

Durham-to-Roxboro Rail Trail Planning Study

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In Partnership with:



Overview: Durham County, in partnership with the City of Durham and the East Coast Greenway Alliance, is requesting funding to conduct the Durham-to-Roxboro Rail Trail Planning and Feasibility Study to evaluate the impact of converting 18-miles of an inactive rail corridor in Durham County into a multi-use trail. If developed, the trail will create 26-miles of bicycle and pedestrian connections linking the City of Roxboro in rural Person County (population 39,127), several unincorporated communities within Durham County, and the northern portion of the City of Durham's urban core. Approximately 43,485 residents of Durham County live in the area surrounding this corridor. The trail would transform a nuisance barrier into a mobility access point connecting to jobs, education, and community centers, with additional connections to the County's network of greenways and public transportation, including downtown's Durham Rail Trail and GoDurham public transportation bus routes. With an emphasis on historical context and equitable engagement and development, the rail trail will improve walkability, pedestrian safety, and access to affordable transportation for individuals in the northern portion of the County, many of which live in areas of persistent poverty. Person County has already begun a feasibility study for their 8-mile segment of the trail, so it is critical for Durham County to begin a similar process now to ensure efficient development of the trail.

Like many areas in the South, Durham County has a history of slavery and segregation. The Bennehan-Cameron Plantation, one of the largest in North Carolina existed in the region along the rail corridor and enslaved approximately 900 individuals before the Civil War (Bragtown Community Association). The Stagville State Historic Site now resides on the location of the former plantation. Many enslaved people from this plantation settled in Bragtown and other neighborhoods along the proposed rail trail after the end of the Civil War. Today, many of the neighborhoods along the rail corridor are still high minority population, low-income communities and many are historically disadvantaged communities (DACs).

The inactive rail corridor creates a physical barrier within these communities and makes traditional transportation investments difficult and costly due to the need for rail crossings and prior approval from current owner Norfolk Southern. The absence of public transportation networks or safe, accessible, non-motorized transportation options in the northern part of the project area has forced an over-reliance on automobiles – all Census tracts along the project corridor have higher single occupancy vehicle commuting rates than the county (77%) - community sprawl and isolation, and limited access to education, employment, and health care facilities for households without cars. Economic mobility and access are hindered by this disconnection – median household income in the project area remains well below the County average and one tract (17.01) has roughly half the median household income of the County.

Durham County will welcome a projected 100,000 individuals over the next 20 years (growing by 30%), with a large portion of the growth in the project area. Census tracts in the project area have seen skyrocketing residential building permits in the last 10 years (as much as 2000%). There is an urgent need to mitigate the area's connectivity barriers and reduce reliance on cars. This study will also explore strategies to ensure that the trail does not serve as a driver for housing displacement in these areas. Durham County is committed to ensuring that this trail can be utilized by our existing communities and new residents alike and serves as a quality-of-life improvement for both.

The conversion of the corridor into a robust rail trail will create opportunities for connectivity across economic, social, and environmental spaces. Along the proposed project area are multiple public schools, Durham Technical Community College's North Campus, several employment centers, the Stagville State Historic Site, and multiple conservation and natural areas. By linking employment centers and educational institutions like Durham Technical Community College, the trail will provide low-cost commuting and connectivity options for County residents to livable paying jobs with opportunity for economic mobility. The study will prioritize identifying feasible, new access points to schools and employment centers to ensure the trail can provide accessible employment opportunities. The trail will also bring wider scale economic impact as a new segment of the East Coast Greenway (connecting Florida to Maine), a part of the North Carolina Department of Transportation (NCDOT) Great Trails State Plan Network, and an intersection with the Mountains-to-Sea Trail.

The project offers potential benefits for health and wellness, community cohesion, cultural awareness, accessibility and connectivity to public transportation, and new place-based educational opportunities for youth and adults. Residents, especially Black and Latinx populations, along the trail have higher rates of stroke, heart disease, and diabetes than other parts of the County, and very limited access, if any, to pharmacies, clinics, and medical centers. As the proposed rail trail will connect into existing GoDurham public transportation routes, residents will have new mobility options for accessing regional health centers, commuting to school or work, and connecting to safe, robust outdoor recreation networks. Treyburn Corporate Park and Welcome Venture Park are two job centers along this corridor that provide high wage jobs for individuals with and without college degrees. The trail will also pass the Stagville State Historic Site – a portion of the State's once largest plantation – that is dedicated to teaching about the lives of the 900 enslaved persons who lived and worked there. Building on the County's focus on public art, civic and cultural education, and preservation of history, the trail will proactively engage users with the built and natural environment along the corridor. The trail will also build on bike safety and ridership momentum in the County – in 2022 more than 16,000 students participated in Bike, Walk, & Roll to School or bike safety events – and further local Vision Zero initiatives through safe, alternative travel routes.

The trail will be a critical tool for environmental conservation, a reduced carbon footprint in the area, improved biodiversity, air and water quality improvements, and stormwater management. By connecting a large amount of business, education, health, and leisure facilities, the Durham to Roxboro Rail Trail can reduce carbon and other tailpipe emissions across the County, particularly during a period of exponential population growth in the project area. The corridor could also serve as an extension of open space currently sited along the trail's path as well as provide a stormwater buffer for creeks and rivers along its path. Finally, conversion of the corridor to a trail will allow nearby residents and businesses to continue to be avoid noise pollution that would accompany an industrial land use, such as the former rail line.

Location & Map: The rail line (operative between 1890 and 1983) is owned by the Norfolk Southern Corporation, which is cooperating with our study. The current rail alignment travels 18-miles, connecting to the Person County border and passing through the unincorporated communities of Rougemont (pop. 750) and Bahama (pop. 6,032), with a southern terminus in the City of Durham (pop. 285,527). This corridor will ultimately connect to the future Durham Rail Trail and a national network of trails within the East Coast Greenway System. The corridor includes 8.45-miles within the City of Durham's Urban Growth Boundary and 9.8-miles outside.

At its northern starting point, the corridor follows the western side of U.S. 501 through Rougemont before diverging to follow Quail Ridge Road/Stagville Road through Bahama. At Treyburn Corporate Park, the alignment crosses Old Oxford Road and begins running parallel on the west side. Upon reaching city limits, the corridor diverges from Old Oxford Road and crosses I-85 before turning west to connect into the future Durham Rail Trail at Avondale Drive. This corridor also connects to the future Eno River Trail Extension and into the Mountains to Sea Trail just south of the crossing with Old Oxford Road. North of this intersection there are few bicycle and pedestrian facilities currently available and none which provide connectivity to the southern part of the County or the greater trails network.

The corridor includes Census tracts with a high percentage of individuals identifying as a minority and a high percentage of individuals below the poverty line. All seven project tracts have more than 20% minority residents, two tracts have between 80-100%.



Five tracts have at least 10% of the population under the poverty line, three with 20-30%. All project tracts have at least 100 households without a car and one (Tract 17.09) has over 300 households without a car. The corridor is bordered by tracts with some of the highest populations under 18 and over 62 within Durham County. Maps below provide a visual representation with greater detail.

The southernmost segment of the corridor has an urban setting that turns suburban and then rural as the corridor moves north. Land use adjacent to the corridor follows a similar pattern, with higher density residential and commercial properties within city limits and then lower density residential, agricultural, and open space uses characterizing the northern 9.8-miles. Within a half-mile of the corridor there are 69 commercial, 64 agricultural, 123 industrial, and 3,342 residential properties. The remainder of the adjacent parcels are vacant land and a sizable amount of protected open space that has a mix of public, private, and non-profit ownership. Near the corridor is a range of notable uses that span education, recreation, business, and historic and cultural resources.

Equity and Environmental Justice: Durham County has a history of slavery and segregation, leading to red lining of neighborhoods and harmful practices that have deterred wealth building for the County's Black population. This includes several plantations in operation during the height of slavery, including the Bennehan-Cameron Plantation, whose historical site is located along the identified corridor. Although a painful part of history, with deep challenges still existing today, the County acknowledges this history and aims to incorporate it into the trail's outreach and educational opportunities.

According to the Climate and Economic Justice Screening Tool (CEJST), four of the seven Census tracts that the corridor transits in Durham County are considered DACs. These are outlined according to their racial compositions and disadvantages in the table located on the next page.

As demonstrated by the data, the proposed trail will benefit several Census tracts that are considered DACs and are overwhelmingly low-income, minority populations. The proposed trail will also connect to the City of Roxboro – 41% Black and 14% Hispanic - which has faced decades of public and private disinvestment and has 40% of all residents below the poverty line. Although our funding request is for Durham County's portion of the trail, the project will ultimately connect Durham to Roxboro, mitigating economic and mobility challenges, and increasing multimodal access to daily destinations for residents of both communities.

The project is founded on the principles of environmental justice, incorporating a three-pronged focus on prevention, response, and recovery. Through the study, the proposed trail will be designed within a broader community resilience strategy, integrated with County-wide resilience measures, and intended to mitigate the impacts of climate-related disasters within the project area. Using a multifaceted approach to stakeholder engagement, modeled on the City of Durham's *Equitable Community Engagement Blueprint*, the study will prioritize local communities, particularly those that are DACs or underrepresented, to have a voice in the decision-making process, ensuring that both environmental sustainability and social equity are at the forefront of the project. A climate vulnerability assessment will be conducted in parallel to

Census Tract and Racial Composition (from CEJST)	CEJST Disadvantaged?	USDOT Equitable Transportation Community Explorer Disadvantage	RAISE Persistent Poverty Tool
1.01; 54% Black; 13% Hispanic/ Latino; 33% White	Yes: Low-income; Above 90 th percentile for underground storage tanks and releases	Social vulnerability. Environmental Burden: Hazardous sites proximity, high-volume road proximity, and impaired surface water.	Meets the definition for an area of persistent poverty and the definition for a historically DAC.
2; 20% Black; 27% Hispanic/ Latino; 50% White	Yes: Low-income; Greater than 90 th percentile for traffic proximity and volume. Greater than 90 th percentile for underground storage tanks and re-	Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability. Transportation Insecurity: Transportation cost burden and transportation safety.	Does not meet the definition for area of persistent poverty or historically DAC.
17.09; 71% Black; 14% Hispanic/ Latino; 10% White	Yes: Low-income; 90 th percentile for average energy cost; above the 90 th percentile for people with asthma and low life expectancy. 90 th percentile for the share of people in households where income is at or below	Environmental Burden: impaired surface water and hazardous sites proximity.	Meets the definition for an area of persistent poverty and the definition for a historically DAC.
18.01; 42% Black; 30% Hispanic/ Latino; 26% White	Yes: Low-income; Above the 90 th percentile for expected agriculture loss rate from climate change.	Transportation insecurity and social vulnerability. Climate and Disaster Risk Burden: annualized disaster losses. Environmental Burden: PM 2.5 levels, risk management site proximity, and railways proximity.	Meets the definition for an area of persistent poverty and the definition for a historically DAC.

stakeholder engagement to gauge how climate change could affect the trail and its surrounding ecosystem and inform resilience measures in design.

For example, warmer summer temperatures continue to contribute to the Urban Heat Island within the City of Durham. The 2021 Urban Heat Island Temperature Mapping Campaign, conducted by the North Carolina State Climate Office, showed the area between U.S. 501 and I-85 (Gorman and Bragtown neighborhoods) to have some of the highest afternoon temperatures and heat index values within the City of Durham. The corridor runs right through the middle of this heat zone and its conversion to a trail would provide additional greenspace and cooler adjacent temperatures for a traditionally underserved area.

At its core, the project will encourage the use of non-motorized travel within the county with the goal of lessening emissions along the corridor. To expand the project's long-term environmental benefit, the study will prioritize incorporating climate resilience measures, such as heat-resistant materials, effective drainage, and natural elements to act as buffers, and emphasizing the use of low-carbon, recycled, or reclaimed equipment and materials to minimize lifecycle GHG emissions. The study will incorporate the use of environmental safeguards such as permeable surfaces to manage stormwater, limit soil erosion, and protect water quality. An environmental impact assessment will also be conducted to anticipate and mitigate adverse effects on air and water quality, wetlands, and endangered species.

The study will also explore design opportunities that ensure the long term viability of the trail, even in the event of severe environmental stress, in order to maintain transportation links and social cohesion within the community. As natural disasters like floods, heatwaves, and storms often have disproportionate impact on DACs, the trail's potential role in community resilience against such calamities will be carefully evaluated. The rail trail study will serve as a model for sustainable and socially equitable infrastructure. Beyond minimizing harm, the project proactively contributes to the well-being of several DACs (and the broader Durham community) while aligning with broader climate goals.

Access: The planned trail will convert a decades-long derelict rail corridor into a trail path, transforming an 18-mile physical barrier into a safe and connective pedestrian and bicycle throughfare. The trail would create new opportunities for both lateral East-West connections, previously obstructed by the inactive rail corridor, as well as new South-North connections to and from communities along the corridor. While GoDurham Route 9/9A/9B serves the southern part of the corridor, northern Durham County is not served by regular public transit service. The trail will provide opportunities to combine bus and walking or biking trips to expand the reach of the transit network.

Currently, the corridor lacks paved trails and other bicycle and pedestrian infrastructure. Once built, the trail will provide access for many residents to a traffic-separated, multi-use path for safe, affordable, active, and accessible transportation connections to daily destinations including four public schools, Durham Technical Community College's Northern Campus, Durham County Library's Bragtown Branch, numerous job sites (including Treyburn Corporate Park and Welcome Venture Park), commercial areas, places of worship, and residential areas. Furthermore, the connection to the Durham Rail Trail will provide a short connection to downtown Durham, the County's cultural and employment center.

The trail will also make meaningful car-free connections to cultural and recreational sites and natural areas, including Stagville State Historic Site, two State Trails (East Coast Greenway and Mountains-to-Sea Trail), the soon-to-be constructed downtown Durham Rail Trail, City parks and nature preserves (including Lakeview Park, Red Maple Park, Penny's Bend Nature Preserve, Horton Grove Preserve), and waterways (Eno River, Little River, Lake Michie).

Facility Suitability: The project aims to transform a corridor currently plagued by barriers to access, mobility, and economic development into a vibrant and useful public space. Currently, the lack of safe and accessible non-motorized transportation options has forced an over-reliance on automobiles, effectively cutting off communities from each other and creating a stagnant environmental burden within the community. The rail trail will reconnect these isolated areas, providing a safe, cost-effective, and sustainable pathway for residents to live, work, and play, while simultaneously decreasing GHG emissions and creating the opportunity to normalize alternative modes of transportation in nearby communities.

Failing to address the current and projected vulnerabilities along the inactive rail corridor would impact the efficiency of the local transportation network, economic prosperity, and public health and response. The current absence of alternative transportation routes in these communities has led to increased automobile traffic congestion, inhibiting the smooth flow of goods and restricting people's ease of movement. Economically, the restricted mobility and accessibility are likely to stifle local businesses and even drive down property values. All the project tracts have been identified as medium and high risk for flooding and road access loss during severe weather events and need additional access points and transportation routes. Finally, the scarcity of safe, accessible spaces for recreational activities and community connectiveness and cohesion could worsen existing health problems, including rates of obesity, heart disease, diabetes, that are prevalent in the project area. The rail trail would address those vulnerabilities by providing a multi-use pathway for both transportation and recreation that is integrated into the broader public transportation network and serves as a key mobility corridor, ultimately enhancing community resilience, and paving the way for a more sustainable and interconnected future.

Community Engagement and Community-based Stewardship, Management, and Partnerships: This project will include a well-orchestrated Community Participation Plan (CPP) that will involve residents in each stage of the development process, from inception and design to its construction and eventual operation and fosters transparency by requiring decisions and timelines to be openly communicated and tracked. The CPP will be grounded in the City of Durham's *Equitable Community Engagement Blueprint* to ensure planning emphasizes a community-centered approach and finds a solution that meaningfully addresses inequities and benefits DACs along the corridor. The Blueprint lays out the following parameters for equitable engagement in this project: "aim for participation from a group representative of a community's geography, race/ethnicity, age, gender, and other demographic characteristics... and place specific emphasis on those who will be most adversely impacted by the project and those who are most often marginalized in these conversations."

The plan will embrace multiple methods of community interaction including town halls, focus groups, online forums, surveys, weekly office hours, and interactive mapping to ensure inclusive engagement and offer various forms of expression for community members. Recognizing the diversity of the affected community, the plan will include culturally sensitive outreach strategies and leverage the City of Durham's Community Partners Program that is proficient in local languages/dialects and offer translated materials to broaden participation. Engagement will be held online, across social media and in localized events at community centers, religi-

ous institutions, schools, or other locations identified in partnership with community-based organizations to reach residents across geographies and with limited mobility. To ensure ongoing, meaningful community involvement throughout the project's life cycle, the project will establish a representative Community Advisory Group that will oversee the implementation of community-driven priorities and will act as a liaison between the community and the project team. Member selection will prioritize residents of DACs and a diverse demographic representation. To promote long-term community engagement in planning for the use of the rail corridor, multiple strategies for long-term trail management will be evaluated as part of the planning study including utilization of existing land trust organizations or creation of a new community land trust.

Formal partners include Durham County, City of Durham, Person County, East Coast Greenway Alliance, and Central Pines Regional Council. Community-based organizations such as the Bragtown Community Association, the Stagville Descendants Council, Bike Durham, the Durham Bicycle and Pedestrian Advisory Committee, and the Durham Open Space and Trail Committee will assist with community outreach. As the applicant, Durham County will prioritize the selection of a project consultant who has demonstrated success in performing and implementing inclusive and intentional engagement practices. This may be a community-based partner with a consulting firm for the process's technical aspects.

Equitable Development: The proposed project will incorporate creative place-making that recognizes local history and culture along the corridor at the Stagville State Historic Site, formerly of one of the largest plantations in North Carolina with approximately 900 individuals enslaved on the property. The study will evaluate possibilities for creative place-making and remembrance, including naming of the trail and programming such as regular history tours or walks, and partner with the Stagville Descendants Council and Memorial Project to portray the histories of the enslaved residents through education and art along the trail..

An equity assessment will be conducted to ensure that the project serves all communities, particularly DACs. The assessment will identify whether the project will create proportional benefits and alleviate transportation and social-related disparities, while also evaluating access to the trail, the types of services and connectivity it offers, and how it impacts different population groups. By looking at data related to existing transportation options, public services, and demographics, the assessment will determine how to best implement the corridor to serve as an equitable solution for diverse communities.

The project will be intentionally designed to ensure that at least 40% of its benefits are directed towards DACs across a range of outcomes. By linking major hubs, the corridor will offer an affordable transportation solution to employment opportunities and work centers while prioritizing safety through adequate lighting, emergency contact points, and well-kept pathways. The trail will improve overall quality of life by reducing GHG emissions and congestion by offering new ways to bike and walk while connecting community members to essential resources like recreational spaces, schools, and neighborhood areas. Increased accessibility will be achieved by placing trailheads and access points in these areas, ensuring they are well-served by public transport links to the completed corridor, and by prioritizing features that are of particular im -

portance to these communities, such as ramps for easy wheelchair access or educational signage on local history and ecology.

Finally, the trail will connect to existing and upcoming affordable housing units including Oxford Manor, a 172-unit public housing complex in Bragtown, and several approved developments with 374 units affordable at 60% AMI or less.

Climate and Environment: The planning study aims to show how the project can maximize environmental benefits while advancing sustainable mobility within Durham and neighboring counties. Turning the corridor into a rail trail will provide carbon-free transportation options to more residents and visitors, while expanding and preserving the existing natural area and environmentally sensitive infrastructure. The project would align with several objectives of the Durham City-County GHG Inventory and Local Action Plan, including integrating non-motorized transportation into transportation and land-use planning, utilizing planning practices and design standards to accommodate the widest range of uses, and implementing school and campus transportation strategies to promote alternative transportation access to four education facilities and reduced idling and congestion during peak hours. Preliminary research suggests that the conversion of this corridor into a trail would provide significant human, environmental, and climate resiliency benefits, and could be the foundation of continuous investment in emissions reduction in the project area. The trail would improve access for two core underserved groups: rural residents in the northern part of the County and transportation deficient neighborhoods in the northwest portion of City limits. Upon implementation, the trail will provide residents new access to the broader public transportation network and will amplify usage of active transportation modes, creating a recreational trail and active mobility corridor with connections to business, education, health, and leisure facilities.

Additionally, the converted corridor could serve as a buffer area, representing a continuation of the protected open space and a stormwater buffer for the creeks and rivers that it parallels and crosses. The County is expected to continue facing extreme precipitation events and the corridor can act as a flood zone and runoff buffer, concurrently managing stormwater runoff and providing extra space for excess water during extreme precipitation events. An element of the planning study will determine how to maximize this benefit since the corridor passes through significant water features including Ellerbe Creek, Eno River, and Little River. As the entire corridor's length features adjacent creeks and protected watersheds, an expanded runoff buffer will be vital to reduce stormwater pollutant runoff from nearby agricultural and industrial operations.

Further, warmer summer temperatures continue to contribute to the Urban Heat Island within the City of Durham. The 2021 Urban Heat Island Temperature Mapping Campaign, conducted by the North Carolina State Climate Office, showed the area between U.S. 501 and I-85 (Gorman and Bragtown neighborhoods) to have some of the highest afternoon temperatures and heat index values within the City of Durham. The corridor runs right through the middle of this heat zone and its conversion to a trail would provide additional greenspace and cooler adjacent temperatures for a traditionally underserved area. Residents of adjacent communities can only access nearby open spaces via car; as such, the corridor would also serve as an active mo -

bility connection to parks and greenspaces that residents in this area currently lack. The proposed planning study will help us determine the extent of the benefits that the conversion of this corridor could provide in terms of both climate mitigation and resilience.

Workforce Development and Economic Opportunity: Evolving the corridor from an inactive rail line to a trail-type corridor, allows both the City and County of Durham to leverage it as a tool to support wealth creation and economic growth for the surrounding communities. Through the planned community-driven engagement process, the project will emphasize preservation of the culture and priorities of those that live along the corridor. Minimizing displacement and gentrification of nearby residential units and businesses will be a critical component of the planning process. Further, outdoor spaces such as trails and greenways can boost economic and tourism activity in their communities, resulting in further investment into community streetscapes, amenities, and infrastructure. Development of outdoor space and alternative modes of transportation also play a significant role in improved health, including reducing the risk of disease and obesity, while improving mental health and lowering stress levels. Correlated economic outcomes can include improved work productivity, higher job satisfaction, and less sick time away from work.

Further, the corridor passes directly through the historic boundaries of the Bennehan-Cameron Plantation. This land and nearby downtown Bahama and Rougemont are eligible for the National Register of Historic Places and with increased foot traffic and tourism, there may become increased opportunity to tap into historic preservation funding – thus enhancing investment into communities that have been historically disinvested. The economic and workforce trends that can follow from the development of the corridor will filter into the small businesses and downtowns of affected communities, all the way up to Roxboro within Person County, greatly improving economic benefits in nearby rural and DACs. Small businesses are the backbone of rural communities and catalyze entrepreneurship in a community. A developed corridor for outdoor space can lead to job growth, boost revenue, enhance community pride, and increase nearby property values. Thus, generating greater wealth for those who live and operate businesses in the community, while circulating money back into the local and regional economy.

Throughout the engagement process, we will pull in nearby businesses and those who represent potential future nearby businesses, with an emphasis on participation from disadvantaged business enterprises, minority-owned businesses, women owned Businesses and 8(a) firms – to ensure that the implementation phase truly represents the needs of the surrounding business owners and their workforce. Further, North Carolina has the second least number of unions in comparison to the rest of the country, only behind South Carolina. Because of this, North Carolina is somewhat limited in advocating for labor unions, but during the selection of contractors in the construction phase, we can prioritize the those who support good paying jobs.

For an online version of the project’s application materials, including additional letters of support, please visit http://bit.ly/dco_rcn