



MIDDLE FORK GREENWAY

FEASIBILITY STUDY

VIRTUAL PUBLIC MEETING – MAY 10, 2022 (12:00PM TO 1:00PM)





MCADAMS

MEETING HOUSEKEEPING ITEMS

- Please Stay on Mute
- Links Will Be Provided for Input Opportunities
- Team Contact Info Provided for Follow-Up Questions



MEETING AGENDA

- Middle Fork Greenway Overview
 - *MFG Intro* + *Updates*
 - Study Area
 - Study Schedule
- Existing Conditions + Study Considerations
 - Opportunities + Constraints
 - Field Visit Observations
- Typical Sections
- Route Alternatives
- Evaluation Criteria
- Input Opportunities
 - Survey





FEASIBILITY STUDY AREA

SECTION 5:

Goldmine Branch Park / Niley Cook Rd to Jordan V Cook Rd

• SECTION 3: Aho Rd to Sterling Creek Park



WHAT IS A FEASIBILITY STUDY?



- Builds upon higher-level planning efforts
- Takes a comprehensive look to identify possible alignment alternatives
- Evaluates technical feasibility from a design, permitting, and constructability perspective
- Solicits input from the community and other project stakeholders
- Develops quantity-based preliminary cost estimates to help inform decision-making, identify funding needs, and identify next steps for project implementation
- It is NOT a final design for construction. Any final alignment to be determined based on willing property owners and available funding.
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PROJECT SCHEDULE





EXISTING CONDITIONS / STUDY CONSIDERATIONS



PLANNING LEVEL CONSIDERATIONS

Middle Fork Greenway Master Plan





- Review of Previous Planning Efforts
- Existing / Planned Bicycle + Pedestrian Facilities
- Desired Connectivity
- Bicyclist + Pedestrian Crash Data
- NCDOT STIP Projects



OPPORTUNITIES & CONSTRAINTS

- Topography
- Jurisdictional Features
- Trout Stream Buffers
- FEMA Floodway / Floodplain
- Property Impacts
- Utility Impacts

- Roadways (traffic volume/speeds/sight distance)
- Structures (Bridges/Boardwalks/Tunnels/Walls)
- Constructability (Crane /Traffic Control/Rock/etc.)
- Drainage / Erosion Control
- Cost Effective
- Long-Term Maintenance





View Facing South from Aho Rd Towards The Mustard Seed

Utility Lines Behind The Mustard Seed Near Proposed River Crossing

Aho Rd Underpass (Facing North)

Steep Entrance Grade on North Side of Aho Rd Underpass

Flat Terrain Between River + Antiques Mall Building (Facing South toward Aho Rd) US 321 Roadway Embankment + Utility Lines (Facing North Toward Mack Hampton Rd)

Roadway Embankment + Utility Lines + RV Storage Site (Facing West on Mack Hampton Rd) Jennifer Ln Existing Roadbed (Facing North towards US 321)

Riverbank Erosion Along Jennifer Ln (Facing South Toward US 321) South End of Existing Greenway at Sterling Creek Park (Facing South Towards Middle Fork River / Dexter Dr)

Goldmine Branch Parking Area + Utility Lines (Facing North) Utility Lines Along West Side of Niley Cook Rd (Facing North Towards Mine Branch Rd)

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Buildings Along West Bank of Middle Fork River / Transmission Lines + Exposed Rock Embankment at Mine Branch Rd (Niley Cook Rd Facing North Towards Mine Branch Rd)

Steep Riverbank / Possible Pedestrian Tunnel Under US 321 / Utility Lines + Exposed Rock on North Side of Niley Cook Rd (Niley Cook Rd Facing West Towards US 321 Intersection)

US 321 / Niley Cook Rd Intersection – Roadway Grade/Sight Distance/Traffic Speed, Utility Lines, Possible Pedestrian Bridge (Facing North)

FIELD VISIT OBSERVATIONS

SEGMENT 5 SOUTH - Goldmine Branch Park/Niley Cook Rd to Payne Branch Park

US 321 / Niley Cook Rd Intersection – Roadway Grade/Sight Distance/Traffic Speed, Utility Lines, Possible Pedestrian Tunnel (Facing South)

Utility Lines / Limited Sight Distance / Steep Roadway Embankment – Need At-Grade Crossing to Connect to Payne Branch Park (Facing North Along Payne Branch Rd)

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Utilize Dirt Roadbed from Payne Branch Park to Cross Private Driveway Abandoned Aerial Utility Crossing Over River – Possible Pedestrian Bridge Crossing Near this Location (Facing North Towards Future Boone Gorge Park)

Scenic River Area – Possible Trail Overlook Location (Facing North Towards Future Boone Gorge Park) Possible Pedestrian Bridge Crossing Location (Facing South Towards Payne Branch Park)

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Bottomlands at Future Boone Gorge Park (Facing North Towards Jordan V Cook Rd) Narrow Width on Old Blowing Rock Bridge Over River Possible Pedestrian Bridge to West of Existing Bridge (Facing North Toward Jordan V Cook Rd)

Utilize Existing Culvert to Cross US 321 to Connect Future Boone Gorge Park with Future Greenway to Watauga Medical Center (Facing West Towards Jordan V Cook Rd)

MAINLINE (PREFERRED)

A 10' wide paved trail is recommended for the mainline trail as it will require the least amount of long-term maintenance and has greater eligibility from the widest variety of funding sources.

Asphalt pavement is recommended based on site conditions, anticipated trail use, and cost considerations. Limited sections of concrete pavement may be required to accommodate site conditions, as necessary.

Shoulders or shy zones of 2' or greater should be kept clear of any obstacles to ensure full trail width remains usable.

MAINLINE (ALTERNATE)

A slightly narrower 8' wide natural surface trail alternative for the mainline trail may also be considered in constrained areas. Although the initial cost of a natural surface trail is less than a paved trail, its overall life-cycle cost may be higher as it will likely require greater long-term maintenance (depending use and a variety of other environmental factors).

Funding sources and amounts for natural surface trails may vary as compared to those for paved trails. These sections could also be implemented utilizing primarily local and/or private funding sources and labor forces as funding and real estate constraints allow.

Shoulders or shy zones of 2' or greater should be kept clear of any obstacles to ensure full trail width remains usable.

BOARDWALK

A 10' clear width elevated boardwalk is recommended in areas where the trail:

- crosses wetlands;
- approaches bridge crossings in the floodplain/floodway; and
- crosses areas of steep topography (reduces limits of clearing/grading).

The deck surface should be concrete which provides greater friction to reduce the risks of slips and falls and reduces long-term maintenance burdens compared to those associated with other materials such as timber.

Timber safety rails and handrails are shown with a timber pile substructure system. Boardwalk substructure design and materials may vary depending upon specific site conditions and geotechnical recommendations.

BRIDGE

A 10' clear width bridge is recommended in where the trail crosses the river or streams.

Prefabricated steel truss bridges are a common, cost-effective bridge type in this application and are the recommended bridge type for this typical section. Corten / weathering steel is a finish which should be considered for its ability to blend well with natural surroundings and its minimal maintenance requirements as compared to those for painted finishes.

The deck surface should be concrete which provides greater friction to reduce the risks of slips and falls and reduces long-term maintenance burdens compared to those associated with other materials such as timber. Bridge substructure design and materials may vary depending upon bridge design type, specific site conditions, and geotechnical recommendations.

10' Shared Path

ROUTE ALTERNATIVES FOR EVALUATION & YOUR FEEDBACK

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- Six Route Alternatives for Section 3
- Six Route Alternatives for Section 5 South
- Recommended Route for Section 5 North
- Will Be Open for Feedback until 5/20

ALTERNATIVE A:

- Start East of River Behind Faithbridge United Methodist Church - Allows for Connection Trail to Blue Ridge Conservancy
- Bridge Crossing to West Side of River Behind Faithbridge United Methodist Church + Connect to The Mustard Seed
- Pass Below Aho Rd + Follow River Across Mack Hampton Rd
- Bridge Crossing to East Side of River + Utilize Jennifer Ln Roadbed to Dexter Drive
- Provide Connection Trail Across River to Potential Trailhead at US 321 (right-in/right-out with approx. 16 parking spaces)
- Bridge Crossing to West Side of River + Connect to Existing Greenway at Sterling Creek Park

ALTERNATIVE B:

- Start East of River Behind Faithbridge United Methodist Church - Allows for Connection Trail to Blue Ridge Conservancy
- Bridge Crossing to West Side of River Behind Faithbridge United Methodist Church + Connect to The Mustard Seed
- Pass Below Aho Rd + Follow River to Mack Hampton Rd
- Follow US 321 to Potential Trailhead at US 321 (right-in/right-out with approx. 16 parking spaces)
- Bridge Crossing to East Side of River North of Potential Trailhead + Utilize Jennifer Ln Roadbed to Dexter Drive
- Bridge Crossing to West Side of River + Connect to Existing Greenway at Sterling Creek Park

ALTERNATIVE C:

- Start East of River Behind Faithbridge United Methodist Church - Allows for Connection Trail to Blue Ridge Conservancy
- Bridge Crossing to West Side of River Behind Faithbridge United Methodist Church + Connect to The Mustard Seed
- Pass Below Aho Rd + Follow US 321 to Mack Hampton Rd
- Follow US 321 to Potential Trailhead at US 321 (right-in/right-out with approx. 16 parking spaces)
- Bridge Crossing to East Side of River North of Potential Trailhead + Utilize Jennifer Ln Roadbed to Dexter Drive
- Bridge Crossing to West Side of River + Connect to Existing Greenway at Sterling Creek Park

ALTERNATIVE D:

- Start East of River Behind Faithbridge United Methodist Church - Allows for Connection Trail to Blue Ridge Conservancy
- Bridge Crossing to West Side of River Behind Faithbridge United Methodist Church + Connect to The Mustard Seed
- Pass Below Aho Rd + Follow US 321 to Mack Hampton Rd
- Follow River to Bridge Crossing to East Side of River + Utilize Jennifer Ln Roadbed to Dexter Drive
- Provide Connection Trail Across River to Potential Trailhead at US 321 (right-in/right-out with approx. 16 parking spaces)
- Bridge Crossing to West Side of River + Connect to Existing Greenway at Sterling Creek Park

ALTERNATIVE E:

- Start East of River Behind Faithbridge United Methodist Church - Allows for Connection Trail to Blue Ridge Conservancy
- Bridge Crossing to West Side of River Behind Faithbridge United Methodist Church + Connect to The Mustard Seed
- Pass Below Aho Rd + Follow River to Mack Hampton Rd
- Follow US 321 to Bridge Crossing to East Side of River + Utilize Jennifer Ln Roadbed to Dexter Drive
- Provide Connection Trail Across River to Potential Trailhead at US 321 (right-in/right-out with approx. 16 parking spaces)
- Bridge Crossing to West Side of River + Connect to Existing Greenway at Sterling Creek Park

ALTERNATIVE F:

- Start East of River Behind Faithbridge United Methodist Church - Allows for Connection Trail to Blue Ridge Conservancy
- Bridge Crossing to West Side of River Behind Faithbridge United Methodist Church + Connect to The Mustard Seed
- Pass Below Aho Rd + Follow US 321 to Mack Hampton Rd
- Follow US 321 to Bridge Crossing to East Side of River + Utilize Jennifer Ln Roadbed to Dexter Drive
- Provide Connection Trail Across River to Potential Trailhead at US 321 (right-in/right-out with approx. 16 parking spaces)
- Bridge Crossing to West Side of River + Connect to Existing Greenway at Sterling Creek Park

Goldmine Branch Park / Niley Cook Rd to Payne Branch Park

ALTERNATIVE A:

- Start at Goldmine Branch Parking Area West of Niley Cook Rd
- Cross mid-block to east side of Niley Cook Rd
- Follow terrain up to Mine Branch Rd
- Cross Mine Branch Rd At-Grade + Follow Terrain Up to High Ground on East Side of US 321 – Allows for Potential East Loop Trail Connection
- Bridge Crossing to West Side of US 321 + Follow Terrain Down to Driveway Across from Bloomfield Dr
- Utilize Switchbacks + Approach Mid-Block Crossing of Payne Branch Rd from the West
- Cross Payne Branch Rd At-Grade + Follow Existing Natural Surface Trail Alignment to Parking Area at Payne Branch Park
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Goldmine Branch Park / Niley Cook Rd to Payne Branch Park

ALTERNATIVE B:

- Start at Goldmine Branch Parking Area West of Niley Cook Rd
- Follow the River to the Niley Cook Rd/US 321 Intersection (Boardwalk Required in Areas of Steep Terrain)
- Cross Niley Cook Rd At-Grade + Continue North Along US 321
- Utilize Boardwalk Switchbacks to Reach High Ground on East Side of US 321 – Allows for Potential East Loop Trail Connection
- Bridge Crossing to West Side of US 321 + Follow Terrain Down to Driveway Across from Bloomfield Dr
- Utilize Switchbacks + Approach Mid-Block Crossing of Payne Branch Rd from the West
- Cross Payne Branch Rd At-Grade + Follow Existing Natural Surface Trail Alignment to Parking Area at Payne Branch Park
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Goldmine Branch Park / Niley Cook Rd to Payne Branch Park

ALTERNATIVE C:

- Start at Goldmine Branch Parking Area West of Niley Cook Rd
- Follow the River to the Niley Cook Rd/US 321 Intersection (Boardwalk Required in Areas of Steep Terrain)
- Cross Under US 321 via Proposed Pedestrian Tunnel Above Existing Culvert + Switchback to Reach US 321 at Riverview Ln
- Continue Along West Side of US 321 to Driveway Across from Bloomfield Dr
- Utilize Switchbacks + Approach Mid-Block Crossing of Payne Branch Rd from the West
- Cross Payne Branch Rd At-Grade + Follow Existing Natural Surface Trail Alignment to Parking Area at Payne Branch Park

Goldmine Branch Park / Niley Cook Rd to Payne Branch Park

ALTERNATIVE D:

- Start at Goldmine Branch Parking Area West of Niley Cook Rd
- Cross mid-block to east side of Niley Cook Rd
- Follow terrain up to Mine Branch Rd
- Cross Mine Branch Rd At-Grade + Follow Terrain Up to High Ground on East Side of US 321 – Allows for Potential East Loop Trail Connection
- Bridge Crossing to West Side of US 321 + Follow Terrain Down to Driveway Across from Bloomfield Dr
- Utilize Switchbacks + Approach Mid-Block Crossing of Payne Branch Rd from the North
- Cross Payne Branch Rd At-Grade + Follow Existing Natural Surface Trail Alignment to Parking Area at Payne Branch Park
 MCADAMS

Goldmine Branch Park / Niley Cook Rd to Payne Branch Park

ALTERNATIVE E:

- Start at Goldmine Branch Parking Area West of Niley Cook Rd
- Follow the River to the Niley Cook Rd/US 321 Intersection (Boardwalk Required in Areas of Steep Terrain)
- Cross Niley Cook Rd At-Grade + Continue North Along US 321
- Utilize Boardwalk Switchbacks to Reach High Ground on East Side of US 321 – Allows for Potential East Loop Trail Connection
- Bridge Crossing to West Side of US 321 + Follow Terrain Down to Driveway Across from Bloomfield Dr
- Utilize Switchbacks + Approach Mid-Block Crossing of Payne Branch Rd from the North
- Cross Payne Branch Rd At-Grade + Follow Existing Natural Surface Trail Alignment to Parking Area at Payne Branch Park
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Goldmine Branch Park / Niley Cook Rd to Payne Branch Park

ALTERNATIVE F:

- Start at Goldmine Branch Parking Area West of Niley Cook Rd
- Follow the River to the Niley Cook Rd/US 321 Intersection (Boardwalk Required in Areas of Steep Terrain)
- Cross Under US 321 via Proposed Pedestrian Tunnel Above Existing Culvert + Switchback to Reach US 321 at Riverview Ln
- Continue Along West Side of US 321 to Driveway Across from Bloomfield Dr
- Utilize Switchbacks + Approach Mid-Block Crossing of Payne Branch Rd from the North
- Cross Payne Branch Rd At-Grade + Follow Existing Natural Surface Trail Alignment to Parking Area at Payne Branch Park

ROUTE ALTERNATIVES DEVELOPMENT SECTION 5 NORTH Payne Branch Park to Jordan V Cook Rd

MIDDLE FORK GREENWAY ALIGNMENT:

- Start at Payne Branch Park Parking Area on East Side of River
- Bridge Crossing to West Side of River + Follow Mountain Terrain above River to Avoid Stream Buffer Impacts
- Bridge Crossing to East Side of River
- Follow Bottomlands and Connect to Potential Trailhead at Future Boone Gorge Park (approx. 50-60 parking spaces)
- Provide Connection Loop Trail Through Future Park / Along River
- Bridge Crossing Adjacent to Existing Old Blowing Rock Rd Bridge to West Side of River / Jordan V Cook Rd
- Follow River on Boardwalk + Under US 321 Using Existing Culvert to Future Greenway to Watauga Medical Center + Potential East Loop Trail

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EVALUATION CRITERIA

COST

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 right-of-way, and limit impacts to privately property owners 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.

EVALUATION CRITERIA (CONTINUED)

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.

EVALUATION CRITERIA (CONTINUED)

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.

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.

EXAMPLE EVALUATION MATRIX

SCORE (HIGH = Most Desirable, LOW = Least Desirable)	MIDDLE FORK GREENWAY STUDY - SECTION 3					
ROUTE ALTERNATIVE SELECTION CRITERIA	ALT A	ALT B	ALT C	ALT D	ALT E	ALT F
COST						
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 right-of-way, 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						
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.						
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.						

INPUT OPPORTUNITIES

Scan QR Code or

Go to <u>www.middleforkgreenway.org</u> to take the Survey

- Prioritization of Evaluation Criteria
- Review + Provide Comments on Route Alternatives
- Provide General Project Feedback

*Will Be Open for Comment/Feedback until 5/20

THANKS FOR YOUR TIME TODAY!

Questions?

Contact Us: Wendy Patoprsty wendy@blueridgeconservancy.org

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