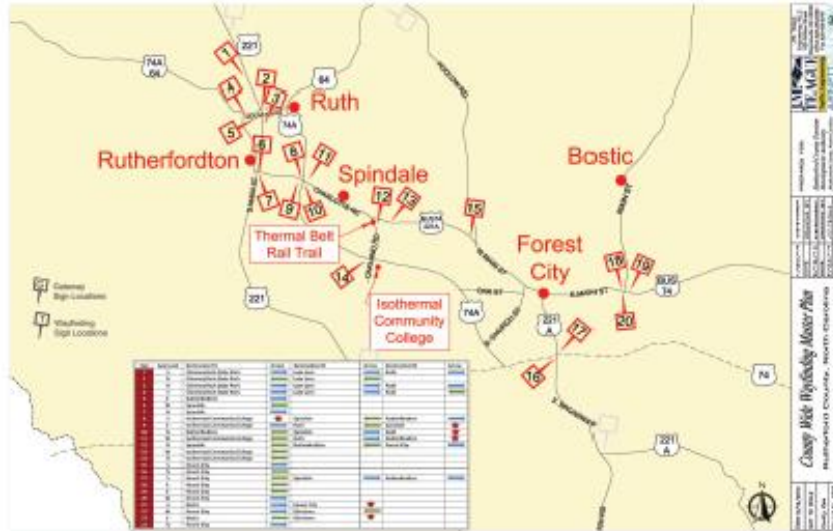
Trail heads provide valuable support to trail users, such as parking, orientation and wayfinding, educational opportunities and public gathering. Trail head facilities and amenities are rendered on pages 18-23.

TRAIL HEAD CONCEPTS

Everest Textile Mill Trail Head



Rutherford County Plans



PREFERRED RECOMMENDATIONS

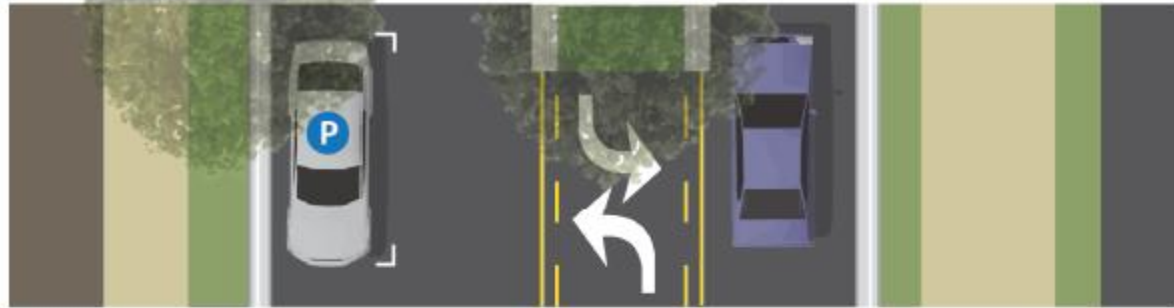
Final recommendations + connectivity improvements for Corridor Study Area



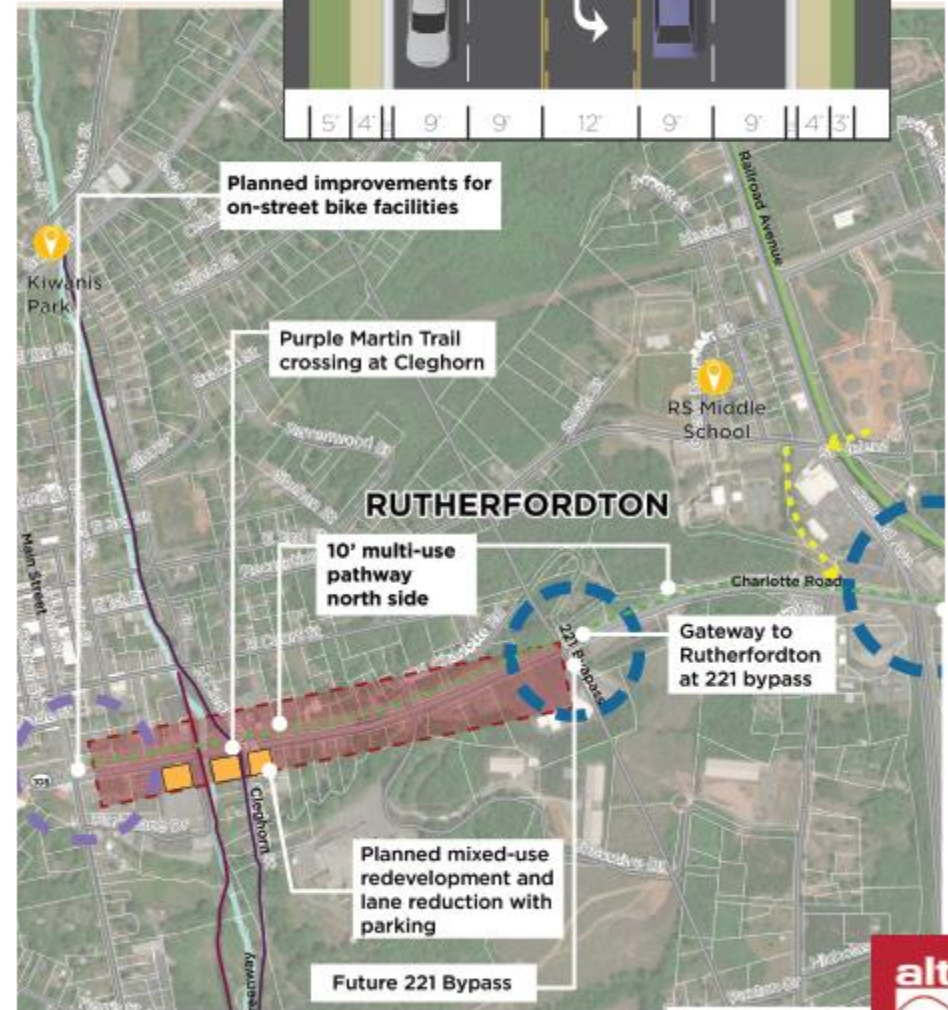
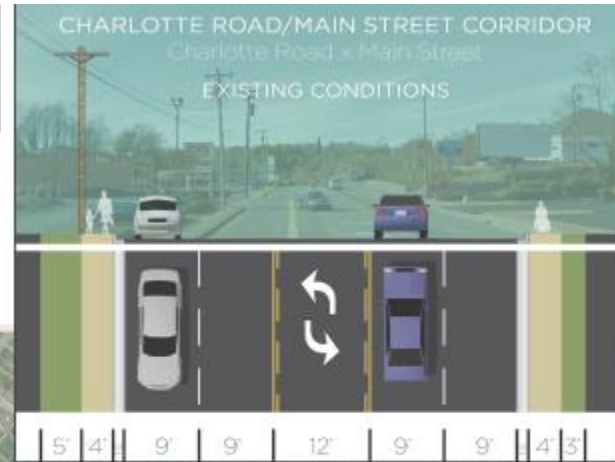
CHARLOTTE RD: MAIN ST. TO 221 BYPASS



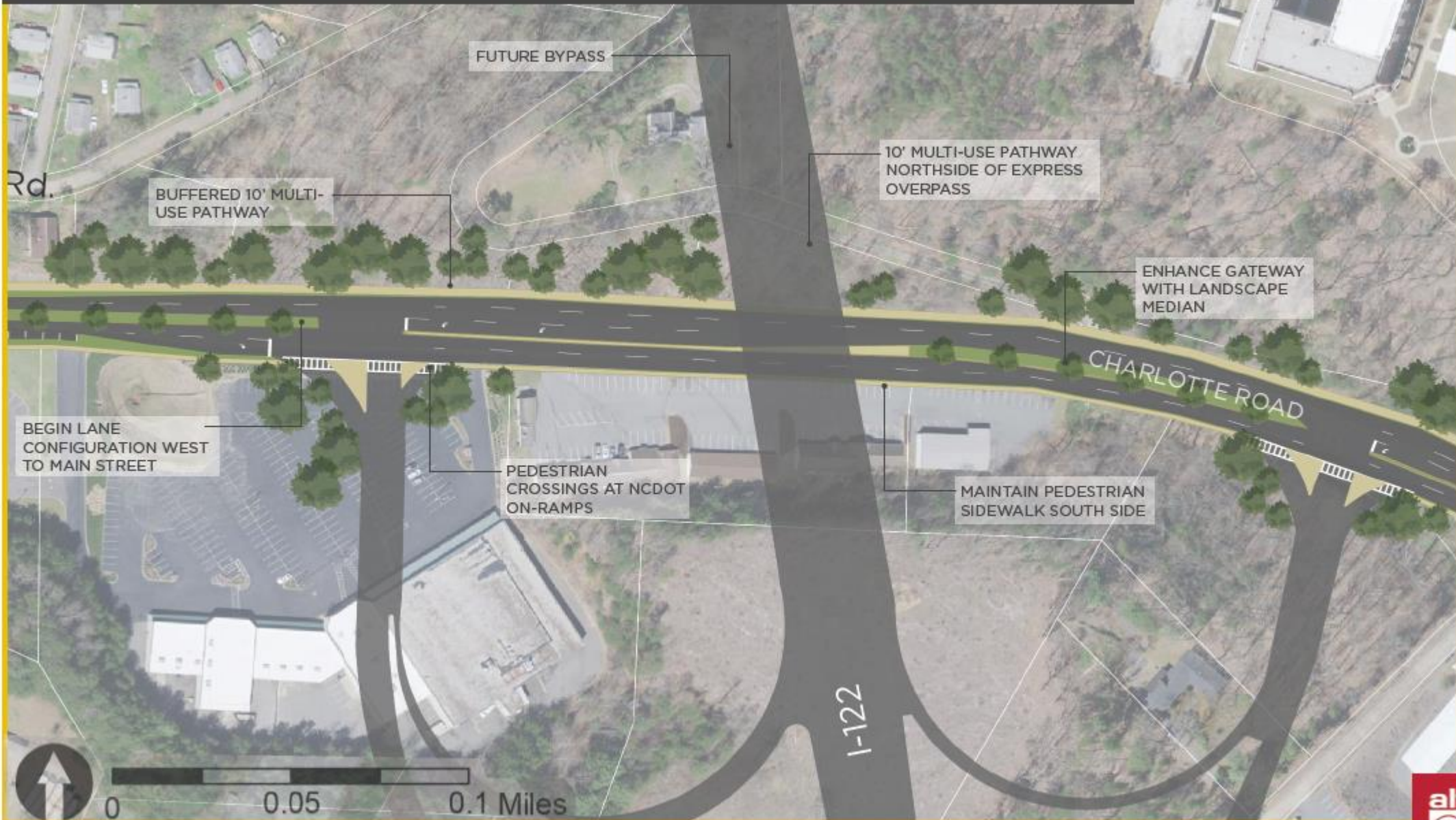
CHARLOTTE RD: MAIN ST. TO 221 BYPASS



5'	4'	1.5'	8'	10'	10'	10'	1.5'	3'	10'	3'
SIDEWALK	GRASS BUFFER	CURB + GUTTER	TRAVEL LANE	TRAVEL LANE	MEDIAN TURN LANE	TRAVEL LANE	CURB + GUTTER	GRASS BUFFER	MULTI-USE PATH	GRASS BUFFER
38' ROADWAY										



CHARLOTTE RD: MAIN ST. TO 221 BYPASS



MAIN ST: ELM ST. TO CALIFORNIA ST.

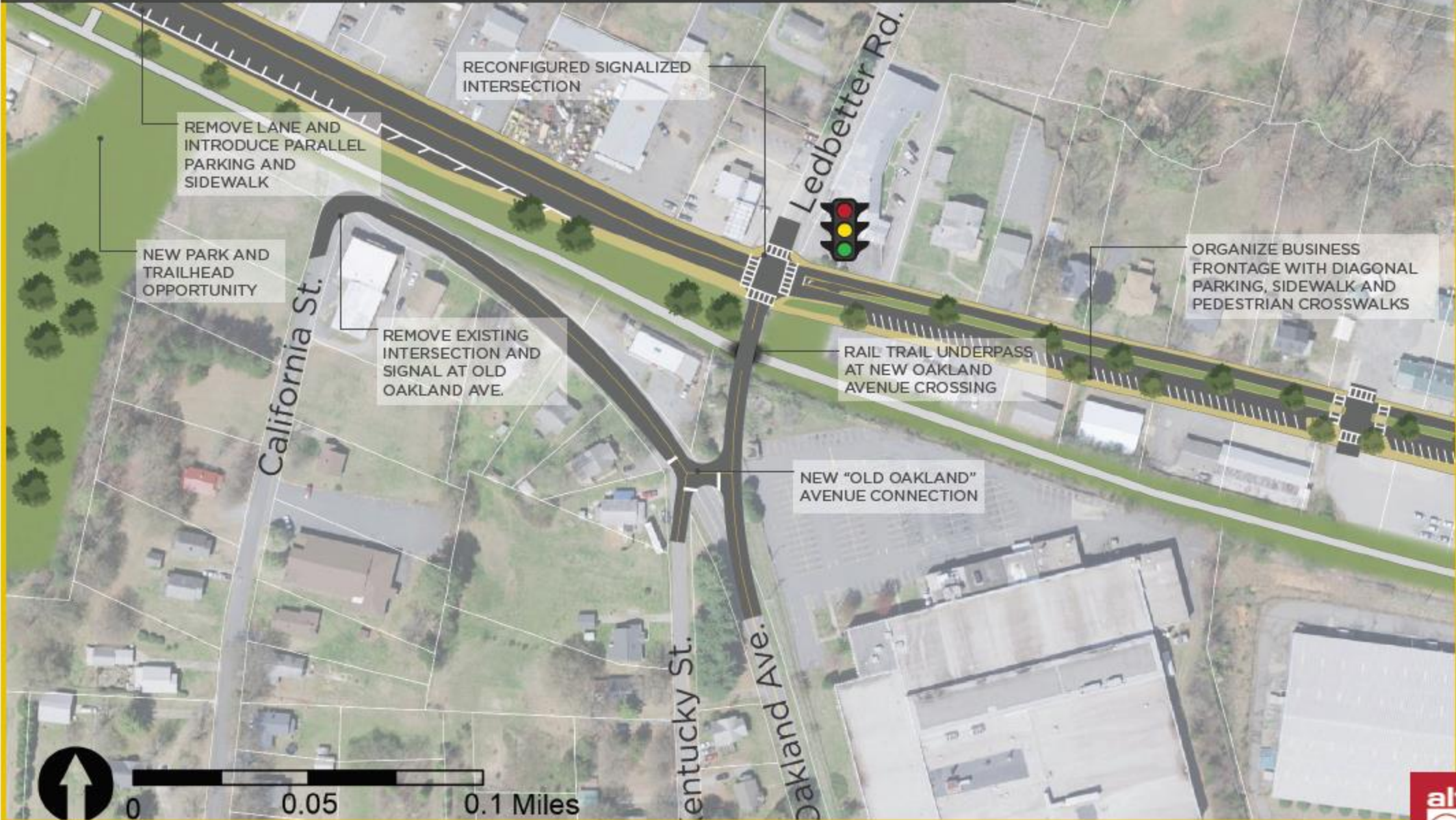


(Above) Existing conditions near Elm Street.

(Left) Proposed lane diet, 14' sidewalks and on-street parking. Thermal Belt Rail Trail connection with at-grade crossing to commercial businesses.



OAKLAND AVENUE RECONFIGURATION



GALAX ROAD CONNECTION



(Above) Existing conditions at Galax Road.



(Left) Proposed conditions show an at-grade crossing for connection to the Thermal Belt Rail Trail.

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



Additional Steps since the Plan was Completed

- Submitted two sections for Express Designs
- Charrette Work Informed Spindale's Downtown Streetscape

- Submitted a project for SPR consideration in 2018 and 2019.
- Received funding in 2018 for a N. Main Street Complete Streets Charrette in Marion
- Haven't heard for 2019

THANK YOU!!!

- Karyl Fuller, GISP, CZO
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