



FY 2025

BUILD GRANT APPLICATION

ABOVE THE MUD

HENDERSONVILLE, NC

Promoting Small-Town Economic Development
Creating Safe Connections • Strengthening Flood Resiliency



Submitted by:



In partnership with:



01 PROJECT DESCRIPTION

The Above the Mud project — named for nearby Mud Creek — will create connections, promote small-town economic development, and strengthen natural disaster resiliency through the provision of a 2-mile loop of safe and convenient multimodal infrastructure that will boost small-town and rural activity, jobs, and tourism. Each project component focuses on expanding safe and accessible pedestrian and bicycle infrastructure, improving public safety, and boosting Hendersonville’s status as a regional economic and tourism hub.

KEY DETAILS



Project Location + Type

Hendersonville, North Carolina
Designated as urban, but a rural, small town



Project Length

2 miles



Grant Administration

The North Carolina Department of Transportation in partnership with the City of Hendersonville



Estimated Completion Date

2029

FUNDING SNAPSHOT

Project Cost:	\$25,536,000
Local Match:	\$1,600,000
Other Federal Funds:	\$0
BUILD Funding Request:	\$23,936,000

BENEFIT COST RATIO: 1.67 : 1

To learn more and review background materials, visit:

www.hvlnc.gov/AboveTheMud

PROJECT GOALS

- Create Safe Connections
- Revitalize Local Businesses
- Strengthen Disaster Resiliency

79% of the project area is within a **Historically Disadvantaged Community**

17% of the project area is within an **Area of Persistent Poverty**

"North Carolina is going to come back bigger, better, and stronger than ever before"

President Trump on Jan 24, 2025 visit to nearby Asheville

ABOVE THE MUD

HENDERSONVILLE, NC

- LEGEND**
- Above the Mud Greenway
 - 7th Ave Streetscape Improvements
 - Festival Street (South Main St.)
 - Oklawaha Greenway Resiliency Upgrades
 - Existing Streetscape Improvements
 - Oklawaha Greenway
 - Ecusta Trail
 - - - Proposed Saluda Grade Rail Trail
 - - - Other Proposed Greenways
 - - - NCDOT Projects
 - · · · Future Streetscape Improvements
 - Buildings
 - Water Bodies
 - Wetlands
 - ▨ 100-Year Floodplain
 - Parks, Open Space, & Conserved Land
 - +— Railroad
 - ▭ Hendersonville Municipal Boundaries
 - ▭ Downtown Hendersonville

COMPONENT 2
7th Ave. Streetscape Improvements

Funded sidewalk improvements

Future streetscape improvements

COMPONENTS 1+4
Above the Mud Greenway (Component 1)
Oklawaha Greenway Resiliency Upgrades (Component 4)

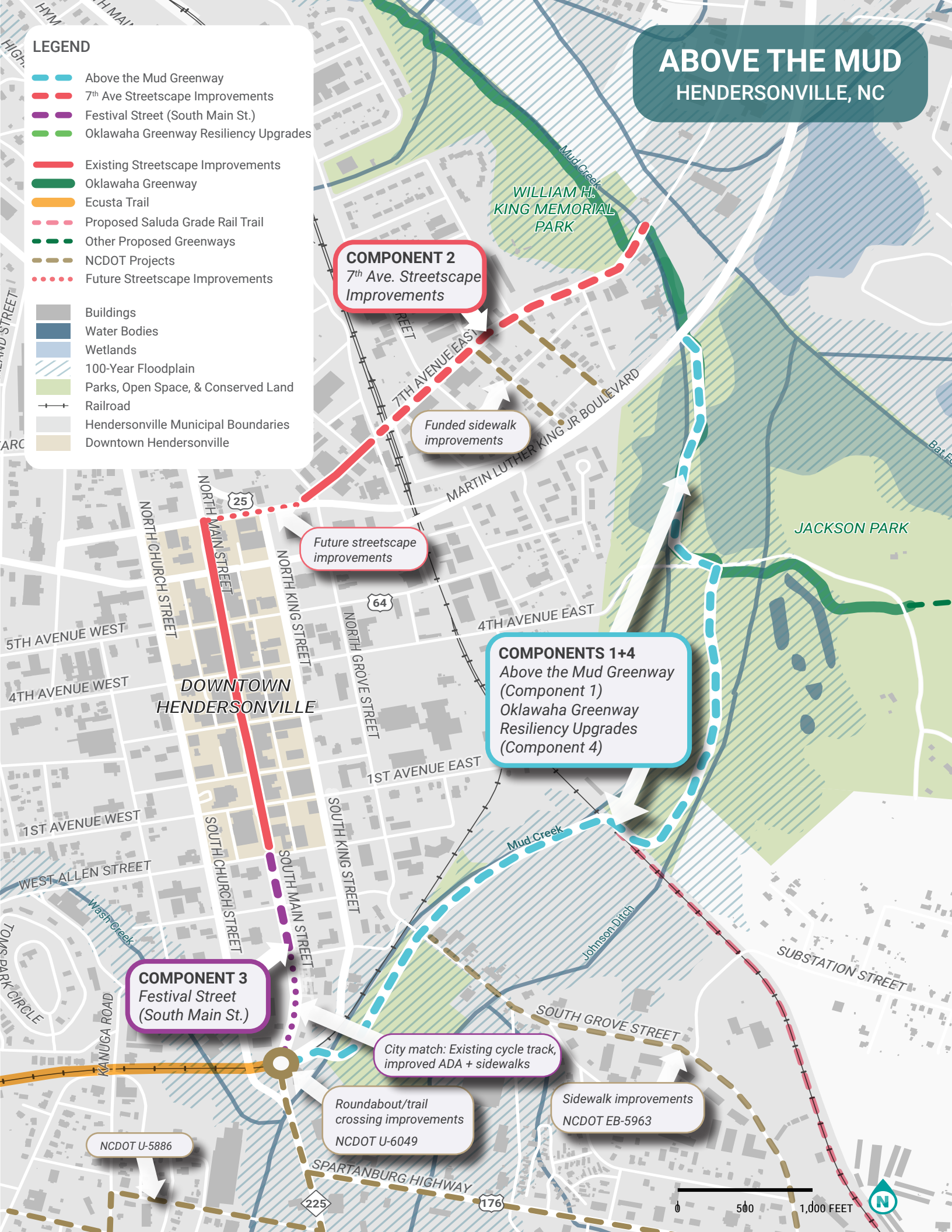
COMPONENT 3
Festival Street (South Main St.)

City match: Existing cycle track, improved ADA + sidewalks

Roundabout/trail crossing improvements
NCDOT U-6049

Sidewalk improvements
NCDOT EB-5963

NCDOT U-5886



COMPONENT 1:

Above the Mud Greenway (Phase 1)

The Above the Mud Greenway will be a **0.97-mile, 12-foot-wide separated shared use path** starting at South Main Street, where the under-construction Ecusta Trail ends, and traveling through natural areas along Lower Mud Creek before connecting with the existing Oklawaha Greenway. It will **complete a major regional trail gap** between the existing Oklawaha Greenway, regional Ecusta Trail, future regional Saluda Grade Trail, and Downtown Hendersonville.

As a key component of the Hellbender Regional Trail and the NC Great State Trails systems, the Above the Mud Greenway will provide affordable multimodal connections between important local and regional destinations. The greenway will improve access to parks and open spaces, schools, jobs, businesses, and crucial services, and be a valuable recreational asset. It will be a regional destination and tourism engine that expands a popular regional trail network and provides **safe, convenient, and enjoyable multimodal access** to downtown business districts and cultural destinations.

COMPONENT 2:

7th Avenue Streetscape Improvements (Phase 2)

Pedestrian-focused streetscape improvements along a 0.41-mile section of 7th Avenue will create a safer, more accessible, and livable **connection between historic neighborhoods and downtown.**

The reconstruction of the historic corridor

will include improved sidewalks, street trees, pedestrian-scaled lighting, stormwater infrastructure, bicycle facilities, curb bump outs, pedestrian amenities, site furnishings, and ADA-compliant upgrades. This is phase two of **the revitalization of a historic commercial corridor.** Public engagement has been a point of emphasis in this community.

COMPONENT 3:

Festival Street (S Main St, Phase 2)

The **0.27-mile reconstruction of South Main Street** envisions the aging car-centered stretch of overbuilt roadway as a Festival Street – **a flexible-use Complete Street road diet prioritized for pedestrians and bicyclists and serving as a gateway for visitors to Hendersonville** via the Ecusta Trail, Hellbender Regional Trail system, and beyond. The low-traffic Festival Street will benefit from comfortable multimodal facilities and public spaces. This will be an extension of North Main Street, an incredibly popular regional destination and small-town asset, that is often closed to vehicles for major regional events throughout the year like the NC Apple Festival and monthly summer concert series. Events like these bring in over half a million visitors to downtown annually. **The Festival Street will feature a separated cycle track and shared use path, removable bollards to limit vehicle access during events, pedestrian amenities, signal upgrades, ADA improvements, and a curbsless streetscape** flush with sidewalks and outdoor dining spaces. These improvements will **revitalize**

South Main Street by attracting new development and reinvestment.

COMPONENT 4:

Oklawaha Greenway Resiliency Upgrades (Phase 1)

Improvements to a 0.33-mile portion of the existing, Oklawaha Greenway will make the trail more accessible and resilient to natural disasters. This trail was recently awarded several Mobi Awards by NCDOT as one of the best mobility projects in the state, but faces major challenges related to flooding, lack of accessibility, and frequent closures. Hurricane Helene and prior flooding events impede trail usage, condition, and maintenance needs, which is costly to Henderson County. The proposed solution will consist of a trail reroute and elevated boardwalk.

COMMUNITY CONTEXT + HISTORY

The Above the Mud project is situated in the City of Hendersonville within a census-designated Urban Area. The project spans three census tracts, one being an Area of Persistent Poverty (Tract 9312) and two being Historically Disadvantaged Communities (Tracts 9312, 9313). Residents living in the project area are more likely to be living in poverty and without a vehicle, more likely to live with a disability, and more likely to be younger than the age of 15 than the state as a whole.¹ Nearly half of Hendersonville residents are too young or

¹ NCDOT Transportation Disadvantage Index Dashboard <https://arcgis.com/apps/dashboards/1f6618f5561145be82573a379f9d7a4>

TRANSPORTATION CHALLENGES AND SOLUTIONS

Among small towns in North Carolina, Hendersonville is one of the most dangerous places to be a pedestrian or bicyclist.¹ This project employs Federal Highway Administration (FHWA) Proven Safety Countermeasures to improve roadways for pedestrians, bicyclists, and transit users, and integrates two regional trails to improve off-street trail connections for poorly-connected communities.

The project will be implemented where current local and regional transportation gaps and barriers exist for pedestrians and bicyclists. This project forms a multimodal loop that closes gaps, bridges barriers, increases safety and accessibility, and improves comfort and convenience to important destinations, services, and amenities.

Vehicle dependency negatively impacts public health and diminishes infrastructure lifespans.² The project provides healthy transportation alternatives that expands affordable mobility options and increases the lifespans of roadways.

Natural disaster resiliency challenges threaten public and private infrastructure in Western North Carolina. This project rebuilds roads and trails using stormwater best management practices to mitigate flooding, protect infrastructure, and improve air and water quality.

¹ NCDOT PBCAT Pedestrian Crash Data. 2010-2019.

² "The Costs of Automobile Dependency and the Benefits of Balanced Transportation", Litman, Todd. Victoria Transport Policy Institute. 2002. <https://vtpi.org/autodep.pdf>

may be physically unable to drive a vehicle.¹

Pedestrian-oriented investment in North Main Street is central to Hendersonville's recent revitalization², resulting in over \$36 million in private investment since 2012. Despite this success, adjacent project area neighborhoods lack safe walking and biking connections to North Main Street and other important destinations. At the north and south ends of North Main St, the 7th Avenue and South Main St corridors present opportunities for improved multimodal connections for poorly-connected neighborhoods. Following successful investments on Main Street, public investment in the 7th Avenue commercial district began in 2018, with phase one being completed in 2024. South Main Street was successfully reimaged as a demonstration Complete Street project in 2024.

The Above the Mud Greenway has the potential to connect the 19-mile Ecusta Trail and planned 31-mile Saluda Grade Rail Trail with the Oklawaha Greenway, making Hendersonville a recreational gateway and

creating safe connections to South Main Street, 7th Avenue, and North Main Street.

COMMUNITY SUPPORT

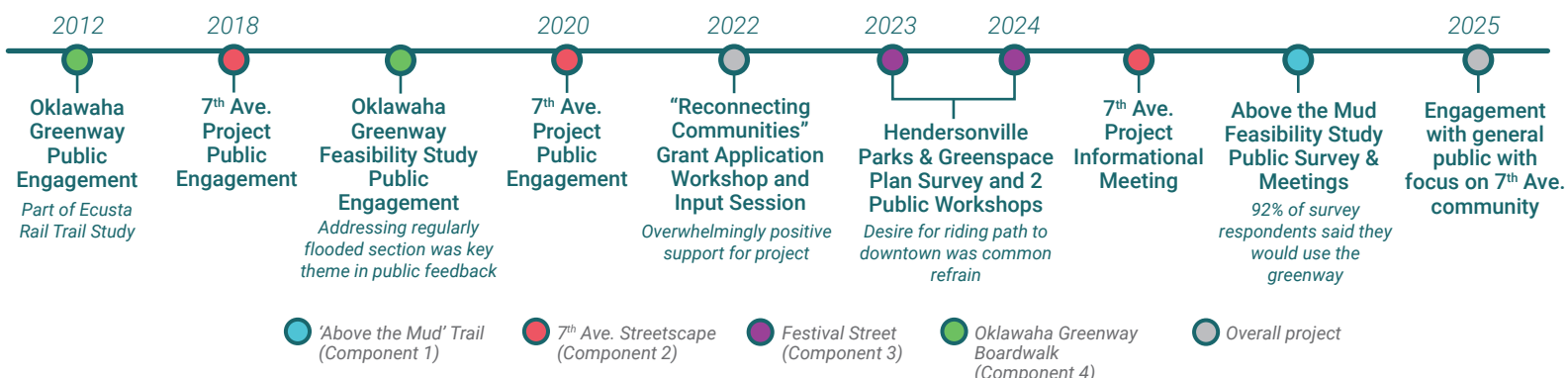
The residents of Henderson County have been continually engaged with this project since 2018, with engagement for the Oklawaha Greenway component starting back in 2012. The project components have been included in plans and studies which engaged the public broadly, as well as key stakeholders such as local business owners and advocacy groups. The thoroughness of these public engagement efforts ensures each project component will deliver the greatest benefit to the community.

Over 580 residents were engaged with this grant process, with the overwhelming majority in support. Strong public support for each project component is documented by the Above the Mud Trail Feasibility Study (2024), 7th Avenue Design (2018-ongoing), the City of Hendersonville's Parks and Greenspace Plan (2024), City of Hendersonville Gen H 2045 Comprehensive Plan, Walk Hendo Pedestrian Plan (2023), and public engagement in preparation for the 2022 Reconnecting Communities grant application and for this 2025 BUILD grant.

¹ Walk Hendo, Hendersonville Pedestrian Plan https://www.hendersonvillenc.gov/sites/default/files/uploads/departments/planning/WalkHendo/final_walk_hendo_plan.pdf

² Main Street America. "Calming Traffic", Case Study: Hendersonville, NC <https://thepoint.mainstreet.org/howwecanhelp/navigatingmainstreets/nutsandbolts/managingtraffic/hendersonville>

PUBLIC ENGAGEMENT TIMELINE



02 PROJECT BUDGET

This project is estimated to cost \$25,536,000. This proposal requests \$23,936,000 in BUILD grant funding to implement. Projected construction costs were calculated based on 2028 dollars in line with the anticipated construction timeline. Tables 1 and 2 show the overall cost and funding breakdown for the project, including match funding at 6% of the total project cost in hand. Though match is not required for this project due to the majority of it being in an Area of Persistent Poverty and Historically Disadvantaged Area, this match demonstrates the City's commitment to the project. Table 3 shows a detailed breakout of the project cost, federally leveraged funding, and local match.

LEVERAGED FUNDING

There is currently no leveraged Federal funding.

LOCAL MATCH FUNDS

Components 2 and 3 both have a local match provided by the City of Hendersonville. These funds come from the general fund from allocations typically used for resurfacing, utility work, and sidewalk repairs. The total match from the City is \$1,600,000. There is no restriction to these funds and a resolution from the City is provided indicating these funds have been obligated.

TABLE 1: OVERALL FUNDING BREAKDOWN

	CONTRIBUTION
OVERALL PROJECT COST	\$25,536,000
LOCAL/NON-FEDERAL MATCH PROVIDED	\$1,600,000
FEDERAL FUNDS	\$0
BUILD GRANT REQUEST	\$23,936,000

NOTE: The majority of this project falls within a Historically Disadvantaged Area and a portion in an Area of Persistent Poverty

TABLE 2: LOCAL MATCH FUNDING SUMMARY

JURISDICTION / AGENCY	CONTRIBUTION	% MATCH
CITY OF HENDERSONVILLE'S GENERAL FUNDS	\$1,600,000	6.32%

STATUS OF DESIGN & FUNDING AND COST ESTIMATES

All of the components are in some phase of planning and no design has begun. Costs for each component were verified and updated in preparation for this application by City and consultant engineers. The components' estimates include a higher contingency (20%) to account for the fact that estimates are at the planning level as well as an escalation to have the cost reflect 2028 costs (year of construction).

Detailed budget cost estimates are provided as a supplement to this narrative on the project website: www.hvlnc.gov/AboveTheMud. **Note that due to project phasing, Components 1 and 4 are lumped together in costing and the BCA.** The following is the project status and activities that took place in order to ensure the funding request is adequate.

Component 1 Status and Cost Estimates:

Costs for the Above the Mud Greenway were analyzed at the planning level, but early ground truthing and cost estimates were done by an engineer (and vetted by a second engineering firm who updated with recent costs) as part of the recently completed Above the Mud Trail Feasibility Study.

Component 2 Status and Cost Estimates:

7th Avenue is an extension of a project recently built and has recent bid numbers used for the cost estimate that was

developed by an engineer (and vetted by a second engineering firm) and updated for this grant to reflect recent costs. This project is in the planning phase.

Component 3 Status and Cost Estimates:

The planning level estimate for the Festival Street was developed for this grant application based on recent City bid numbers with verification from an engineer for this grant. This project is at the planning phase.

Component 4 Status and Cost Estimates:

Oklawaha Greenway Resiliency Upgrades cost estimates were developed by an engineer (as part of a feasibility study) who made recommendations to mitigate the recurring flooding. These were then updated and vetted by an independent engineer for this grant.

ADDRESSING COST OVERRUNS

Any cost overruns will be the responsibility of the City of Hendersonville.

TABLE 3: PROJECT BUDGET AND MATCH

FUNDING SOURCE	PROJECT COMPONENTS				TOTAL
	Phase 1 COMPONENT 1: ABOVE THE MUD GREENWAY	Phase 2 COMPONENT 2: 7 TH AVENUE STREETSCAPE IMPROVEMENTS	Phase 2 COMPONENT 3: FESTIVAL STREET	Phase 1 COMPONENT 4: OKLAWAHA GREENWAY RESILIENCY UPGRADES	
TOTAL BUILD FUNDS	\$5,640,000	\$7,700,000	\$9,400,000	\$1,196,000	\$23,936,000
NON-FEDERAL FUNDS/LOCAL MATCH	\$0	\$600,000	\$1,000,000	\$0	\$1,600,000
TOTAL PROJECT COST	\$5,640,000	\$8,300,000	\$10,400,000	\$1,196,000	\$25,536,000

TABLE 4: PROJECT COST PER CENSUS TRACT

2020 CENSUS TRACT	PROJECT COST	
9311***	\$8,300,000	Component 2
9312**	\$10,400,000	Component 3
9313*	\$6,836,000	Components 1 & 4
TOTAL PROJECT COST	\$25,536,000	

* Historically Disadvantaged Community (HDC)
 ** Both Area of Persistent Poverty (AAP) and HDC
 *** Tract adjacent to AAP and HDC

TABLE 5: URBAN VS. RURAL PROJECT DESIGNATION

Urban and Rural	PROJECT COST
Urban (2020 Census-designated urban area with a population greater than 200,000)	\$25,536,000
Rural (Located outside of a 2020 Census-designated urban area with a population greater than 200,000)	\$0

Hendersonville is a small town that lies at the very edge of the Asheville urban area. While officially designated as urban, the town is small and more rural in nature.

BENEFIT-COST ANALYSIS SUMMARY

The Above the Mud project will provide comprehensive benefits for residents of Hendersonville. **Benefits from these projects will not only strengthen the local economy, but provide real transportation choices for those who need them.**

Benefits will also include a reduction in vehicle miles traveled for transportation and quality of life benefits. This benefit-cost analysis (BCA) weighs the costs (capital and maintenance) and benefits (environmental protection, quality of life, economic competitiveness, safety, and state of good repair) that would accrue during construction and over a 20-year

evaluation period after completion of the Above the Mud project.

Table 6 provides a cumulative summary of project benefits. Capital costs in the BCA (\$20,500,000) represent the total project costs in 2023 dollars, whereas the overall project cost of \$25,536,000 is presented above in fully escalated 2028 dollars (see Table 1). For the complete BCA methodology and results, see the BCA summary memo uploaded with this application, or view documents on the project website: www.hvlnc.gov/AboveTheMud.

TABLE 6: BENEFIT-COST ANALYSIS SUMMARY

TOTAL DISCOUNTED BENEFITS	\$30,300,000
TOTAL DISCOUNTED COSTS	\$18,200,000
NET PRESENT VALUE	\$12,100,000
BENEFIT-COST RATIO	1.67 : 1
SAFETY (UNDISCOUNTED)	
Collision Cost Savings	\$29,300,000
QUALITY OF LIFE / HEALTH BENEFITS (UNDISCOUNTED)	
Mortality Reduction Benefits from Increased Physical Activity	\$15,100,000
STATE OF GOOD REPAIR (UNDISCOUNTED)	
Vehicle Miles Traveled (VMT) Reduced	426,000 miles
Roadway Maintenance Cost Savings	\$0.091 per VMT
ECONOMIC COMPETITIVENESS (UNDISCOUNTED)	
Household Transportation Cost Savings	\$6.92 per VMT
Traffic Congestion Cost Savings	\$1.05 per VMT
ENVIRONMENTAL PROTECTION (UNDISCOUNTED)	
Metric Tons of Carbon Dioxide Reduced	190 metric tons
PROJECT COSTS (UNDISCOUNTED)	
Capital Costs (2023 dollars)	\$20,500,000

03 MERIT CRITERIA

(Criteria equally apply to all components of the project, unless noted)

TABLE 1: CRITERIA EXECUTIVE SUMMARY

BUILD MERIT CRITERIA	HOW THIS PROJECT ADDRESSES THE BUILD MERIT CRITERIA
SAFETY	<ul style="list-style-type: none"> Increases safety for non-motorized travelers by closing a crucial gap in an existing off-street trail network, and by upgrading roadways for safe multimodal use, leading to fewer fatalities and serious injuries.
ENVIRONMENTAL SUSTAINABILITY	<ul style="list-style-type: none"> Reduces emissions and pollution by offering safe, affordable, and convenient walking, rolling, and biking options. Creates flooding resiliency through stormwater BMPs, improved tree canopies, and conversion of formerly developed greyfield properties.
QUALITY OF LIFE	<ul style="list-style-type: none"> Improves walking and biking access to local jobs and destinations. Expands affordable mobility options in historic neighborhoods and expands all ages and abilities access to critical services and destinations. Increases access to parks, natural areas, and recreational amenities.
MOBILITY + COMMUNITY CONNECTIVITY	<ul style="list-style-type: none"> Creates a connected multimodal loop for an area lacking connectivity. Provides first and last mile connections to schools, major employers, grocery stores, and businesses in Hendersonville, Fletcher, and Laurel Park. Implements multiple plans with high public support to connect major regional network gaps.
ECONOMIC COMPETITIVENESS + OPPORTUNITY	<ul style="list-style-type: none"> Promotes balanced and local long-term growth through renewed investment in historic neighborhoods and idle commercial districts. Supports existing businesses and attracts new businesses via reactivation of commercial districts and regionally-significant trail development. Facilitates recreational tourism opportunities by connecting historic and revitalized parts of the City with a destination trail network.
STATE OF GOOD REPAIR	<ul style="list-style-type: none"> Leverages reconstruction timelines and disrepair to update aging corridors and defunct rail lines. Employs construction best practices to minimize impervious surfaces, mitigate flooding, and prolong the life of project components.
PARTNERSHIP + COLLABORATION	<ul style="list-style-type: none"> Represents ongoing partnerships between the City and public and private agencies at local, regional, and state levels. Collaborates with local community members, private partners, and advocacy groups to ensure project support, feasibility, and success.
INNOVATION	<ul style="list-style-type: none"> Uses innovative design elements such as stormwater BMPs, tree trenches with suspended pavement systems, and RRFBs. Uses technology such as integrated flood monitoring gauges and video equipment to manage construction, track maintenance, and communicate with the public.

a. | Safety

a.1 | CHALLENGE: Crash history and unsafe roadways.

Between 2010 and 2019, Hendersonville ranked highest among its state peers for pedestrian fatalities and severe injuries, recording the highest per-capita crash rate regardless of population size.¹ From Oct 1, 2017 to Oct 1, 2024, four crashes involving pedestrians or cyclists occurred along 7th Avenue and South Main Street, including one that resulted in a pedestrian being killed. Additionally, 34 bicycle and pedestrian crashes were reported within a half-mile of the project corridor, with 11 resulting in fatalities or serious injuries.² These incidents occurred primarily on roads with missing or aging sidewalks, crossings in poor condition, and no bike facilities.

The Safe Streets for WNC- Regional Safety Action Plan's risk-based analysis for the five-county area indicates that some of the region's most dangerous intersections are located along the project corridor. For example, the intersection of East Caswell Street and South Main Street ranks in the top one percent for safety concerns. Furthermore, the southern project area has shown an increasing trend in bicycle and pedestrian crashes over time.

a.1 | SOLUTION: Rebuild roadways to improve safety for all users.

This project incorporates several FHWA Proven Safety Countermeasures to improve safety for pedestrians and cyclists. Sidewalks and shared use paths, such as the Above the Mud Greenway, can reduce pedestrian-involved crashes by 60% and reduce bicycle-involved crashes by 25%. Adding bike lanes by reducing lane width or shoulder width, such as those proposed for 7th Avenue, can reduce crashes by 26%. Comprehensive traffic calming can reduce injury crashes by up to 18% while slowing traffic to allow for a more comfortable walking and cycling environment. Leading pedestrian intervals can reduce pedestrian crashes by 13%, and all injury crashes by 14%. Installing pedestrian countdown signals on S Main Street can reduce rear-end crashes by 13% while improving the pedestrian experience.³ Incorporating pedestrian-scale lighting will help illuminate pedestrians in the public realm and removable bollards protect event attendees, reducing conflicts between road users and discouraging crime. These measures will ensure safer trips for all road and trail users, improving both local and regional accessibility.

³ Crash Modifications Factors Clearinghouse Database

¹ National Highway Traffic Safety Administration FARS Database

² NCDOT crash data, analyzed by AEC Planning + Design

South Main Street looking north, where sidewalk gaps, lack of bicycle facilities, and aging roads make travel unsafe.



CRASHES WITHIN 1/2 MILE OF PROJECT ALIGNMENT (2017-2024)

a.2 | CHALLENGE: There is a gap at the central hub of a regional network for pedestrians and bicyclists.

The Oklawaha Greenway and Ecusta Trail are currently disconnected by a half-mile gap, forcing trail users to navigate dangerous roadways with high speeds, heavy traffic volumes, incomplete pedestrian facilities, and no bicycle facilities. Gaps and barriers to the regional multimodal network – such as 7th Avenue, US 64, and the WATCO freight rail lines – make daily trips and school commutes particularly unsafe, especially for children and older adults. Bridging this gap is also critical for connecting to the future terminus of the regional Saluda Grade Trail.

Main Street and 7th Avenue are not safely connected to this regional trail hub

and require safer designs. Currently, 7th Avenue has a posted speed limit of 20-35 mph, while US 64 ranges from 20-45 mph. Research shows that a pedestrian struck by a vehicle traveling at 35 mph has nearly a 40% chance of dying, with the risk increasing significantly at higher speeds. This highlights the urgent need for safer multimodal facilities that protect pedestrians and cyclists by separating them from fast-moving vehicles.

a.2 | SOLUTION: Fill the network gap with safe, separated facilities for walking and biking.

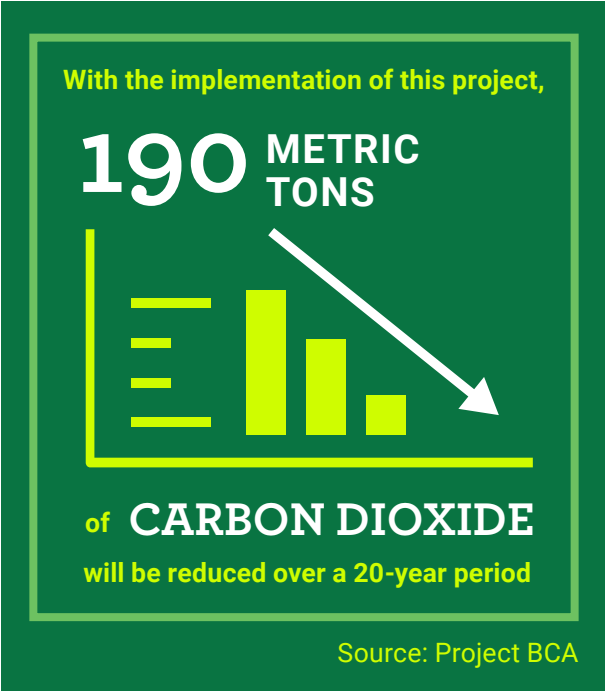
Minimizing conflict points between pedestrians, cyclists, and vehicles is crucial for improving multimodal safety. Currently, users attempting to travel between the Oklawaha Greenway and Ecusta Trail can experience as many as 20 road crossings; the Greenway component

Legend

- BUILD Project Alignment
- Bike Crashes**
 - Suspected Minor Injury
 - Possible Injury
 - No Injury
- Pedestrian Crashes**
 - Fatal Injury
 - Suspected Serious Injury
 - Suspected Minor Injury
 - Possible/Unknown/No Injury
- Non Bike/Ped Fatality and Injury Crashes**
 - Fatal Injury
 - Suspected Serious Injury
 - Suspected Minor Injury
 - Possible Injury
 - RAISEProjectAlignment_Expor

reduces these road crossings to just one. This single crossing at S. Grove Street will include a Rectangular Rapid Flashing Beacon to further increase safety for trail users.

Closing multimodal network gaps and implementing separated facilities along roadways will encourage residents who currently feel unsafe to consider walking or biking to local jobs, destinations, and businesses. It will also attract visitors from the Hellbender Regional Trail system, encouraging them to explore local businesses and attractions. A fully connected system of safe, separated multimodal facilities will make walking, biking, and rolling to important destinations safer and more accessible for all users.



b. | Environmental Sustainability

b.1 | CHALLENGE: Flood resiliency challenges threatening public and private infrastructure.

Western North Carolina sees regular flooding and Hendersonville was greatly impacted by flooding during Hurricane Helene in 2024. The Above the Mud Greenway is entirely in the regulatory floodway of Mud Creek and a portion of South Main Street is in the 100-year floodplain. When more severe flooding occurs and as impervious surfaces increase, public and private infrastructure will see reduced lifespans and damage.

b.1 | SOLUTION: Rebuilding roads and trails to be more resilient and to help protect adjacent infrastructure.

Greenway lands can play a vital role in flood storage for cities prone to flooding.¹ The Above the Mud Greenway helps Hendersonville manage stormwater through the conversion of impervious surfaces and previously developed greyfield sites into flood storage and wetland banks, effectively reducing flooding risks. On-street stormwater best management practices (BMPs) further mitigate flooding by retaining, treating, and slowing the release of stormwater runoff. 7th Avenue and South Main Street incorporates BMPs, such as permeable and suspended pavement systems, tree trenches, bioretention areas, and native plantings. These capture runoff, filter suspended solids, and slow downstream water inflows. Additionally, road diets and the reduction of impervious surfaces decrease stormwater runoff volumes,

¹ NC Rails to Trails Conservancy, Trails and Climate Resilience <https://www.railstotrails.org/trail-building-toolbox/trails-and-climate-resilience/>

minimizing flood impact to downstream infrastructure, including the City’s existing Oklawaha Greenway.

The project will make use of native plantings in each component, particularly in the Above the Mud Greenway component where the floodplain ecology is currently diminished due to former developments, historical land use, and the proliferation of invasive species

b.2 | CHALLENGE: Emissions and air quality.

The transportation sector accounts for 32.5% of greenhouse gas (GHG) emissions in North Carolina.² GHG emissions contribute to poor air quality, and areas with significant air pollution often experience higher rates of chronic respiratory illnesses. In small towns like Hendersonville, transportation gaps and limited affordable transportation options worsen congestion and increase time spent idling on local roads. Reducing emissions is essential for improving public health.

² North Carolina Department of Environmental Quality, Greenhouse Gas Inventory, 2019
<https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=468498&dbid=0&repo=AirQuality&cr=1>

b.2 | SOLUTION: Expanded transportation options can reduce emissions and pollution.

The NCDOT Carbon Reduction Strategy (2023) identifies expanding transportation options as a key priority for lowering emissions.³ Every component of the Above the Mud project supports this goal by expanding affordable transportation options and improving vehicular traffic on local roads. Roadway improvements and a connected multimodal network will encourage residents to walk or bike by providing safe and convenient options.

The proposed investments in multimodal infrastructure can result in over 426,000 fewer miles travelled by vehicle, which leads to reduced congestion, decreased emissions, longer infrastructure lifespans, and less land area dedicated to impervious infrastructure. These improvements will also foster walkable and bikable neighborhoods that promote transportation-efficient and compact development patterns, resulting in fewer and shorter trips. (See *Table 2: Criteria Pollutants Reduced* for estimations of

³ NCDOT Carbon Reduction Strategy, 2023
<https://www.transportation.gov/sites/dot.gov/files/2024-04/NCDOT%20Carbon%20Reduction%20Strategy%20Report.pdf>

TABLE 2: CRITERIA POLLUTANTS REDUCED OVER 20-YEAR PERIOD

METRIC TONS	GREENHOUSE GASES + CRITERIA POLLUTANTS REDUCED
0.063	Particulate matter (2.5) (PM 2.5)
6.538	Nitrous oxides (NOx)
0.061	Sulfur oxides (SOx)
190	Carbon dioxide (CO2)

the expected pollutant reduction of this project).

Tree canopies, stormwater BMPs, and green spaces along 7th Avenue and South Main Street further combat pollution by filtering harmful particulates from air and water. As part of the Above the Mud Greenway, the remediation of greyfield sites and their conversion into greenways and green spaces reduces airborne particulate matter and stormwater runoff by returning previously developed landscapes into the hydrologic ecosystem.

The project will make use of native plantings in each component, particularly in the Above the Mud Greenway component where the floodplain ecology is currently diminished due to former developments, historical land uses, and the proliferation of invasive species.

92%

of 732 survey respondents indicated they would use the Above the Mud Greenway once implemented.

Source: Above the Mud Feasibility Study

c. | Quality of Life

c.1 | CHALLENGE: Lack of access to everyday amenities via affordable transportation options.

The project area spans three Census tracts, where 5-14% of households do not own a vehicle, compared to the North Carolina state average of 6%¹. Tract 9312 is designated as an Area of Persistent Poverty, with 14% of households lacking vehicle ownership, 43% persons of color (state average: 37%), and 19% living with a disability (state average: 16%). The other two tracts have household poverty rates of 36-40%, (significantly higher than the state average of 23%). In Tract 9313, where the Above the Mud Greenway is planned, 29% of residents are under the age of 15 (state average: 20%) and 23% live with a disability.

Additionally, Tracts 9312 and 9213 are classified as Historically Disadvantaged Communities. According to NCDOT's Transportation Disadvantage Index (TDI) factors such as lack of car ownership, poverty, disability, youth, and race are key barriers that hinder access to essential transportation services. Nearly half of Hendersonville residents may be too young or physically unable to drive a vehicle, underscoring the critical need for safe and accessible transportation alternatives.²

¹ NCDOT Transportation Disadvantage Index Dashboard <https://www.arcgis.com/apps/dashboards/1f6618f5561145be82573a379f9fd7a4>

² Hendersonville Pedestrian Plan, 2023. US Census 2021 ACS 5-Year Estimates https://www.hendersonvillenc.gov/sites/default/files/uploads/departments/planning/WalkHendo/final_walk_hendo_plan.pdf

c.1 | SOLUTION: Improve and expand multimodal connections between important destinations and critical services.

Safe, convenient, and affordable access to jobs is crucial to employment, and the Above the Mud project will provide multimodal options for commuters who cannot or choose not to drive. Commuter data from 2022 shows that 50.8% of workers living in Hendersonville are employed within 10 miles of their home, and 21.4% work within Hendersonville itself.³ Additionally, nearby tourist destinations and employment hubs, such as Flat Rock and the Asheville Regional Airport, are accessible via public transit. These findings underscore the opportunity to enhance access to local and regional jobs by expanding multimodal facilities and improving first- and last-mile transit connections.

According to survey data from the Above the Mud Feasibility Study, **20% of respondents indicated they would use the Above the Mud Greenway for commuting**, demonstrating its importance as a transportation facility for those seeking to reach everyday destinations affordably.

This project will create a multimodal loop that significantly improves connectivity across Hendersonville. Beyond job access, it will significantly enhance safe connections to schools, parks, local businesses, healthy food options, healthcare and other essential services. As the Ecusta Trail soon opens and becomes a regional attraction, this project will ensure that visitors can safely access Downtown and other key destinations.

³ US Census Bureau, OnTheMap Work Destination Analysis, 2019 data.

c.2 | CHALLENGE: Barriers to affordable transportation negatively impacts public health.

Hendersonville residents over the age of 18 experience asthma, high blood pressure, Chronic Obstructive Pulmonary Disorder (COPD), heart disease, and diabetes at levels higher than the state average. In the project area (Tract 9312), which is classified as an Area of Persistent Poverty, residents are disproportionately affected by asthma, diabetes, and obesity.

c.2 | SOLUTION: Prioritize walking and biking options for all ages and abilities.

Affordable transportation options and accessible recreational amenities are essential for improving public health. An extensive body of international research highlights the health benefits of walking, biking, and spending time in nature, which include improved mental and physical health, better brain function, enhanced sleep, lower blood pressure, and a reduced risk of chronic diseases⁴.

A study by the Institute for Transportation Research and Education (ITRE) at North Carolina State University examined various greenway projects and their impact on healthcare costs. For example, the neighboring Estatoe Trail generates \$51,000 in annual healthcare savings.⁵

⁴ Center for Disease Control and Prevention, Physical Activity Guidelines for Americans, 2019
https://odphp.health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf

⁵ ITRE and Alta Planning and Design, Evaluating the Economic Impact of Shared Use Paths in North Carolina, 2017
https://itre.ncsu.edu/wp-content/uploads/2018/03/NCDOT-2015-44_SUP-Project_Final-Report_optimized.pdf

d. | Mobility + Community Connectivity

d.1 | CHALLENGE: Lack of multimodal connectivity in the city and the region.

This project area will serve as a hub for three major regional trails. The existing 3.5-mile Oklawaha Greenway is an important recreational asset for residents and visitors, but has limited connectivity to neighborhoods, destinations, or other multimodal infrastructure. The 19-mile Ecusta Trail is currently under construction and terminates at South Main Street, where a temporary demonstration bikeway leads north to downtown. The bikeway on this three-block stretch of South Main

Street is foundational to better mobility, but multimodal connectivity across the city is lacking.

d.1 | SOLUTION: Provide multimodal connections with local and regional significance.

When completed, the Above the Mud project will create a connected, multimodal loop featuring 1.3 miles of greenway, that links two existing trails and one planned trail (the Saluda Grade Trail), along with 0.7 miles of improved, pedestrian-friendly city streets. By filling this critical gap, the project will enhance the transportation function of these trails, significantly improving mobility for both the city and the region. The completion of the Above the Mud project will result in nearly 25 miles of contiguous greenway. It will make jobs, schools, parks, businesses, and essential services more accessible through affordable transportation options, benefiting residents who cannot or choose not to drive to everyday destinations.

The Above the Mud Greenway, along with the Ecusta Trail and Oklawaha Greenway, will become part of the Great Trails State (GTS) spine network and Hellbender Regional Trail system. The GTS initiative, led by NCDOT, aims to build a statewide “arterial” network of shared-use paths connecting all 100 counties in North Carolina. This project will bridge a critical gap in the state and region’s trail system.



Source: French Broad River Metropolitan Planning Organization

d.2 | CHALLENGE: Poor first and last-mile transit connections to destinations in Hendersonville, Fletcher, and Laurel Park.

Apple Country Public Transit serves destinations within Henderson County including Hendersonville, Fletcher, Laurel Park, and the Asheville Regional Airport. At present, first and last-mile connections to this transit service are a challenge due to a lack of safe and connected walking and biking facilities near stops. The French Broad River Metropolitan Planning Organization (MPO) Regional Transit Feasibility Study found the public’s top two priorities are expanded transit service and improved last mile access.

d.2 | SOLUTION: Improve multimodal connections to transit services.

The Above the Mud project connects with all three existing fixed-route transit services and would provide last mile service to many destinations. When surveyed, 40% of respondents said they would use public transit to travel to work if services were available despite 60% of those respondents not currently using public transit.¹ This underlines a strong local and regional desire for expanded multimodal options.

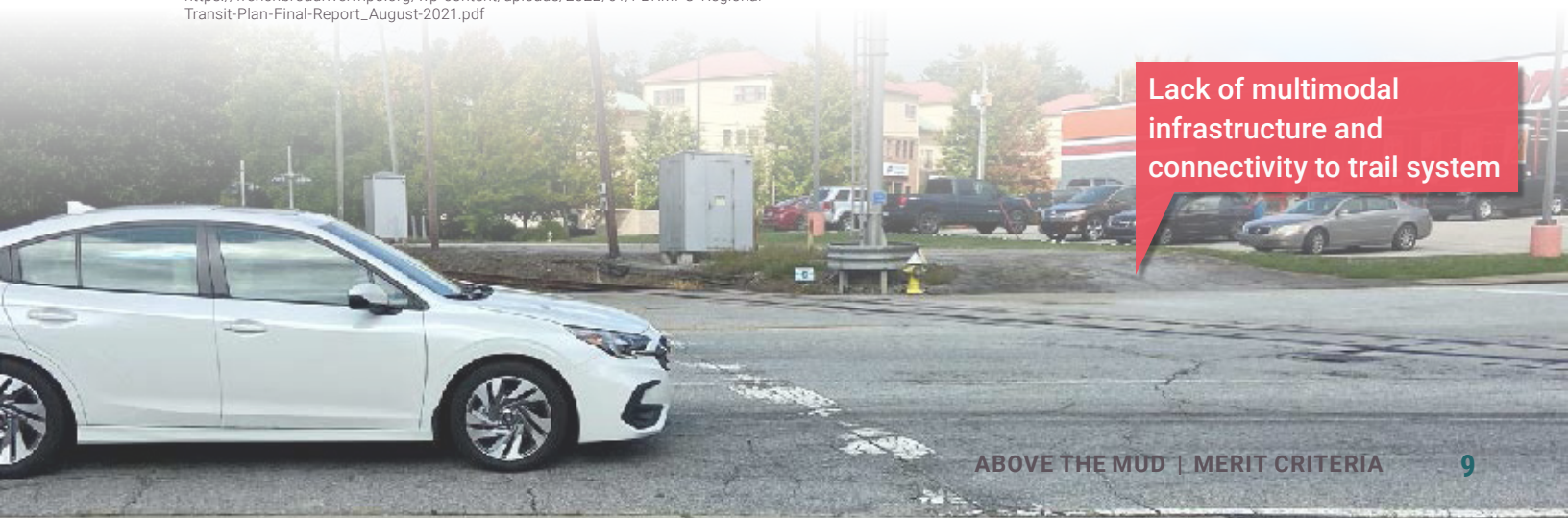
¹ French Broad River MPO Regional Transit Feasibility Study https://frenchbroadrivermopo.org/wp-content/uploads/2022/01/FBRMPO-Regional-Transit-Plan-Final-Report_August-2021.pdf

d.3 | CHALLENGE: Lack of accessible multimodal facilities serving all ages and abilities.

The terrain of Western North Carolina can make walking and biking difficult for older adults and those with disabilities, and a lack of safe multimodal facilities, aging and unrepaired sidewalks, and car-centric roads like US 64 discourages these users. The project area ranks high on NCDOT’s Transportation Disadvantage Index due to a lack of car ownership, high levels of poverty and disabilities, and a significant youth population.

d.3 | SOLUTION: ADA improvements and a rail-to-trail corridor improve accessibility.

The trail portion of the project will be an ADA, universally accessible facility which will be less prone to flood debris and sediment, which further restricts those with disabilities. Safe and ADA-compliant multimodal facilities along 7th Avenue and South Main Street will remove transportation barriers for people of all ages and abilities.



Lack of multimodal infrastructure and connectivity to trail system

e. | Economic Competitiveness + Opportunity

e.1 | CHALLENGE: Fragmented and disconnected cultural and recreational assets.

The Oklawaha Greenway and Ecusta Trail are valuable recreational assets, but their lack of connection to each other and Hendersonville's business districts limits their local and regional economic potential.

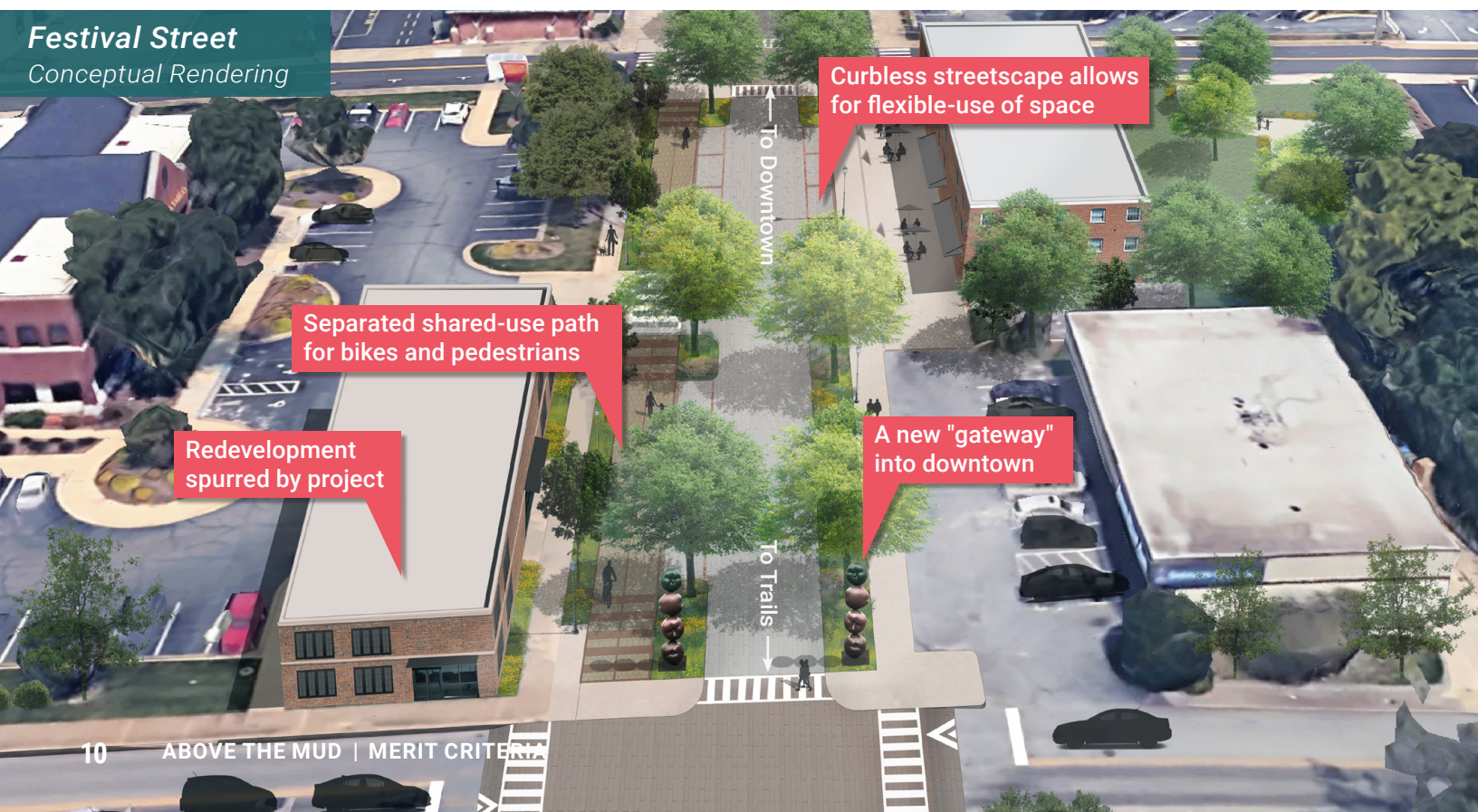
e.1 | SOLUTION: Facilitate recreational tourism opportunities by connecting historic and revitalized parts of the City with a regional multimodal network.

By providing a link between two popular regional trails, the Above the Mud Greenway will infuse Hendersonville with recreational tourism opportunities not limited to just the greenway, but also to

the connected business districts on South Main Street and 7th Avenue. Locally, the Ecusta Trail is projected to yield nearly \$10 million in annual benefits from tourism, trail use, health care cost savings, and property value tax revenues.¹ This project connecting the Ecusta Trail and Oklawaha Greenway will result in over 25 miles of contiguous trails, meaning even more economic benefits will be realized than just the Ecusta alone.

The Above the Mud project carries an economic benefit by bringing trail users, visitors, and residents to the door of businesses. The multimodal spurs of 7th Avenue and South Main Street will serve as gateways to Hendersonville's thriving business districts. North Main Street is the heart of Hendersonville's downtown, with local restaurants, shops, museums,

¹ Ecusta Rail Trail Master Plan and Economic Impact Analysis
<https://www.hendersonvillenc.gov/community-development/ecusta-rail-trail-planning-study-economic-impact-analysis>



and accommodations. Reaching North Main Street by 7th Avenue and South Main Street will allow incoming patronage on the Above the Mud loop to support existing businesses and will catalyze new business and tourism growth. The City has reimagined South Main Street as a pedestrian-oriented Festival Street that can be temporarily closed off to vehicular traffic, bringing in investment due to events and festivals.

e.2 | CHALLENGE: Lack of investment in historic communities and idle commercial districts.

In 1967, the widening and realignment of US Highway 64 improved traffic flow between downtown Hendersonville and Interstate Highway 26, but effectively divided a thriving historic neighborhood. The construction of US 64 and the Green Meadows housing development displaced many former residents and have contributed to disparities and divestment on either side of 7th Avenue that are evident today.

South Main Street is an aging commercial corridor that largely consists of non-historical commercial buildings, underutilized surface parking lots, and empty parcels. Visitation to North Main Street – a Complete Street – is much higher, whereas South Main Street’s businesses are disconnected from neighborhoods and aren’t attractive to pedestrians and cyclists.

e.2 | SOLUTION: Reactivation of neglected corridors through renewed investment.

The Above the Mud project promotes

balanced and local long-term growth through renewed investment in historic neighborhoods and idle commercial districts. By improving multimodal connections to 7th Avenue and South Main Street, and by connecting those two corridors to a regionally-significant trail network, the project will support existing neighborhood businesses and attract new business opportunities.

To support a healthy mix of businesses, the City created the Downtown Hendersonville Opportunity Fund to loan capital to local entrepreneurs. Since 2023, the program has provided loan capital for businesses in the project area. Additionally this provides an opportunity for wealth building, networking, and training of local business owners.

Studies have shown the significant economic benefits of bicycle and pedestrian infrastructure investments. The Institute for Transportation Research has found that greenways increase property values, local spending on food, equipment, and lodging². A study by the Urban Land Institute found that businesses count outdoor recreational amenities, including greenways, as key factors when locating to a new area as they are attractive to prospective workers and help with staff retention.³ Research has also shown that high quality multimodal improvements can activate local businesses by encouraging pedestrian visitation and making places more attractive for patrons.⁴

² Institute for Transportation Research and Education, Evaluating the Economic Contribution of Shared Use Paths in NC. 2017. <https://itre.ncsu.edu/focus/bike-ped/SUP-Economic-Impacts/>

³ Midtown Greenway Case Study. Minneapolis, MN. Urban Land Institute. <https://americas.uli.org/wp-content/uploads/ULI-Documents/Midtown-Greenway.pdf>

⁴ Hass-Klau C., Impact of pedestrianisation and traffic calming on retailing, A review of the evidence from Germany and the UK. Transport Policy. 1: 21-31, 1993.

f. | State of Good Repair

f.1 | CHALLENGE: Aging roadways and abandoned rail lines are barriers to safe and convenient access to everyday amenities.

The 7th Avenue and South Main Street corridors are due for reconstruction, as evidenced by eroded and heaving sidewalks, road surface disintegration, crumbling curb and gutters, non-ADA compliant curb ramps, and recent damage associated with flooding during Hurricane Helene. Two WATCO freight rail lines that are used for rail car storage or were in active service have fallen into disrepair and stand as transportation barriers, particularly on 7th Avenue.

f.1 | SOLUTION: Leverage reconstruction timelines and unused corridors to improve multimodal connectivity.

Roadway reconstructions offer opportunities to restore and modernize corridors for roadway users and nearby residents and businesses. On South Main Street, a road diet was implemented to reduce underutilized travel lanes from four to two and the proposals for both 7th Avenue and South Main Street employ Complete Streets approaches to make these roadways safer for all modes. The project's streetscape components include modern elements such as new and upgraded signals; new and upgraded street lighting; ADA improvements; pedestrian crossing improvements, such as curb extensions and RRFBs; bike lanes; and stormwater infrastructure.

Crossing upgrades where the rail line bisects 7th Avenue will make multimodal connections safe and accessible for all users, while also ensuring longevity of the new crossing through durable materials and components.

f.2 | CHALLENGE: Flooding impacts on infrastructure.

Regular flooding, as well as extraordinary flood events like Hurricane Helene in 2024, negatively impact low-lying infrastructure such as South Main Street and the Oklawaha Greenway. Upstream impervious surfaces, including outdated roadways, exacerbate downstream flooding.

f.2 | SOLUTION: Build flood-resilient roadways and trails.

President Trump witnessed the destruction of Hurricane Helene in nearby Asheville and Fletcher in January of 2025 and promised to rebuild Western North Carolina.

7th Avenue and South Main Street will employ stormwater BMPs like bioretention areas and pervious pavers to help mitigate runoff and minimize adverse effects on adjacent and downstream infrastructure. These practices not only diminish downstream flooding but also significantly reduce the total impervious area that can contribute to the accelerated erosion of surrounding roads and infrastructure.

The Above the Mud trail further mitigates flood impacts on nearby infrastructure by

(Cont'd on next page)

remediating acquired greyfield sites as permeable green spaces. The Oklawaha Greenway improvements will elevate an existing section of the trail that is extremely susceptible to flooding, thus improving longevity, safety, and usability. In combination, the Above the Mud components are designed to serve users of all ages and abilities, all while adapting to flooding events, addressing both upstream and downstream infrastructure impacts, and reducing future repair and maintenance costs.

f.3 | CHALLENGE: Aging roadways in small towns limits mobility.

Vehicular use of roadways degrades road surfaces and other elements, such as curbs, gutters, and striping. Ongoing maintenance costs, including resurfacing, restriping, pothole repair, and work on underground utilities, all factor into the combined cost of keeping roadways in a state of good repair.

f.3 | SOLUTION: Reduce wear and tear on roads and bridges.

This project will better manage local traffic volumes and promote walking and biking to local destinations, thereby lowering the rate of local roadway degradation and overall congestion. **A projected decrease of 426,000 miles travelled by vehicle directly resulting from the Above the Mud project will reduce roadway maintenance costs by \$38,000 over a 20-year period.**

g. | Partnership + Collaboration

The Above the Mud project grew out of a small-town desire to better connect residents with local amenities by walking and biking. As part of the Great Trails State vision, the project relies on local, regional, and statewide partnerships and collaborative processes for consensus-building and successful project delivery (See *Table 1: Key Partners*). Partners including the French Broad River MPO, NC Department of Transportation, Henderson County, advocacy groups, and community members have collaborated with the City on previous grants, studies, and plans related to the project.

Engagement for this project occurred via public meetings, project-specific websites, pop-up engagements, targeted outreach in historic neighborhoods (7th Avenue residents and businesses are priority audiences), workshops, demonstration projects, and surveys. Asynchronous and virtual options for attendance and participation were provided where possible.

Public participation for this project ensures that project outcomes closely align with public desires, that project benefits are felt broadly in the community, and that potential negative outcomes are addressed.

The City will continue to engage stakeholders during all project phases to obtain meaningful feedback.







Organizational Support

This project has received 52 letters of support, which can be viewed on the project website at www.hvlnc.gov/AboveTheMud.

TABLE 2: LETTERS OF SUPPORT

Elected Officials: NC Representative Jake Johnson (District 113), US Representative Chuck Edwards / **Non-profits/Community Organizations:** Pardee Hospital, Advent Health, Blue Ridge Bicycle Club, Friends of the Ecusta, Community Foundation of Henderson County, Hendersonville Chamber of Commerce, Council on Aging Friends of the Oklawaha, Audubon Society, Partnership for Economic Development, Carolina Mountain Club, River Link, Bike.Walk.HVL, Conserving Carolina, Friends of Downtown Hendersonville, AARP, Hendo Fun Friends, Interfaith Assistance Ministry, WNC Source, Housing Assistance Corporation (HAC), Hands On! Children's Museum, El Centro, North Carolina Main Street and Rural Planning Center (Elizabeth H Parham), Hendersonville Rescue Mission, Hola Carolina, Boys & Girls Club of Henderson County, Partnership for Health, NAACP, Carolina Village, Aging Projects Inc., True Ridge, Mountain True / **Schools:** Mountain Community School, Henderson County Public Schools, Blue Ridge Community College, Wingate / **Government & Boards:** NCDOT, Land of Sky Metropolitan Planning Organization, Apple Country Transit, Henderson County (including Health Department, Committee for Activity & Nutrition, and Parks & Rec.) Hendersonville Police Department, City of Brevard, Laurel Park, Hendersonville Housing Authority, Hendersonville Environmental Sustainability Board / **Business:** Kimberly Clark

TABLE 3: KEY PARTNERS

PARTNER NAME	TYPE	ROLE AND BENEFIT TO PROJECT
 <p>City of Hendersonville</p>	Local government	The City is the grant applicant and will be responsible for maintenance of the project components.
 <p>Henderson County</p>	County government	Will work with the City during design of the project to ensure the needs of local residents and park users are met.
 <p>French Broad River MPO</p>	Regional planning organization	The French Broad River MPO is an important regional planning partner, closely consulting on plans and studies central to this project.
 <p>NC Department of Transportation</p>	State DOT	NCDOT will provide project administration , bringing broad experience managing federal funds, as well as staffing and resources.
 <p>Friends of Ecusta Trail</p>	Local nonprofit	Partner in funding, building public support, and advocacy for trail.
 <p>Blue Ridge Bicycle Club</p>	Regional advocacy group	BRBC is an invaluable advocate for this project and will continue advocacy, consulting, and stewardship of the Greenway.

h. | Innovation

The Above the Mud project will implement innovative project management, funding, and design methods.

Innovative Design Elements

- Stormwater best management practices (BMP) and Low Impact Design (LID) elements.
- Tree trenches with suspended pavement systems, permeable pavers, and native-planted bioretention areas that capture stormwater runoff.
- Proven safety countermeasures, such as RRFBs, road dieting, separated ped / bike facilities, and curb extensions.
- Active flood level monitoring gauges will make decision-making around closures and maintenance more responsive and efficient.
- City trucks with onboard work order systems to manage maintenance needs.
- Post-construction monitoring sensors providing realtime feedback.

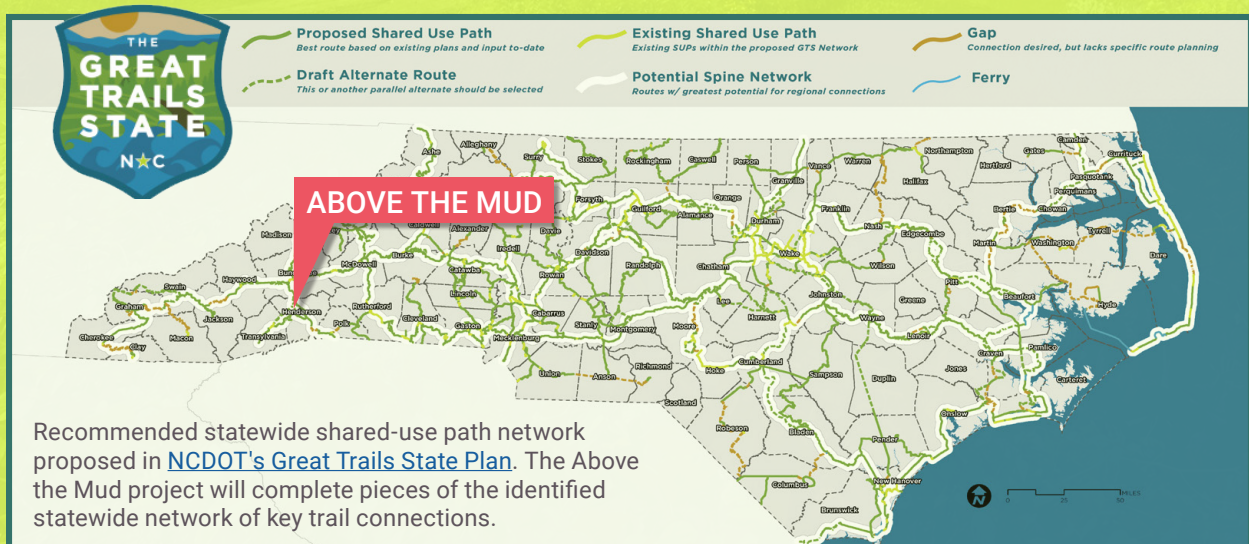
Integrated Project Planning

The Lower Mud Creek Floodplain Restoration project and NCDOT U-6049 South Main Street roundabout project are being designed to seamlessly integrate with the future Above the Mud Greenway by preserving the railway footprint, allocating large retention basins in the floodplain, and maximizing future construction efficiencies.

Innovative Finance and Project Delivery

Public-private partnerships financing of this trail has been an innovative approach. The backing of several non-profits who can fundraise millions of dollars, NCDOT, and local government, creates a solid front for funding success. As administrator of the project, NCDOT will use advanced management of programs and delivery processes to ensure funds are properly administered, and to streamline all phases of the project.

In 2024, the City of Hendersonville won three NCDOT Mobi Awards for the Oklawaha Greenway, including an award for innovative mobility.



Source: NCDOT

04 PROJECT READINESS

PLANNING + CONSTRUCTABILITY

Listed on Statewide Transportation Plans

Component 1: The Above the Mud Greenway is in a draft list of projects being considered for inclusion in the 2026-2035 TIP/STIP and was recently listed as a regional priority by the French Broad River MPO, but is still going through prioritization for final ranking.

The other project components have not been submitted for prioritization and are being led locally by the City.

Consistency with Other Plans

The following plans identify one or more project components:

- **French Broad River MPO's Metropolitan Transportation Plan (2016)** includes the Above the Mud Greenway component of this project.
- **Hendersonville "Gen H" Comprehensive Plan (2024)** - This project is included within the Safe Streets and Trails short-term project portfolio.
- **Above the Mud Greenway Feasibility Study (2024)** - This study looked in detail at Component 1 of this application.
- **Parks & Greenspace Master Plan (2024)** - This city-wide Plan identified Component 3 as a priority project.
- **Hendersonville Sustainability Strategic Plan (2024)** - The 7th Avenue component is ranked highest among bicycle project recommendations.

- **Hendersonville "Walk Hendo" Pedestrian Plan (2023)** - Component 2 ranked highest among all priority projects listed in the Pedestrian Plan.
- **Oklawaha Greenway Feasibility Study (2022)** - This study identified the cost and need for Component 1.
- **Hendersonville Bicycle Plan (2017)** - The 7th Avenue component of this project ranked highest among all priority projects listed in the Plan.
- **French Broad Hellbender Regional Trail System Plan (2020)** and **Great Trails State System Plan (2022)** - these regional and statewide trails plans both identified Component 1 as an important piece in the regional and statewide network.
- **Ecusta Rail Trail Planning Study and Economic Impact Analysis (2012)** identified Component 1 as a priority.

Freight Plans

This project is not a freight project and is not included in the State Freight Plan.

Property Acquisition / Right-of-Way

Component 1 ROW: Permanent acquisition of right-of-way has either been completed, is soon to be completed, or is already within public ROW. The Above the Mud Greenway includes a property acquisition north of South Grove Street, adjacent to Mud Creek that is currently under contract. NCDOT has acquired 502 and 508 South Main Street as part of their U-6049 project and is in the process of giving the properties to the City so that the Above the Mud Greenway can be constructed. The City or the County own the remainder of land slated for the trail.

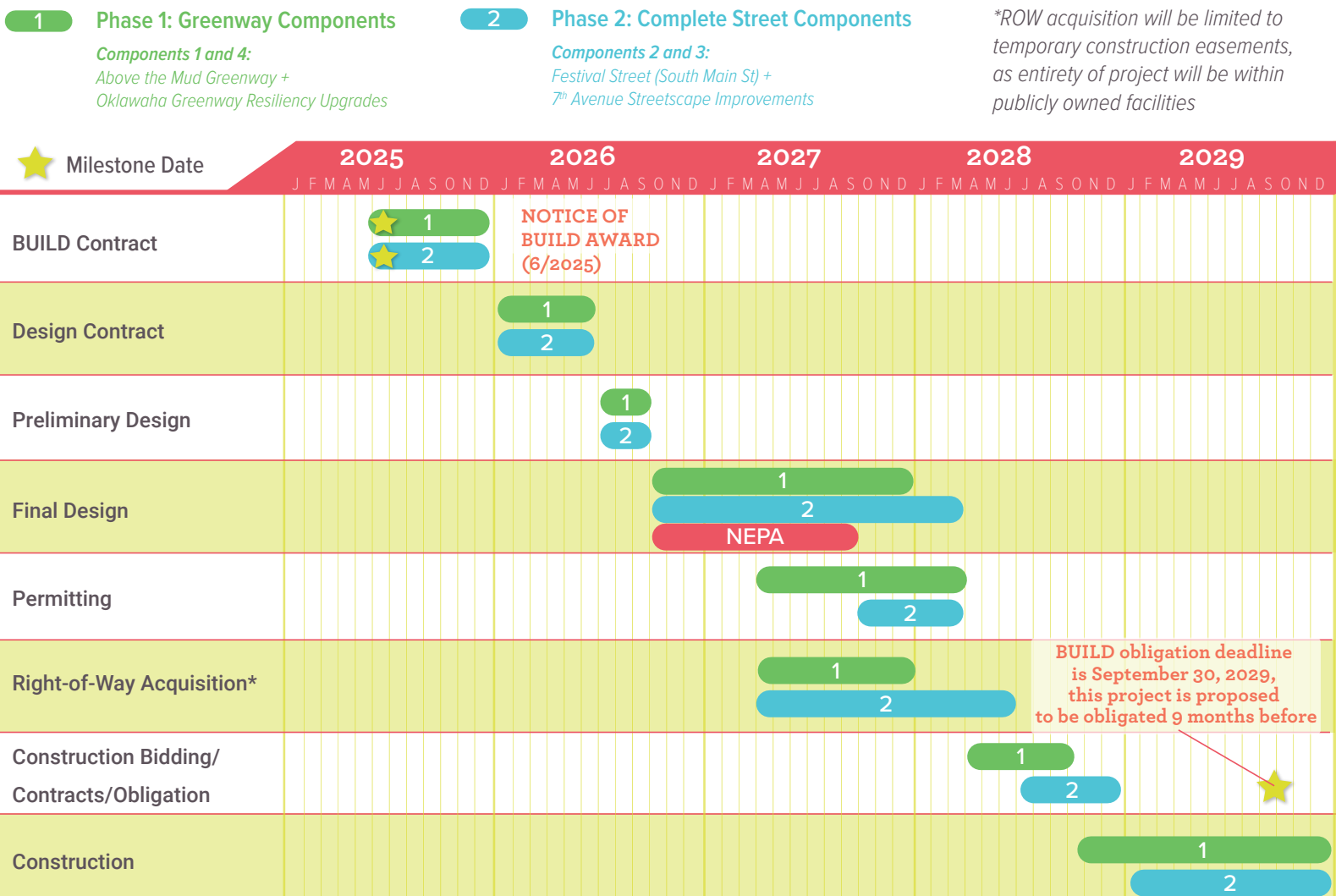
Components 2, 3, and 4 ROW: The 7th Avenue and South Main Street components will be in public ROW and will only need temporary easements for minor construction impacts, including driveway adjustment tiebacks and cut and fill beyond the ROW. The Oklawaha Greenway component (Component 4) is on County park property and will not require additional acquisitions or easements.

PROPOSED SCHEDULE

The project will be delivered in two phases: Phase 1 consists of Components 1 and 4 (greenway projects) and Phase 2 consists of Components 2 and 3 (streetscape projects). All project components are currently in the planning phase. Project phases will be delivered in tandem. (See Fig. 1, Proposed Project Schedule).

In the project estimate, BUILD funds are allocated for preliminary and final design (including environmental and NEPA), ROW acquisition, construction, construction inspection & management, and administration.

TABLE 1: PROPOSED SCHEDULE AND PHASING



CONSTRUCTION TECHNIQUES AND PHASING

This project does not require non-standard project delivery methods or phasing. The project does incorporate stormwater best management practices and the City has successfully constructed projects that feature these stormwater elements.

NEPA AND PERMITTING

An overview of current and needed NEPA:

- **NEPA Class of Action:** No previous NEPA class of action is associated with this project and the project is anticipated to meet the criteria for Categorical Exclusion, Level 1, satisfying NEPA requirements.
- **NEPA Status and Milestones:** The NEPA process for this project is not started, underway, or complete, because the project is anticipated to meet the criteria for Categorical Exclusion, Level 1, to satisfy NEPA requirements.
- **Link to NEPA Documentation:** N/A
- **Reevaluation and Post-Approval Changes:** N/A

Permits and Approvals

Anticipated permit requirements include USACE Section 404 Permit, NCDEQ Section 401 Water Quality Certification Permit, Categorical Exclusion, Level 1a or 1b, NCDEQ NPDES General Permit, Floodplain Development Permit (City of Hendersonville with “No Rise” and/or CLOMR/LOMR), and NCDOT Encroachment Permits.

Coordination with DOT/Lead Agency for NEPA

Two NCDOT roadways may be impacted. South Main Street may have minor impacts on S King St (US Rt 25) and the trail crossing for the Above the Mud Greenway may have minor impacts on S Grove St. These impacts will require an NCDOT encroachment permit. As the manager of the BUILD grant, NCDOT can also be the coordinating agency for NEPA.

PROJECT SUPPORT

The project is supported by over a decade of previous planning efforts, studies, and public engagement showing strong technical feasibility and public support. Plans, studies, and built work that featured, prioritized, and garnered public support are listed in the Project Description chapter.

Public and Agency Involvement Process

Planning efforts consistently engaged the public to maximize positive project outcomes for Hendersonville residents, business owners, and visitors. Engagement formats included public meetings; public websites with project information, updates, and surveys; pop-up engagements at existing community events; targeted outreach in historic neighborhoods (especially for 7th Avenue) adjacent to project components; local business outreach and support. Overall support has been strong for each component in this proposed project. For a full timeline of public engagement, see the Project Description section.

Public and Agency Involvement Results

Over 580 members of the public have been engaged in this grant, with over 95% in support of the project components on average. A summary of public engagement from the different planning processes is available on the project website at www.hvInc.gov/AboveTheMud.

Letters of Support

Over 52 organizations have submitted letters of support for the project. These letters can be viewed on the project website at www.hvInc.gov/AboveTheMud.

RISKS AND MITIGATION

Procurement Delays

The City and NCDOT have extensive experience with procurement and are confident in their ability to manage delays.

Environmental Risk Assessment

The following risks and mitigation strategies include:

- **Hazardous Waste sites:** The project is anticipated to meet the criteria for Categorical Exclusion, Level 1, to satisfy NEPA requirements. No components of the project include brownfield sites. Component 1 (Greenway) passes through a Pre-Regulatory Landfill Site (Henderson Dump¹) in Jackson Park that poses no immediate hazard, and disturbance will be minimized. Component 2 (7th Avenue) permanent access components will be designed within the existing public ROW, which is

adjacent to a privately-owned site that was part of the NC DEQ Drycleaning Remediation Program and was issued a “No Further Action” determination in 2011 (Blue Ridge Cleaners).

- **The Regulatory Floodplain:** Component 4 (Boardwalk) will require cut and fill earthwork within the FEMA floodway to alleviate existing trail flooding issues. This will require demonstrating a “no-rise” impact to the 100-year flood elevation by implementing compensatory cuts, and/or approval of a CLOMR/LOMR. Component 1 (Greenway) is designed at-grade within the FEMA floodplain/floodway, which is likely to demonstrate a “No Rise” impact.

Cost and Local Match

The streetscape and greenway phases of this project borrow from planning and bid-level cost estimates of previous plans, studies, and construction projects and have been updated by City staff and engineering consultants to reflect refined designs and present NCDOT bid data. The City has dedicated \$1,600,000 in local match for utility, sidewalk, and ADA improvements in conjunction with South Main Street and 7th Avenue.

Impacted Communities

The project is not expected to negatively impact local or regional communities and is supported by over a decade of previous and ongoing planning efforts, studies, and public engagement showing strong support among local, regional, and state partners;

¹ NC DEQ Division of Waste Management, Brownfields Redevelopment Section Database

local and regional advocacy groups; local business owners; and the public. Prior concerns such as the risk of displacement or reduced traffic to local businesses during construction, have been addressed via project design changes and construction-phasing to accommodate businesses.

Legislative Approval

This project was approved by a resolution passed by Hendersonville City Council on January 8th, 2025 and is not expected to carry additional risks related to legislative approvals. The city council has also passed a resolution ensuring support for the project and dedicated match.

TECHNICAL CAPACITY ASSESSMENT

NCDOT will serve as grant administrator for the project, having broad experience managing federal grant funds and projects. The City will support their project management with involvement in the construction processes. NCDOT will ensure project tracking and overall compliance.

Federal Funding Experience + Regulations

Both NCDOT and the City have experience managing federally funded projects. NCDOT has managed several BUILD grants and the City’s federally funded grant projects include the New Freedom and ARPA funded projects and multiple phases of the Oklawaha Greenway (see Table 2). NCDOT and the City are familiar with federal procurement requirements, Buy America, ADA requirements, Title VI/Civil Rights,

and the Davis Bacon Act. The Uniform Relocation Assistance and Real Property Acquisition is not applicable.

Project Planning and Delivery

The City regularly works with the French Broad River MPO to incorporate projects into their planning process, of which Component 1 of this project is currently integrated into. The City recently completed the first phase of the 7th Avenue Streetscape Project and the size, scope, and complexity of the 7th Avenue component of this project (Component 2) is similar. North Main Street was completed in 2013 and the size, scope, and complexity for the South Main (Festival) Street component of this project is generally lower. The City designed, bid, and managed the construction of the 3.5-mile Oklawaha Greenway. The size, scope, and complexity of the Above the Mud Greenway component of this project is lower.

TABLE 2: CITY FEDERAL FUNDS EXPERIENCE

FHWA / SAFETEA-LU / New Freedom	
Oklawaha Greenway	2002, 2009, 2017
Clear Creek Greenway	Ongoing
US 64 Sidewalks	2017
ARPA / LASII	
Lower Mud Creek Flood Mitigation	Ongoing
Wastewater Treatment Facility Improvements	2024, 2025
US EPA State Revolving Funds / 319	
Jackson Park Sewer Interceptor	2015
Wolfpen Sewer Interceptor	2015
Shepherd Creek Sewer Improvements	2016
Patton Park Stormwater Retrofit	2020
7th Ave Streetscape Stormwater (Phase 1)	2024
Fire Station 1 Green Infrastructure	2024
Sullivan Park Stream Restoration	2024
Multi-Area Streambank Restoration	2022
Mud Creek Interceptor	Ongoing
Ashe/4th Water & Sewer Improvements	Ongoing
French Broad River Intake & Pumping Station	Ongoing
HUD CDBG	
Grey Hosiery Mill	2020
7th Ave Area Home Repair / Sidewalk	Ongoing
USDA Rural Development	
Hendersonville Police Headquarters	2021