



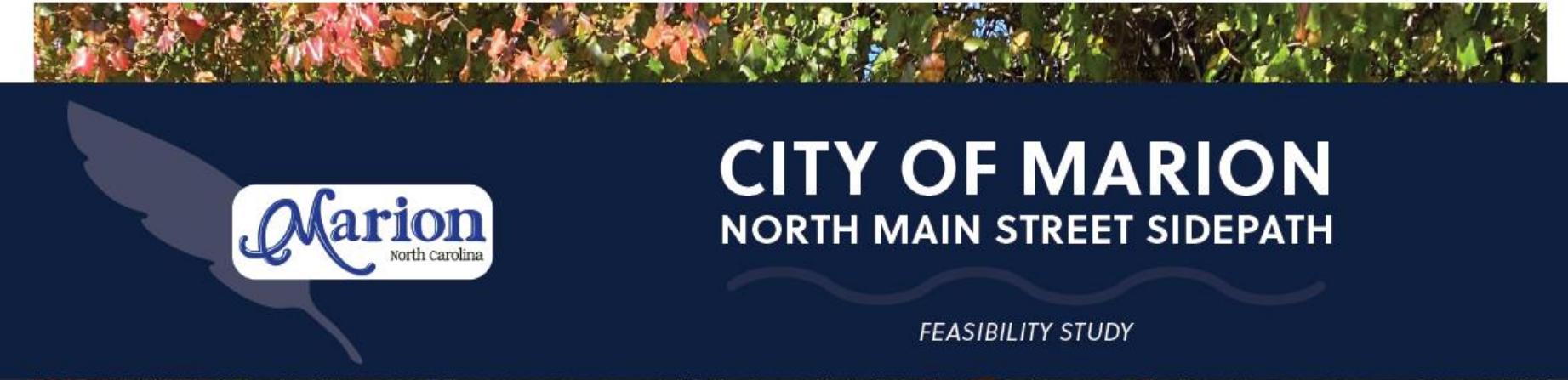
# MARION N. MAIN ST SIDE PATH FEASIBILITY STUDY

PRESENTATION TO CITY COUNCIL – OCTOBER 18, 2022

# STUDY OVERVIEW / SCHEDULE



# TOUR OF THE PLAN



The graphic features a dark blue background with a large white speech bubble containing the city's logo. The logo consists of the word "Marion" in a stylized blue script font, with "North Carolina" in smaller blue capital letters below it. To the left of the logo is a large, light gray wing graphic. To the right, the text "CITY OF MARION" is written in large white capital letters, followed by "NORTH MAIN STREET SIDEPATH" in a slightly smaller white font. Below this, the words "FEASIBILITY STUDY" are written in a smaller white font. The bottom half of the image is a photograph of a street scene. It shows a two-lane road with a person walking on the sidewalk. There are trees with autumn foliage and some bushes along the curb. A red car is parked on the right side of the street. The overall composition suggests a presentation or promotional material for a local planning project.



A photograph showing a street scene. In the foreground, there is a sidewalk and a grassy area with fallen leaves. A person is walking away from the camera on the sidewalk. On the left, there is a road with a few cars. On the right, there is a red car parked. The background shows more trees and buildings.

2022

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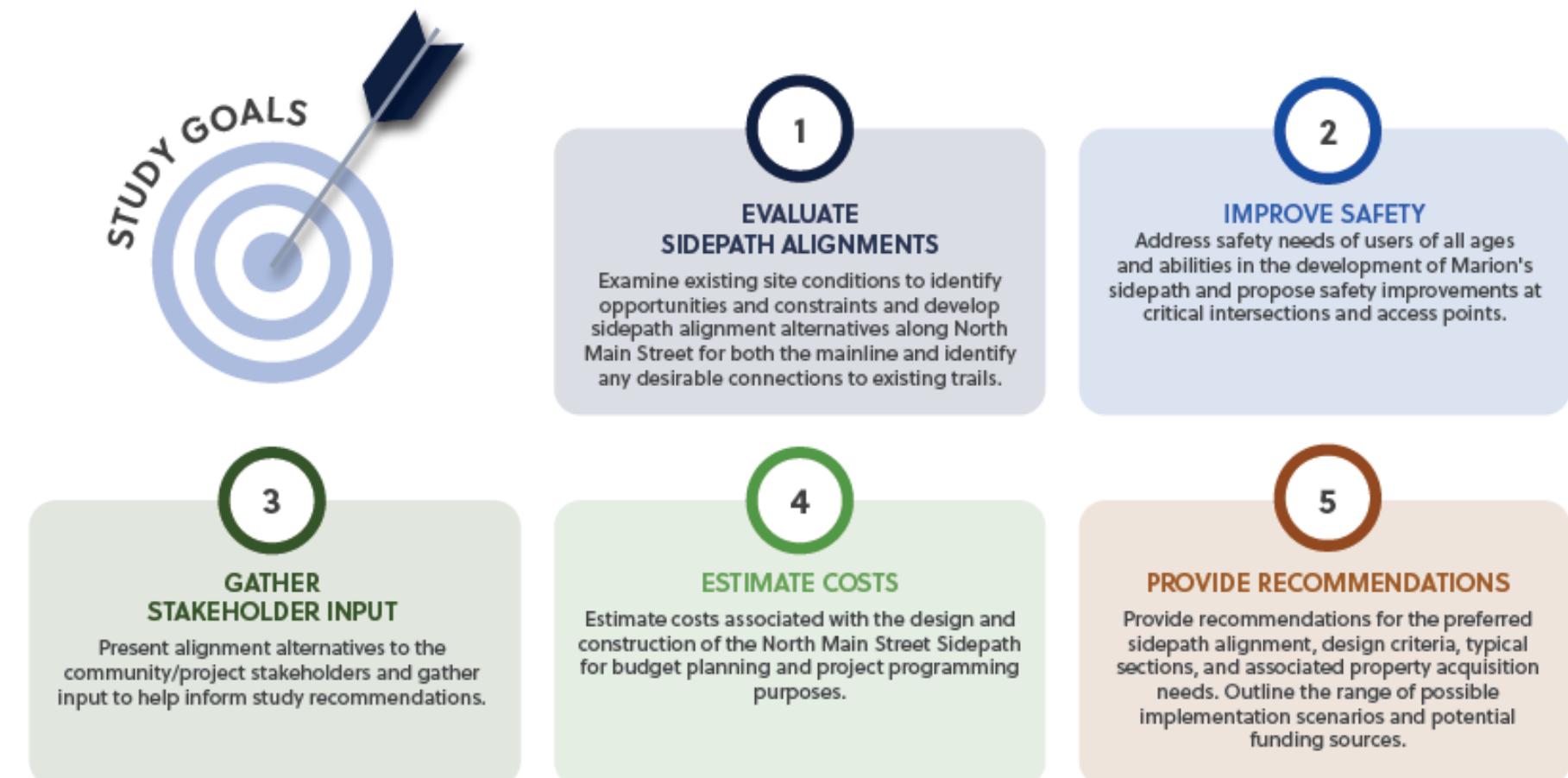
# INTRODUCTION

01

## OVERVIEW + STUDY GOALS

The proposed North Main Street Sidepath is a 3-mile corridor connecting Downtown Marion with the Joseph McDowell Catawba Greenway along US 70. The proposed sidepath is a critical missing link in the City of Marion's bicycle and pedestrian network and is an identified corridor of the Fonta Flora State Trail. The *North Main Street Sidepath Feasibility Study* will evaluate potential route scenarios along North Main Street, US 70, and the Catawba River to determine the preferred route. This study also provides cost estimates and an implementation plan to construct the sidepath.

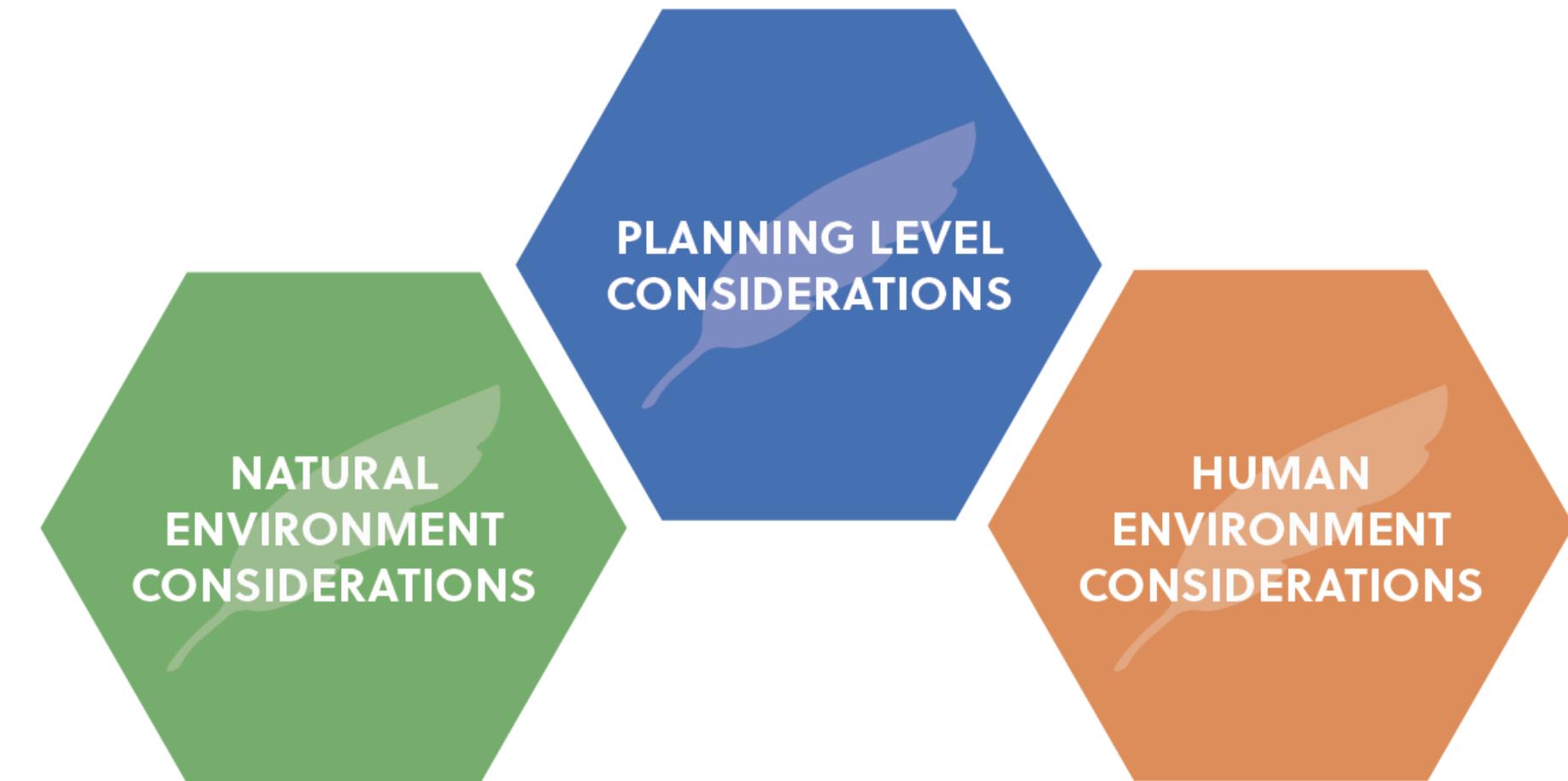
The project is led by the North Carolina Department of Transportation's Integrated Mobility Division (NCDOT IMD) and the City of Marion. Supporting agencies involved in the study are McDowell County, NC State Trails, and Friends of the Fonta Flora State Trail.



# STUDY CONSIDERATIONS + ALTERNATIVES DEVELOPMENT

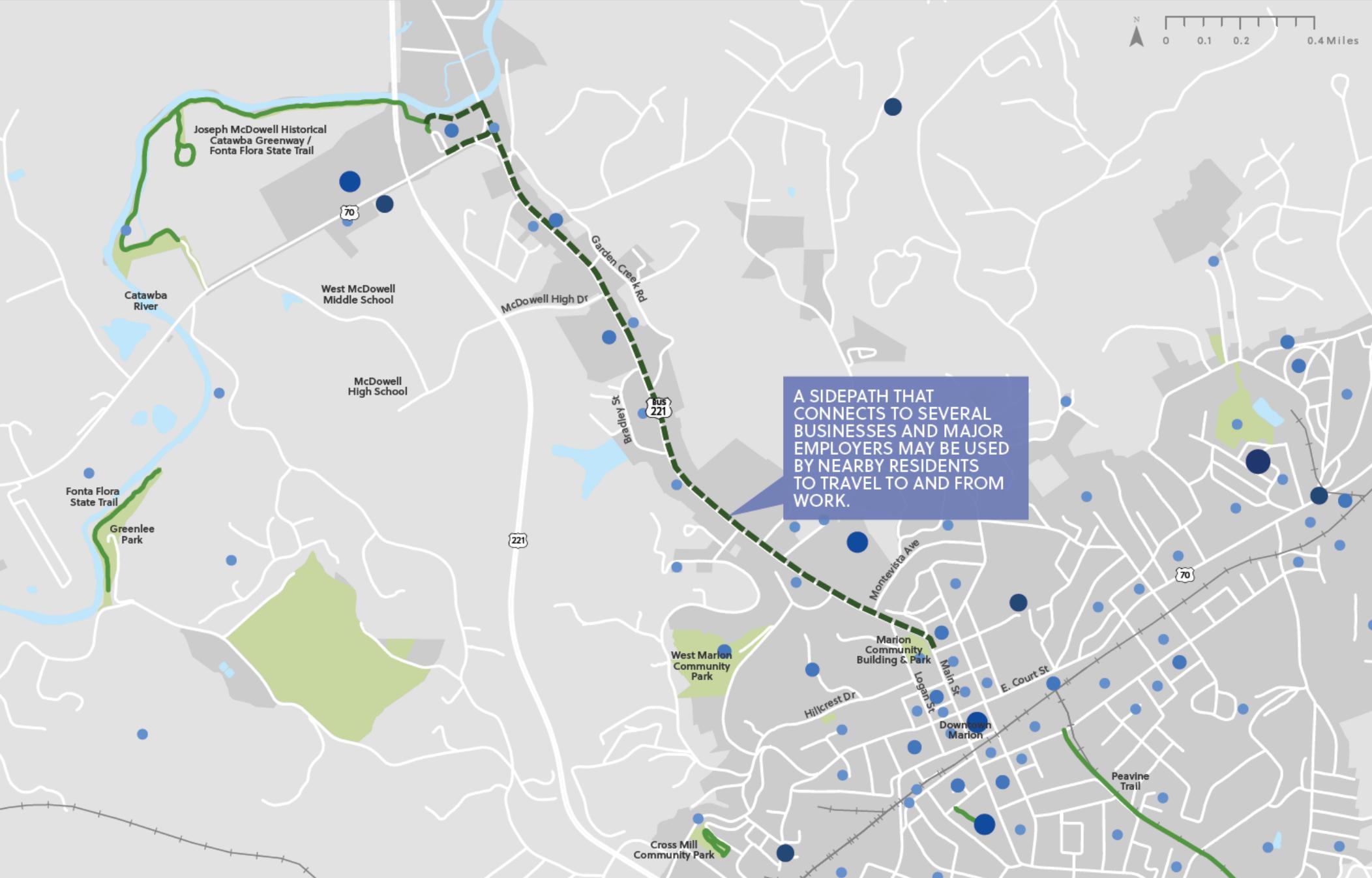
02

## STUDY CONSIDERATIONS



## PLANNING LEVEL CONSIDERATIONS

- Age
- Poverty
- Race
- Education
- Income
- Language
- Commute modes
- Vehicle availability
- Employment density



**CITY OF MARION N. MAIN ST SIDEPATH  
FEASIBILITY STUDY  
EMPLOYMENT DENSITY**

### LEGEND

|                    |                   |
|--------------------|-------------------|
| Study Corridor     | Existing Greenway |
| ● < 50 Jobs        | Roadway           |
| ● 51 - 150 Jobs    | Rail              |
| ● 151 - 300 Jobs   | Stream / Pond     |
| ● 301 - 600 Jobs   | Park / Open Space |
| ● 601 - 3,100 Jobs | City of Marion    |
|                    | McDowell County   |

## NATURAL ENVIRONMENT CONSIDERATIONS

- Wetlands + floodplains
- Topography



**CITY OF MARION N. MAIN ST SIDEPATH  
FEASIBILITY STUDY  
TOPOGRAPHY (20FT CONTOURS)**

| LEGEND               |
|----------------------|
| Study Corridor       |
| Topographic Contours |
| Rail                 |
| Stream / Pond        |
| Park / Open Space    |
| City of Marion       |
| McDowell County      |

## HUMAN ENVIRONMENT CONSIDERATIONS

- Adjacent parcels and buildings
- Annual Average Daily Traffic (AADT)
- Speed limit
- Existing bicycle and pedestrian facilities
- Planned bicycle and pedestrian facilities
- Bicycle and pedestrian crashes
- ROW



**CITY OF MARION N. MAIN ST SIDEPATH  
FEASIBILITY STUDY  
ROADWAY SPEED LIMIT**

### LEGEND

- Study Corridor
- 20-25 mph
- 30 - 35 mph
- 40 - 50 mph
- 55 - 70 mph
- Existing Greenway
- Roadway
- Rail
- Stream / Pond
- Park / Open Space
- City of Marion
- McDowell County



## FIELD OBSERVATIONS

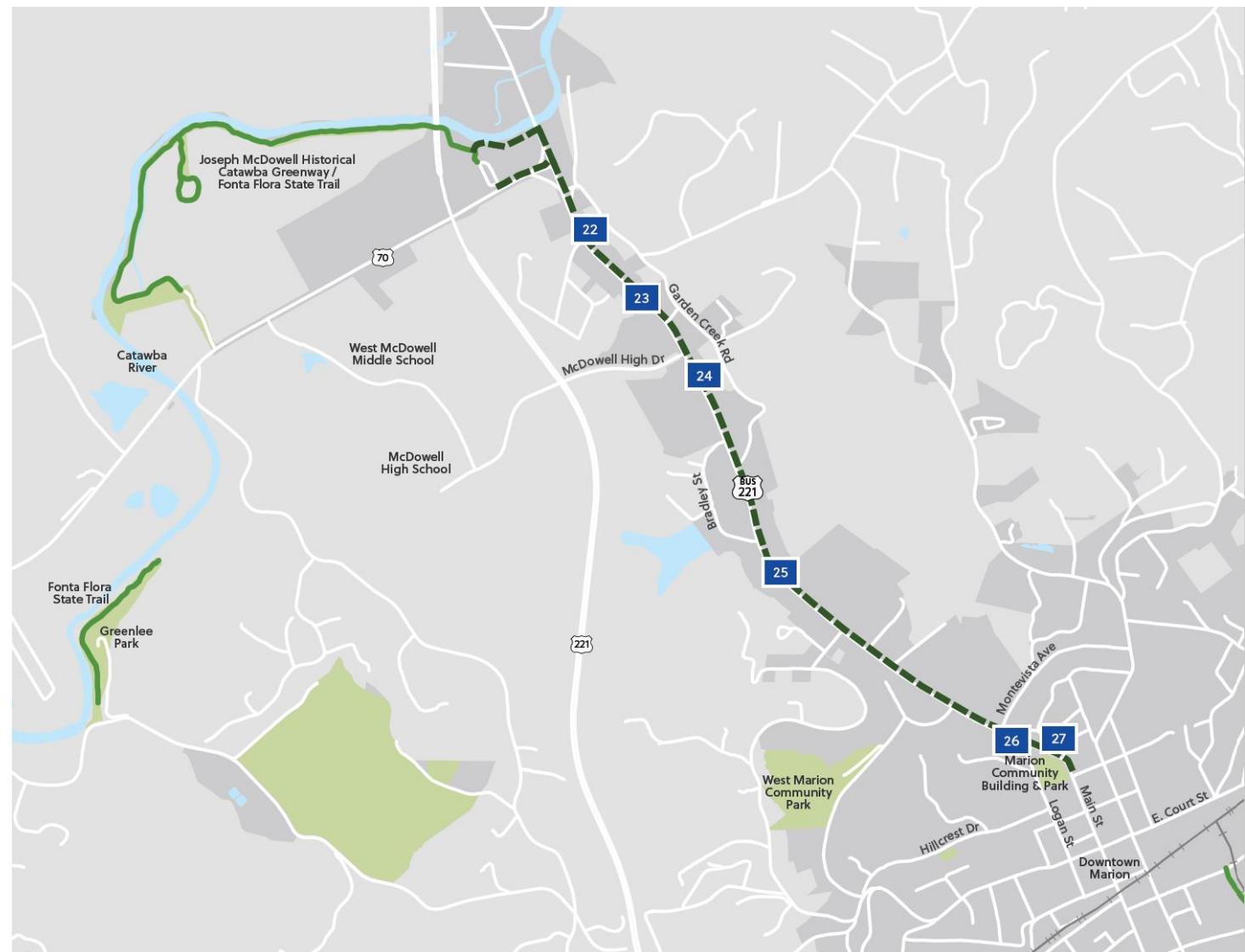
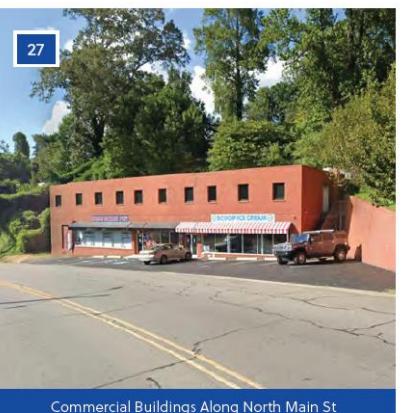
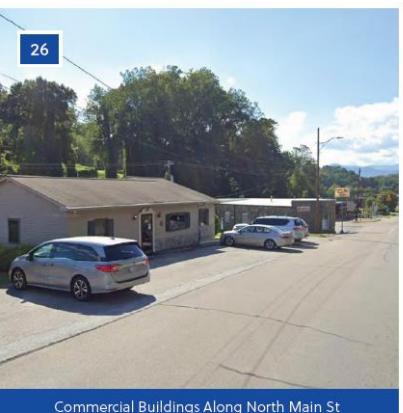
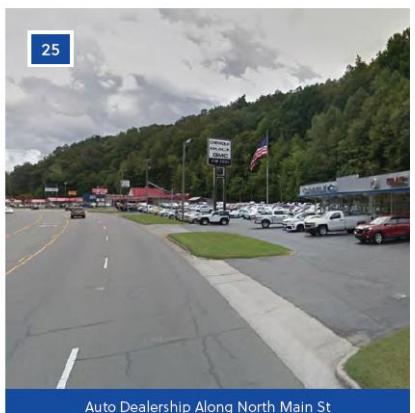
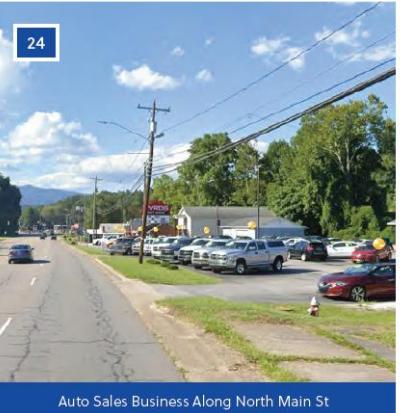
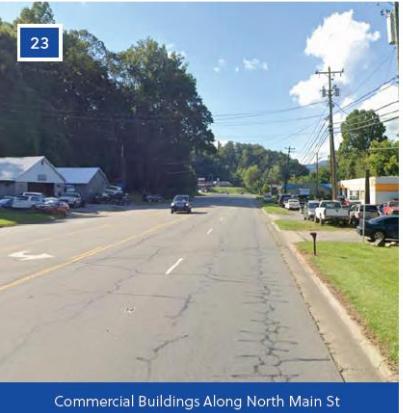
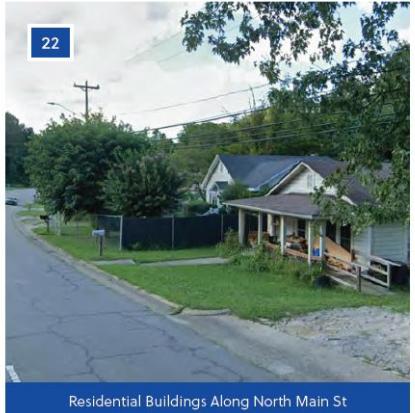
Fieldwork is an important part of the planning process that helps the project team understand the local culture and existing conditions associated with a site. It also helps the project team evaluate design solutions that respond to the specific needs and characteristics of the site. The project team conducted field work by visiting key destinations (i.e., existing parks, shopping centers, and businesses), existing bicycle and pedestrian facilities, roadways, bridges, environmentally sensitive areas, and constrained areas. The following opportunities and constraints, which may impact potential sidepath alignments, were identified based on site visit observations and other evaluations:

- Topography
- Jurisdictional Features
- FEMA Floodway / Floodplain
- Structures (Walls / Bridges / Boardwalks)
- Traffic Context (Volume / Speeds / Signals)
- ROW / Property Impacts
- Building Setbacks
- Driveways / Conflict Points
- Utility Impacts
- Drainage Impacts
- Constructability
- Cost Effectiveness
- Long-Term Maintenance

# FIELD OBSERVATIONS

STUDY CONSIDERATIONS +  
ALTERNATIVES DEVELOPMENT

- BUILDING SETBACKS / BUSINESS / PROPERTY IMPACTS •



## ALTERNATIVES DEVELOPMENT

### DESIGN CRITERIA + TYPICAL SECTION CONSIDERATIONS

Based on feedback and concerns received from the community on the four-lane divided boulevard typical section proposed in the *2020 North Main Street Corridor Strategy Report* (as shown in the image to the right) and feedback from City staff, the project team sought to develop a design solution for the sidepath that:

- Maintains all five existing lanes on North Main Street (including the center left turn lane);
- Maintains existing driveway access to adjacent properties and businesses as much as practicable;
- Reduces the overall footprint of the project and minimizes impacts to adjacent properties;
- Is capable of being implemented in phases as funding allows; and
- Does not restrict the ability to achieve the long-term goals for the corridor outlined in the *2020 North Main St Corridor Strategy Report*.



4-Lane Divided Boulevard Typical Section (Source: 2020 North Main Corridor Strategy Report)

To achieve a solution that meets the criteria above, the project team coordinated with NCDOT Division 13 to reduce the existing 12-foot lanes to 11-foot lanes and shift the curb line adjacent to the sidepath 5 feet into the existing roadway pavement. Typical sections of the existing condition and proposed condition options (side path on either side) shown on the next page illustrate how the lanes will be narrowed and the curb line will be shifted.

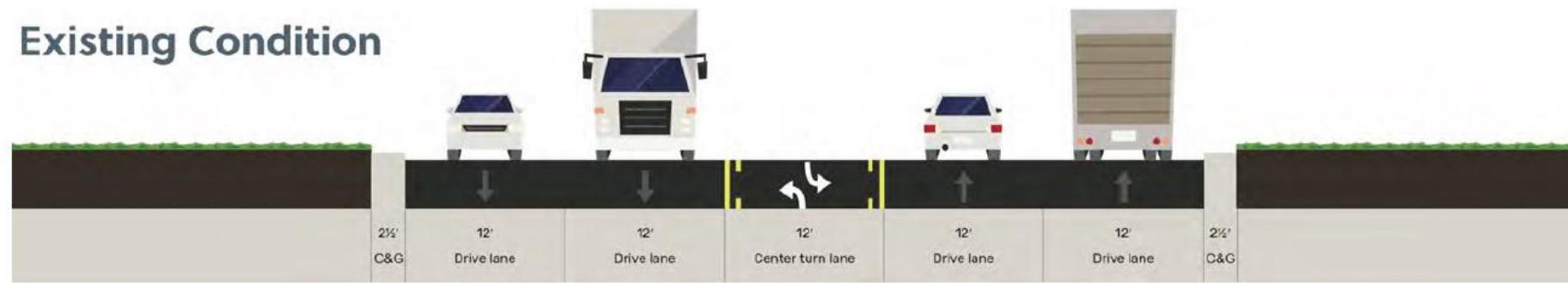
For the purposes of this study, sidepath design criteria assumptions include a preferred paved trail width of 10 feet for bi-directional use and cross slopes of 2 percent or less. Any structures (bridges/boardwalks/tunnels) should provide a 10-foot minimum clear width. A minimum 6-foot planting strip between the curb and sidepath is desired to provide separation to enhance user comfort and experience, but it may be reduced to 2 feet in especially constrained areas.

Longitudinal slopes of 5 percent or less are desired and should be incorporated to the maximum extent practicable. In areas highly constrained by topography, steeper grades may be used for the sidepath but shall not exceed the grade of the adjacent roadway in accordance with the U.S. Access Board's Public Rights-of-Way Accessibility Guidelines (PROWAG). A minimum longitudinal grade of 0.5 percent should be provided per the AASHTO Guide for the Development of Bicycle Facilities. Also, in accordance with the AASHTO Guide for the Development of Bicycle Facilities, a vertical clearance of 10' should be provided above the sidepath. In highly constrained areas, the absolute minimum vertical clearance above the sidepath may be reduced to 8 feet. The minimum horizontal clear width for the sidepath shall be equal to the path width plus 2 feet on either side with no horizontal protrusions allowed.

For the sidepath to provide maximum connectivity to desired destinations within the corridor, crossings of North Main Street must be incorporated. Grade-separated crossings, while preferred, are not practicable within this project's constraints. As such, well-designed at-grade crossings are a critical component of safety as users are transitioned from a separated space to a space that contains multiple conflict points with motorists. Mid-block crossings are not recommended for this corridor. Crossings should be made at existing signalized intersection or future signalized intersections to ensure safety. Crossing designs will ensure high levels of visibility and awareness between trail users and motorists through a variety of available measures including pavement markings, advance warning signage, pedestrian signalization and incorporating techniques such as leading pedestrian intervals which give pedestrians and cyclists a head start to cross the intersection before any traffic is allowed to enter the intersection.

Additional design resource information may be found in Appendix B.

### Existing Condition



### Proposed Sidepath on East Side



### Proposed Sidepath on West Side



(Image Source: Streetmix)



## CITY OF MARION N. MAIN ST SIDEPATH FEASIBILITY STUDY SEGMENT ALTERNATIVES

### LEGEND

- Existing Greenway
  - Roadway
  - +—+ Rail
  - Stream / Pond
  - Park / Open Space
  - City of Marion
  - McDowell County
- Segment Alternative ID
- Segment Alternative Route

## SEGMENT ALTERNATIVES

Route alternatives for the proposed sidepath were developed based on the study considerations and field observations detailed previously in this chapter. Alternatives were broken into segments between existing signalized intersections as shown on the map to the right and summarized in the table below.

| ID | Description   | Length<br>Est. Cost* | Challenges / Constraints   |
|----|---|----------------------|--|
| 1A | Runs from existing greenway to US 70; follows north side of US 70 to existing traffic signal at North Main St                                   | 0.23 mi<br>\$440K    | Floodplain impacts; Utility impacts  |
| 1B | Runs from existing greenway along river; turns south and runs along west side BUS 221 to existing US 70 traffic signal                          | 0.27 mi<br>\$399K    | Property impacts; Floodplain impacts; Stream buffer impacts                                    |
| 2A | Crosses on north leg of US 70 intersection and follows east side of North Main St between existing traffic signals at US70 and McDowell High Dr | 0.55 mi<br>\$963K    | Building setbacks; Utility impacts   |
| 2B | Crosses on west leg of US 70 intersection and follows west side of North Main St between existing traffic signals at US70 and McDowell High Dr  | 0.55 mi<br>\$1.659M  | Topography; Building setbacks  |
| 3A | Follows east side of North Main St between existing traffic signals at McDowell High Dr and Lady Marian Plaza                                   | 0.41 mi<br>\$980K    | Topography; Building setbacks; Utility impacts;<br># of Driveways                              |
| 3B | Follows west side of North Main St between existing traffic signals at McDowell High Dr and Lady Marian Plaza                                   | 0.41 mi<br>\$1.902M  | Topography; Building setbacks; Utility impacts   |
| 4A | Follows east side of North Main St between existing traffic signals at Lady Marian Plaza and Machine Shop Rd                                    | 0.65 mi<br>\$2.826M  | Topography; Utility impacts  |
| 4B | Follows west side of North Main St between existing traffic signals at Lady Marian Plaza and Machine Shop Rd                                    | 0.65 mi<br>\$1.996M  | Property impacts; Topography; # of Driveways   |
| 5A | Follows east side of North Main St between existing traffic signals at Machine Shop Rd and Logan St   | 0.19 mi<br>\$1.025M  | Topography; Utility impacts  |
| 5B | Follows west side of North Main St between existing traffic signals at Machine Shop Rd and Logan St   | 0.19 mi<br>\$401K    | Building setbacks; Property impacts  |
| 6A | Follows east side of North Main St between existing traffic signals at Logan St and New St  | 0.09 mi<br>\$539K    | Topography; Building setbacks; Property impacts;<br>Utility impacts                            |
| 6B | Follows west side of North Main St between existing traffic signals at Logan St and New St  | 0.09 mi<br>\$109K    | Building setbacks; Property impacts; On-street parking<br>impacts; Utility impacts; Topography |

\*Resurfacing and striping costs, totaling \$1.513M for the overall 2.12 mi corridor, were not broken down by segment and should be added to any overall alternative alignment.

# PRELIMINARY CONSTRUCTION COST ESTIMATES

BASED ON QUANTITIES FROM PRELIM CONCEPTS (NOT JUST COST PER MILE)

UNIT COSTS BASED ON OTHER GREENWAY PROJECTS (NOT JUST NCDOT BID AVERAGES)

ASSUMED 10' WIDE PAVED TRAIL FOR ENTIRE LENGTH

## WHAT'S INCLUDED:

- Pavement Section (Asphalt Surface Course / Aggregate Base Course / Geotextile for Stabilization)
- Curb + Gutter
- Concrete Driveway Entrances
- Retaining Walls
- Resurfacing + Re-Striping
- High-Level Utility Relocation + Intersection Improvements
- High-Level Grading / Drainage / Erosion Control / Traffic Control
- 25% Contingency

# COMMUNITY ENGAGEMENT



## OVERVIEW

Community engagement is an essential part of any planning process. The most effective plans are firmly rooted in the realities and visions of the communities that created them. This study relies on a combination of input from community members, steering committee members, supporting agencies, and non-profit organizations to inform the feasibility study for the Marion North Main Street Sidepath.

## COMMUNITY ENGAGEMENT

Several engagement events took place throughout the study process: steering committee meetings (3), landowner coordination meetings (3), a public meeting, and a public survey. A steering committee supported the study and was composed of representatives from the City of Marion, McDowell County, Foothills RPO, NCDOT, NC State Parks, McDowell County Trails Association, Friends of Fonta Flora State Trail, and local business leaders. Steering committee members met three times throughout the duration of the project and provided guidance for the study by reviewing and sharing feedback on relevant data, community engagement efforts, alignment recommendations, and implementation strategies. Members also supported the study by disseminating information and communication materials to the public.

## LANDOWNER COORDINATION MEETINGS

Individual in-person meetings for landowners took place on July 14, 2022. During this time, the project team reviewed the project overview, opportunities and constraints associated with the study area, and typical cross sections. The project team also answered property-specific design concept questions and document concerns from landowners. Key findings are outlined below.

### Key Findings:

- Overall, landowners were generally supportive of the project.
- Landowners favored the design concepts presented that were proposed in the previous corridor study for North Main Street.
- Landowners were concerned about impacts to parking.
- ROW will be minimized, and permanent easements will be required.
- The project team explained that the feasibility study is still in the study phase. Design and construction phases will be dependent on funding availability (likely at least several years from now).



| STEERING COMMITTEE MEMBERS  |   |  |
|---|---|--|
| Steve Pierce, President, McDowell Trails Association                            | Heather Cotton, Planning + Development Director, City of Marion     | Dawna Goode-Ledbetter, Director of Equity, West Marion Community Forum |
| Courtney Intres, Business Development Coordinator, McDowell Chamber of Commerce | Bob Boyette, City Manager, City of Marion                           | Smith Raynor, State Trail Planner, State Parks                         |
| Freddie Killough, Executive Director, Marion Business Association               | Dewayne Riddle, Asst. Public Works Director, City of Marion         | Hannah Cook, Senior Planning Engineer, NCDOT                           |
| Steve Bush, Board Member, Fonta Flora State Trail                               | Phillip Tate, Business Owner, Tate's Insurance                      | Chris Guffey, District Engineer, NCDOT                                 |
| Billy Martin, Board Member, Fonta Flora State Trail/ Marion City Council Member | Steve Jones, Business Owner, Joanne Howle Real Estate /Avid Cyclist | Karyl Fuller, Economic + Community Development Director, Foothills RPO |
|   | Carol Price, Executive Director, McDowell Tourism Association       | Jerry Stensland, RPO Planner, Foothills RPO                            |

### STEERING COMMITTEE MEETING #1

The first steering committee meeting occurred on March 28, 2022. At the meeting, the project team discussed the project schedule, findings from the existing conditions analysis, and reviewed the project route alternatives. Meeting attendees provided comments on the routes during a Conceptboard exercise.

#### Key Findings:

- Attendees voiced safety concerns about the proposed crossing at the intersection of US 70 and North Main Street due to potential conflicts between bicyclists and pedestrians and motorists.
- Attendees expressed interest in pursuing a route that aligns along one side of North Main Street rather than an alignment that crosses North Main Street at signalized intersections.

### STEERING COMMITTEE MEETING #2

The second steering committee meeting took place on July 26, 2022. The purpose of the meeting was to review the community survey results, draft typical cross sections, evaluation criteria, decision matrix, and route alternatives. Meeting attendees provided comments on the route alternatives during a Conceptboard exercise.

#### Key Findings:

- Attendees expressed interest in adding wildflowers at the corner of US 70 and north Main Street to increase the visibility of the sidepath and aid in placemaking.
- Alternative B was selected as the preferred route for the sidepath (route on east side of North Main Street).

### STEERING COMMITTEE MEETING #3

The third steering committee meeting was held on August 23, 2022. The purpose of the meeting was to discuss the draft study, review concept design updates, potential phasing scenarios, cost estimates, and to present the implementation strategy for the sidepath.

#### Key Findings:

- Attendees voiced interest in funding opportunities for the sidepath. Federal and state funding options were discussed.
- Attendees want to prioritize connecting Downtown Marion to Marion City Square due to an expected increase in housing.
- State designated trails must be physically separated from the roadway so the design will be updated to include a buffer at the Joseph McDowell House.

## PUBLIC MEETING

A public meeting took place on August 29, 2022, at the Marion Community Building. The purpose of the meeting was to discuss the project, route alternatives, evaluation criteria, and typical cross sections with members of the public. Members of the steering committee distributed flyers and information to the public through local networks and social media platforms. Input received at the public meeting is provided below.

### Key Findings:

- Attendees voiced overall support of the study and the recommended alignment along the east side of North Main Street.
- Attendees voiced support for the proposed typical section that accommodates the sidewalk within existing NCDOT ROW and appreciated the effort to reduce impacts to local business owners along the corridor.
- Some attendees expressed interest in exploring the alternative alignment to cross North Main Street at the Catawba River to reduce potential safety issues with crossing North Main Street at US 70.



Discussing the Proposed Design with the Public



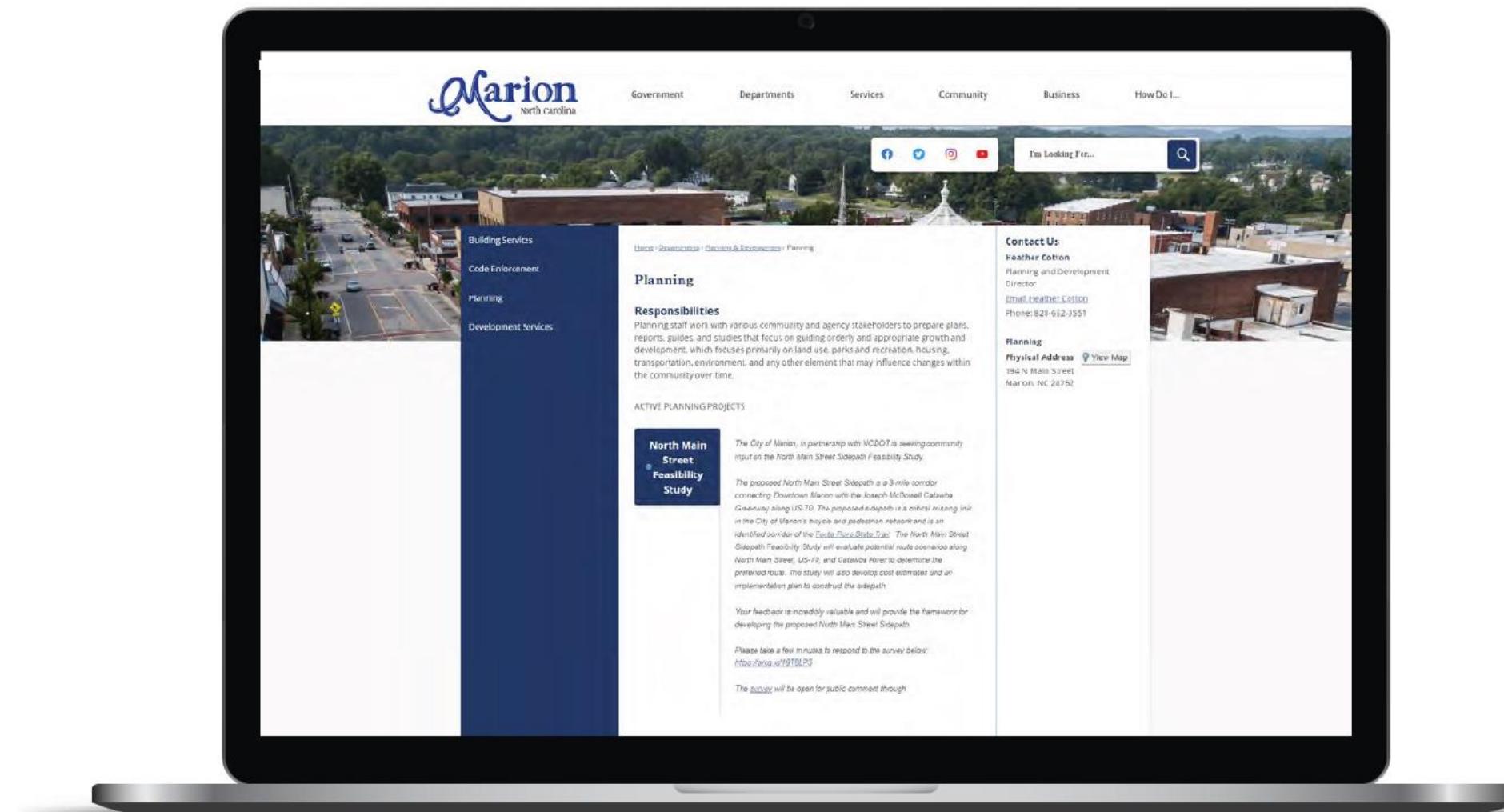
Local News Station Reporting on the Project



Reviewing Designs at the Public Meeting

## PROJECT WEBPAGE

The City of Marion's Planning Department hosted project information on their website. Periodically, the webpage would update with information about the project overview and schedule, study area map, survey information and results, route alternative maps, public meeting information and presentations, as well as the *Draft North Main Street Feasibility Study*.



## PUBLIC SURVEY

The project team launched a public survey on May 23, 2022, and it was open for public comment until June 17, 2022. The survey was distributed in both hard copy form and linked on the City of Marion's website as an ArcGIS Survey 123 survey. Hard copies were distributed by City of Marion staff and steering committee members. In addition, survey information was distributed through other means of communication such as flyers, QR codes, social media posts, emails, newsletters, and a press release. The survey received 224 survey responses.

The project team distributed the public survey to help accomplish the following:

- Introduce the project and gauge public support.
- Solicit and compile public comment on destinations, opportunities and challenges, user preferences, and route preferences.
- Fulfill requests for information.
- Develop an email contact list for interested parties.

A copy of the survey is provided in Appendix D. Public feedback is summarized to the right by specific comment. Overall, the comments collected were generally positive and include several different perspectives on the project. The public survey is summarized on the following pages.

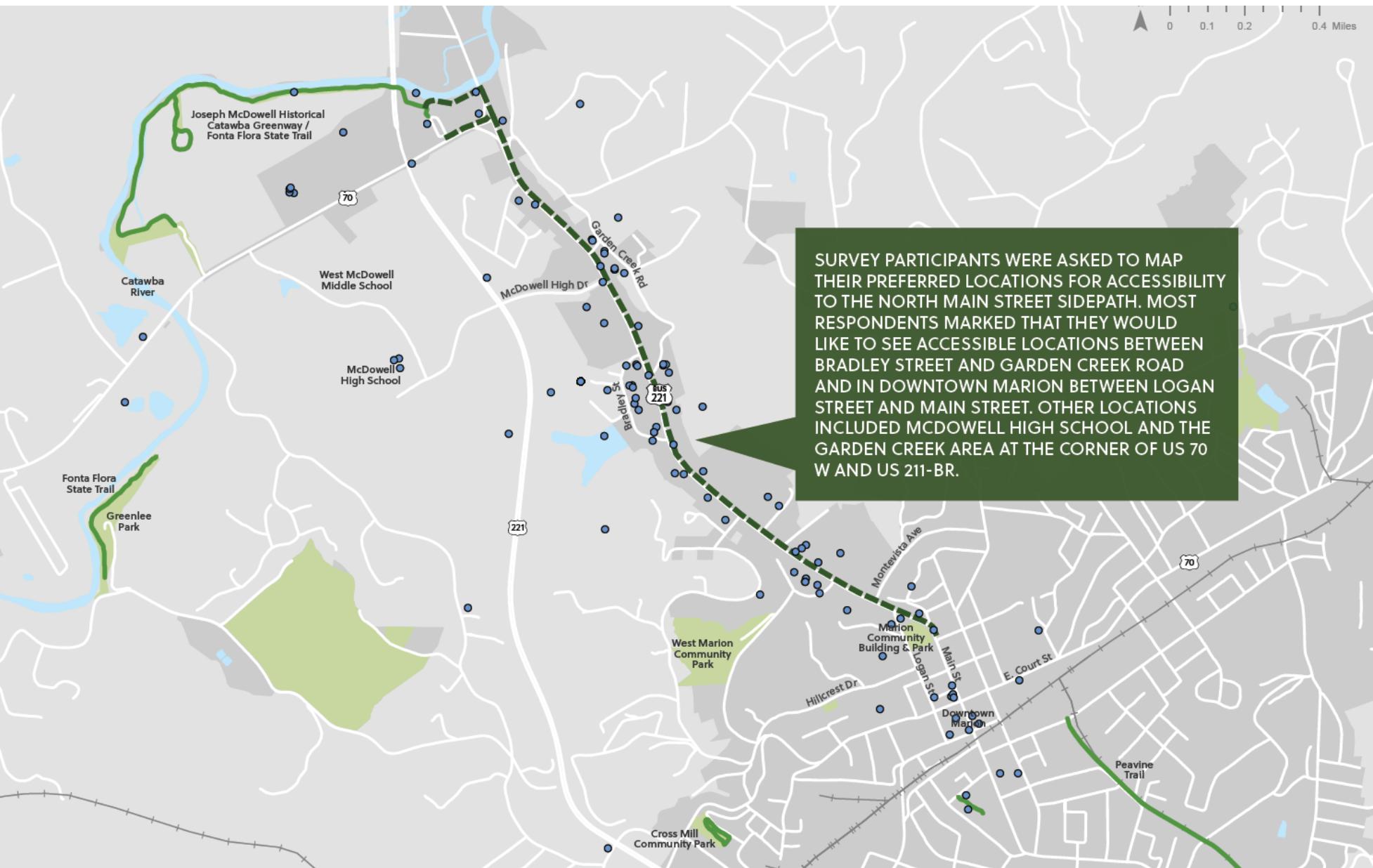
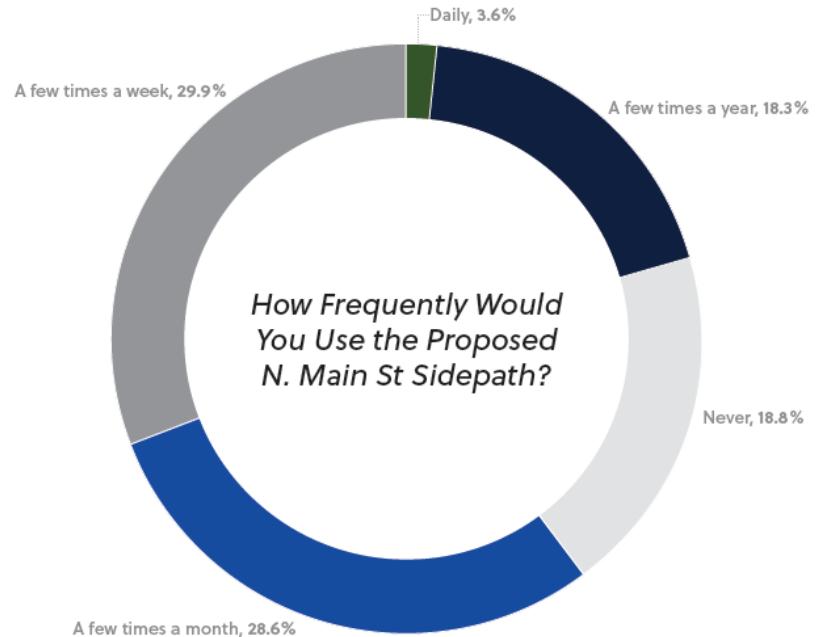
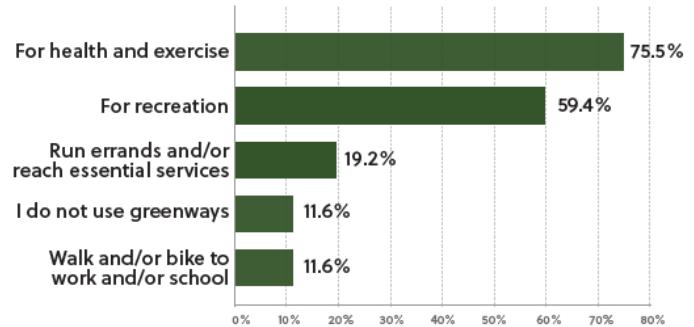


## Key Takeaways:

- Respondents primarily visit North Main Street to shop, dine, and/or visit businesses.
- A lack of safe biking and walking connections to and from North Main Street discourage most respondents from biking or walking in the area.
- Many of the respondents currently use the Joseph McDowell Catawba Greenway a few times a month for health and exercise reasons. Respondents noted that they would use the proposed North Main Street Sidepath for the same reasons at the same expected frequency.
- Currently, respondents primarily drive a car to commute to work and/or school. This is consistent with the desired mode of travel for respondents in the future.
- When prompted to choose segmented areas that respondents would like for accessibility to the North Main Street Sidepath, the community primarily selected locations between Bradley Street and Garden Creek Road and in Downtown Marion between Logan Street and Main Street.
- Most respondents live in the City of Marion or in surrounding zip code areas.

# SURVEY RESULTS

*How Would You Use the Proposed N. Main St Sidepath? Select All That Apply.*





## EVALUATION METHODOLOGY

Evaluation criteria were used to supplement the decision-making process to determine the most appropriate alignments for the Marion North Main Street Sidepath Feasibility Study. The following evaluation criteria were used to guide the recommendations for the sidepath:

### ROUTE ALTERNATIVE EVALUATION CRITERIA

**COST-EFFECTIVENESS** - The magnitude of the total life-cycle cost for each alternative (including design, construction and ongoing maintenance) is a significant factor in determining which alternative to implement.

**PROPERTY IMPACTS** - Real estate acquisition can play a major role in project cost and schedule. The ability of the route alternatives to utilize publicly-owned properties, existing easements, public ROW, and limit impacts to privately property owners is considered.

**POTENTIAL FUNDING OPPORTUNITIES** - Given the importance of securing funding from a variety of potential sources, the diversity, total amount, and likelihood of receiving funding available to each alternative is considered.

**ENVIRONMENTAL IMPACTS** - The ability of each alternative to minimize impacts to streams, wetlands, and other jurisdictional features (including associated buffers, floodplain elevations, and other environmental factors) during construction and operation of the proposed facility is also considered.

**PHYSICAL FEASIBILITY** - The ability to successfully engineer and permit each alternative is a critical consideration for determining realistic options for the route alternative.

**COMMUNITY PRIORITIES** - To ensure consistency with public preferences and existing plans, goals identified in previous planning efforts and feedback from public engagement/stakeholder outreach activities are utilized to evaluate the route alternative.

**DESIRED CONNECTIVITY** - In order to maximize use of the facility, determining which route alternatives connect popular origins and destinations identified by the public and other stakeholders is considered.

**TRAFFIC IMPACTS** - The magnitude of the disruption of vehicular traffic by the ultimate design of each route alternative and associated temporary impacts during the construction process is considered.

**IMPLEMENTATION TIMEFRAME** - The amount of time it takes to plan, fund, design, and ultimately construct each route alternative is important to consider, especially in conjunction with community priorities, as to how long is a tolerable time to wait for project completion.

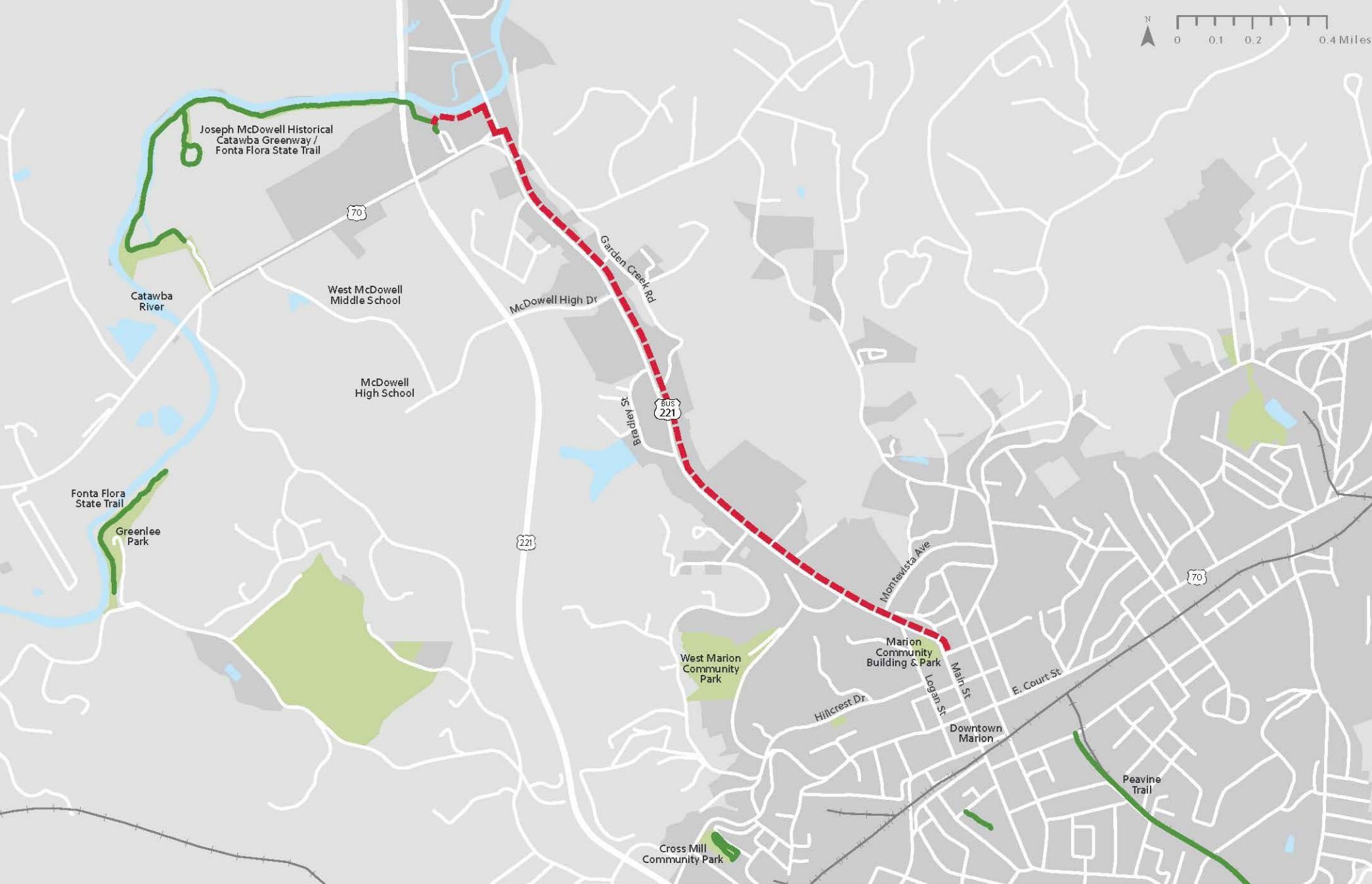
**ACCESSIBILITY** - Convenience of use and accommodation for users of all ages and abilities is a significant consideration to ensure the ultimate route alternative is a community amenity designed for universal use.

**LEADERSHIP SUPPORT** - The depth of support from elected officials and agencies for each route alternative as well as whether there is a clear project sponsor to champion the route alternative through implementation, is an important factor for ensuring successful project completion.

**PLACEMAKING + USER EXPERIENCE** - The potential ability of the route alternatives to help drive tourism, contribute to the local economy, and brand the surrounding area by as one that promotes healthy, active lifestyles is also considered.

# ALTERNATIVE A

- > Begin at Existing Joseph McDowell Historical Catawba River Greenway
- > Follow Catawba River to US-221
- > Turn South and Continue Along West Side of US-221 until US-70 Intersection
- > Cross US-221 on North Leg of Existing Signalized Intersection
- > Stay Along East Side of US-221 and End at City Hall / New St Intersection



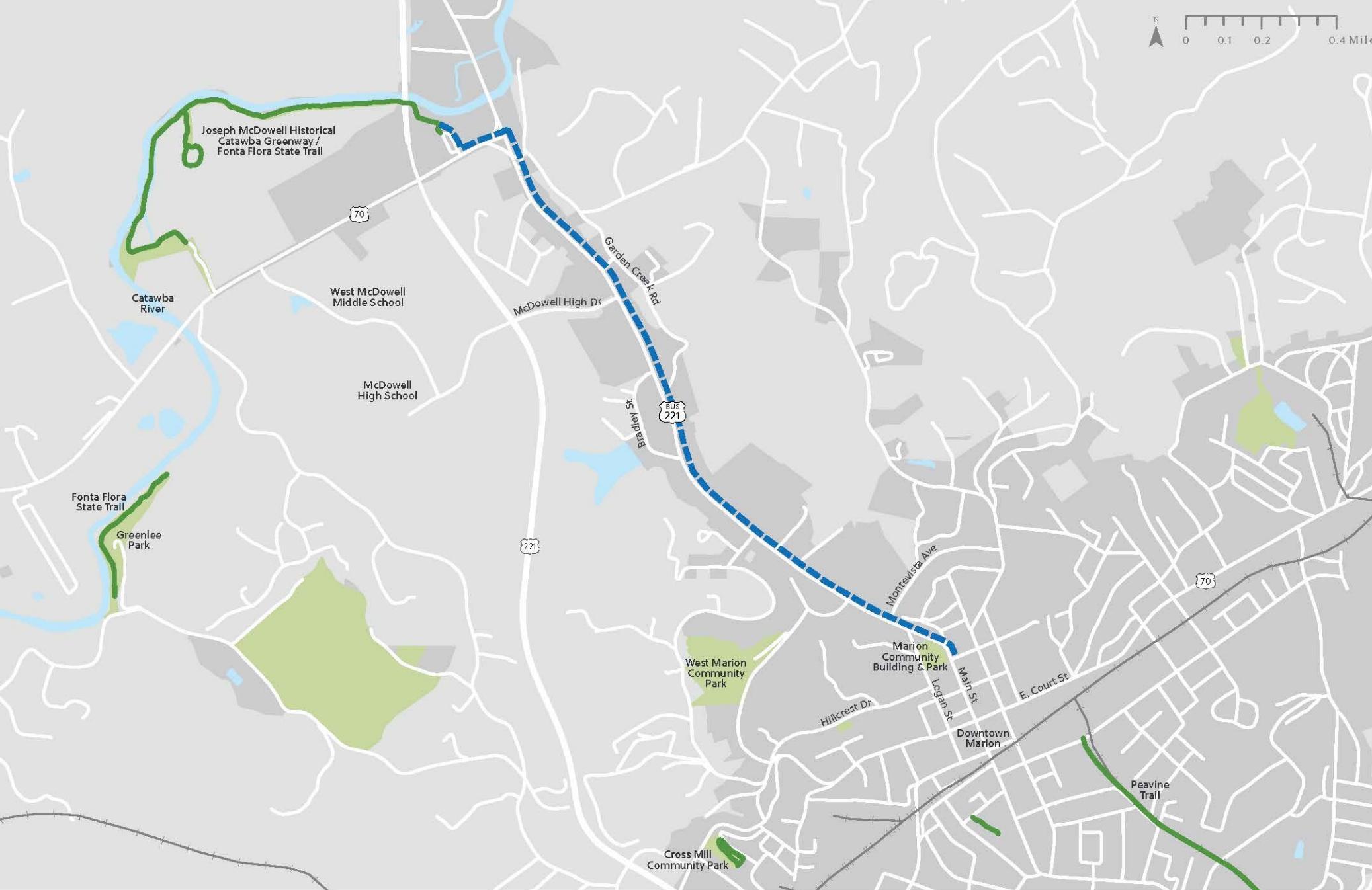
**CITY OF MARION N. MAIN ST SIDEPATH  
FEASIBILITY STUDY  
ROUTE ALTERNATIVES - ALTERNATIVE A**

**LEGEND**  
— Alternative A

- Existing Greenway
- Roadway
- Rail
- Stream / Pond
- Park / Open Space
- City of Marion
- McDowell County

## ALTERNATIVE B

- > Begin at Existing Joseph McDowell Historical Catawba River Greenway
- > Follow US-70 to US-221
- > Cross US-221 on North Leg of Existing Signalized Intersection
- > Stay Along East Side of US-221 and End at City Hall / New St Intersection

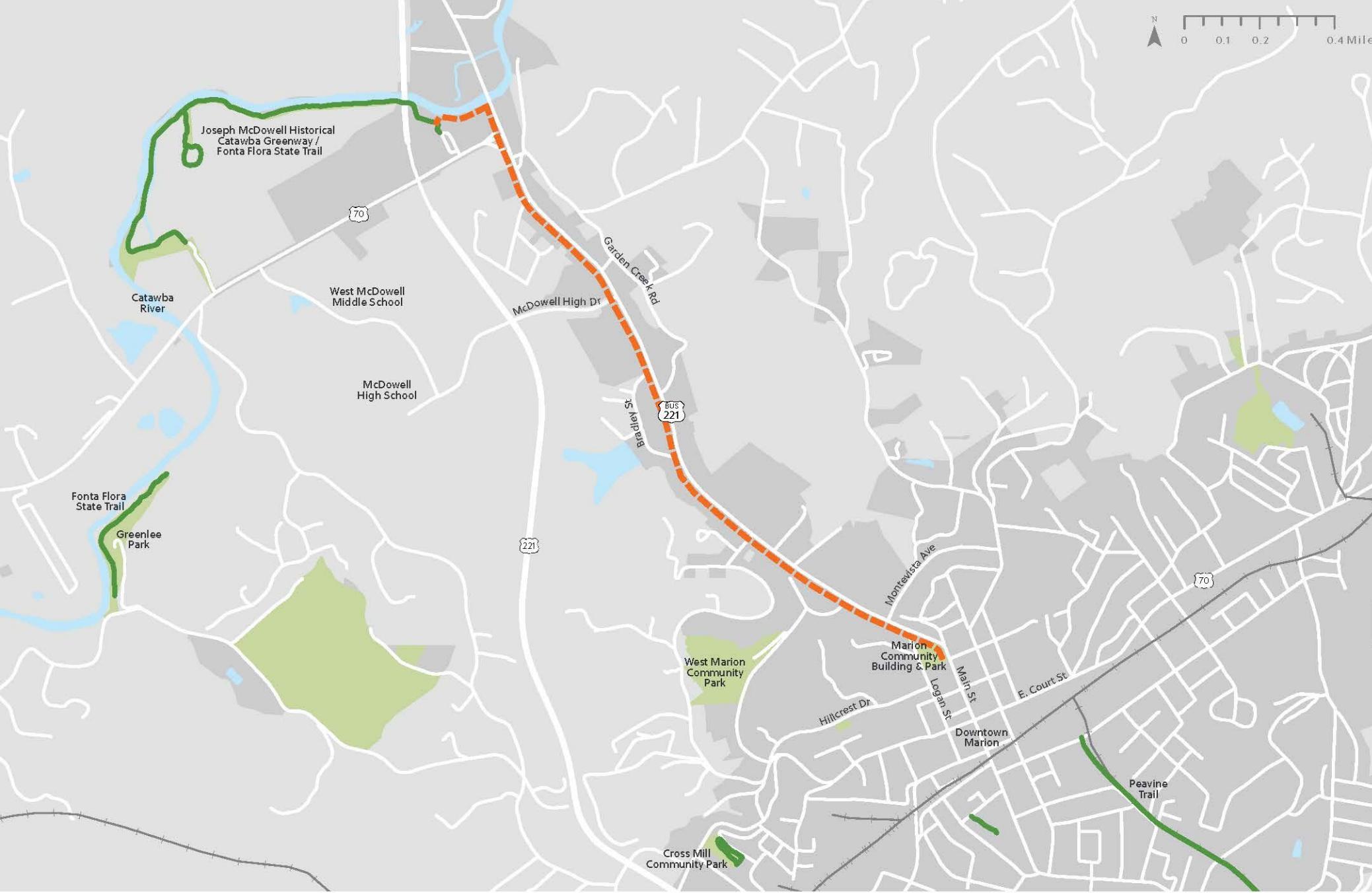


**CITY OF MARION N. MAIN ST SIDE PATH  
FEASIBILITY STUDY  
ROUTE ALTERNATIVES - ALTERNATIVE B**

### LEGEND

— Alternative B

- Existing Greenway
- Roadway
- Rail
- Stream / Pond
- Park / Open Space
- City of Marion
- McDowell County



## CITY OF MARION N. MAIN ST SIDEPATH FEASIBILITY STUDY ROUTE ALTERNATIVES - ALTERNATIVE C

### LEGEND

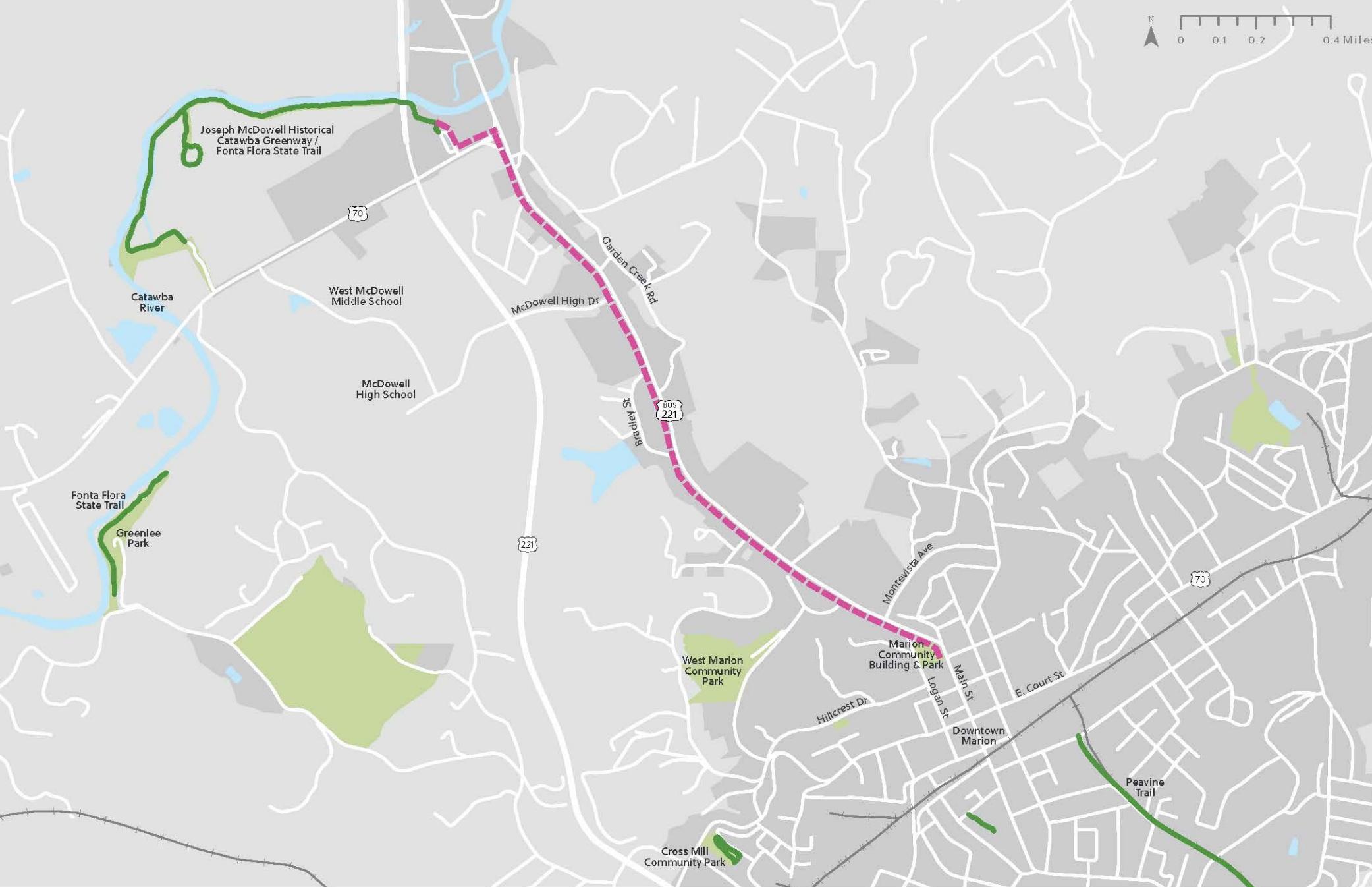
— Alternative C

- Existing Greenway
- Roadway
- Rail
- Stream / Pond
- Park / Open Space
- City of Marion
- McDowell County

- ## ALTERNATIVE C
- > Begin at Existing Joseph McDowell Historical Catawba River Greenway
  - > Follow Catawba River to US-221
  - > Turn South and Continue Along West Side of US-221 until US-70 Intersection
  - > Cross US-70 on West Leg of Existing Signalized Intersection
  - > Stay Along West Side of US-221 to New St Intersection
  - > Cross US-221 at Existing Signalized Intersection and End at City Hall

## ALTERNATIVE D

- > Begin at Existing Joseph McDowell Historical Catawba River Greenway
- > Follow US-70 to US-221
- > Cross US-70 on West Leg of Existing Signalized Intersection
- > Stay Along West Side of US-221 to New St Intersection
- > Cross US-221 at Existing Signalized Intersection and End at City Hall



**CITY OF MARION N. MAIN ST SIDEPATH  
FEASIBILITY STUDY  
ROUTE ALTERNATIVES - ALTERNATIVE D**

### LEGEND

■ Alternative D

- Existing Greenway
- Roadway
- Rail
- Stream / Pond
- Park / Open Space
- City of Marion
- McDowell County



## DECISION MATRIX + SCORING

The decision matrix is a qualitative assessment tool utilized by the study team to incorporate feedback from the steering committee. The four alignment alternatives that were developed are assigned a qualitative ranking (High, Medium, or Low) by the study team based on the analysis performed. Steering committee members were asked to rank the evaluation criteria according to their priorities. Based on the feedback, the recommended route can be identified as the one that best aligns with the priorities of the steering committee.

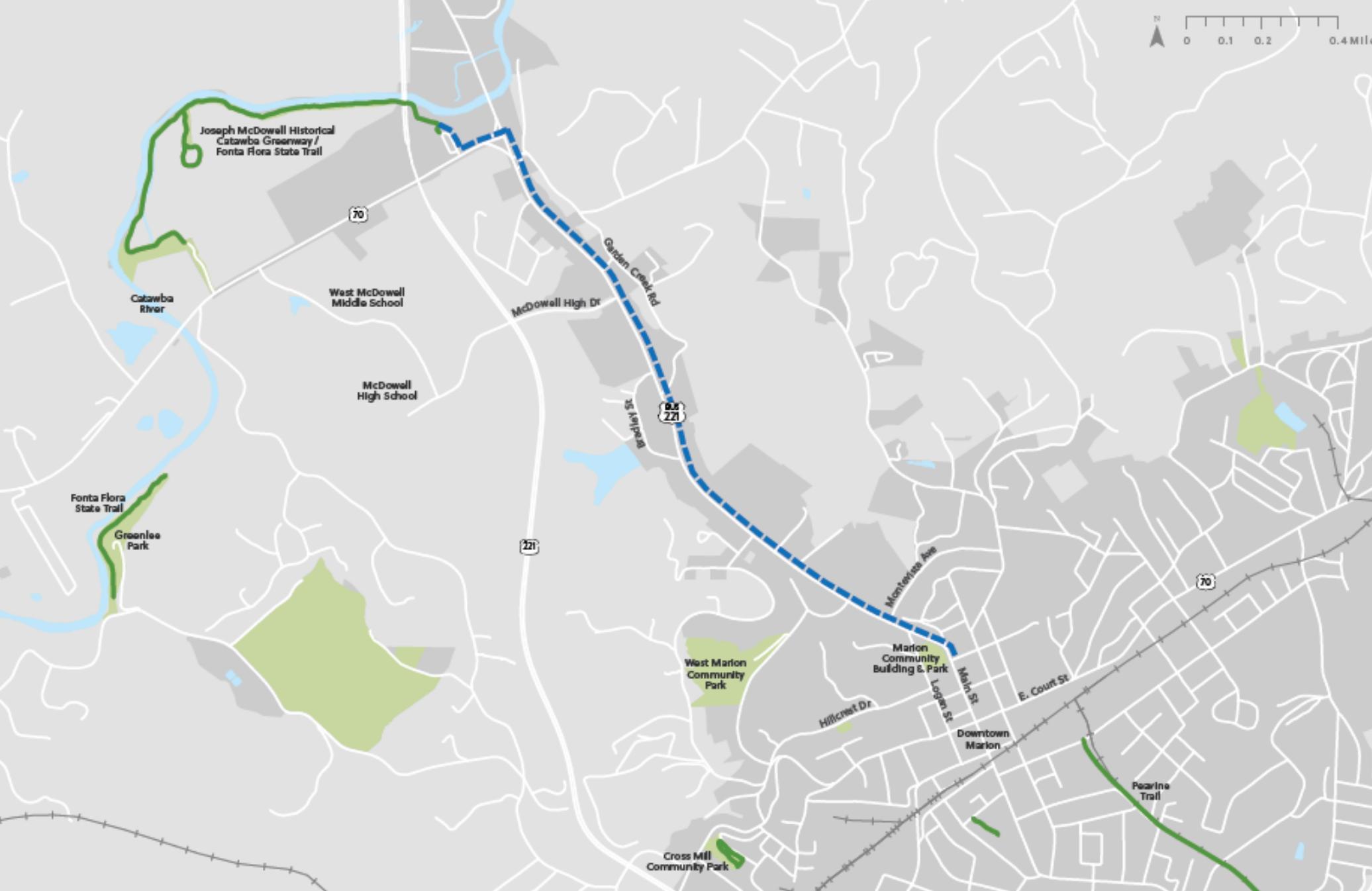
| ROUTE ALTERNATIVE EVALUATION CRITERIA | ALTERNATIVE A | ALTERNATIVE B | ALTERNATIVE C | ALTERNATIVE D |
|---------------------------------------|---------------|---------------|---------------|---------------|
| COST-EFFECTIVENESS                    | MEDIUM        | MEDIUM        | MEDIUM        | MEDIUM        |
| PROPERTY IMPACTS                      | MEDIUM        | HIGH          | LOW           | MEDIUM        |
| POTENTIAL FUNDING OPPORTUNITIES       | MEDIUM        | MEDIUM        | MEDIUM        | MEDIUM        |
| ENVIRONMENTAL IMPACTS                 | MEDIUM        | HIGH          | LOW           | MEDIUM        |
| PHYSICAL FEASIBILITY                  | MEDIUM        | HIGH          | MEDIUM        | HIGH          |
| COMMUNITY PRIORITIES                  | MEDIUM        | MEDIUM        | MEDIUM        | MEDIUM        |
| DESIRED CONNECTIVITY                  | MEDIUM        | MEDIUM        | MEDIUM        | MEDIUM        |
| TRAFFIC IMPACTS                       | HIGH          | HIGH          | MEDIUM        | MEDIUM        |
| IMPLEMENTATION TIMEFRAME              | MEDIUM        | HIGH          | LOW           | MEDIUM        |
| ACCESSIBILITY                         | MEDIUM        | MEDIUM        | MEDIUM        | MEDIUM        |
| LEADERSHIP SUPPORT                    | MEDIUM        | HIGH          | LOW           | LOW           |
| PLACEMAKING + USER EXPERIENCE         | HIGH          | MEDIUM        | MEDIUM        | LOW           |

(Score: High=Most desirable, Low=Least desirable)

## RECOMMENDED ROUTE

Upon evaluation of the four route alternatives, Alternative B was chosen as the recommended alternative since it received the most "High" scores and offers the benefits of: avoiding conflicts with dominant traffic movements (dual left turns to US 70 and dual right turns to North Main Street) at the US 70 intersection; having multiple placemaking opportunities on either end of the corridor; not requiring additional permanent easement from landowners along the Catawba River; enhancing trail visibility/awareness along US 70; having fewer anticipated property impacts to adjacent businesses; and having the greatest support from leadership. A map showing the recommended route is shown on the following page and concept plans are included later in this chapter.

# RECOMMENDED ROUTE ALTERNATIVE B



## CITY OF MARION N. MAIN ST SIDEPATH FEASIBILITY STUDY RECOMMENDED ROUTE

### LEGEND

— Recommended Route

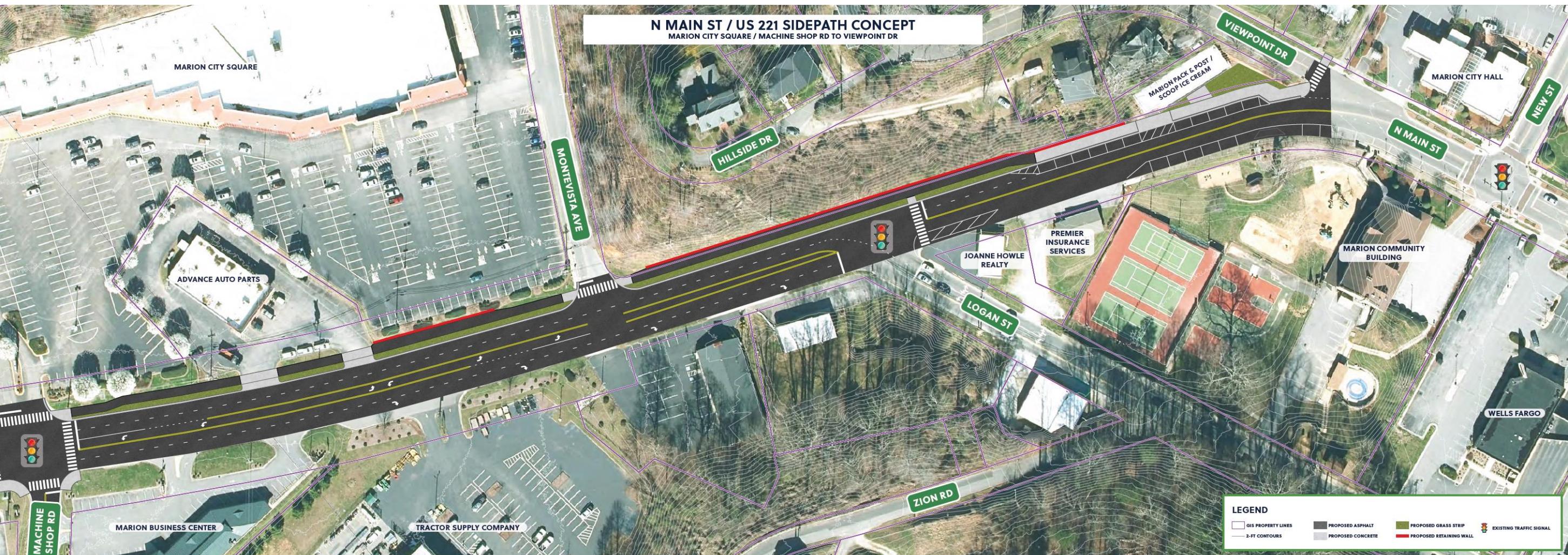
- Existing Greenway
- Roadway
- Rail
- Stream / Pond
- Park / Open Space
- City of Marion
- McDowell County

- > Received the most HIGH scores
- > Avoids conflicts with dominant traffic movements at US 70 / US 221 intersection
- > Provides multiple placemaking opportunities
- > Does not require additional permanent easement along Catawba River
- > Enhances trail visibility / awareness along US 70
- > Fewer anticipated property impacts
- > Highest support from Steering Committee

# PRELIMINARY DESIGN CONCEPT



# PRELIMINARY DESIGN CONCEPT



## OVERVIEW

Recommendations outlined in the *Marion North Main Street Sidepath Feasibility Study* represent a significant investment in multimodal transportation that will positively impact how both residents and visitors travel and experience the City of Marion between the Joseph McDowell Catawba Greenway and Downtown Marion. Key outputs of this study are the project cut sheets and cost estimates, which are essential to establishing project implementation scenarios. The cut sheets and cost estimates are presented in this chapter. Additionally, successful implementation of the sidepath will require a coordinated, consistent effort with a wide range of partners. Some of the key agencies and partners include Friends of the Fonta Flora State Trail, NC State Parks, NCDOT, McDowell County, McDowell County, private partners, regional advocacy organizations, and community members.

## STRATEGIES

### PHASING + PRIORITIZATION

To accelerate implementation, the project corridor may be split into multiple phases. Considerations when phasing and prioritizing sections may include:

- Additional land acquisition needs
- NCDOT coordination
- Cost / available funding
- Connectivity (to existing segments of greenway and to parks/other destinations)

### IMPLEMENTATION SCENARIOS + PHASING RECOMMENDATIONS

Based on analysis by the project team and input from the steering committee, this study recommends the following implementation scenarios:

- Scenario 1 - Construct the entire project corridor in one phase.
- Scenario 2 - Construct the project corridor in multiple phases as follows:
  - » Phase 1 - Machine Shop Road at Marion City Square to Downtown at Viewpoint Drive
  - » Phase 2 - McDowell House on US 70 to Lady Marian Plaza on North Main Street
  - » Phase 3 - Lady Marian Plaza to Machine Shop Road at Marion City Square

## IMPLEMENTATION SCENARIOS

Spanning 2-miles along BUS-221, the North Main Street Sidepath may be implemented in phases and will involve a coordinated effort to design, fund, and construct the corridor. Project development opportunities will require collaboration from multiple agencies and may utilize various funding sources. The following implementation scenarios outline potential paths to develop the North Main Street Sidepath. Project leaders are also encouraged to explore additional implementation methods as new funding opportunities arise at both the federal and state levels. Please see Appendix A for a comprehensive list of funding resources that are referenced in the following scenarios.



05



## SCENARIO 1

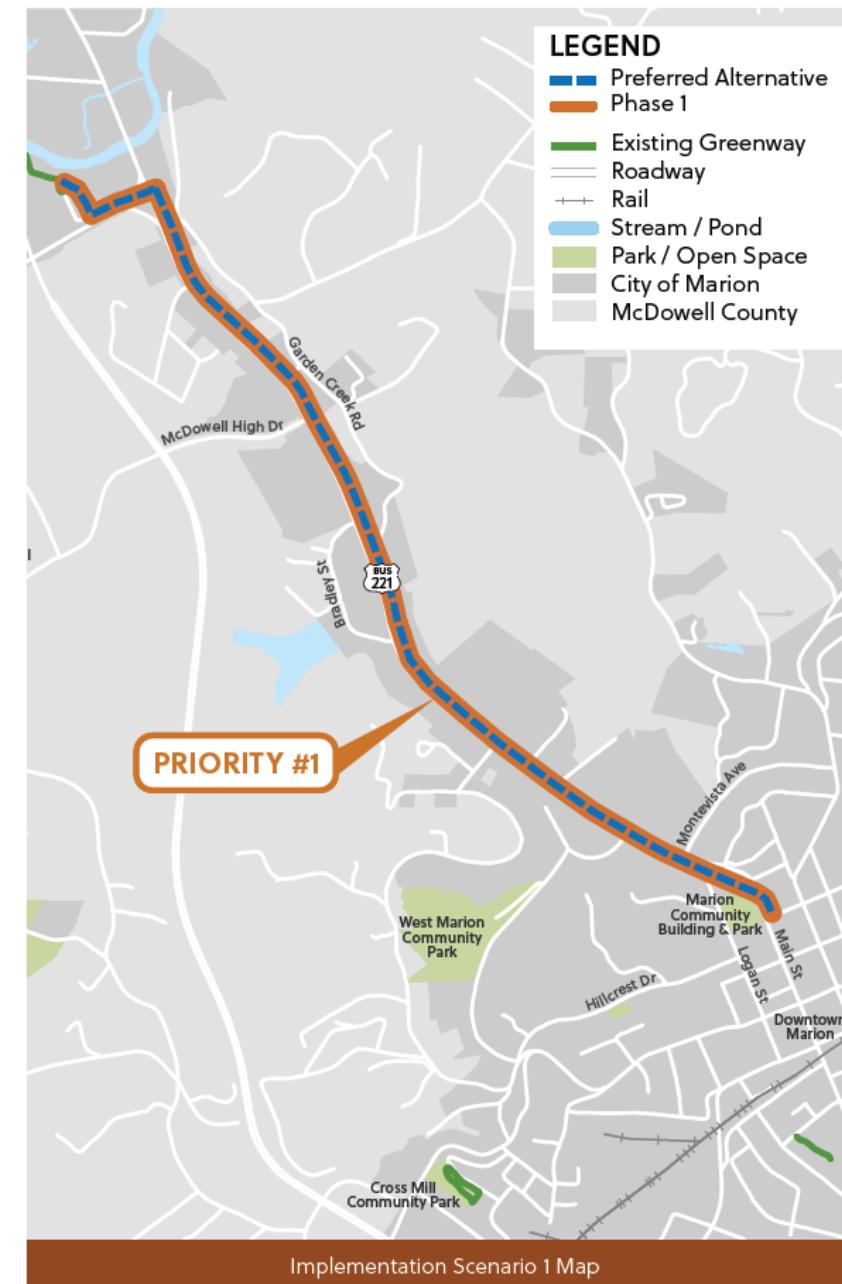
In this scenario, the City of Marion could construct the entire 2.12 miles of the North Main Street Sidepath from the existing Joseph McDowell Historical Catawba Greenway to Downtown Marion (Viewpoint Drive) in one phase. The total project length is 2.12 miles.

### POTENTIAL FUNDING OPPORTUNITIES:

- The City of Marion should build with NCDOT SPOT Submittals. They should coordinate with the Foothills RPO and NCDOT to determine project phasing based on the recommended implementation scenarios in this report. Scenarios consist of constructing the entire corridor in one phase or constructing the corridor in multiple phases as funding and development opportunities arise.
- The City of Marion should also pursue USDOT Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant for design and construction. The City of Marion should consider partnering with McDowell County to strategically combine segments that provide connections from the corridor to neighboring schools and employment centers.
- The City of Marion should consider a USDOT Safe Streets & Roads for All Grant for design and construction of the sidepath as part of a streetscape improvement project that improves multimodal safety.

**ESTIMATED COST:** \$12,917,000\* (FY2027)

\*If constructed in conjunction with scheduled resurfacing of North Main St from US 70 to Logan St in 2027, the cost shown may be reduced by approximately \$2,200,000.



## SCENARIO 2

In this scenario, the City of Marion could construct the North Main Street Sidepath in three phases:

- Phase 1 - Machine Shop Road at Marion City Square to Downtown at Viewpoint Drive (Project length: 0.28 miles)
- Phase 2 - McDowell House on US 70 to Lady Marian Plaza on North Main St (Project length: 1.19 miles)
- Phase 3 - Lady Marian Plaza to Machine Shop Rd at Marion City Square (Project length: 0.65 miles)

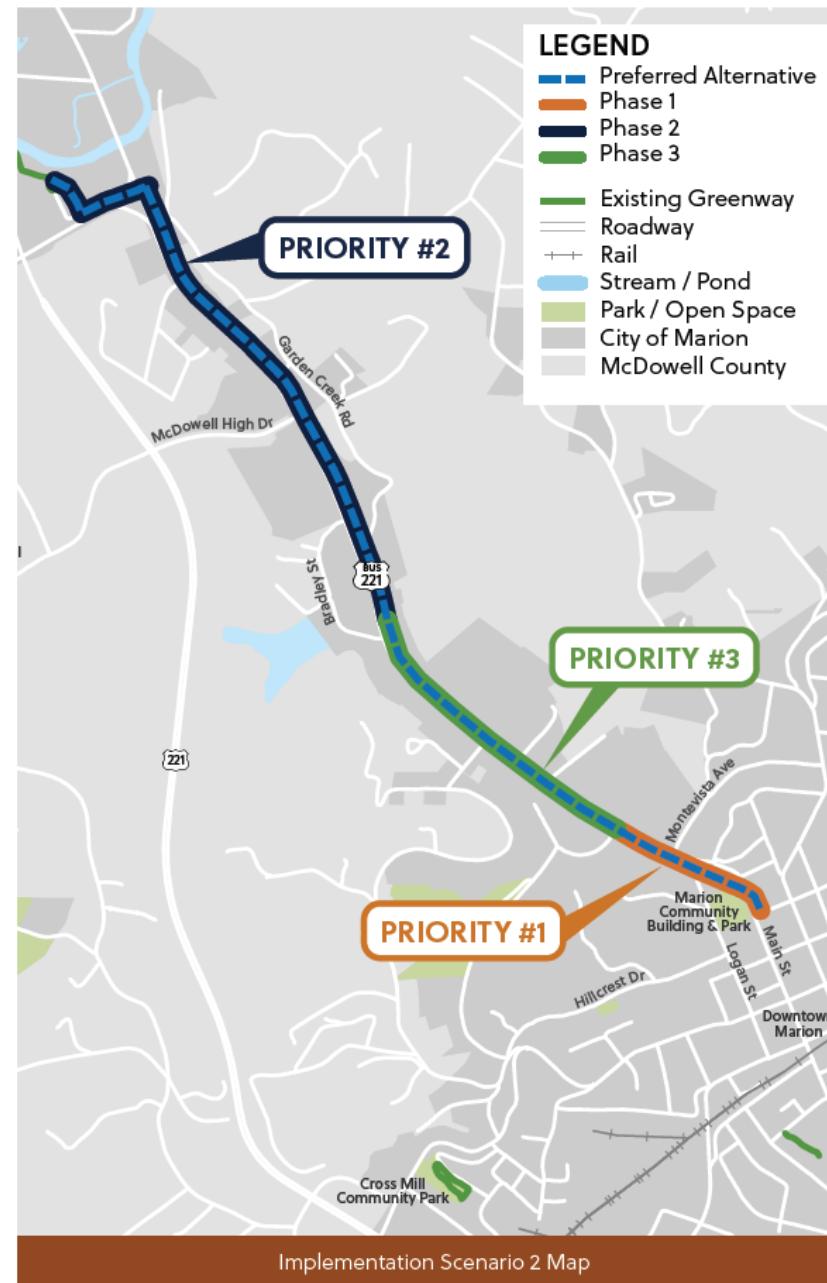
### POTENTIAL FUNDING OPPORTUNITIES:

- While there are no programmed STIP projects along North Main Street, the City of Marion should coordinate with NCDOT on future roadway improvement projects programmed along the corridor.
- The City of Marion should explore other funding opportunities with the NC Department of Commerce: Rural Infrastructure Program and the Main Street Solutions Fund, and Appalachian Regional Commission Funds to design and construct the sidepath as a part of an economic development projects.
- The City of Marion should consider exploring funding with the NC Department of Natural & Cultural Resources, Recreational Trails Program, particularly the segment that connects to the existing Joseph McDowell Greenway.

### ESTIMATED COSTS:

- Phase 1: \$2,849,000\* (FY 2027)
- Phase 2: \$5,897,000 (FY 2030)
- Phase 3: \$7,542,000 (FY 2035)

\*If Phase 1 is constructed in conjunction with scheduled resurfacing of North Main St from US 70 to Logan St in 2027, the cost shown may be reduced by approximately \$300,000.



# IMPLEMENTATION SCENARIO 2 – PHASE 1 CUT SHEET

## IMPLEMENTATION

### PHASE 1 - NORTH MAIN ST SIDEPATH

Phase 1 begins at Machine Shop Rd at Marion City Square and heads south along the east side of North Main St to Viewpoint Drive. After crossing Viewpoint Drive the route turns south utilizing the existing sidewalk in front of City Hall before terminating at the existing sidewalk on New Street. At-grade crossings of North Main St are proposed at the existing signalized intersections of Machine Shop Rd and Logan St for connectivity along the corridor.

#### PROJECT SNAPSHOT

**Location:** Machine Shop Rd to New St

**Facility Type(s):** Shared Use Sidepath

**Total Length:** 0.28 miles

**Structures:** None

**Grade-Separated Road Crossings:** None

#### At-Grade Road Crossings:

- Montevista Ave
- Viewpoint Dr

#### Trail Connections:

- Future Fonta Flora State Trail at New St

#### Destinations Served:

- |                             |                                 |
|-----------------------------|---------------------------------|
| • Marion City Square        | • Pack & Post / Scoop Ice Cream |
| • Marion Community Building | • Downtown Marion               |

#### POTENTIAL REAL ESTATE ACQUISITION NEEDS

**Temporary Easement:** 5 Privately-Owned Parcels  
(5 Owners)

#### POTENTIAL PERMITTING NEEDS

- Erosion Control
- NCDOT Encroachment

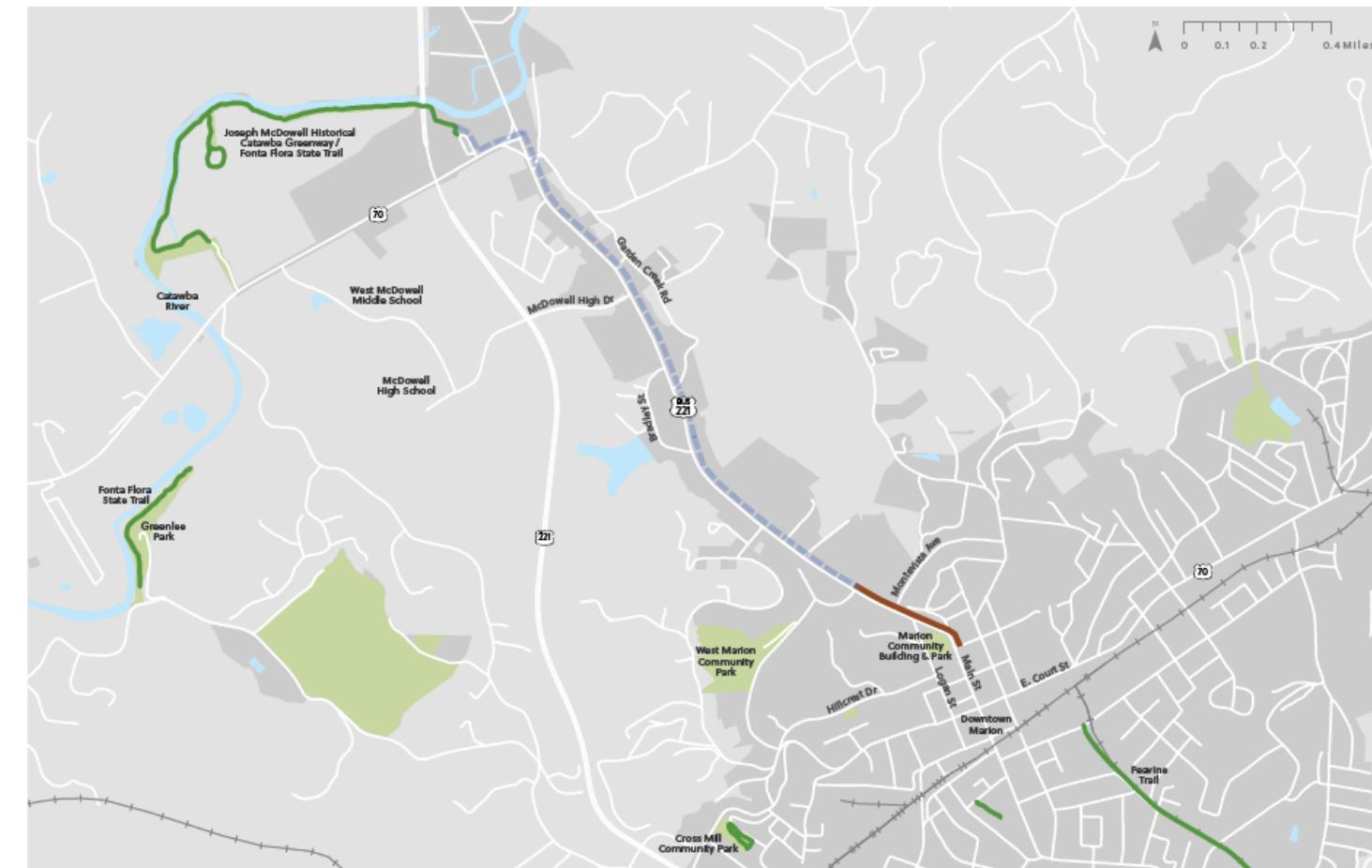
#### PRIMARY TYPICAL SECTIONS



#### ESTIMATED PROJECT COSTS

|  |                    |
|--|--------------------|
| 2022 Baseline Construction Cost Estimate               | \$1,763,000        |
| Design Services Cost Estimate                          | \$250,000          |
| Escalated Construction Cost Estimate (Build Year 2027) | \$2,260,000        |
| Construction Engineering Inspection Services           | \$226,000          |
| Additional Project Contingency (5%)                    | \$113,000          |
| <b>TOTAL ESTIMATED BUDGET RECOMMENDATION</b>           | <b>\$2,849,000</b> |

\*Costs associated with real estate acquisition to be determined during design process and are not included in this estimate.  
\*\*Detailed cost information is located in Appendix C.



# IMPLEMENTATION SCENARIO 2 – PHASE 2 CUT SHEET

## IMPLEMENTATION

### PHASE 2 - US 70 / NORTH MAIN ST SIDEPATH

Phase 2 begins at the Joseph McDowell Catawba Greenway at the trailhead behind the McDowell House and continues south alongside the entrance driveway to US 70. The route turns east and continues along the north side of US 70 to the BUS 221 intersection. After crossing over the north leg of the BUS 221 intersection, the route continues along the east side of North Main Street to Lady Marian Plaza. An at-grade crossing is proposed at the existing signalized intersection of McDowell High Dr.

#### PROJECT SNAPSHOT

Location: McDowell House to Lady Marian Plaza

Facility Type(s): Shared Use Sidepath

Total Length: 1.19 miles

Structures: None

Grade-Separated Road Crossings: None

#### At-Grade Road Crossings:

- North Main St
- Creek St
- Garden Creek Rd (1<sup>st</sup> Crossing)
- Garden Creek Rd (2<sup>nd</sup> Crossing)

#### Trail Connections:

- Existing Joseph McDowell Historical Catawba Greenway
- Future Shared Use Path on McDowell High Dr

#### Destinations Served:

- |                       |                        |
|-----------------------|------------------------|
| • McDowell House      | • Various Retail Shops |
| • Various Restaurants | • Hometown Cinemas     |

#### POTENTIAL REAL ESTATE ACQUISITION NEEDS

Temporary Easement: 32 Privately-Owned Parcels  
(27 Owners)

#### POTENTIAL PERMITTING NEEDS

- |                      |                                 |
|----------------------|---------------------------------|
| • Erosion Control    | • Floodplain Development Permit |
| • NCDOT Encroachment | • 401/404 Permit                |

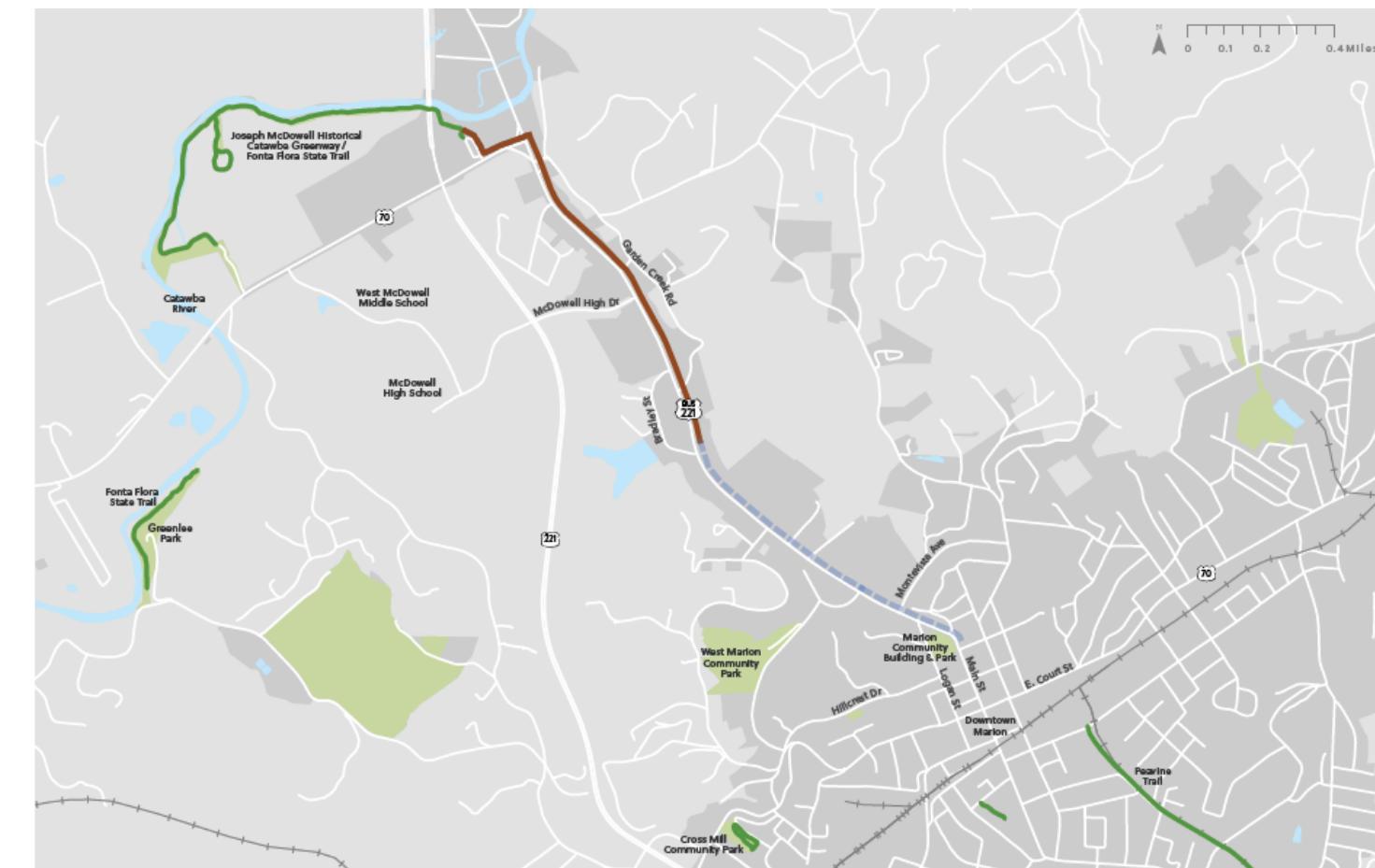
#### PRIMARY TYPICAL SECTIONS



#### ESTIMATED PROJECT COSTS

|  |                    |
|--|--------------------|
| 2022 Baseline Construction Cost Estimate               | \$3,233,000        |
| Design Services Cost Estimate                          | \$400,000          |
| Escalated Construction Cost Estimate (Build Year 2030) | \$4,780,000        |
| Construction Engineering Inspection Services           | \$478,000          |
| Additional Project Contingency (5%)                    | \$239,000          |
| <b>TOTAL ESTIMATED BUDGET RECOMMENDATION</b>           | <b>\$5,897,000</b> |

\*Costs associated with real estate acquisition to be determined during design process and are not included in this estimate.  
\*\*Detailed cost information is located in Appendix C.



**CITY OF MARION N. MAIN ST SIDEPATH  
FEASIBILITY STUDY  
PHASE 2 - MCDOWELL HOUSE TO LADY MARIAN PLAZA**



# IMPLEMENTATION SCENARIO 2 – PHASE 3 CUT SHEET

## IMPLEMENTATION

### PHASE 3 - NORTH MAIN ST SIDEPATH

Phase 3 begins at the Lady Marian Plaza intersection and heads south along the east side of North Main St Downtown to Machine Shop Rd. At-grade crossings of North Main St are proposed at the existing signalized intersections of Lady Marian Plaza and Machine Shop Rd for connectivity along the corridor.

#### PROJECT SNAPSHOT

**Location:** Lady Marian Plaza to Machine Shop Rd

**Facility Type(s):** Shared Use Sidepath

**Total Length:** 0.65 miles

**Structures:** None

**Grade-Separated Road Crossings:** None

#### At-Grade Road Crossings:

- Ginger Dr
- Robinson Rd

**Trail Connections:** None

#### Destinations Served:

- Lady Marian Plaza
- Various Retail
- Various Restaurants
- Marion City Square

#### POTENTIAL REAL ESTATE ACQUISITION NEEDS

**Temporary Easement:** 13 Privately-Owned Parcels  
(9 Owners)

#### POTENTIAL PERMITTING NEEDS

- Erosion Control
- NCDOT Encroachment

### PRIMARY TYPICAL SECTIONS

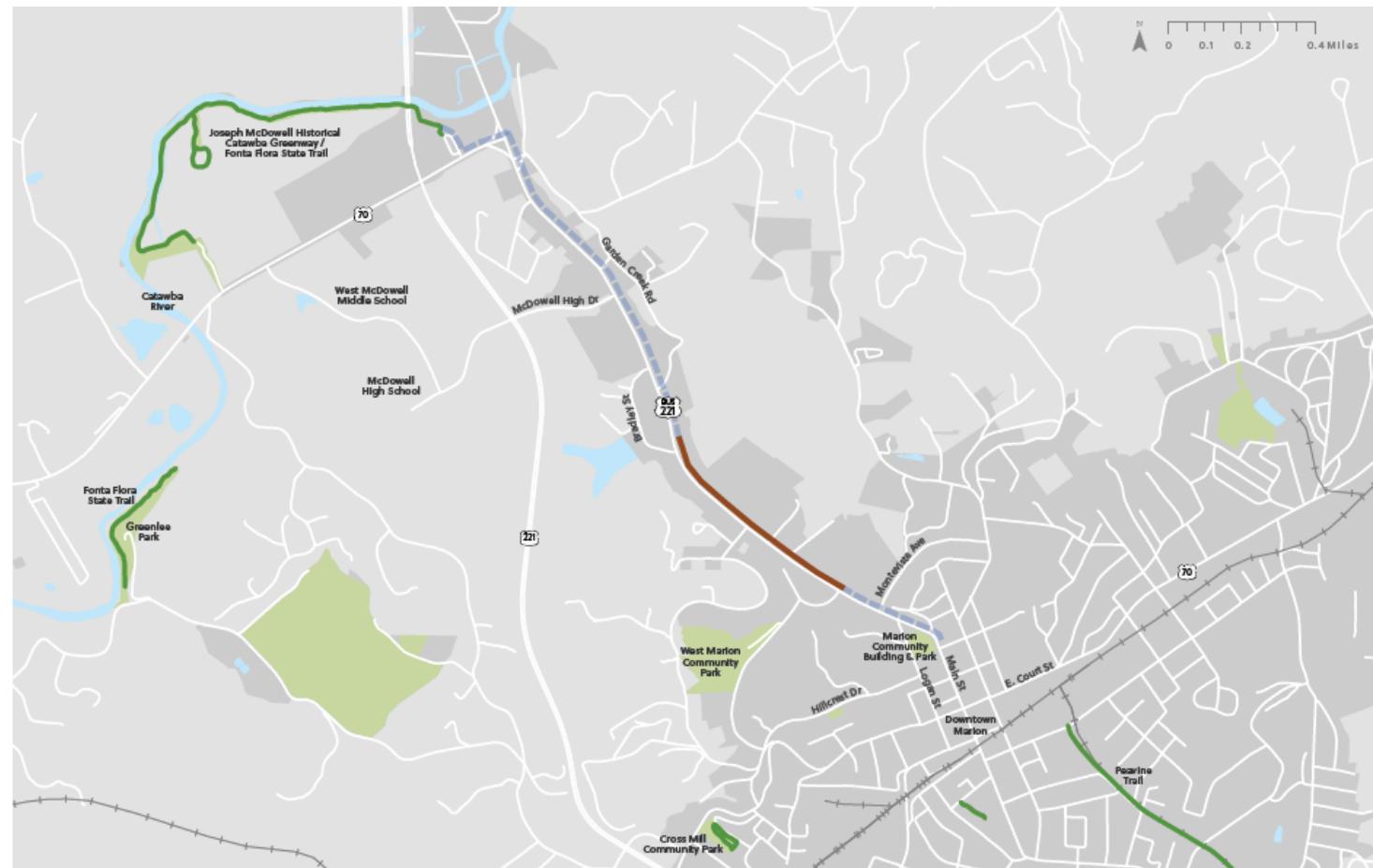


### ESTIMATED PROJECT COSTS

|  |                    |
|--|--------------------|
| 2022 Baseline Construction Cost Estimate               | \$3,290,000        |
| Design Services Cost Estimate                          | \$400,000          |
| Escalated Construction Cost Estimate (Build Year 2035) | \$6,210,000        |
| Construction Engineering Inspection Services           | \$621,000          |
| Additional Project Contingency (5%)                    | \$311,000          |
| <b>TOTAL ESTIMATED BUDGET RECOMMENDATION</b>           | <b>\$7,542,000</b> |

\*Costs associated with real estate acquisition to be determined during design process and are not included in this estimate.

\*\*Detailed cost information is located in Appendix C.



**CITY OF MARION N. MAIN ST SIDEPATH FEASIBILITY STUDY  
PHASE 3 - LADY MARIAN PLAZA TO MACHINE SHOP RD**

# IMPLEMENTATION – PARTNER ROLES

IMPLEMENTATION

IMPLEMENTATION

## IMPLEMENTATION PARTNERS

Achieving success in the development of the North Main Street Sidepath in the City of Marion will depend on collaboration with community partners and stakeholders at the state, regional, and local levels. Successful implementation of the sidepath will depend on maintaining and developing partnerships with all project stakeholders. Key partners and their respective roles in the implementation of the sidepath project are outlined in the following section.

Key partners and stakeholders in the implementation of the North Main Street Sidepath include the following:

- Local Partner: City of Marion (Project Leader)
- Regional Partner: Foothills Rural Planning Organization (RPO)
- County-wide Partners:
  - » McDowell County
  - » McDowell County Tourism Development Authority (TDA)
- State-wide Partners:
  - » NCDOT Division 13 & Integrated Mobility Division (IMD)
  - » NC Division of Parks & Recreation (State Trails)
- Non-Profit Partners:
  - » Friends of the Fonta Flora State Trail (F3ST)
  - » McDowell County Trails Association
- Private Sector Partners:
  - » Local Businesses
  - » Landowners
  - » Developers
- Community Partners + Advocacy Organization: Great Trails State Coalition (GTSC)



## PARTNER ROLES

### THE CITY OF MARION

The City of Marion's Planning and Development Services Department is responsible for the planning, review, and compliance of growth and development of private and public improvements within the City. In addition, the Department provides support and guidance to other agencies and organizations to carry out community development projects and programs. Municipal staff often play a large role on projects that they lead, such as through the act of primary coordinators for project development, community engagement, policy development, funding strategies, and maintenance. The City's Planning Department currently leads and supports the development of active transportation projects within their jurisdiction, such as the North Main Street Sidepath.

As the project leader for the North Main Street Sidepath, the City of Marion plays an integral role in shaping and developing a connection between the existing Joseph McDowell Catawba Greenway and Downtown Marion. The City should coordinate with all stakeholders and partners to create a vibrant corridor that attracts economic development and fosters a sense of place within the North Main Street corridor. Through plan adoption, the City expresses its commitment to expanding active transportation infrastructure within the City.

#### Anticipated Roles:

- City Council should adopt the North Main Street Sidepath Feasibility Study.
- The City should coordinate with the F3ST to support inter-agency coordination and assist in the project development of the sidepath.
- The City should consider forming an advisory committee to continue the work of the North Main Street Sidepath Steering Committee.
- The City should consider developing an annual work plan based on opportunities to advance project development.
- The City should coordinate with NCDOT Division 13 on the programmed HMIP improvements to incorporate pedestrian facility and intersection enhancements during roadway resurfacing of BUS 221 and US 70.
- The City should coordinate with Foothills RPO and NCDOT on determining the project phases for implementation.

- The City should coordinate with NCDOT and Foothills RPO on prioritizing the project corridor to submit as an NCDOT SPOT submittal.
- The City should coordinate with NCDOT Division 13 on future STIP projects proposed along the project corridor to ensure the sidepath is included with roadway improvement projects.
- The City should develop a landowner outreach program to coordinate with developers and landowners as development opportunities arise along the project corridor.
- The City should coordinate with NCDOT Division 13 on a speed limit reduction study along BUS 221, targeting areas where the posted speed limit exceeds 35 mph.
- The City should coordinate with NCDOT Division 13 on the design of the project corridor.
- The City should coordinate with the F3ST, NC State Parks, and the GTSC to utilize existing and future state trails funding as a potential alternative to fund design and construct of the sidepath.
- The City should ensure that land use and transportation policies for the City of Marion encourage and/or require developers to construct planned bicycle and pedestrian facilities, amenities, and connections in new developments.
- The City should coordinate with F3ST and NC State Parks on the proposed Fonta Flora State corridor through Downtown Marion between the project terminus at View Point Drive and New Street.
- The City should develop a community engagement plan to guide project development of the North Main Street Sidepath.
- The City should coordinate with F3ST and NC State Parks to incorporate Fonta Flora wayfinding and branding along the project corridor.
- The City should coordinate with NCDOT, McDowell County, and Friends of Fonta Flora State Trail to develop a maintenance plan for the project corridor.
- The City should coordinate with the McDowell County TDA and the GTSC to explore economic development opportunities along the Fonta Flora Trail, especially along the North Main Street corridor.

# ACTION PLAN (21 STEPS)

IMPLEMENTATION

IMPLEMENTATION

## ACTION PLAN

The following table provides a summary of action steps to implement the North Main Street Sidepath in Marion over a 10-year planning horizon. The previously mentioned partners may act as the responsible parties for various actions associated with the sidepath.

| TASK # | ACTION  | LEAD  | PARTNERS  | TIMEFRAME                 | PERFORMANCE MEASURES                   |
|--------|---|---|---|---------------------------|--|
| 1      | Adopt the <i>North Main Street Sidepath Feasibility Study</i> . This action allows the study to become the official planning document for the Fonta Flora State Trail through the City of Marion and demonstrates local intention to support project implementation.                          | City of Marion: City Council                        | Foothills RPO, McDowell County, NCDOT Div. 13, NCDOT IMD, NC State Parks, Friends of Fonta Flora State Trail, McDowell County Trails Association  | Winter 2022               | Plan Adoption, Minutes                 |
| 2      | Amend the McDowell County Comprehensive Transportation Plan (CTP) to include the North Main Street Sidepath alignment and to reference study recommendations into the CTP.  | Foothills RPO, NCDOT Transportation Planning Branch | City of Marion, McDowell County, NCDOT Div. 13, NCDOT IMD, NC State Parks, Friends of Fonta Flora State Trail, McDowell County Trails Association | Winter 2022 / Spring 2023 | CTP Amendment, Meeting Minutes         |
| 3      | Coordinate with the Friends of the Fonta Flora State Trail to support inter-agency coordination and assist project development of the North Main Street Sidepath. Consider developing an advisory committee that continues the work of the North Main Street Sidepath steering committee.     | City of Marion                                      | Friends of Fonta Flora State Trails, NC State Parks, McDowell County Trails Association, Great Trails State Coalition                             | Spring 2023               | Meeting Agendas and Minutes            |
| 4      | Consider developing an annual work plan based on opportunities to advance project development. The work plan should include key goals/milestones to make progress on coordination with NCDOT, secure funding, design, permitting, and construction. The work plan should be updated annually. | City of Marion                                      | Foothills RPO, McDowell County, NCDOT Div. 13, NCDOT IMD, NC State Parks, Friends of Fonta Flora State Trail, McDowell County Trails Association  | Spring / Summer 2023      | Meeting Agendas and Minutes, Work Plan |

| TASK # | ACTION  | LEAD           | PARTNERS   | TIMEFRAME            | PERFORMANCE MEASURES                        |
|--------|---|----------------|--|----------------------|---|
| 5      | Coordinate with NCDOT Division 13 on the programmed HMIP improvements to incorporate pedestrian facility and intersection enhancements during roadway resurfacing of North Main St and US-70. North Main St from N. Logan St to US-70 is scheduled to be resurfaced in FY2027.                            | City of Marion | NCDOT Division 13, NCDOT IMD, Foothills RPO, McDowell County | Spring 2023          | Meeting Agendas and Minutes                 |
| 6      | Coordinate with Foothills RPO and NCDOT to determine project phasing based on the recommended implementation scenarios in this report. Scenarios consist of constructing the entire corridor in one phase or constructing the corridor in multiple phases as funding and development opportunities arise. | City of Marion | NCDOT Division 13, NCDOT IMD, Foothills RPO, McDowell County | Ongoing, Spring 2023 | Meeting Agendas and Minutes                 |
| 7      | Coordinate with NCDOT and Foothills RPO on prioritizing the project corridor to submit through the NCDOT SPOT submittal process. Project segments along North Main St and US-70 may be bundled as one submission to ensure competitive scoring.   | City of Marion | NCDOT Division 13, NCDOT IMD, Foothills RPO, McDowell County | Ongoing, Spring 2023 | SPOT Submittal, Meeting Agendas and Minutes |
| 8      | Coordinate with NCDOT Division 13 on future STIP projects proposed along the project corridor to ensure that the sidepath may be developed through future roadway improvement projects.   | City of Marion | NCDOT Division 13, NCDOT IMD, Foothills RPO, McDowell County | Ongoing, Spring 2023 | Meeting Agendas and Minutes                 |

# FUNDING RESOURCES

IMPLEMENTATION

IMPLEMENTATION

## FUNDING RESOURCES

Below are several funding sources that can be leveraged to provide the necessary dollars to plan, design, and/or construct active transportation facilities such as the North Main Street Sidepath. The following sources of funding have been instrumental in the successful development of bicycle and pedestrian networks in North Carolina communities. There are several funding opportunities at the local, state, and federal levels that should be considered to fund the North Main Street Sidepath.

### NCDOT FUNDING OPPORTUNITIES

**Build with NCDOT STIP Projects via the Complete Streets Policy**  
At the state level, building the sidepath project with NCDOT STIP projects via the Complete Streets Policy may serve as a long-term strategy as there are no viable STIP projects along North Main Street. It is important to note that NCDOT funds sidepaths along NCDOT-owned roadways through roadway improvement projects.

#### Build with NCDOT SPOT Submittals

A second option would be to bundle the North Main Street Sidepath with the US 70 Sidepath segments as one competitive SPOT submission in SPOT. This option requires a 20 percent local match and state transportation funds cannot be used for independent bicycle and pedestrian projects. For this reason, the City of Marion should coordinate with NC State Parks, Trail Partners, Foothills RPO, and McDowell County on funding opportunities for a local match. This may be considered a longer-term strategy due to NCDOT/STIP budget shortfalls.

The prioritization process is NCDOT SPOT P6.0. Bicycle and pedestrian projects have specific STI prioritization scoring in this process. Project scores are based 50% on data (Quantitative), and local input points (Qualitative) represent 50% of the scoring for bicycle and pedestrian projects. Half of local input points are assigned by MPOs and RPOs, which are determined by municipal and county project priorities and public comment. The remaining half of the local input points are assigned by NCDOT Division Engineers.

| CRITERIA                     | MEASURE   | DIVISION NEEDS (50%) |
|------------------------------|---|----------------------|
| Safety                       | (Number of crashes x 40%) + (Crash severity x 20%) + (Safety risk x 20%) + (Safety benefit x 20%) | 20%                  |
| Accessibility / Connectivity | Points of interest pts + Connection pts + Route pts   | 15%                  |
| Demand / Density             | # of households and employees per square mile near project  | 10%                  |
| Cost Effectiveness           | (Safety + Accessibility / Connectivity + Demand / Density) / Cost to NCDOT                        | 5%                   |

### ADDITIONAL STATE FUNDING OPPORTUNITIES

Additional state funding opportunities include the Main Street Solutions Fund, the Rural Infrastructure Program, the Recreational Trails Program, and Appalachian Regional Commission Funds, which are detailed below.

#### NC Dept of Commerce: Main Street Solutions Fund

The Main Street Solutions Fund helps planning agencies and small businesses in Tier 2 and Tier 3 counties with efforts to revitalize downtowns by creating jobs, funding infrastructure improvements, and rehabilitating buildings.

#### NC Department of Commerce: Rural Infrastructure Program

The Rural Infrastructure Program provides grants and loans to local governments to support economic development activity that will lead to the creation of new, full-time jobs in Tier 2 and Tier 3 counties. The program funds publicly owned infrastructure including water, sewer, electric, broadband, rail, and road improvements that will lead to the direct creation of new, full-time jobs.

#### NC Department of Natural & Cultural Resources: Recreational Trails Program

The Recreational Trails Program (RTP) provides funds to develop and maintain recreational trails. The grant is available for planning construction, land acquisition, and permitting costs. Grants of up to \$100,000 are awarded with a 25% local match.

#### Appalachian Regional Commission Funds

Appalachian Regional Commission (ARC) Funds provide funding for the 13-state region stretching the Appalachian Mountains. Funding assistance supports investments in critical infrastructure—especially broadband, transportation, and water/wastewater systems.

### FEDERAL FUNDING OPPORTUNITIES

Two primary federal funding opportunities that can be pursued to construct the North Main Street Sidepath include the Safe Streets & Roads for All Grant and the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant. Both opportunities are outlined below.

#### Safe Streets & Roads for All Grant

The Safe Streets & Roads for All Grant is a \$5 Billion competitive grant program that provides funding directly to local governments to support and advance vision zero or complete streets roadway improvements to reduce crashes and fatalities.

#### Rebuilding American Infrastructure with Sustainability and Equity Grant

RAISE Grants fund capital transportation investments that have significant local or regional impacts. Funds can be used to support planning, design, and construction of projects. The grant requires a 20% local match; however, a 30-40% match is encouraged due to the competitive nature of the grant.

### LOCAL FUNDING OPPORTUNITIES

There are a few local funding opportunities that the City of Marion can pursue, including developer-built greenways/sidepaths and/or in-lieu fees, Capital Improvement Program (CIP) funds, and bonds. Strengthening Public/Private Partnerships could also be influential in pursuing fundraising or Round-Up for Trails Campaigns in the City.

Please see Appendix A for a comprehensive list of funding opportunities.

# MAINTENANCE RECOMMENDATIONS

IMPLEMENTATION

IMPLEMENTATION

## MAINTENANCE RECOMMENDATIONS

Maintenance of active transportation facilities such as the proposed sidepath is essential to the long-term viability of the network. Facilities that are consistently maintained have lower costs over time and provide a safe and positive user experience than facilities that require major rehabilitation work from a lack of consistent maintenance. Good maintenance practices also prolong the useful life of these facilities, promote positive relationships with adjacent landowners, and create a sense of stewardship in the community. This feasibility study recommends a comprehensive approach to maintenance with the development of a maintenance plan to prioritize funding and responsibilities amongst project stakeholders. The maintenance plan should be reviewed and updated annually, responding to lessons learned and changes in tasks, operational policies, standards, and maintenance goals.

Key considerations for a sidepath maintenance plan include:

- Understanding the anticipated needs of the active transportation system and assessing the capacity of Town staff to meet those maintenance needs.
- Developing a facility inventory to understand the routine and substantial maintenance needs of signs, amenities, bridges, culverts, and pavement conditions.
- Estimation of baseline maintenance costs by determining necessary maintenance activities, such as mowing, edging, landscaping, trash removal, debris clearing, lighting, drainage, seasonal maintenance needs, sealcoating, repaving, patching, and bridge repair.
- Consideration of labor costs based on which maintenance activities can be completed in-house versus contracted out.
- Assessment of available technologies to collect data on facility conditions and facilitate maintenance functions.
- Developing methodology to prioritize annual maintenance needs based on facility conditions and available funding.
- Consideration of emergency services including designated ingress/egress locations, mile-marker signage along the facility for location identification, and emergency notification systems.



Facility Maintenance

| MAINTENANCE TASK   | TASK TYPE            | RECOMMENDED FREQUENCY                           |
|--|----------------------|---|
| Tree / Bush trimming<br>Mowing<br>Trail sweeping<br>Signage / Map / Kiosk Updates / Replacement<br>Trash removal / Litter clean-up<br>Planting, pruning, landscaping<br>Flooding repairs<br>Repainting / Restriping<br>Minor patching<br>Minor bridge repairs<br>Lighting replacement<br>Bollard locks / Replacement<br>Pest management<br>Routine On-Going / Annually | Routine              | On-Going / Annually                             |
| Sidepath sealcoating   | Minor Repairs        | Every 5 Years                                   |
| Sidepath resurfacing:<br>• Asphalt<br>• Concrete<br>• Boardwalk  | Major Reconstruction | Every 10-15 Years<br>Every 20 Years<br>10 Years |
| Complete greenway and sidepath replacement, regrading, and resurfacing   | Major Reconstruction | Every 20 Years                                  |

Source: *Best Practices in Trail Maintenance: A Manual* by the Ohio River Greenway, Purdue University

# APPENDICES

## A

Funding Resources

## B

Design Resources

## C

Detailed Cost Information

## D

Additional Community Engagement Information

## E

P6.0 SPOT Scoring Component Resources

- **Appendix A: Funding Resources**
  - Federal Funding
  - State Funding
  - Local Funding
  - Private Funding
- **Appendix B: Design Resources**
- **Appendix C: Detailed Cost Information**
- **Appendix D: Additional Community Engagement Information**
- **Appendix E: SPOT Scoring Component Resources**

## NEXT STEPS

- **Adopt the Marion N. Main Street Sidepath Feasibility Study**
- **Following Plan Adoption:**
  - Amend the McDowell County Comprehensive Transportation Plan (CTP) to include the North Main Street Sidepath alignment and to reference study recommendations into the CTP.
  - Coordinate with the Friends of the Fonta Flora State Trail to support inter-agency coordination and assist project development of the North Main Street Sidepath.
  - Consider developing an advisory committee that continues the work of the North Main Street Sidepath steering committee.

# THANK YOU / QUESTIONS?



*Image: Joseph McDowell Catawba Greenway, Source: McDowell Trails Association*

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