East Greensboro Greenway

Feasibility Study

October 2024



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EXECUTIVE SUMMARY

The East Greensboro Greenway is envisioned to be a linear park with multiple spurs to better connect predominately low-income communities of color to the downtown core and improve multimodal access to east Greensboro's recreational, cultural, and educational destinations. The East Greensboro Greenway will connect the J. Douglas Galyon Intermodal Depot and Barber Park. Along the way, it will provide connections to North Carolina Agricultural and Technical State University (NC A&T University), Bennett College for Women (Bennett College), the Historic Magnolia House, Windsor-Chavis-Nocho Community Complex, the Downtown Greenway, Bingham Park, Gateway Gardens, Hayes-Taylor YMCA, the site of the former Hampton Elementary School (planned for future redevelopment/public use) and several K-12 schools.

The overarching goal of the project is to create a vital asset, developed hand-in-hand with the community, that serves as a safe and inclusive mobility option for people of all ages and abilities; reflects east Greensboro's culture and creativity; and results in more equitable outcomes for the health, safety, and quality of life of east Greensboro residents. The *East Greensboro Greenway Feasibility Study* evaluates potential route scenarios to determine a preferred route for both the greenway spine and its spurs. The foundation of this study is robust community engagement to reflect the diverse needs and aspirations of the community it serves. The study also includes cost estimates and a recommended implementation plan to construct and maintain the greenway. The project is led by the City of Greensboro with the support of the North Carolina Department of Transportation's Integrated Mobility Division (NCDOT IMD) and the Greensboro Urban Area Metropolitan Planning Organization (GUAMPO).

Recommended Route + Greenway Design

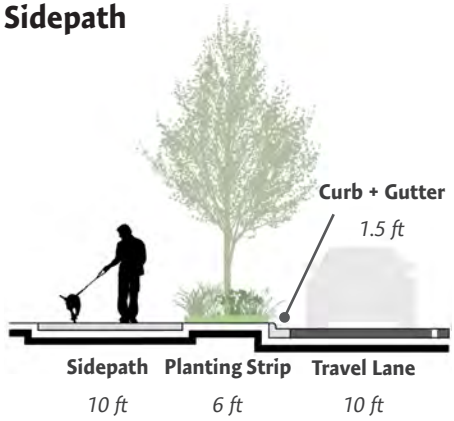
Robust community and stakeholder engagement (see page ES-5) informed the identification of the preferred route alternative for the East Greensboro Greenway. Of four alternatives evaluated, Alternative 1 was identified as the preferred route alternative to connect priority community destinations identified during community engagement and maximize the amount of off-road greenway facility. A map of the preferred route alternative is shown on the page to the right.

The desired facility type for the alignment is predominantly a 10 ft wide sidepath or a 10 ft wide off-street greenway trail based on the context of the corridor. Opportunities exist to incorporate a planting strip providing additional user comfort where the spine follows thoroughfares and collector streets such as E. Market St, S. English St, and E. Florida St.

Typical Greenway



Representative Sidepath





EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Preferred Route Alternative

- Route Alternative #1
- Route Alternative #1 - Alternate Spine
- Potential Greenway Spur
- Existing Greenway
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

N 0 0.25 0.5 mile

LEGEND

Implementation

The spine of the East Greensboro Greenway is divided into three implementation phases based primarily on the presence of existing planned investments and the need for additional right-of-way (ROW) acquisition.

Phase 1 - Galyon Depot to S. English St (1.85 miles)

Nearly 1.5 miles of Phase 1 runs along the south side of E. Market St between S. Church St and S. English St. The proposed implementation of the greenway in this section of E. Market St complements improvements already programmed to enhance the Crossmax bus service, and Phase 1 also provides a connection to the Downtown Greenway at Murrow Blvd. The J. Douglas Galyon Intermodal Depot serves as one of three major trailheads for the East Greensboro Greenway.

Phase 2 - E. Gate City Blvd to S. English St at Barber Park (0.55 miles)

Phase 2 is a shared use path along E. Florida St from S. English St to E. Gate City Blvd, creating connections to four significant destinations (Barber Park, Hayes-Taylor Memorial YMCA, Gateway Gardens, and Gateway Research Park) along with trailhead opportunities at Barber Park. Nearly all of Phase 2 borders existing publicly owned properties, requiring little, if any, ROW acquisition.

Phase 3 E. Gate City Blvd to E. Market St (1.43 miles)

Approximately one mile of Phase 3 consists of an off-street greenway that contains one pedestrian bridge and two short sections of boardwalk. NCDOT State Transportation Improvement Program (STIP) project P-5747 along S. English St will create a new grade-separated crossing of the North Carolina Railroad Company corridor. Due to permitting and ROW acquisition needed for the greenway and the projected 2026 construction date for the STIP project this section is recommended for implementation in Phase 3. The ability to coordinate trail design with Bingham Park improvements and redevelopment of the former Hampton Elementary School site also contributes to this being the final phase of spine implementation.

Phase 4 - Greenway Spurs / Connections

Five greenway spurs provide additional connections to priority destinations in the east Greensboro community. Although spurs are listed as the final phase, implementation of individual spurs may be accelerated if opportunities for funding or private development partnerships arise. Destinations connected include Bennett College, Historic Magnolia House, Washington Montessori Elementary School, Windsor Chavis Nocho Community Complex, Nocho Park, James B. Dudley High School, Academy at Lincoln Middle School, Bluford Elementary School, Apache Park, and the Visual and Performing Arts Elementary School.

Cost Estimate

The estimated cost to design and construct each implementation phase varies by many factors and includes a 35 percent baseline contingency. An additional five percent contingency, estimates for construction engineering and inspection services, and estimates for survey and design services are added and escalated to a projected build year.

IMPLEMENTATION PHASE	COST ESTIMATE
Phase 1	$5,723,000
Phase 2	$1,157,000
Phase 3	$3,898,000
Phase 4	$7,232,000


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Recommended Implementation Phasing
Preferred Mainline Route
Phase One
Phase Two
Phase Three
Phase Four (Potential Greenway Spur)
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.25
0.5 mile
LEGEND
DOWNTOWN GREENWAY
E. LINDSAY ST
NC A&T STATE UNIVERSITY
N. O. HENRY BLVD
E. MARKET ST
MAPLEWOOD CEMETERY
HOLTS CHAPEL RD
FRIENDLY AVE
MURROW BLVD
N. DUDLEY ST
S. CHURCH ST
S. ENGLISH ST
BINGHAM ST
BANNER AVE
APACHE ST
PINE ST
WASHINGTON ST
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
GILLESPIE ST
SPENCER ST
BINGHAM PARK
GORRELL ST
S. BENBOW RD
MOODY ST
BORDERS TERRACE
BEAUMONT AVE
EVERITT ST
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
BENNETT ST
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
NOCHO PARK
McCONNELL RD
MLK JR. DR
JAMES B. DUDLEY HIGH
ACADEMY AT LINCOLN
BLUFORD ELEM.
S. O. HENRY BLVD
E. GATE CITY BLVD
ASTER DR
GATEWAY RESEARCH PARK
TUSCALOOSA ST
PEAR ST
S. ENGLISH ST
220
70
29
E. FLORIDA ST
BARBER PARK
NC A&T UNIVERSITY FARM
WILLOW RD
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
SOUTH BUFFALO CREEK
40
85

Community Engagement

The *East Greensboro Greenway Feasibility Study's* recommendations are informed by robust community and stakeholder engagement The City of Greensboro convened a Steering Committee to guide the planning process; this group met five times and provided valuable guidance and feedback on study considerations, community engagement efforts, alignment recommendations, and implementation strategies. Input received from two community surveys, four pop-up public meetings, and five focus group meetings were instrumental in shaping the study.



Pop-up event at the Cottage Grove Fall Festival

Pop-Up Events

Pop-up events were held to engage with the community outside of the traditional public meeting format. This led to a deeper level of engagement with those who would not typically attend a public meeting.

Cottage Grove Fall Festival Pop-Up Event

September 30, 2023

An Evening Under the Star Pop-Up Event

October 26, 2023

Food Lion Pop-Up Event

March 23, 2024

Greensboro Community Bike Shop Pop-Up Event

April 14, 2024



Community member providing feedback at the Evening Under the Star event

Focus Group Meetings

The project team conducted several meetings with area stakeholders to gather local insight and guidance on route development for the East Greensboro Greenway. Focus group meetings were held with City and County staff, NC A&T, local organizations, and neighborhood associations.

Collaborative Cottage Grove Focus Group Meeting

September 18, 2023

Local Organizations Focus Group Meeting

November 29, 2023

NC A&T Focus Group Meeting

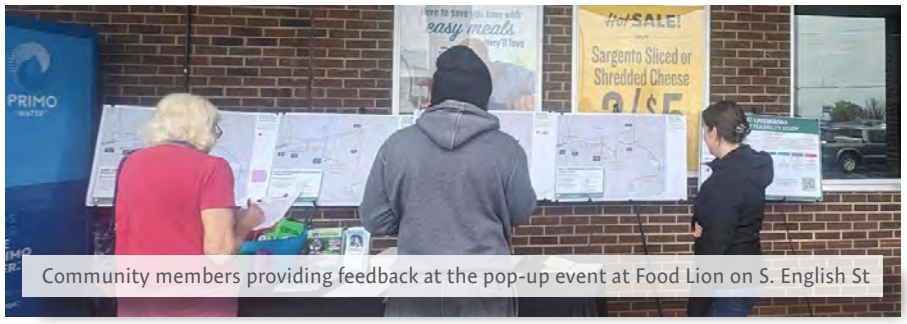
November 30, 2023

City + County Staff Focus Group Meeting

December 8, 2023

Collaborative Cottage Grove Focus Group Meeting

January 8, 2024



Community members providing feedback at the pop-up event at Food Lion on S. English St

Steering Committee

A Steering Committee composed of municipal, regional, and state planning agencies, as well as key institutional and community stakeholders met five times to provide critical oversight and guidance on the feasibility study.

Steering Committee Members

Elizabeth Jernigan, City of Greensboro Parks + Recreation
Shawna Tillery, City of Greensboro Parks + Recreation
Johanna Cockburn, City of Greensboro Transportation
Deniece Conway, City of Greensboro Transportation
George Linney, Greensboro Transit Agency (GTA)
Craig McKinney, GUAMPO
Mary Harward, GUAMPO
Chad Reimakoski, NCDOT Division 7
Joseph Furstenberg, NCDOT IMD
Oliver Thomas, PhD, NC A&T
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James Cox, Greensboro Housing Authority
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Mac Sims, East Greensboro NOW
Phil Barnhill, East Greensboro NOW
Nicole Lindahl, BIG (Bicycling in Greensboro)
Roger Bardsley, Local Greenway Advocate

Steering Committe Meeting #1

October 5, 2023

Steering Committe Meeting #2

December 12, 2023

Steering Committe Meeting #3

March 22, 2024

Steering Committe Meeting #4

July 9, 2024

Steering Committe Meeting #5

August 14, 2024




Downtown
Greenway
Historic Magnolia House
Plott Street Parking
.03 miles
Freedom Cornerstone
.10 miles
E. Gate City Boulevard
.11 miles

INTRODUCTION

01

OVERVIEW + STUDY GOALS

The East Greensboro Greenway is envisioned to be a linear park with multiple spurs to better connect predominately low-income communities of color to the downtown core and improve multimodal access to east Greensboro's recreational, cultural, and educational destinations. The East Greensboro Greenway will connect the J. Douglas Galyon Intermodal Depot at its western terminus and Barber Park at its southeastern terminus. Along the way, it will provide connections to North Carolina Agricultural and Technical State University (NC A&T University), Bennett College for Women (Bennett College), the Historic Magnolia House, Windsor-Chavis-Nocho Community Complex, the Downtown Greenway, Bingham Park, Gateway Gardens, Hayes-Taylor YMCA, the site of the former Hampton Elementary School (planned for future redevelopment/public use) and several K-12 schools.

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STUDY VISION + GOALS

The Steering Committee, stakeholder groups, and the community developed a vision and a set of comprehensive goals to guide the *East Greensboro Greenway Feasibility Study*.

Vision

The East Greensboro Greenway is envisioned to be a beloved community asset and linear park that serves both recreational and transportation needs. Its design and features will be based on community input, ensuring that everyone's perspective is valued. The East Greensboro Greenway will be a safe and inclusive facility for people of all ages and abilities and reflect east Greensboro's culture and creativity, thus strengthening community bonds.

Purpose and Need Statement

The purpose of the East Greensboro Greenway is to create a linear park between Barber Park and the J. Douglas Gaylon Intermodal Depot to connect predominately low-income communities of color in east Greensboro to the downtown core. The East Greensboro Greenway will improve multimodal access to nature as well as educational, recreational, and cultural destinations within east Greensboro.

The East Greensboro Greenway is needed to serve both the transportation and recreation needs of east Greensboro's residents; address the lack of safe, separated biking and walking facilities in east Greensboro; and create a safe mobility option in an area with rates of zero-vehicle households and pedestrian/bicyclist fatalities that exceed City, County, and state averages.

Goals

Safety

Design the greenway to ensure the safety of all users by implementing appropriate countermeasures at midblock, intersection, and railroad crossings to address existing safety concerns and minimize potential hazards.

Accessibility + Connectivity

Create an accessible greenway for all users and increase connectivity to nearby parks, shopping areas, schools, points of interest, and outdoor recreation destinations.

Placemaking

Create a vibrant, community-centered greenway that fosters a strong sense of place and enjoyment by incorporating rest areas, interpretive and wayfinding signage, and public art to enhance user experience.

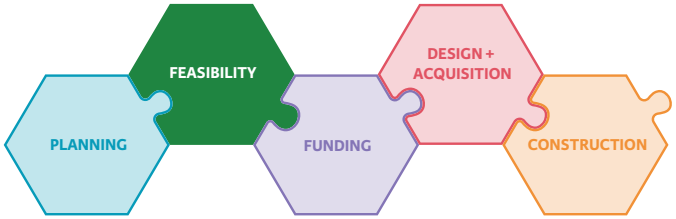
Equity + Inclusion

Create an inclusive and equitable greenway hand-in-hand with the community that provides recreational and transportation opportunities for all members of the community, regardless of age, ability, socioeconomic status, or background.

Project Feasibility

Collaborate with local neighborhoods, schools, and landowners to develop a route that is permittable, solves right-of-way challenges, and generates public support that can be focused on future construction and maintenance funding efforts.

WHAT IS A FEASIBILITY STUDY?



Feasibility studies bridge the gap between conceptual planning, prioritization, and programming of projects. They build upon higher-level planning efforts and take a comprehensive look to identify opportunities and constraints, possible alignment alternatives, and implementation recommendations. The purpose of this type of study is to evaluate technical feasibility from a design, permitting, and constructability perspective. Input solicited from the local community and stakeholders help guide the identification of a preferred route alternative. The study includes quantity-based preliminary cost estimates to inform further decision making, identify funding needs, and identify next steps for project implementation. In 2024 and beyond, the City of Greensboro will complete detailed design and eventually construction as funding becomes available; this study does not present a final design for construction. Willing property owners and available funding will help determine the final alignment for a project.

PROCESS + SCHEDULE

The *East Greensboro Greenway Feasibility Study* employs a comprehensive approach that considers the built, natural, social, and economic environments in four distinct phases: Study Conditions, Route Analysis, Study Recommendations, and Implementation & Final Study. Throughout the process, the project team has actively engaged stakeholders through regular meetings with various groups, including a Steering Committee, focus groups, neighborhood associations, and the general public. This collaborative approach integrates diverse community perspectives and ensures the recommendations reflected the community's needs and priorities.

JUL - OCT 2023

STUDY CONDITIONS

DATA GATHERING
1 SITE VISIT + FIELD WORK
MAPPING ANALYSIS
2 STEERING COMMITTEE MTGS.
1 PUBLIC MEETING
COMMUNITY SURVEY

OCT 2023 - MAY 2024

ROUTE ANALYSIS

ROUTE ALTERNATIVES
ROUTE SELECTION CRITERIA
ROUTE DECISION MATRIX
1 STEERING COMMITTEE MTG.
4 STAKEHOLDER MEETINGS

APR - JUL 2024

STUDY RECOMMENDATIONS

RECOMMENDED ROUTE
DESIGN CONSIDERATIONS
1 STEERING COMMITTEE MTG.
1 PUBLIC MEETING
1 SITE VISIT

JUL - OCT 2024

IMPLEMENTATION + FINAL STUDY

PROJECT PHASING + CUT SHEETS
DRAFT STUDY + REFINEMENT
1 STEERING COMMITTEE MTG.
ACTION PLAN
FINAL STUDY + ADOPTION

BACKGROUND + SITE HISTORY

East Greensboro is rich in African-American history. Dating back to the early 20th century, Jonesboro was founded by formerly enslaved families and became a center for African American culture and commerce before it was partially destroyed by the construction of US 29. Additionally, Nocho Park emerged as a predominant residential area for middle- and high-income African Americans during the mid-twentieth century and became a center of social life, culture, and civic activism.

The East Greensboro Greenway project will bring about a transformative change for the community by addressing historical issues of underinvestment and detrimental land use and transportation policies. Institutional redlining in the 1930s and the Babcock Plan in the 1950s and 1960s led to the creation of major thoroughfares like US 29 (O.Henry Boulevard) and E. Gate City Boulevard (formerly East Lee Street), lowering land values and disconnecting east Greensboro neighborhoods both east to west and north to south, respectively. These developments prioritized vehicular travel while neglecting other transportation options, such as bicycling, walking, and public transit. As a result, east Greensboro lacks multimodal connectivity and supports sprawling development patterns due to single-family and suburban-style housing development.

The preliminary route for the East Greensboro Greenway traverses publicly-owned lands and right of way, including those owned by the City of Greensboro, Guilford County, NCDOT, and NC A&T. The initial route connects numerous points of interest, including parks, recreational facilities, community centers, and two Historically Black Colleges and Universities (HBCUs).

The East Greensboro Greenway will serve as a safe facility for bicyclists and pedestrians to access numerous destinations within the community. It will also improve multimodal connectivity by supporting new linkages to the Downtown Greenway and the J. Douglas Gaylon Intermodal Depot, serving both recreational and active transportation needs.




EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Study Area
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
MAPLEWOOD CEMETERY
BINGHAM PARK
NC A&T STATE UNIVERSITY
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
FRIENDLY AVE
WASHINGTON ST
E. MARKET ST
GORRELL ST
MLK JR. DR
BENNETT ST
S. BENBOW RD
N. O. HENRY BLVD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
BANNER AVE
PINE ST
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85

PREVIOUS PLANNING EFFORTS

The *East Greensboro Greenway Feasibility Study* builds on a legacy of local, regional, and statewide plans for greenways and other transportation facilities. The following table summarizes key bicycle and pedestrian, transportation, and parks and recreation recommendations from previous plans and studies that inform the study's approach and helps the project team better understand community needs, identify local design principles, and best practices, consider environmental factors, and develop effective funding and implementation strategies.

EXISTING PLAN / STUDY	KEY RECOMMENDATIONS RELATED TO THE *EAST GREENSBORO GREENWAY FEASIBILITY STUDY*
East Guilford County Traffic Separation Study, 2004 (updated 2013)	The *East Guilford County Traffic Separation Study*, created to guide efforts to improve safety at rail crossings, studied 23 public at-grade crossings in Guilford and Alamance counties. Crash data, average daily traffic volumes, environmental constraints, opportunities to improve each crossing, and impacts to emergency response times and school transportation informed the development of recommendations. At S Dudley St, the study recommends a grade-separated crossing to accommodate a future rail siding over the long-term (five to 10+ years). The study also recommends detailed feasibility studies for crossings at Gillespie St, S. English St, and Holts Chapel Rd be conducted in the mid-term (two to five years) to identify needed and feasible improvements, and long-term projects to implement recommendations at each location. A potential future rail siding at Gillespie St may increase the need to close this crossing or construct a bridge overpass. The study notes that closing Gillespie St would divert traffic to S. English St, likely requiring grade separation. At Holts Chapel Rd, a near-term (within two years) project to relocate and improve rail crossing signals, perform maintenance, and install longer gate arms and median separators is recommended. A 2013 update refined recommendations for six crossings between Franklin Blvd and Wagoner Bend Rd. Franklin Blvd, the highest priority of the 2013 study, is recommended for a long-term project to create a grade-separated crossing beneath the railroad. In the short-term, the existing at-grade crossing is recommended to remain with no additional improvements.
Guilford County Comprehensive Plan, 2006	The *Guilford County Comprehensive Plan* includes goals and objectives for future growth and development of Guilford County. Objective 1.5 of the Transportation Element calls for supporting non-motorized forms of transportation by pursuing funding to expand greenways throughout Guilford County and nearby areas. Similarly, Objective 1.4 of the Natural, Historic, and Cultural Resources Element calls for a continuous network of open space throughout the County that preserves environmentally sensitive areas and provides valuable greenway connections.

EXISTING PLAN / STUDY	KEY RECOMMENDATIONS RELATED TO THE *EAST GREENSBORO GREENWAY FEASIBILITY STUDY*
Jonesboro Scott Park Neighborhood Plan, 2009	The *Jonesboro Scott Park Neighborhood Plan* identifies a vision for the Jonesboro/Scott Park neighborhoods at the northeast edge of US-29 and E. Market St that addresses built environment and social concerns. Currently, streets lack sidewalks and safe crossing accommodations; recommendations include implementing traffic calming along all streets. This will help reduce vehicle speeds and provide safer places for walking and biking within the community. Other recommendations include the addition of a bicycle and pedestrian connection north to Sullivan St, as well as completing the missing segment of Stamey St. Improvements to neighborhood access points on E. Market St and closing the US-29 access at Lutheran St are also key recommendations made in this plan.
GUAMPO 2015 Bicycle, Pedestrian, Trails & Greenways Plan Update Amendment, 2018	The Greensboro Urban Area MPO's *Bicycle, Pedestrian, Trails & Greenways (BiPed) Plan* was updated in 2018 to reflect changes in the regional multimodal network and new recommendations since the initial adoption of the plan in 2015. In the short term, the plan recommends bicycle lanes on E. Gate City Blvd between Murrow Blvd and E. Florida St, McConnell Rd between Benbow Rd and Beaumont Ave, Washington St between the railroad trestle and Pastor Anderson Way, Dudley St/Bennett St between E. Florida St and Lindsay St, Bessemer Ave between Summit Ave and English St, Holts Chapel Rd between E. Market St and Franklin Blvd, English St between Bessemer Ave and E. Market St, English St between Gate City Blvd and E. Florida St, and Pastor Anderson Way; buffered bicycle lanes on Murrow Blvd between E. Gate City Blvd and Lindsay St; and sharrows on Washington St between Church St and the railroad trestle. Medium-term recommendations include buffered bicycle lanes on Summit Ave as well as bicycle lanes on Sullivan St between Lindsay St and Summit Ave, Benbow Rd between Washington St and Sullivan St, Franklin Blvd between McConnell Rd and Burlington Rd, and Market St between Benbow Rd and Holts Chapel Rd. In the long term, bicycle lanes are recommended on Gate City Blvd between E. Florida St and I-40. Greenway and trail recommendations in East Greensboro are included, though they are not currently designated as high-priority projects in the short term. The Muddy Creek corridor along Lindsay St is included as a Tier 3 (medium- to long-term) greenway recommendation, as well as Tier 3 connectors along E. Florida St, Beaumont Ave, Holts Chapel Rd, and E. Market St east of Holts Chapel Rd. A spur to Dudley High School and the future Windsor-Chavis-Nocho Community Complex is proposed as a Tier 3 connector. Tier 4 (long-term) connectors are proposed on portions of E. Market St, including at the interchange with US-29.

EXISTING PLAN / STUDY	KEY RECOMMENDATIONS RELATED TO THE *EAST GREENSBORO GREENWAY FEASIBILITY STUDY*
Downtown Greensboro Streetscape Master Plan, 2018	The *Downtown Greensboro Streetscape Master Plan* was established to improve the condition of key streets in downtown Greensboro, with a goal of catalyzing economic development in addition to encouraging walking and biking. The plan identifies the J. Douglas Galyon Intermodal Depot as a primary gateway to downtown and proposes the addition of street trees on Washington Ave, as well as protected bicycle lanes on Davie St north of Washington St. Design guidelines call for cycle tracks to be 10 to 11 feet wide, with bike lanes at a minimum width of five feet. Additional striping should be provided next to parking lanes.
Greensboro Plan2Play Master Plan, 2019	The *Greensboro Plan2Play Master Plan* assesses current recreation facilities and establishes a vision and framework for future expansion. A common theme of community engagement highlighted in the plan is the desire for more greenways that connect to parks and destinations. In addition, paved walking and biking trails were ranked the highest unmet need of the park system. A population growth analysis found that east Greensboro is in high need of access to parkland. Recommendations in Plan2Play include partnering with City and County agencies, local institutions, and adjacent communities to expand bicycle infrastructure to nearby parks, pursuing bond funding for parks and recreation investments, and establishing and installing a comprehensive wayfinding system. Specific greenway recommendations include rebranding existing greenways to establish a broader greenway identity, connecting the City's greenway system with regional greenways such as the Piedmont Legacy Trails network, and coordinating greenway design and planning with municipal bicycle and pedestrian planning efforts. The plan envisions an urban loop of greenways along the southern edge of Greensboro, connecting through Barber Park, and a network of bicycle rental facilities near parks and trailheads.
Greensboro Vision Zero Two-Year Action Plan, 2019-2020	Greensboro adopted a Vision Zero Action Plan following a sharp increase in traffic fatalities in 2017. The City's goal is to eliminate fatal and serious injury crashes by 2040, with focus on the following three areas: Speed and Keeping Drivers Alert, Run off the Road and Protecting All Users, and Protecting Vulnerable Users. Moving forward, crashes involving bicyclists and pedestrians will be monitored as a metric for measuring progress during biennial updates to the plan. Strategies identified to improve bicycle and pedestrian safety include using an expanded traffic count program to identify locations where improvements to protect vulnerable locations should be made, instituting a rapid response task force to recommend improvements following serious or fatal crashes, pursuing a bond referendum to support Vision Zero projects, and creating a public dashboard to provide updates on Vision Zero progress. Public feedback maps show that the east Greensboro area, including US-29, is a hotspot for community concerns regarding transportation safety.

EXISTING PLAN / STUDY	KEY RECOMMENDATIONS RELATED TO THE *EAST GREENSBORO GREENWAY FEASIBILITY STUDY*
Windsor Chavis Joint Use Facility Advance Planning Design Report, 2020	Planning for the Windsor-Chavis-Nocho Community Complex includes upgrades to the surrounding transportation system. The Advance Planning Design Report of 2020 calls for sidewalks around both the Community Center and Nocho Park sites on either side of Gate City Blvd. The existing pedestrian tunnel connecting the two sites beneath Gate City Blvd is proposed to be widened, and crosswalks maintained at the adjacent intersection with Benbow Rd. Bicycle parking is also proposed onsite to enable connections with transit routes and the nearby Downtown Greenway.
GSO2040 Comprehensive Plan, 2020	The GSO2040 Comprehensive Plan identifies six "Big Ideas," including becoming car optional. Fifty-four percent of residents surveyed prefer a walkable community with small yards. Community input also found that respondents desire alternative transportation options besides driving. The plan also considers street design changes such as modifying street widths, enhancing crossings, and adjusting curb radii to safely accommodate all users and reduce vehicle speeds. Expanding the greenway network to connect the entire City will provide residents and visitors with a safe route for both recreation and transportation purposes. The plan also recognizes the interconnectedness of transportation and land use, and calls for more dense, mixed-use development that supports active lifestyles. The east Greensboro area falls largely within the Urban Central, Planned Campus, and Downtown place types on the Future Built Form map, each of which emphasizes connections to bicycle and pedestrian facilities.
GUAMPO 2045 Metropolitan Transportation Plan, 2021	The Greensboro Urban Area MPO *2045 Metropolitan Transportation Plan (MTP)* contains a fiscally-constrained list of projects programmed for funding across all modes of transportation. Projects programmed by 2025 include sidewalks on Gate City Blvd between Willow St and Gateway Gardens, Dunbar St, Jennifer St, Pear St between Ardmore Dr and Gate City Blvd, McConnell Rd between Arbor Dr and Beaumont Ave, Holts Chapel Rd, and Lowdermilk St. Bicycle facilities programmed by 2025 include bicycle lanes on Holts Chapel Rd west of Franklin Blvd and Lowdermilk St, and sharrows on Elm St between Washington St and Market St. Projects programmed by 2035 include sidewalks on Willow Rd south of Bothwell St and on Church St between Washington St and Summit Ave, bike lanes on Davie St, Willow Rd south of Gate City Blvd, Gate City Blvd between Willow Rd and Gateway Gardens, and Franklin Blvd between Naco Rd and Huffine Mill Rd. Projects programmed by 2045 include sidewalks on Willow Rd between Gate City Blvd and Bothwell St, bicycle improvements on McConnell Rd east of Cole St and Holts Chapel Rd east of Franklin Blvd, and a greenway along South Buffalo Creek west of Barber Park.

EXISTING PLAN / STUDY	KEY RECOMMENDATIONS RELATED TO THE *EAST GREENSBORO GREENWAY FEASIBILITY STUDY*
Greensboro ADA Transition Plan, 2021	The City of Greensboro conducted a self-evaluation of public facilities, including sidewalks, in its Americans with Disabilities (ADA) Transition Plan. Just over 500 miles (506) of sidewalk and 7,057 curb ramps were evaluated for ADA compliance. Of these the City found that 41 miles of sidewalk and 6,225 curb ramps are not in compliance. In partnership with NCDOT, the City aims to rectify non-ADA compliant facilities through replacement projects and anticipates achieving full ADA compliance for all pedestrian facilities within the next 15 years.
East Gate City Boulevard Plan, 2022	*The East Gate City Boulevard Plan* builds on the GSO2040 Comprehensive Plan effort adopted in 2020, and references the same six themes, including the goal of becoming a car-optional community. East Gate City Boulevard is recommended for Complete Streets improvements to provide safe connections for bicyclists and pedestrians, as well as an expanded greenway network connecting neighborhoods and parks. A greenway connection between Barber Park and the Downtown Greenway is proposed, with connections to neighborhoods, NC A&T State University, Bennett College, the Windsor-Chavis-Nocho Community Complex, Historic Magnolia House, and the J. Douglas Galyon Intermodal Depot. The planned Windsor-Chavis-Nocho Community Complex is further identified as a mobility hub, where residents can make connections between different modes of travel. Land use strategies recommended in this plan include a dense mix of infill development that support walking as a mode of transportation.
NCDOT Great Trails State Plan, 2022	NCDOT's *Great Trails State Plan*, completed in 2022, helped to identify priorities of existing trail users. Among the top destinations for current users were local and regional parks (#1), small towns and rural communities (#3), and river, lake, and beach access points (#4). The plan identifies a preferred route that connects the existing Downtown Greenway with Gillespie Golf Course using the Mile Run Creek corridor. An alternative route would extend to Barber Park to the east along South Buffalo Creek. The plan also emphasizes key design features including the need for wayfinding and branding, roadway crossings with traffic calming features or median refuges, and the need to coordinate with developers.

EXISTING PLAN / STUDY	KEY RECOMMENDATIONS RELATED TO THE *EAST GREENSBORO GREENWAY FEASIBILITY STUDY*
NC A&T State University Campus Master Plan 2023-2038, 2023	*North Carolina A&T State University's Campus Master Plan* is centered around several guiding themes, including Connectivity to Greensboro through the Downtown Greenway and collaborative planning efforts. The plan identifies needed investments in campus facilities such as new classrooms, research buildings, and residence halls to support its transition from R2 to R1 research university classification. The plan emphasizes collaboration between the University Police Department and the City of Greensboro to improve pedestrian safety and envisions an improved pedestrian experience on Lindsay St through the development of a greenway along Muddy Creek that would connect to key campus locations. The plan proposes a Wellness Promenade along Laurel St as well as a pedestrian-only extension of John W. Mitchell Dr and improvements to other campus corridors to improve pedestrian safety and connectivity. New construction and renovation projects proposed in Phase I (2023-2030) are prioritized along the campus edges of Lindsay St, Dudley St, Sullivan St, and E. Market St. Phase II, between 2030 and 2038, proposes further investments in the heart of campus, along Lindsay St, and along E. Market St.
NC A&T State University Athletics Master Plan, 2023	Alongside the Campus Master Plan, the *NC A&T State University Athletics Master Plan* recommends a two-phase approach to campus athletics investments. Phase I, between 2023 and 2030, includes upgrades and expansion to Truist Stadium as well as relocated practice fields adjacent to Truist Stadium. A convocation center is proposed in Phase II, between 2030 and 2038, on the site of the existing Pellet Building. Nearby, Phase I includes renovations to War Memorial Stadium, a relocated softball field to the north of War Memorial Stadium, and a new soccer field near the corner of Stewart St and Arlee St. The plan proposes to retain event road closures on Sullivan St and Lindsay St around Truist Stadium during football games, while Sullivan St remains a primary pedestrian corridor during events.

POLICY REVIEW

There are several policies and ordinances that inform the feasibility study, adherence to which ensures the study's recommendations are compliant with regulations, and aligned with broader policy goals. Below is an overview of existing policies and ordinances at the local, state, and federal levels that may impact the design and development of the East Greensboro Greenway.

East Market Street Pedestrian Scale Overlay Plan, Design Guidelines & Development Regulations, 2021

The East Market Street Pedestrian Scale Overlay District is one of two districts in Greensboro, and it establishes additional standards for design and development beyond the base zoning. The overlay district is intended to support and encourage development that creates a more pedestrian-friendly environment.

Sec. 6.07 – Bicycle and Pedestrian Interconnections: Site design should attempt to shorten walking distances and increase accessibility between uses, and walkways should be provided between abutting commercial properties.

Sec. 6.08 – Handicapped Accessibility: Bicycle parking should be provided at a rate of one space in a bike rack per 10 vehicular parking spaces.

Sec. 14 – Pedestrian Sidewalks: A sidewalk shall be provided at a buffer of at least four feet along any façade abutting parking areas, to connect the building to public sidewalks if the building is set back five feet or more from the street right of way, and between abutting properties.

City of Greensboro Code of Ordinances, 2023

The Code of Ordinances establishes local laws and policies within the City of Greensboro. Some policies pertain to bicycling and walking:

Sec. 16-227 – It shall be unlawful to drive or ride a bicycle or micromobility vehicle within a sidewalk area in the central business district unless it is at a permanent or temporary driveway. In the interest of public safety, the director shall be authorized to prohibit the operation of bicycles and micromobility vehicles on other sidewalks located in high pedestrian traffic areas. All bicycles and micromobility vehicles shall yield the right of way on sidewalks to pedestrians.

City of Greensboro Land Development Ordinance, 2023

The Land Development Ordinance regulates development standards within the City of Greensboro. The ordinance contains several provisions relevant to greenway development:

30-4-8.14 – Greenway Overlay: A Greenway Overlay District may be established to preserve and enhance a greenway corridor and modify standards of the underlying zoning district to improve accessibility of the area to greenway users. Standards that may be modified include bike rack requirements, landscaping or screening requirements, signage regulations, building orientation and materials, and greenway connectivity. A design manual for the overlay district must be recommended by the Planning and Zoning Commission to address updated standards or guidelines for the district.

30-7-5 – Commercial, Public and Institutional Districts: Minimum street setbacks within the Commercial-Medium and Commercial-High zoning districts may be reduced to 10 feet for uses adjacent to or oriented to existing or planned greenways

shown on the adopted BiPed Plan. Within the Commercial-Neighborhood, Commercial-Medium, Commercial-High, Central Business District, and Office zoning districts, no side or rear setback is required adjacent to zoning districts other than Residential Single Family, Residential Multi Family-5, or Residential Multi Family-8 zoning districts, but if one is provided it must be a minimum of five feet. This setback must be at the edge of the greenway easement or at least five feet from the greenway pavement, whichever is greater, if the development is adjacent to or oriented to an existing or planned greenway.

30-8-10.1 – Residential Use Standards: In Commercial-Medium, Commercial-High, and Business Park zoning districts, no more than 33 percent of the gross floor area in a development may be dedicated to multi-family residential. This limit may be surpassed if the development is directly accessible from a thoroughfare and accessible to an existing or planned greenway shown on the adopted BiPed Plan, among other requirements.

30-9-10 – Sidewalks: Sidewalks are required along both sides of major thoroughfares and minor thoroughfares. In Traditional Neighborhood Developments, sidewalks on a commercial or mixed-use block containing commercial uses on the ground floor must have a minimum width between eight and 16 feet. Sidewalks are required along one side of collector streets unless the speed limit is greater than 35 miles per hour, average daily traffic volume is greater than 8,000 vehicles per day, the street is a pedestrian route to a specified pedestrian destination within a quarter mile, or other circumstances which support sidewalks on both sides of the street, in which case sidewalks shall be provided on both sides of the collector street. Sidewalks are required along at least one side of local streets but are not required along cul-de-sac or dead-end streets less than 800 feet in width. Sidewalks are also not required along local and collector streets in industrial areas where the majority of developed industrial parcels do not have sidewalks, pedestrian demand is expected to be low, and there is no existing or planned greenway facility or transit route.

30-11-5 – Off Street Parking and Loading: Residential townhouse and multifamily, office, and restaurant developments that provide direct access to existing or planned greenways shown on the adopted BiPed Plan may provide less parking than required otherwise.

30-13-2.1 – Traffic Movement and Pedestrian Circulation Principles: The subdivision standards of the Land Development Ordinance direct new subdivisions to provide pedestrian routes to nearby destinations.

NCDOT Bridge Policy, 2000

This policy establishes design elements of new and reconstructed bridges on the North Carolina Highway System. Vertical clearances for new structures shall be designed above all sections of pavement including the usable shoulder. Future widening and pavement cross slope will be considered in design clearance. Vertical clearances for facilities are as follows: over interstates, freeways, and arterials: 16′-6″ to 17′-0″; over local and collector roads and streets: 15′-0″ to 15′-6″; over all railroads: 23′-0″ to 23′-6″ or less if approved by railroad companies; pedestrian overpasses and sign structures vertical clearance: 17′-0″ to 17′-6″. Sidewalks shall be included on new bridges with curb and gutter approach roadways that are without control of access. A minimum handrail height of 42″ is required.

NCDOT Complete Streets Policy, 2023

The NCDOT Complete Streets Policy Update was adopted by the Board of Transportation in August 2019. This policy requires NCDOT to consider and incorporate multimodal facilities in the design and improvement of all transportation projects in North Carolina. The adopted Comprehensive Transportation Plan (CTP) is considered the controlling plan for the identification of nonmotorized facilities to be evaluated as part of a roadway project. The CTP may include and/or reference locally adopted plans for public transportation, bicycle and pedestrian facilities, and greenways. Bicycle, pedestrian, and public transportation facilities that appear in the CTP directly or by reference will be included as part of the proposed roadway project, and NCDOT is responsible for the full cost of the project. Bicycle, pedestrian, and transit facilities incidental to a roadway project where a need has been identified through the project scoping process but not identified in an adopted plan may be included in the project. Inclusion of these incidental facilities requires the local jurisdiction to share the incremental cost of constructing the improvements based on population thresholds. The policy also establishes maintenance responsibility for active transportation facilities. Bicycle, pedestrian, and transit improvements inside a municipal boundary are subject to local maintenance. Projects that have not completed environmental review prior to August 2019 are subject to the Complete Streets Policy.

NCDOT Roadway Design Manual, 2021

The latest edition of the NCDOT Roadway Design Manual was adopted in 2021 and recently updated in April 2022. This document outlines engineering design requirements for design of roadway facilities within NCDOT right of way. Section 4.14, Pedestrian Facilities, provides a detailed overview of the design requirements for sidewalks and multi-use paths including topics such as minimum width, minimum vertical clearance, minimum railing height, roadway crossings, grade separation, and curb ramps. Together, these factors will influence future design and construction of any portion of the greenway within NCDOT right of way.

Additionally, NCDOT has a clear zone requirement for its roadways. The clear zone is defined as “The unobstructed traversable area provided beyond the edge of the traveled way is termed the clear zone. This area is used for the recovery of errant vehicles and includes shoulders, bike lanes, and auxiliary lanes.” The width of the clear zone requirement varies based on the traffic volume, design speed, and cross slope of shoulder for the roadway in question. This clear zone can have implications for multi-use path development as it may increase the amount of needed right of way.

FHWA Guidance on Bicycle and Pedestrian Accommodation, 2011

Under the United States Department of Transportation (USDOT) Policy Statement on Bicycle and Pedestrian Accommodation, "The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems...transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes." There are no Federal laws or regulations that prohibit shared use paths or bicycle use along or near Interstate highways or other freeways. Bicycle and pedestrian accommodations may be allowed on Interstate and other major highways and freeways. Bridges are essential in any transportation network, and many Interstate or other freeway bridges often are the only possible bridges across rivers, canyons, railroads, other highways, or other major barriers. Major highway bridges often are necessary links for nonmotorized transportation networks.

Under 23 U.S.C. 217(g), transportation plans must consider bicycle and pedestrian accommodations.

23 U.S.C. 217(g) Planning and Design:

1. In General. --Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted.

2. Safety considerations. --Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians. Safety considerations shall include the installation, where appropriate, and maintenance of audible traffic signals and audible signs at street crossings.

PROJECT BENEFITS

Once constructed, the East Greensboro Greenway will offer a range of benefits to its users, including improved mobility and connectivity, increased safety, enhanced health and well-being, positive environmental and economic impacts, and equitably improving walking and rolling access to community destinations.



...creates alternatives to driving by improving bicycle and pedestrian access to local businesses, recreational centers, homes, and other points of interest in east Greensboro.

Over 45 percent of US driving trips are less than three miles, and 60 percent are five miles or less.[1] These trips, many which could be taken by bike or on foot in 20 to 30 minutes, demonstrate the potential for shifting to active transportation modes, particularly in urban areas like east Greensboro where many destinations are within a short distance. However, areas where safe and accessible bicycle and pedestrian facilities are lacking hinder residents and visitors from choosing these modes.

Transportation networks that accommodate all modes of travel and create safer conditions for bicyclists and pedestrians. Investment in active transportation facilities along existing road corridors leverages existing infrastructure and enables more users to connect to their destinations, promoting mobility and catering to the nearly 100 million Americans who cannot drive due to age, disability, or cost.[2]



...provides dedicated bicycle and pedestrian facilities separated from traffic and high-visibility road and rail crossings, contributing to a reduction in bicycle- and pedestrian-involved crashes, serious injuries, and fatalities in east Greensboro.

Unsafe conditions, stemming from factors like inadequate separation from vehicular traffic, lack of safe intersection and midblock crossings, and a lack of connectivity, worsen with higher roadway speeds. For example, a pedestrian hit at 31 miles per hour (MPH) faces a five times higher risk of severe injury compared to 16 MPH, emphasizing the need for reduced vehicular speeds and physical separation.[3]

Implementing separated facilities for bicyclists and pedestrians with safe crossing facilities improves user safety and encourages cycling and walking. In a study by NACTO, seven cities that collectively expanded bikeway networks by 50 percent between 2007and 2014 saw usage double and the risk of cyclist fatalities and injuries reduced by half.[4] Enhancements like high visibility crosswalks and lighting increase user visibility, while programming educates both drivers and active transportation users about how to safely share the road.

HEALTH + WELL-BEING



...improves access to safe facilities for walking and biking in east Greensboro, creating opportunities to increase physical activity, improve mental health, reduce risk of chronic disease, and reduce healthcare costs.

Inadequate physical activity worsens US health outcomes and contributes to conditions like heart disease, high blood pressure, cancer, and premature death, costing $117 billion in healthcare expenses annually.[5] To support physical and mental well-being, the U.S. Department of Health and Human Services recommends 150 minutes of moderate exercise per week, achievable through biking and walking.[5] In North Carolina, bicycle and pedestrian facilities promote healthier lifestyles by providing safe and accessible opportunities for physical activity. A 2018 study by NC State University's Institute for Transportation Research and Education (ITRE) found that each year the three greenways analyzed in the study generate 21.2 million biking miles and 9.8 million walking miles, saving about $300,000 in healthcare costs and reducing the risk of various diseases.[6] When communities invest in active transportation facilities like shared-use paths, bicycle lanes, and sidewalks, they invest in the overall health of their communities.

ENVIRONMENT



...encourages eco-friendly modes of transportation, reducing greenhouse gas emissions and vehicle miles traveled in east Greensboro while preserving sensitive natural areas and wildlife habitats.

Between 1990 and 2020, transportation emissions saw the most significant increase of all emissions sectors, accounting for 27 percent of total emissions in 2020, with light-duty vehicles responsible for 57 percent of those emissions.[7] Greenways promote low-carbon modes of transportation, reduce CO_2 emissions, and lead to environmental cost savings. ITRE estimates that walking and biking on greenways and trails across North Carolina cuts 53.7 million pounds of carbon dioxide (CO_2) emissions and 686,000 pounds of motor vehicle emissions annually, amounting to a savings of $707,000.[6] Offering safe walking and biking facilities encourages a shift away from driving, especially for short trips, resulting in reduced negative environmental impacts compared to vehicle travel.[1] Greenways also help to preserve and protect natural resources and open space, while improving local ecosystems and mitigating flooding.

ECONOMY



...contributes to increases in local business sales revenue, property values, and recreational tourism, supporting job creation, community development, and sustainable economic growth in east Greensboro.

Many North Carolina communities struggle to attract sustainable economic development. Greenways have a proven track record as economic catalysts, offering opportunities for tourism growth, job creation, increasing property values, and supporting local businesses along greenway corridors. A 2018 ITRE study on shared-use paths in North Carolina revealed that greenways lead to increased sales revenue, job creation, and an annual return of $1.72 on every $1 spent on trail construction.[6] The Great Allegheny Passage, a 150-mile rail-trail connecting Pittsburgh and Cumberland, exemplifies the economic benefits of active transportation facilities. In 2019, it had a direct economic impact of $74.7 million and supported nearly 1,400 jobs, while tourist spending contributed around $19 million in tax revenue.[8, 9]

ACCESSIBILITY + EQUITY



...expands access to employment, services, recreation, and public transportation in east Greensboro, creating a community amenity that welcomes and supports users of all ages and abilities while reducing transportation costs.

Inaccessible, unsafe, and poorly maintained transportation networks in North Carolina disproportionately affect vulnerable and disadvantaged users, particularly those who rely on walking, biking, and transit. This hampers access to employment, services, recreation, and other destinations. To address inequality in the transportation system, communities should ensure equitable access to more affordable, safe, and convenient active transportation infrastructure. The recommendations of the *East Greensboro Greenway Feasibility Study* will strive to create equitable multimodal access to important community destinations, including employment centers, K-12 schools, parks and recreation facilities, and other destinations identified during public engagement. In a 2018 ITRE study, researchers found that trail users reduced their annual transportation costs by $1.83 million, thanks to improved multimodal facilities that allow safer and more frequent walking and biking.[6]

Resources

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DEPOT



STUDY CONSIDERATIONS + ALTERNATIVES DEVELOPMENT

02

OVERVIEW

This study considers both natural and human environmental constraints, as well as planning level considerations. The route alignments and recommendations detailed in this report are informed by a thorough analysis of existing conditions, including existing plans and policies, an inventory of human and natural environment considerations, demographics, and robust community input supplemented by a site visit to gain a comprehensive understanding of the study area corridor.

The following sections are included within Chapter 2:

- Planning Level Considerations
- Natural Environment Considerations
- Human Environment Considerations
- Alternatives Development

PLANNING LEVEL CONSIDERATIONS

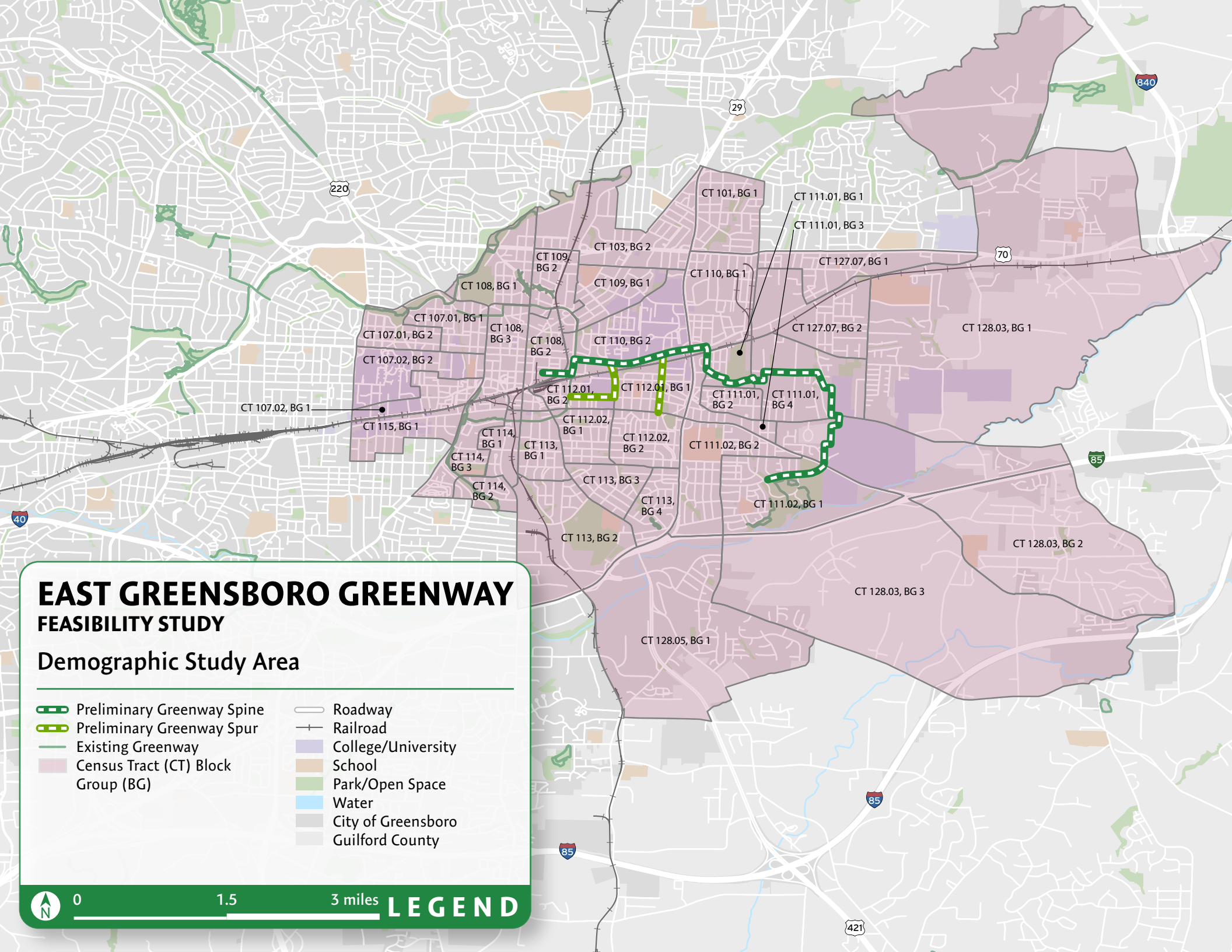
Planning level considerations provide insight into the social and economic environments within the study area and help guide the development of proposed alignments for the East Greensboro Greenway. An analysis of demographics, existing and future land uses, and employment density helped to inform the public engagement approach and will ensure proposed recommendations meet the diverse needs of people residing along the corridor.

COMMUNITY DEMOGRAPHICS

Analyzing demographic trends are essential to planning the study area's active transportation network. Demographic data was extracted from the 2020 American Community Survey five-year estimates (2016-2020) and was accessed through the United States Census Bureau. Thirty-seven block groups were included in the Demographic Study Area for the *East Greensboro Greenway Feasibility Study*. These Block Groups are within one mile of the preliminary alignment and two spurs studied and they include an estimated total population of 56,249 people.

This section includes an analysis of the following:

- Population
- Age
- Race, ethnicity, + minority
- Households below the poverty level
- Income
- Language
- Commute
- Vehicle availability
- Employment density


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Demographic Study Area
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Census Tract (CT) Block Group (BG)
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
1.5
3 miles
LEGEND
CT 101, BG 1
CT 111.01, BG 1
CT 111.01, BG 3
CT 103, BG 2
CT 109, BG 2
CT 109, BG 1
CT 110, BG 1
CT 127.07, BG 1
CT 108, BG 1
CT 107.01, BG 1
CT 107.01, BG 2
CT 108, BG 3
CT 108, BG 2
CT 110, BG 2
CT 127.07, BG 2
CT 128.03, BG 1
CT 107.02, BG 2
CT 112.01, BG 2
CT 112.01, BG 1
CT 111.01, BG 2
CT 111.01, BG 4
CT 107.02, BG 1
CT 115, BG 1
CT 112.02, BG 1
CT 114, BG 1
CT 113, BG 1
CT 112.02, BG 2
CT 111.02, BG 2
CT 114, BG 3
CT 113, BG 3
CT 114, BG 2
CT 113, BG 4
CT 111.02, BG 1
CT 113, BG 2
CT 128.03, BG 2
CT 128.03, BG 3
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220
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840
70
40
85
85
421

POPULATION

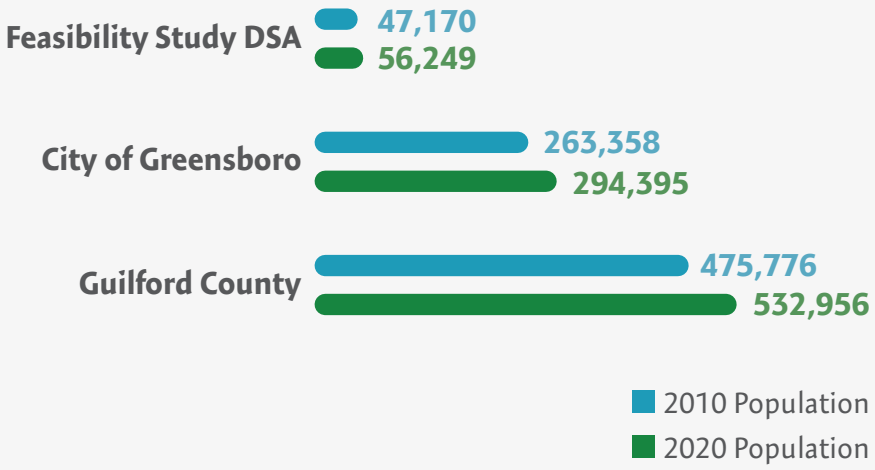
According to census data, the population of the DSA in 2010 stood at 47,170 and experienced notable growth, reaching a population of 56,249 people in 2020. This marked an increase of 19.2 percent, which translates to an annualized growth rate of 1.8 percent. At a larger scale, the City of Greensboro also experienced population growth at 11.8 percent (annualized growth rate of 1.1%). For context, during the same decade, Guilford County experienced a similar growth rate, with a 12.0 percent increase. Like the County, North Carolina as a whole saw a growth rate of 12.0 percent, with an annualized rate of 1.1 percent.

These statistics underscore the potential benefits of enhancing the region's active transportation infrastructure, including the development of greenways. Such improvements not only facilitate better mobility but also have the potential to attract both individuals and business investments to the area, further fostering its growth and development.

2010 - 2020

The **STUDY DSA** experienced a **19%** **INCREASE** in **POPULATION**

POPULATION CHANGE





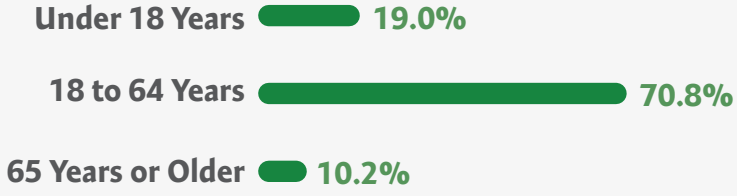
AGE

The median age of residents in the DSA is 32.9. Just over 70 percent (70.8%) of the DSA's population falls between 18 and 64 years of age. This data suggests that the DSA has a larger proportion of working-age individuals than Greensboro as a whole (64.5%) or Guilford County (62.6%). The percentage of residents who are under 18 years old or 65 years or older are 19.0% and 10.2%, respectively. At the citywide scale, 22 percent of residents are under 18 years of age and over 13 percent (13.5) of residents are 65 years or older. The same proportions for Guilford County are higher for both the populations under 18 years old (22.3%) and 65 years or older (15.2%).

This demographic breakdown underscores the importance of designing future greenway infrastructure with inclusivity in mind, catering to users of all ages and abilities. Such a balanced approach ensures that the active transportation network can accommodate the diverse needs and preferences of the entire community.

71% of the **DSA's POPULATION** is **BETWEEN** the **AGES 18 & 64**

AGE GROUP PERCENTAGES

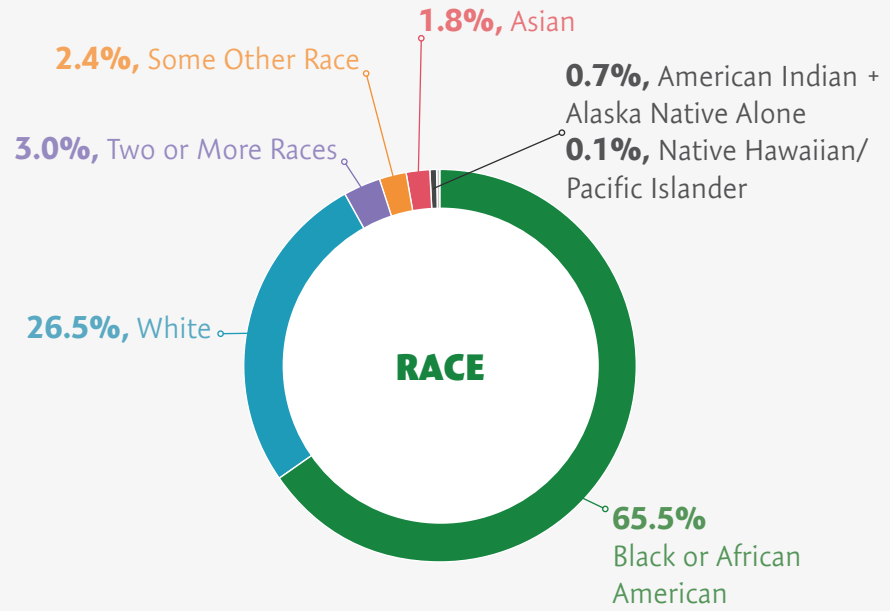




RACE, ETHNICITY, + MINORITY

The DSA is predominately Black or African American (65.5%), followed by White at 26.5 percent. Three percent (3.0%) of residents are of two or more races and 2.4 percent are of some other race. Less than two percent of the DSA's population is Asian (1.8%), American Indian and Alaska Native (0.7%), or Native Hawaiian/Pacific Islander (0.1%).

The non-white population of the DSA is 78.0 percent of the total population, which is higher than that of the City (59.0%), County (50.4%), and the state (37.4%). This demographic snapshot highlights the diverse makeup of the community within the DSA, reflecting a broad range of backgrounds and cultures.



The **STUDY DSA**

REPRESENTS

a **DIVERSE** community

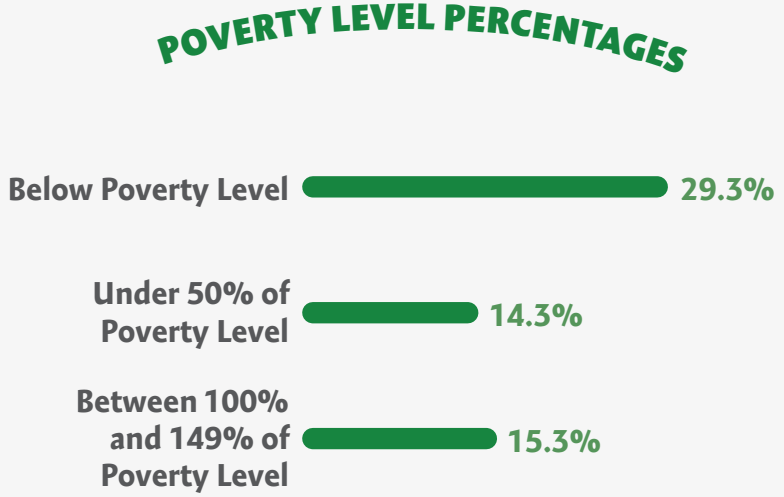


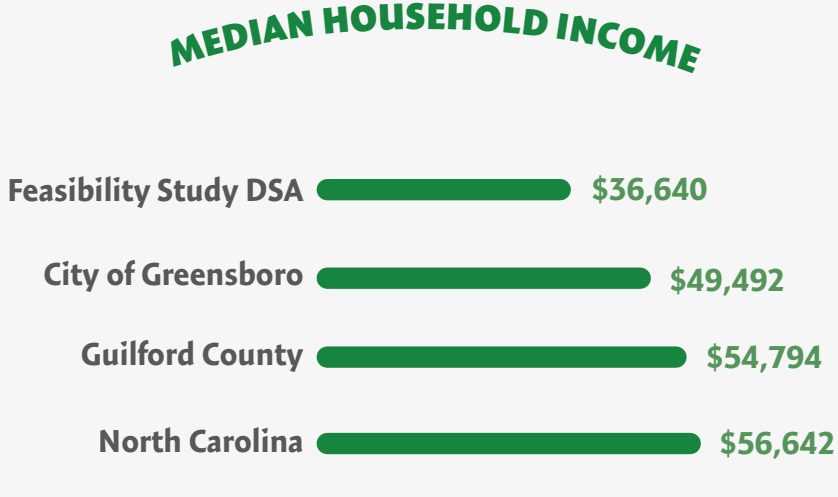
HOUSEHOLDS LIVING BELOW THE POVERTY LEVEL

Twenty-nine percent (29.3%) of the DSA's population is living below the poverty level. This rate is higher than that of Greensboro (18.4%), Guilford County (15.3%), and the state (14.0%). This data underscores the need for targeted strategies to address poverty-related challenges. When designed and managed thoughtfully, greenways can provide valuable benefits to low-income communities, including improved access to green spaces, enhanced health and well-being, and economic opportunities. However, there are also challenges to be addressed, such as the potential for gentrification and the need for equitable planning and access to ensure that the benefits of greenways are shared by all members of the community.

INCOME

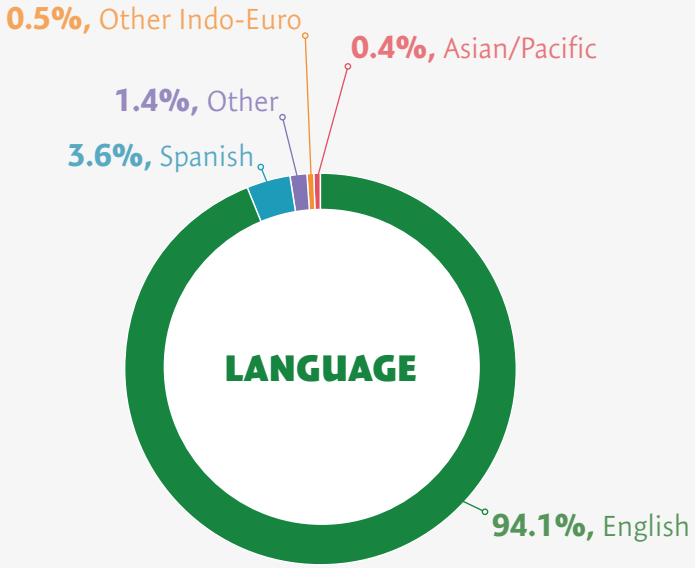
The median household income for residents residing within the DSA is $36,640. Overall, this is lower than the median household incomes for the City of Greensboro ($49,492), Guilford County ($54,794), and the state as a whole ($56,642). These income disparities may have implications for the equitable distribution of resources and amenities such as greenways. Ensuring that residents in lower-income areas have equitable access to green spaces and recreational opportunities is essential for promoting physical and mental well-being, particularly in communities facing economic challenges. Tailored approaches to greenway development and maintenance can play a vital role in bridging these economic gaps and fostering a sense of inclusion and accessibility for all residents within the region.





LANGUAGE

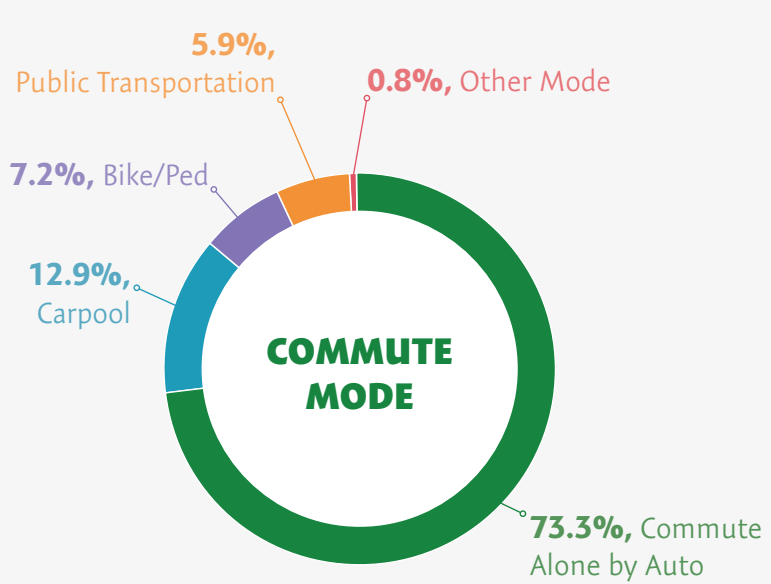
The DSA's population that speak English "less than very well" comprise approximately 5.9 percent of adult individuals aged 18 and older. Of those in this age group, the predominant language spoken is English at 94.1 percent. Spanish is the second most popular language spoken at 3.6 percent, followed by "Other" at 1.4 percent, Other Indo-Euro at 0.5 percent, and Asian/Pacific at 0.4 percent. The DSA has a higher share of individuals who speak Spanish as a primary language (3.6%) when compared to the City of Greensboro (2.5%), Guilford County (2.6%), and the state of North Carolina (3.2%). This linguistic diversity highlights the need for targeted language-access initiatives within the DSA to ensure effective communication and community engagement.



COMMUTE PATTERNS

Approximately 73 percent (73.3%) of residents in the DSA commute to work alone by car, fewer than the same share of Greensboro (85.2%) or Guilford County residents (86.1%). Almost 13 percent (12.9%) of DSA residents carpool and 7.2 percent bike or walk to work, which is significantly greater than the number of Greensboro (2.6%) or Guilford County residents (2.2%) who bike or walk. Fewer residents commute via public transportation (5.9%) or by another mode (0.8%).

These statistics shed light on the commuting patterns within the DSA and present an opportunity to promote sustainable transportation choices. By developing well-connected, safe, and accessible greenway networks in the City, residents within the DSA can choose greener commuting options.



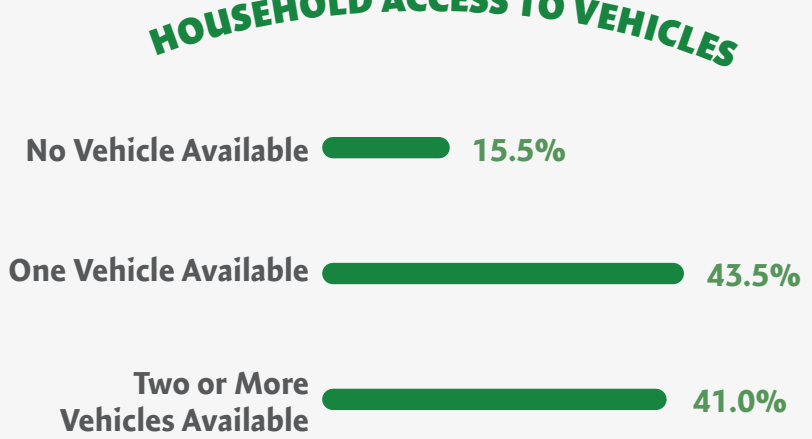
ACCESS TO VEHICLES

Out of 18,718 total occupied housing units in the DSA, 43.5 percent of households have access to one vehicle. Forty-one percent (41.0%) have access to two or more vehicles and over 15 percent (15.5%) of households do not have access to a vehicle. These rates of one- and zero-vehicle households are higher than that of the City of Greensboro, Guilford County, and North Carolina, where a greater percentage of households have access to two or more cars.

Future construction of the East Greensboro Greenway is expected to provide benefits to residents who do not have access to a vehicle or those who share vehicles within a household, making it easier for people without cars to travel within the DSA.

59% of the **DSA's HOUSEHOLDS** have **ACCESS** to **ONE VEHICLE** or **LESS**





EMPLOYMENT DENSITY

Employment density provides an understanding of the number of jobs, services, and residents in an area and the potential for a greenway to support commuter-based trips. Higher ranges in density may help local governments justify future investments in their respective localities. The employment density data displayed on the following map was obtained from the U.S. Census Bureau's OnTheMap platform. This data represents all jobs in the City of Greensboro in 2021.

Greensboro's employment density is greatest in the downtown area. Moving east, employment density decreases. Barber Park, located at the southern terminus of the East Greensboro Greenway, offers a cluster of jobs that are supported by the Hayes-Taylor YMCA and Gateway Research Park.

The East Greensboro Greenway's east-west connectivity between the east Greensboro community and downtown may provide commuter functionality for residents that wish to bicycle or walk to nearby jobs and employment centers. Once constructed, additional greenway spurs may be considered in response to shifts in demographics or development patterns.




A greenway that connects to downtown, local businesses, and employment centers may be used by residents commuting to and from work.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O.HENRY BLVD
S. ENGLISH ST
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
S. BENBOW RD
GILLESPIE ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
GORRELL ST
BENNETT ST
MILK JR. DR
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Employment Density
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
1 - 1,269 Jobs/Sq. Mile
1,270 - 5,063 Jobs/Sq. Mile
5,064 - 11,386 Jobs/Sq. Mile
11,387 - 20,239 Jobs/Sq. Mile
20,240 - 31,621 Jobs/Sq. Mile
Roadway
Railroad
Water
Guilford County
N
0
0.5
1 mile
LEGEND

NATURAL ENVIRONMENT CONSIDERATIONS

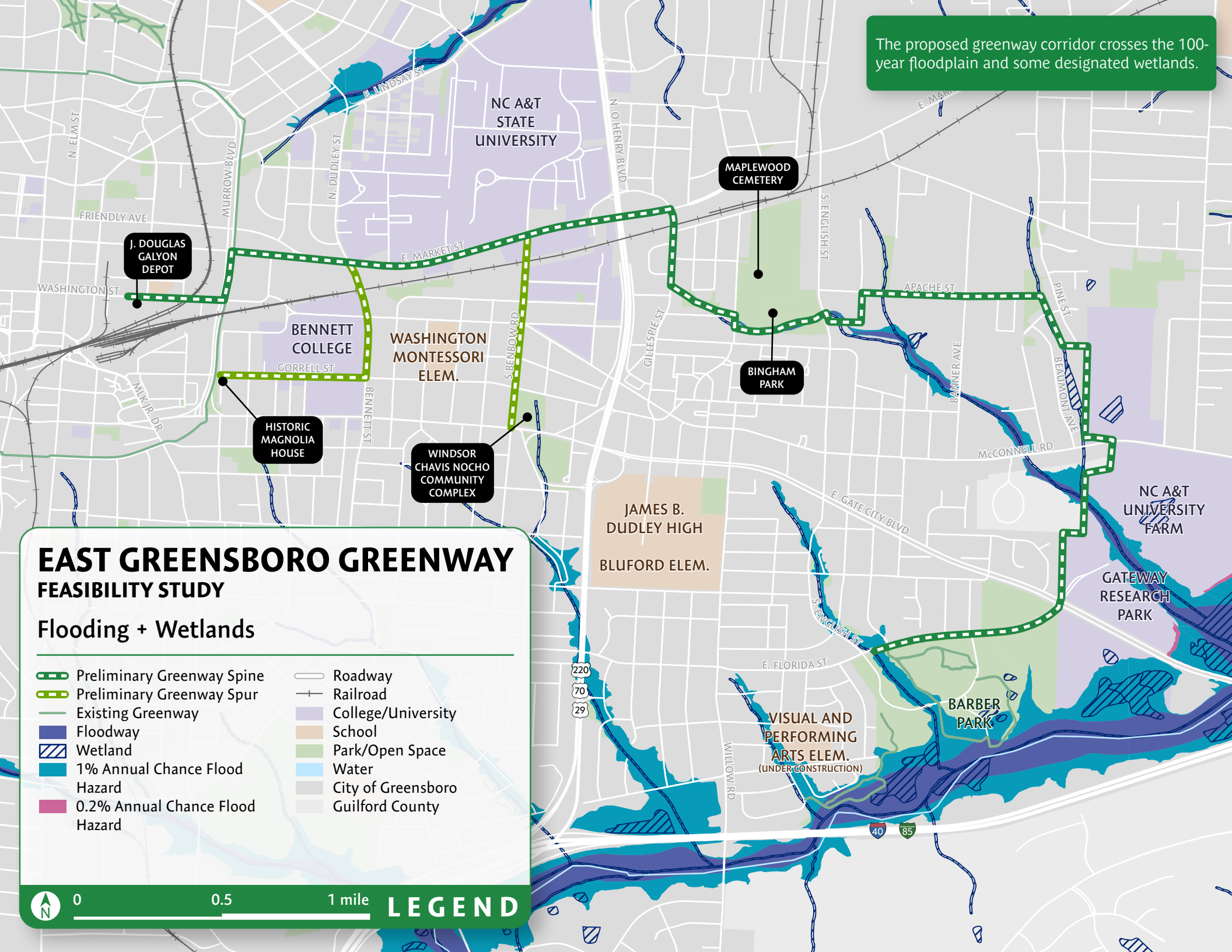
Nature plays a large role in the way humans connect with and shape the environment. While the study area is largely urban, there are opportunities to incorporate and connect to natural features including forested areas, streams, and parks. The East Greensboro Greenway will provide residents and visitors of all ages and abilities safe and healthy access to nature. However, natural constraints will affect the final alignment proposed in this study.

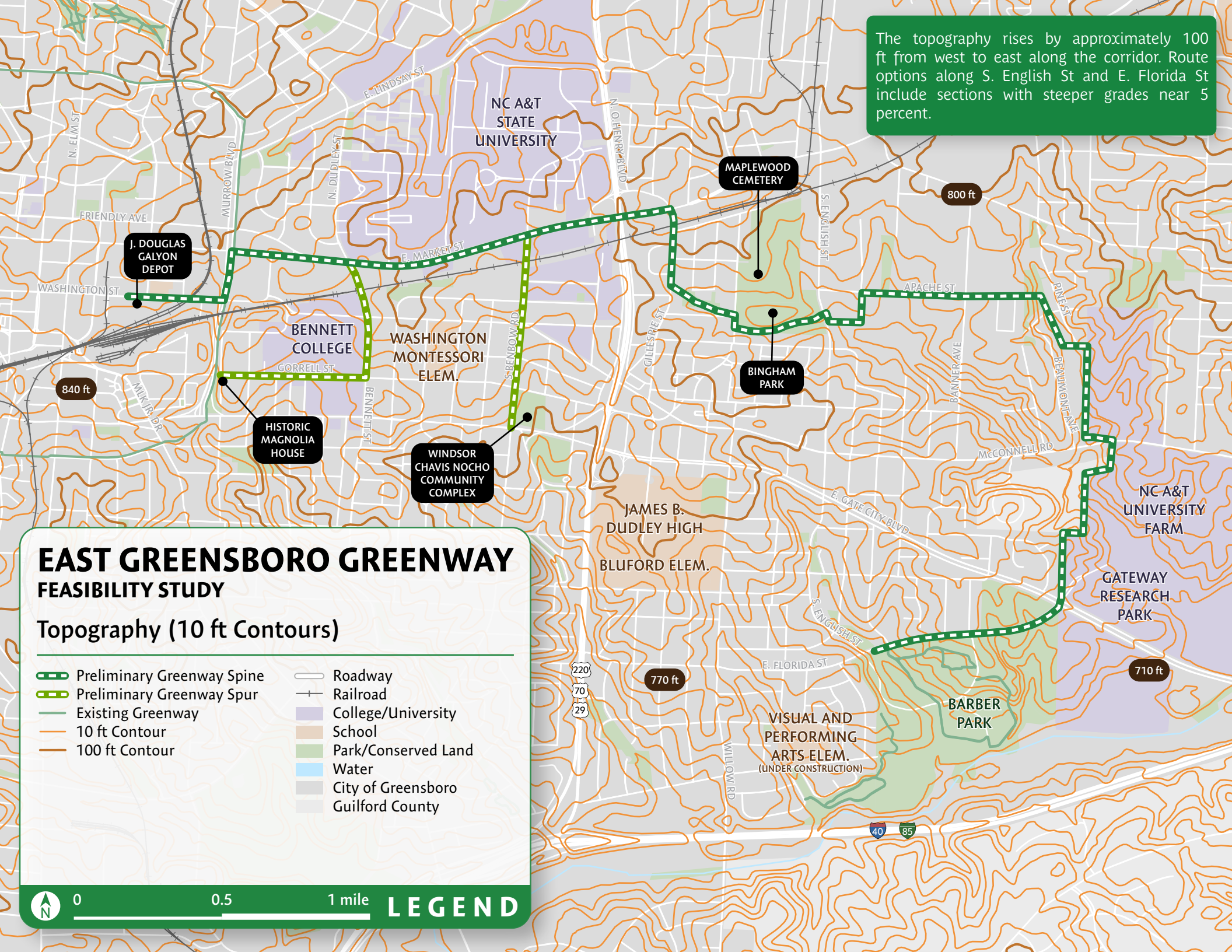
The following natural environment considerations were assessed as part of this study:

- Flooding + wetlands
- Topography

For specific findings related to this study, please refer to the annotated maps on the following pages.




The proposed greenway corridor crosses the 100-year floodplain and some designated wetlands.
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Flooding + Wetlands
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Floodway
Wetland
1% Annual Chance Flood Hazard
0.2% Annual Chance Flood Hazard
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
GORRELL ST
MLK JR. DR
BENNETT ST
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85


The topography rises by approximately 100 ft from west to east along the corridor. Route options along S. English St and E. Florida St include sections with steeper grades near 5 percent.
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Topography (10 ft Contours)
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
10 ft Contour
100 ft Contour
Roadway
Railroad
College/University
School
Park/Conserved Land
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
800 ft
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
840 ft
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
770 ft
710 ft
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
S. ENGLISH ST
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
APACHE ST
PINE ST
GORRELL ST
BENNETT ST
S. BENBOW RD
GILLESPIE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
MILK JR. DR
E. FLORIDA ST
WILLOW RD
220
70
29
40
85



HUMAN ENVIRONMENT CONSIDERATIONS

The following human environment considerations were assessed as part of this study:

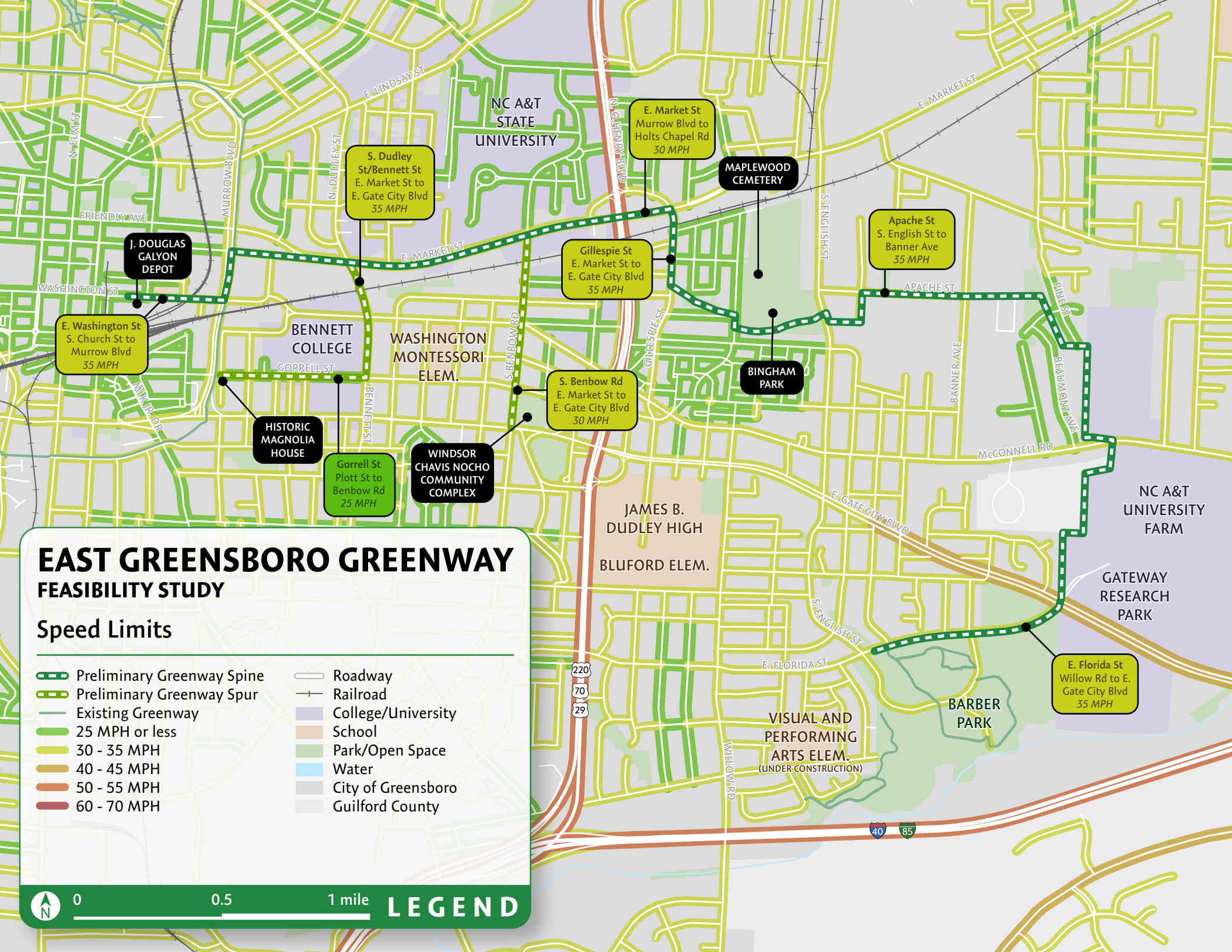
- Right-of-Way
- Annual Average Daily Traffic (AADT)
- Speed Limits
- NCDOT 2024-2033 State Transportation Improvement Program (STIP) Projects
- NCDOT 2023-2027 Highway Maintenance Improvement Program (HMIP) Projects
- Bicyclist Crashes
- Pedestrian Crashes
- Fatal + Serious Injury Crashes
- Total Crash Frequency by Intersection
- Existing Bicycle + Pedestrian Facilities
- Planned Bicycle + Pedestrian Facilities
- Existing Transit
- Historic Resources
- Development Activity
- Publicly-Owned Parcels
- *GSO2040* Future Built Form
- *GSO2040* Future Land Use
- Zoning
- USDA Food Deserts
- Utilities + Easements
- Contaminated Sites
- Home Owner's Loan Corporation (HOLC) Redlining Grades
- Transportation Disadvantage Index (TDI)

For specific findings related to this feasibility study, please refer to the annotated maps on the following pages.




EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
NCDOT Right-of-Way (ROW)
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
20 - 50 ft
51 - 75 ft
76 - 100 ft
101 - 150 ft
151 ft or more
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
E. Market St O.Henry Blvd to Gillespie St 100 ft
J. DOUGLAS GALYON DEPOT
MAPLEWOOD CEMETERY
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
NC A&T STATE UNIVERSITY
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
E. MARKET ST
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O.HENRY BLVD
S. ENGLISH ST
FRIENDLY AVE
WASHINGTON ST
GORRELL ST
MLK JR DR
BENNETT ST
S. BENBOW RD
GILLESPIE ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85


E. Market St
Murrow Blvd to E. Friendly Ave
5,900 AADT
S. Dudley St
E. Market St to E. Gate City Blvd
6,400 - 8,800 AADT
E. Market St
E. Friendly Ave to English St
11,000 - 14,500 AADT
E. Washington St
S. Davie St to Murrow Blvd
1,800 AADT
E. Florida St
Willow Rd to E. Gate City Blvd
2,300 AADT
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
MAPLEWOOD CEMETERY
BINGHAM PARK
NC A&T STATE UNIVERSITY
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
BARBER PARK
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
BENNETT ST
WILKINS DR
S. BENBOW RD
N. CHERRY BLVD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
2021 Annual Average Daily Traffic (AADT)
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
80 - 2,000 AADT
2,001 - 6,000 AADT
6,001 - 12,000 AADT
12,001 - 18,000 AADT
18,001 - 135,000 AADT
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
N
0
0.5
1 mile
LEGEND



EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Speed Limits

- Preliminary Greenway Spine
- Preliminary Greenway Spur
- Existing Greenway
- 25 MPH or less
- 30 - 35 MPH
- 40 - 45 MPH
- 50 - 55 MPH
- 60 - 70 MPH
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

N

0 0.5 1 mile

LEGEND



EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

NCDOT 2024-2033 STIP Projects

- Preliminary Greenway Spine
- Preliminary Greenway Spur
- Existing Greenway
- Division Bike and Pedestrian
- Division Highway
- Division Rail
- Interstate Maintenance
- Regional Highway
- Regional Rail
- Statewide Highway
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

0 0.5 1 mile

LEGEND


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
NCDOT 2023-2027 HMIP Projects
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
2027 Preservation Project
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
MAPLEWOOD CEMETERY
BINGHAM PARK
Holts Chapel Rd
2027 Preservation
NC A&T STATE UNIVERSITY
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
E. MARKET ST
S. ENGLISH ST
FRIENDLY AVE
WASHINGTON ST
GORRELL ST
BENNETT ST
S. BENBOW RD
GILLESPIE ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
MLK JR. DR
220
70
29
40
85

EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Bicycle Crashes (2007-2021)

- Preliminary Greenway Spine
- Preliminary Greenway Spur
- Existing Greenway
- Fatal Crash
- Non-Fatal Crash
- Roadway
- Railroad
- College/University
- School
- Park/Conserved Land
- Water
- City of Greensboro
- Guilford County

0 0.5 1 mile

LEGEND

A Black female was killed by a car while bicycling on S. English St adjacent to Bingham Park in 2021.

Ghost bike memorial pictured (right)



NC A&T STATE UNIVERSITY

MAPLEWOOD CEMETERY

J. DOUGLAS GALYON DEPOT

BENNETT COLLEGE

WASHINGTON MONTESSORI ELEM.

BINGHAM PARK

HISTORIC MAGNOLIA HOUSE

WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX

JAMES B. DUDLEY HIGH

BLUFORD ELEM.

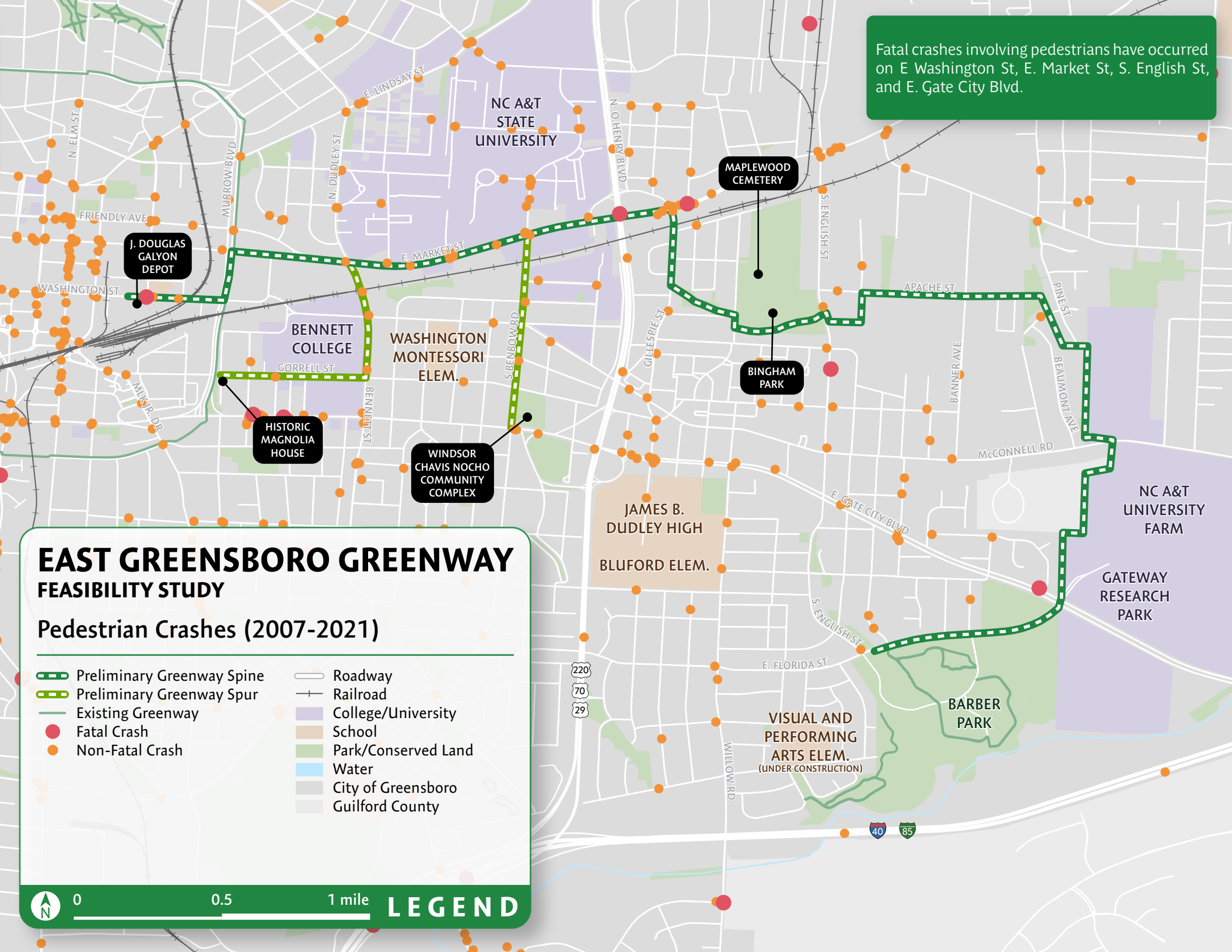
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)

BARBER PARK

NC A&T UNIVERSITY FARM

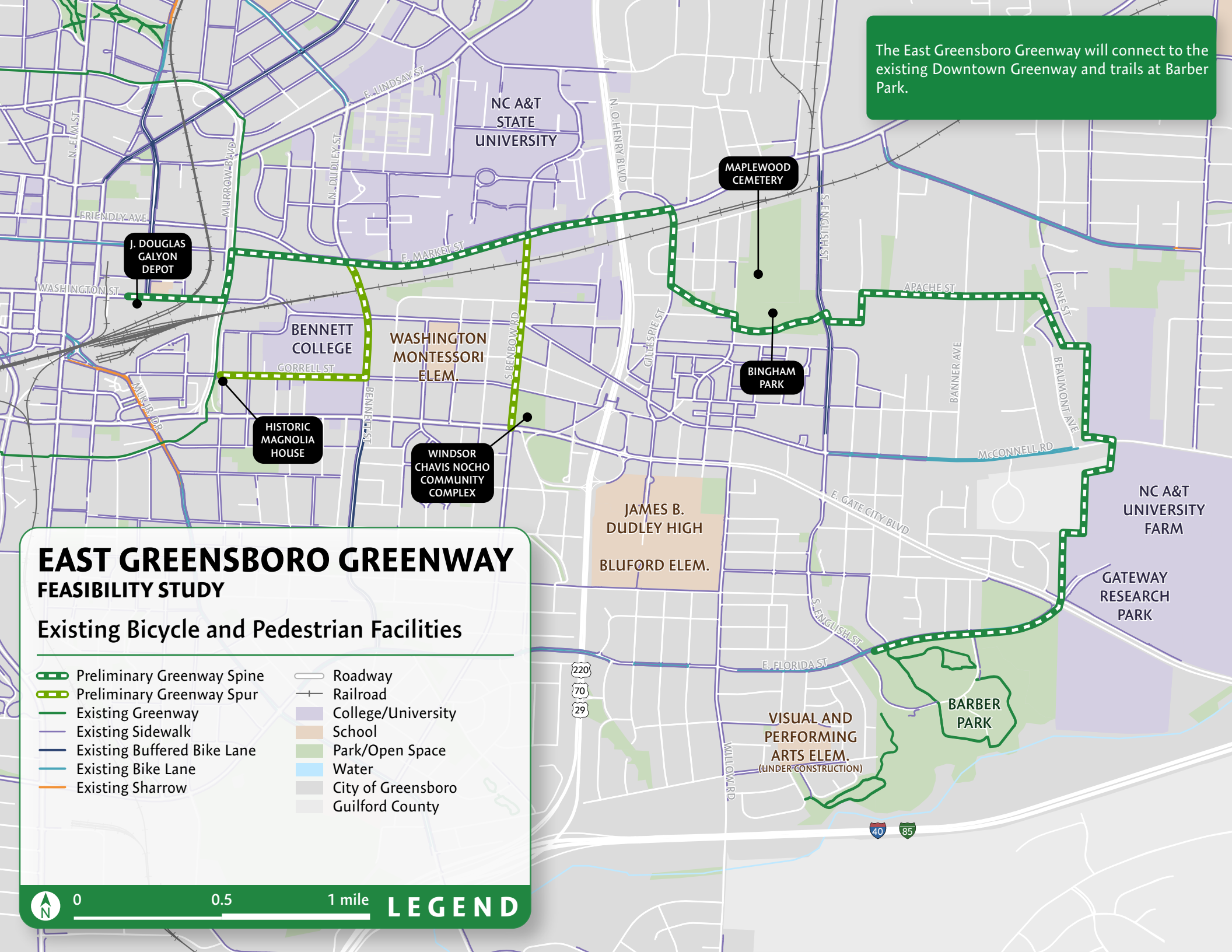
GATEWAY RESEARCH PARK

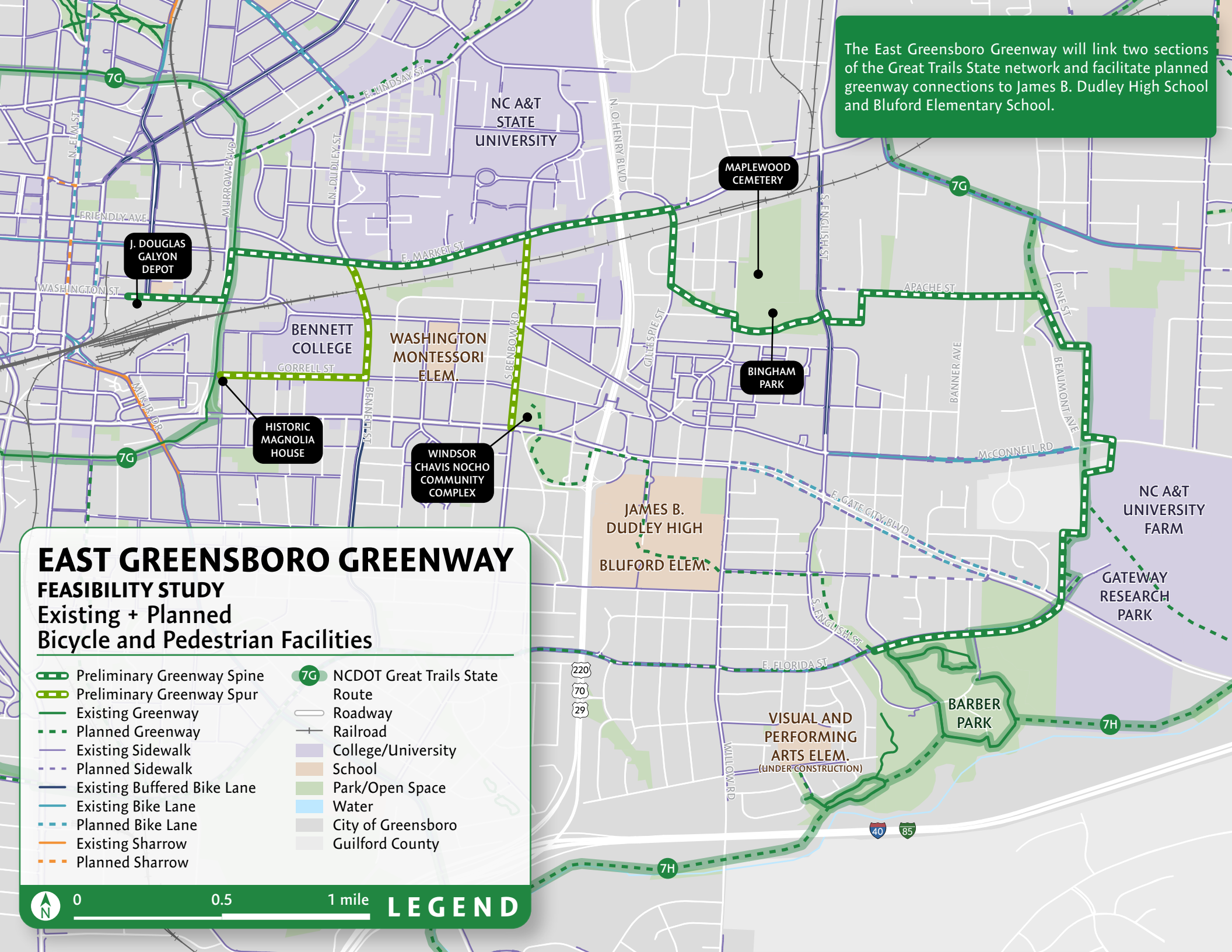
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
BENNETT ST
MILK JR. DR
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85

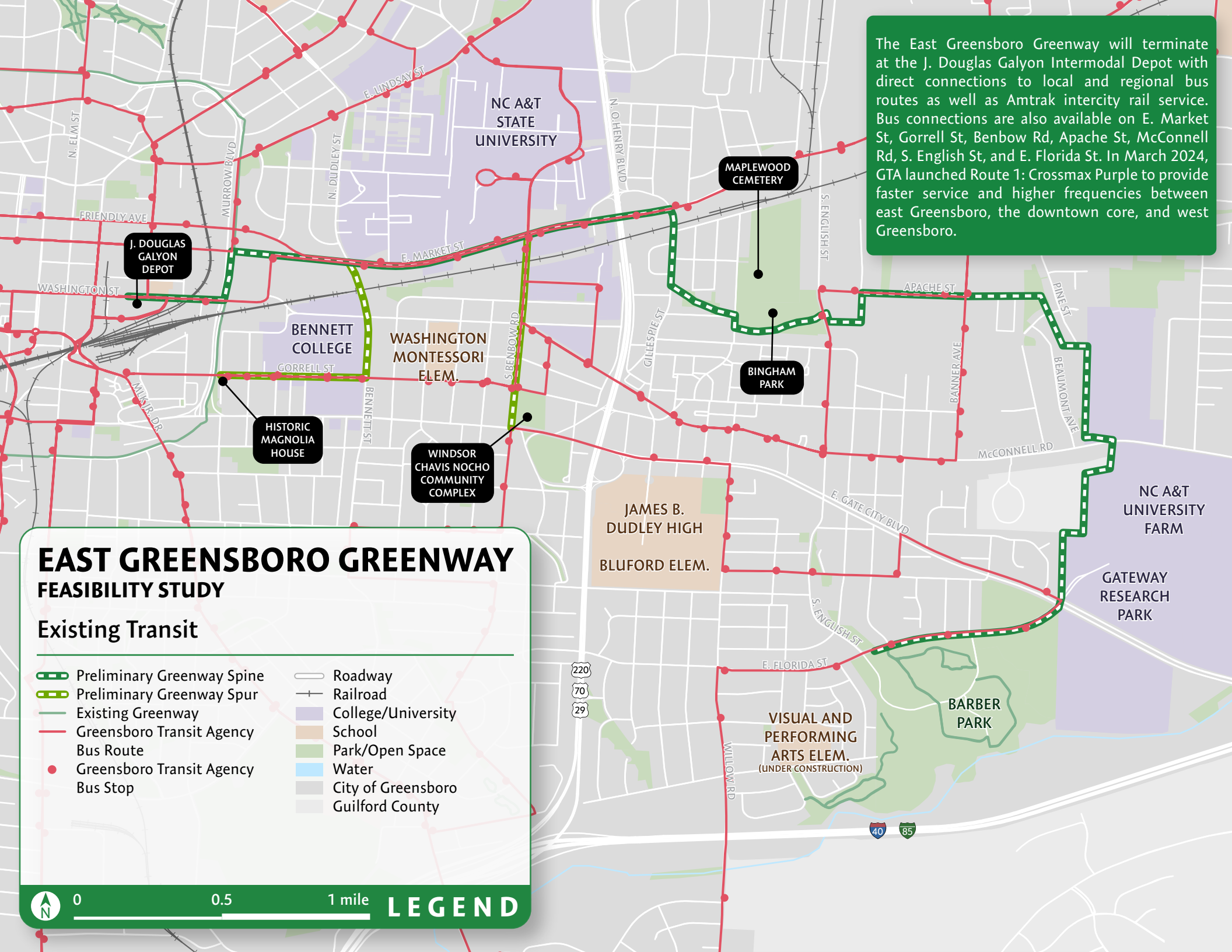

Fatal crashes involving pedestrians have occurred on E Washington St, E. Market St, S. English St, and E. Gate City Blvd.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O.HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
GORRELL ST
BENNETT ST
MILNER DR
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Pedestrian Crashes (2007-2021)
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Fatal Crash
Non-Fatal Crash
Roadway
Railroad
College/University
School
Park/Conserved Land
Water
City of Greensboro
Guilford County
N
0
0.5
1 mile
LEGEND

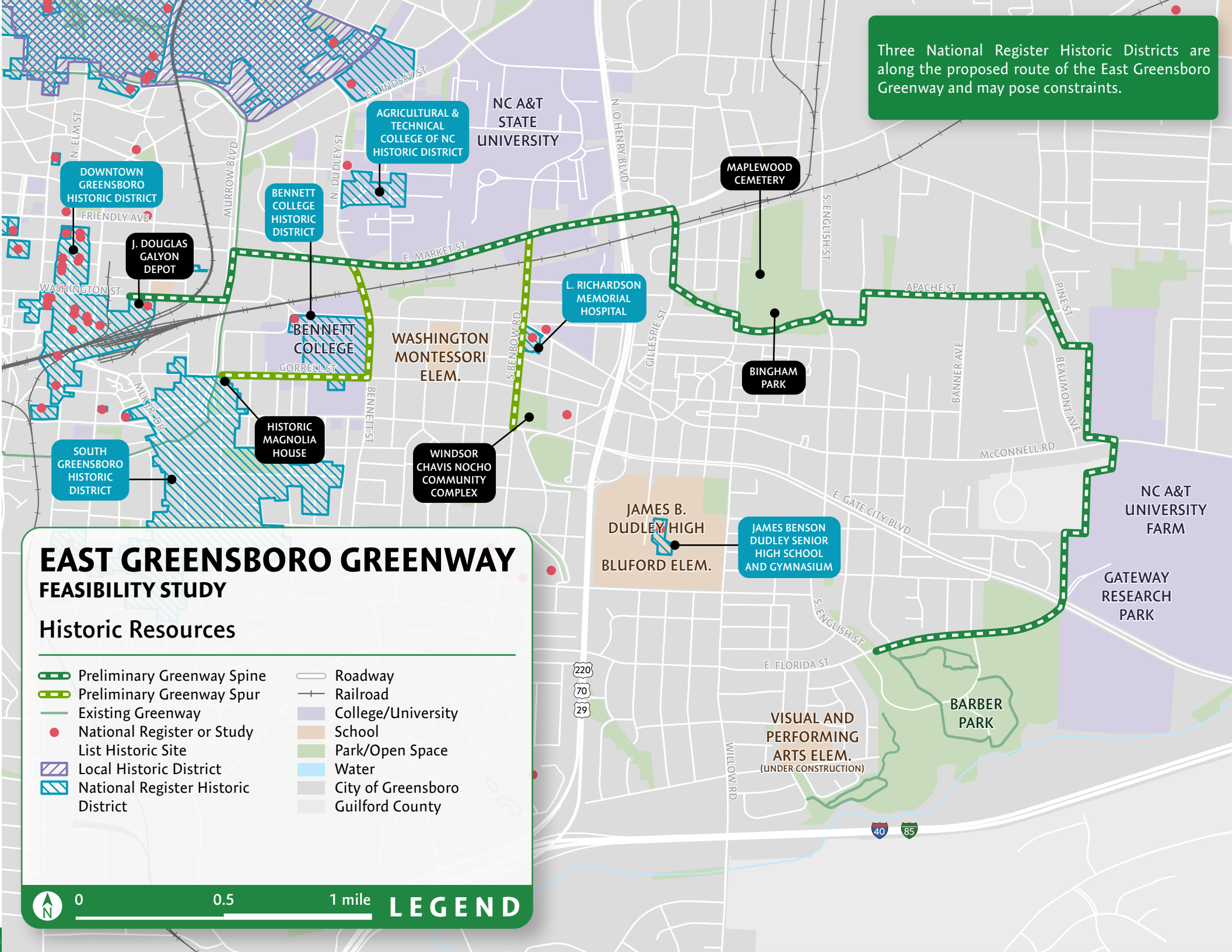

Fatal and serious injury crashes are concentrated on O.Henry Blvd, E. Gate City Blvd, Bennett St, and S. English St.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O.HENRY BLVD
S. ENGLISH ST
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
BENNETT ST
MILK JR. DR
S. BENBOW RD
GILLESPIE ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Fatal + Serious Injury Crashes (2013-2022)
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Fatal Crash
Non-Fatal Crash
Roadway
Railroad
College/University
School
Park/Conserved Land
Water
City of Greensboro
Guilford County
N
0
0.5
1 mile
LEGEND

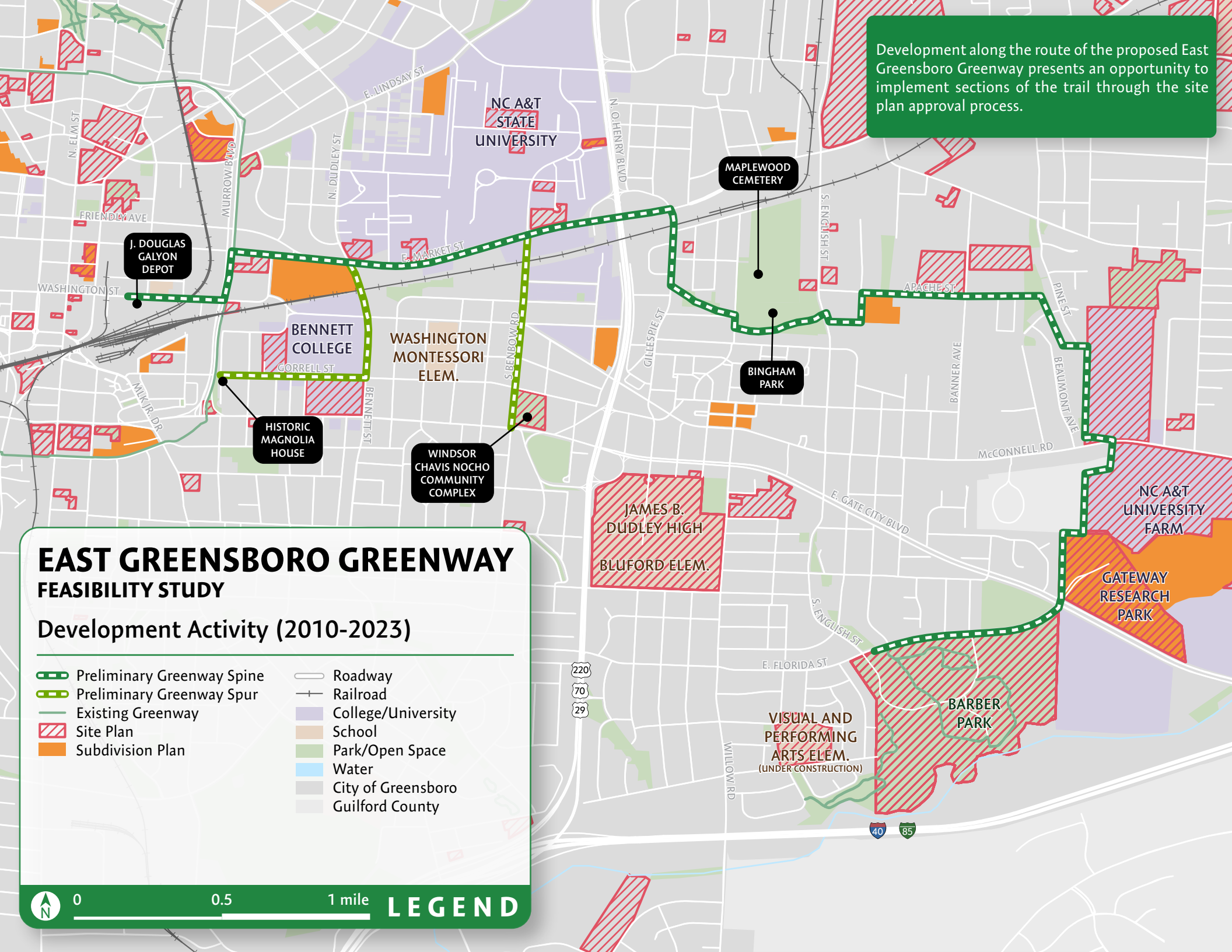

53 crashes occurred at the intersection of E. Market St and O.Henry Blvd between 2017 and 2021.
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Total Crash Frequency by Intersection (2017-2021)
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
5 - 19 Crashes
20 - 49 Crashes
50 - 99 Crashes
100 - 199 Crashes
200 - 476 Crashes
Roadway
Railroad
College/University
School
Park/Conserved Land
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O.HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
MILK JR. DR
BENNETT ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85

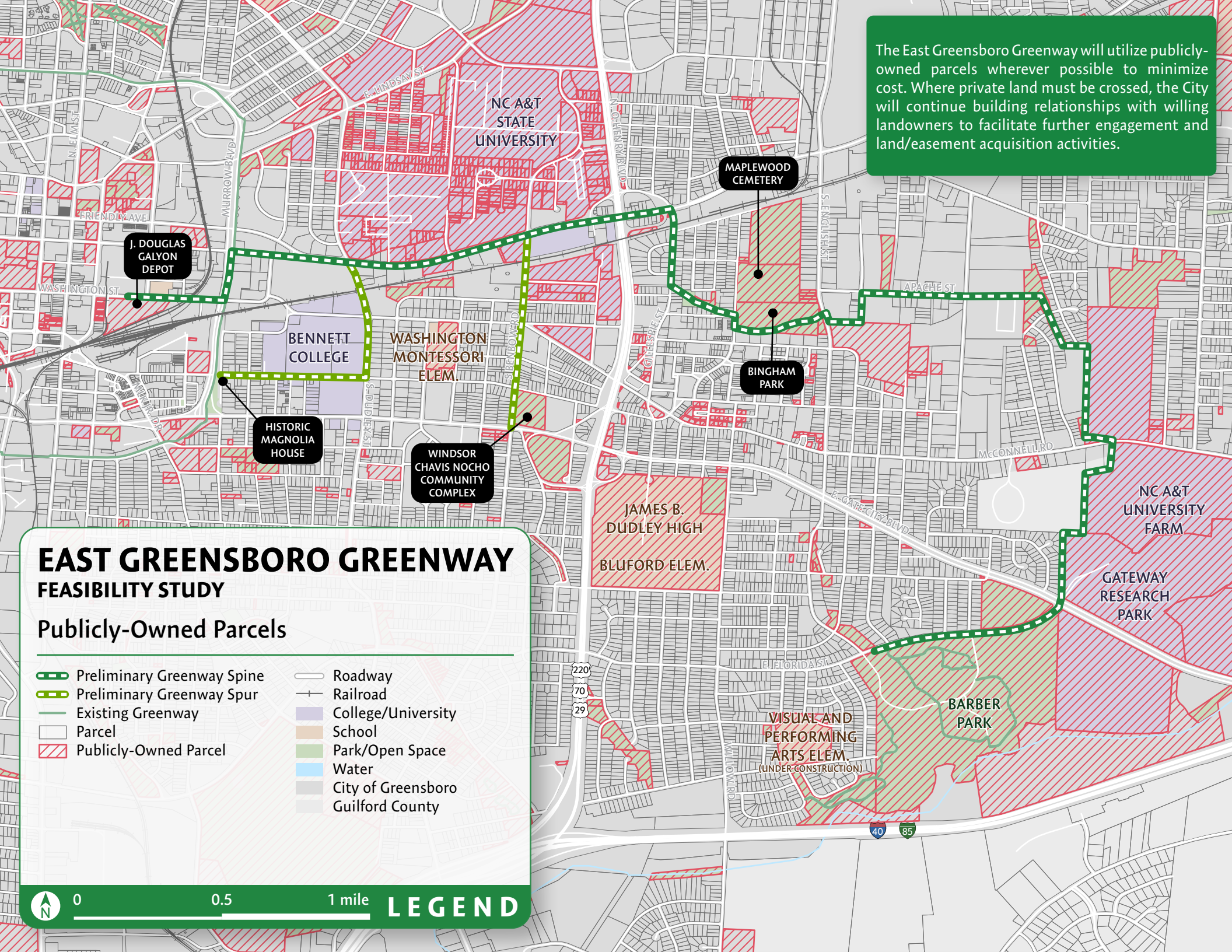

The East Greensboro Greenway will connect to the existing Downtown Greenway and trails at Barber Park.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
GORRELL ST
MILKA DR
BENNETT ST
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Existing Bicycle and Pedestrian Facilities
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Existing Sidewalk
Existing Buffered Bike Lane
Existing Bike Lane
Existing Sharrow
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
N
0
0.5
1 mile
LEGEND

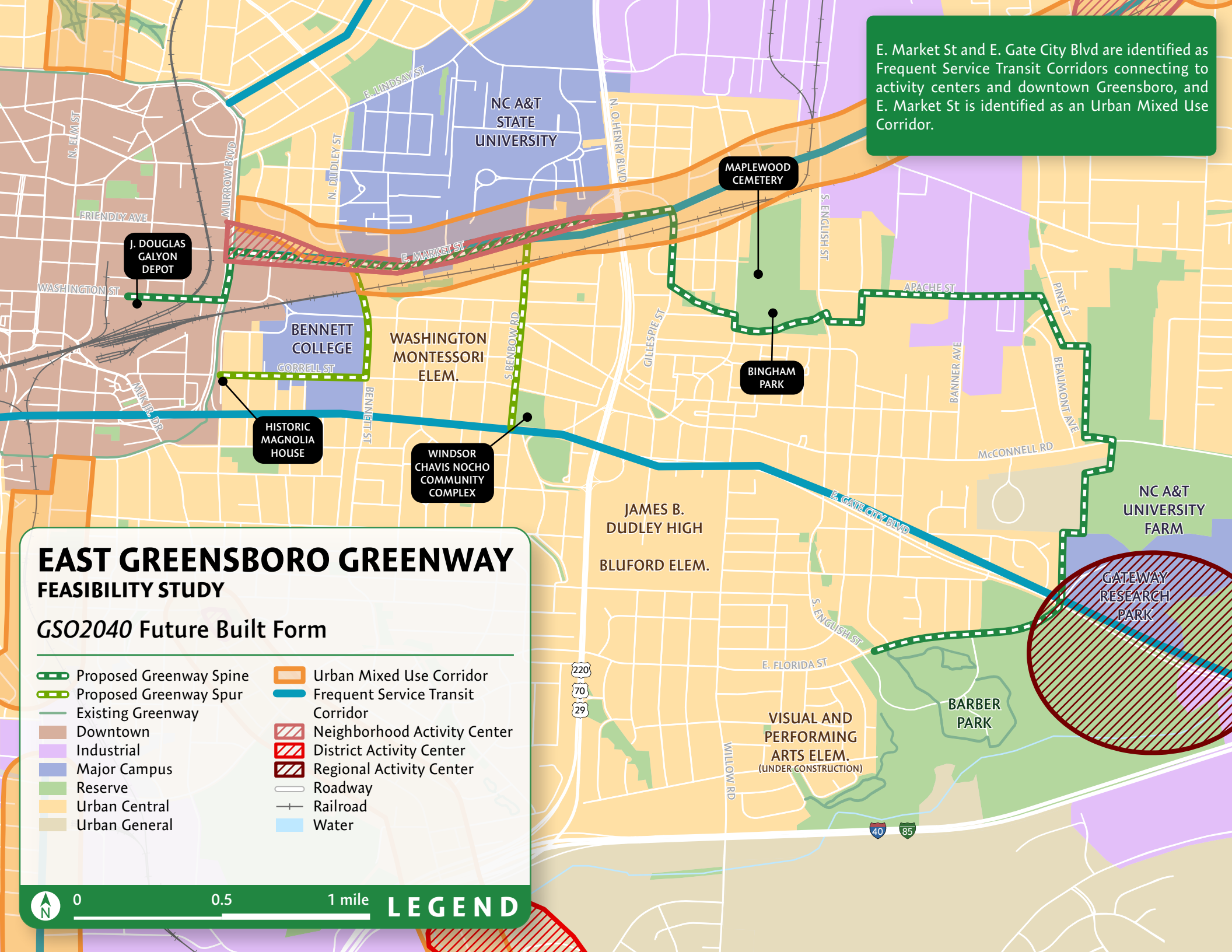

The East Greensboro Greenway will link two sections of the Great Trails State network and facilitate planned greenway connections to James B. Dudley High School and Bluford Elementary School.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
7G
7H
220
70
29
40
85
N. ELM ST
MURROW BLVD
N. DUDLEY ST
LINDSAY ST
FRIENDLY AVE
WASHINGTON ST
E. MARKET ST
GORRELL ST
MILGAR DR
BENNETT ST
S. BENBOW RD
N. O. HENRY BLVD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Existing + Planned
Bicycle and Pedestrian Facilities
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Planned Greenway
Existing Sidewalk
Planned Sidewalk
Existing Buffered Bike Lane
Existing Bike Lane
Planned Bike Lane
Existing Sharrow
Planned Sharrow
NCDOT Great Trails State Route
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND

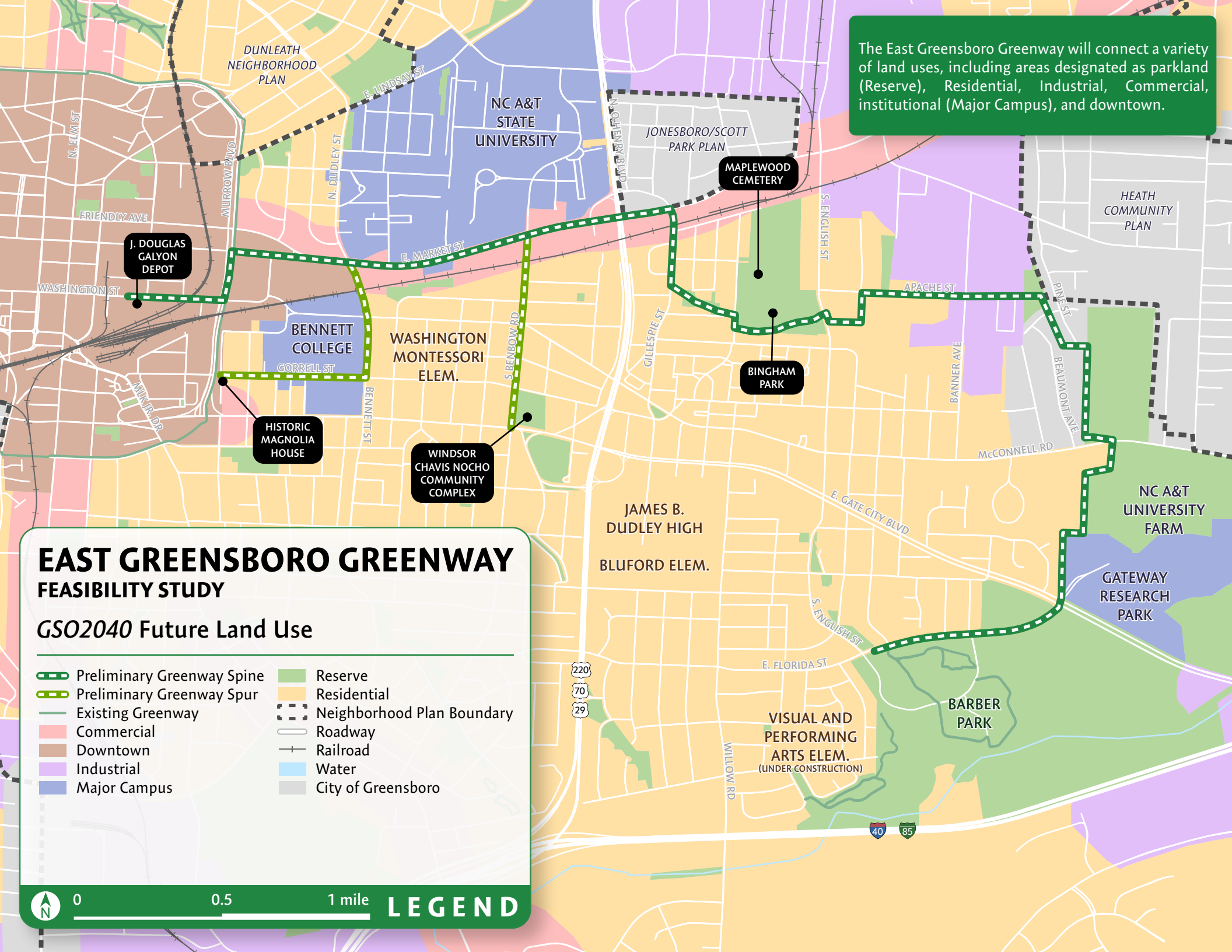

The East Greensboro Greenway will terminate at the J. Douglas Galyon Intermodal Depot with direct connections to local and regional bus routes as well as Amtrak intercity rail service. Bus connections are also available on E. Market St, Gorrell St, Benbow Rd, Apache St, McConnell Rd, S. English St, and E. Florida St. In March 2024, GTA launched Route 1: Crossmax Purple to provide faster service and higher frequencies between east Greensboro, the downtown core, and west Greensboro.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
BENNETT ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Existing Transit
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Greensboro Transit Agency Bus Route
Greensboro Transit Agency Bus Stop
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND

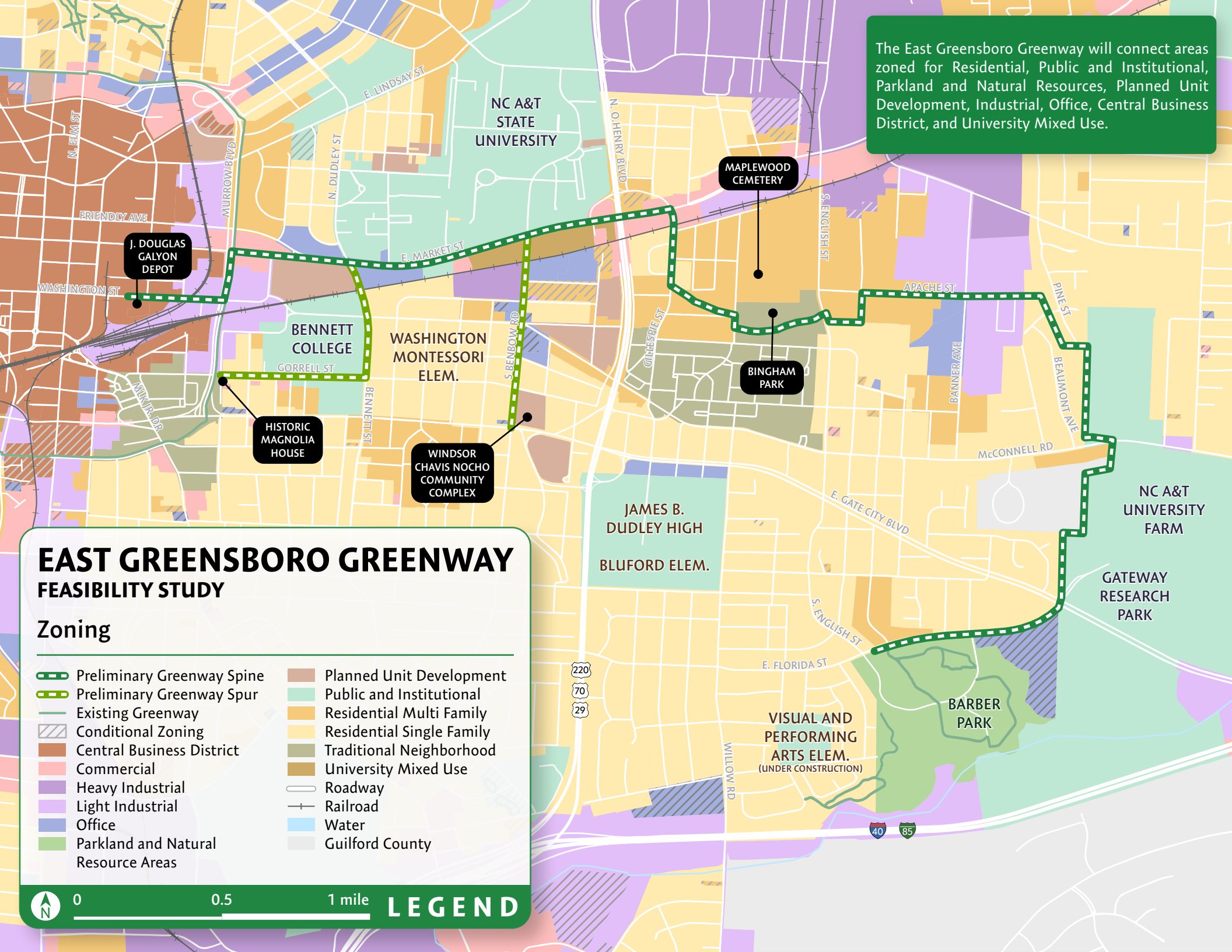

Three National Register Historic Districts are along the proposed route of the East Greensboro Greenway and may pose constraints.
NC A&T STATE UNIVERSITY
AGRICULTURAL & TECHNICAL COLLEGE OF NC HISTORIC DISTRICT
DOWNTOWN GREENSBORO HISTORIC DISTRICT
BENNETT COLLEGE HISTORIC DISTRICT
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
L. RICHARDSON MEMORIAL HOSPITAL
MAPLEWOOD CEMETERY
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
SOUTH GREENSBORO HISTORIC DISTRICT
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
JAMES BENSON DUDLEY SENIOR HIGH SCHOOL AND GYMNASIUM
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
N. ELM ST
MURROW BLVD
N. DUDLEY ST
E. LINDSAY ST
FRIENDLY AVE
WASHINGTON ST
E. MARKET ST
GORRELL ST
BENNETT ST
MILITARY DR
S. BENBOW RD
GILLESPIE ST
N. O. HENRY BLVD
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Historic Resources
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
National Register or Study List Historic Site
Local Historic District
National Register Historic District
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
N
0
0.5
1 mile
LEGEND


Development along the route of the proposed East Greensboro Greenway presents an opportunity to implement sections of the trail through the site plan approval process.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O.HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
GORRELL ST
BENNETT ST
MLK JR. DR
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Development Activity (2010-2023)
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Site Plan
Subdivision Plan
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
N
0
0.5
1 mile
LEGEND


The East Greensboro Greenway will utilize publicly-owned parcels wherever possible to minimize cost. Where private land must be crossed, the City will continue building relationships with willing landowners to facilitate further engagement and land/easement acquisition activities.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Publicly-Owned Parcels
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Parcel
Publicly-Owned Parcel
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND


E. Market St and E. Gate City Blvd are identified as Frequent Service Transit Corridors connecting to activity centers and downtown Greensboro, and E. Market St is identified as an Urban Mixed Use Corridor.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O.HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
S. ENGLISH ST
APACHE ST
PINE ST
GORRELL ST
BENNETT ST
S. BENBOW RD
GILLESPIE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
GSO2040 Future Built Form
Proposed Greenway Spine
Proposed Greenway Spur
Existing Greenway
Downtown
Industrial
Major Campus
Reserve
Urban Central
Urban General
Urban Mixed Use Corridor
Frequent Service Transit Corridor
Neighborhood Activity Center
District Activity Center
Regional Activity Center
Roadway
Railroad
Water
N
0
0.5
1 mile
LEGEND


The East Greensboro Greenway will connect a variety of land uses, including areas designated as parkland (Reserve), Residential, Industrial, Commercial, institutional (Major Campus), and downtown.
DUNLEATH NEIGHBORHOOD PLAN
NC A&T STATE UNIVERSITY
JONESBORO/SCOTT PARK PLAN
HEATH COMMUNITY PLAN
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
N. ELM ST
MURROW BLVD
FRIENDLY AVE
WASHINGTON ST
E. LINDSAY ST
N. DUDLEY ST
E. MARKET ST
GORRELL ST
BENNETT ST
MILK JR. DR
S. BENBOW RD
N. O. HENRY BLVD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
GSO2040 Future Land Use
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Commercial
Downtown
Industrial
Major Campus
Reserve
Residential
Neighborhood Plan Boundary
Roadway
Railroad
Water
City of Greensboro
0
0.5
1 mile
LEGEND

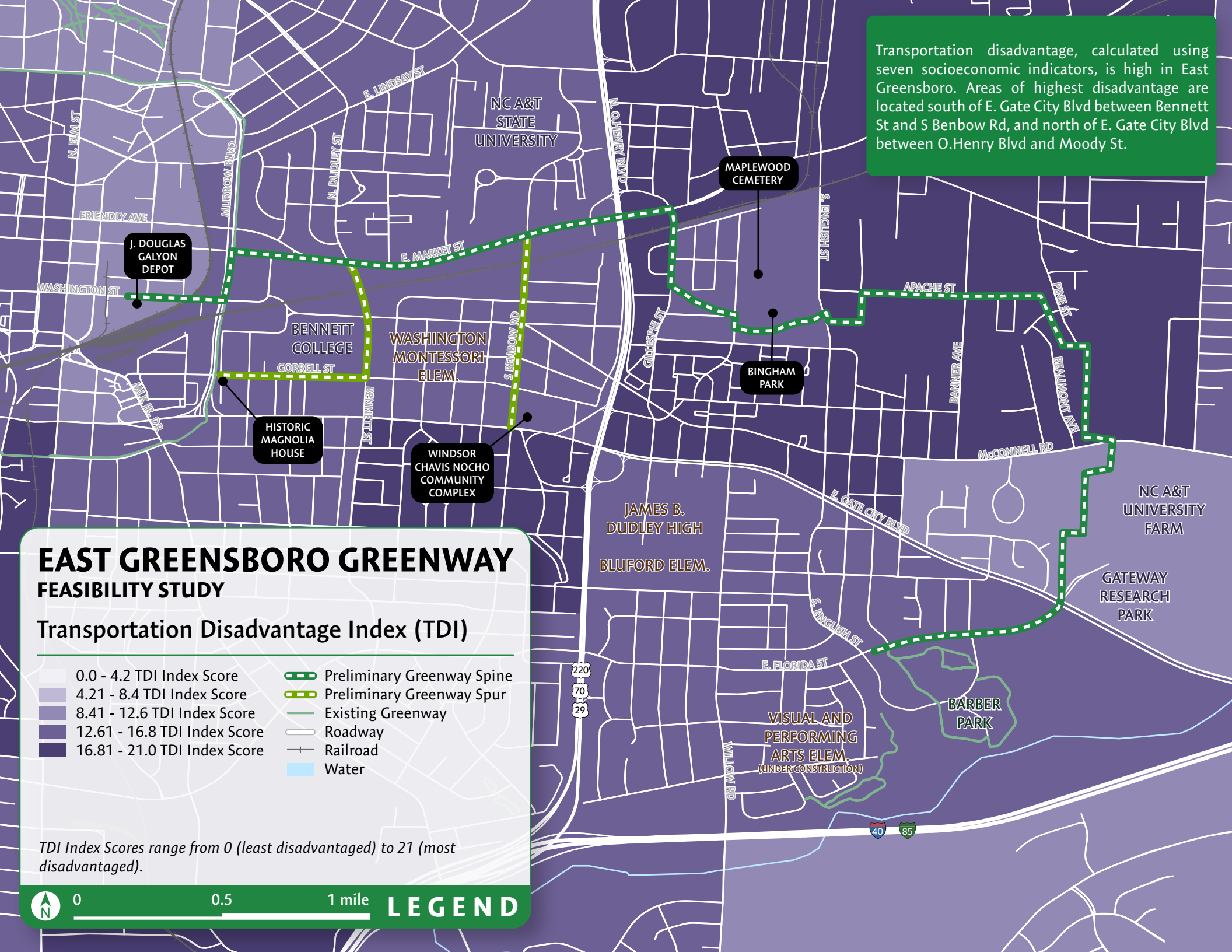

The East Greensboro Greenway will connect areas zoned for Residential, Public and Institutional, Parkland and Natural Resources, Planned Unit Development, Industrial, Office, Central Business District, and University Mixed Use.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
GORRELL ST
BENNETT ST
WILKIE DR
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Zoning
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Conditional Zoning
Central Business District
Commercial
Heavy Industrial
Light Industrial
Office
Parkland and Natural Resource Areas
Planned Unit Development
Public and Institutional
Residential Multi Family
Residential Single Family
Traditional Neighborhood
University Mixed Use
Roadway
Railroad
Water
Guilford County
N
0
0.5
1 mile
LEGEND


The US Department of Agriculture (USDA) has designated parts of east Greensboro as a food desert, defined as Census tracts with both low income and low access according to 2019 data (see https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/ for more details). A greenway can help people reach grocery stores, farmers markets, and other destinations with affordable, healthy food options.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
S. ENGLISH ST
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
BENNETT ST
S. BENBOW RD
GILLESPIE ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
MLK JR. DR
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
USDA Food Deserts
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Food Desert Census Tract
Grocery Store
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
N
0
0.5
1 mile
LEGEND


Greenways often can route through existing utility easements, but must be designed to minimize service impacts while providing access for maintenance.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
GORRELL ST
BENNETT ST
MLK JR. DR
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Utilities + Easements
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Duke Energy Electric Transmission Easement
Stormwater Culvert
Stormwater Open Conveyance
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND


The NC Department of Environmental Quality maintains multiple decades of data on potentially contaminated sites and remediation efforts in east Greensboro, including hazardous waste sites and brownfields. Bingham Park was the site of an incinerator and landfill before modern landfill safety regulations were adopted in 1983. Some environmental contamination has been found on the site, and remediation is planned.
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
BENNETT ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Contaminated Sites
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Aboveground Storage Tank Incident
Underground Storage Tank Incident
Inactive Hazardous Waste Site
Hazardous Waste Site
Preregulatory Landfill Site
Federal Remediation Site
Brownfield Site
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
N
0
0.5
1 mile
LEGEND

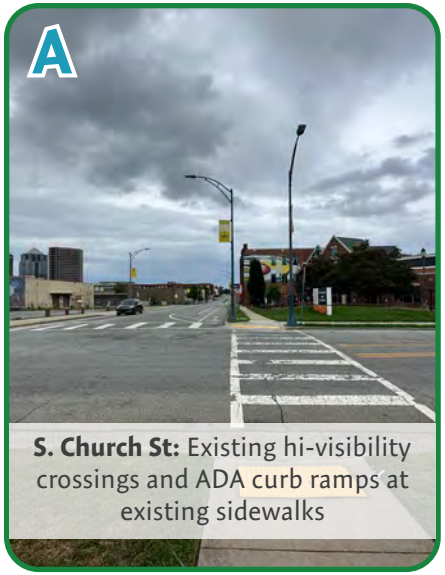

The HOLC grading system had a significant impact on housing and lending practices and exacerbated racial and socioeconomic disparities throughout the country. Neighborhoods in East Greensboro received HOLC grades of "C" and "D," discouraging investment and mortgage lending for decades.
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Home Owner's Loan Corporation (HOLC) Redlining Grades (1936)
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Grade A: "Best"
Grade B: "Still Desirable"
Grade C: "Definitely Declining"
Grade D: "Hazardous"
Roadway
Railroad
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
GATEWAY RESEARCH PARK
NC A&T UNIVERSITY FARM
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
MILK FARM DR
BENNETT ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85


Transportation disadvantage, calculated using seven socioeconomic indicators, is high in East Greensboro. Areas of highest disadvantage are located south of E. Gate City Blvd between Bennett St and S Benbow Rd, and north of E. Gate City Blvd between O.Henry Blvd and Moody St.
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Transportation Disadvantage Index (TDI)
0.0 - 4.2 TDI Index Score
4.21 - 8.4 TDI Index Score
8.41 - 12.6 TDI Index Score
12.61 - 16.8 TDI Index Score
16.81 - 21.0 TDI Index Score
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Roadway
Railroad
Water
TDI Index Scores range from 0 (least disadvantaged) to 21 (most disadvantaged).
0
0.5
1 mile
LEGEND
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
J. DOUGLAS GALYON DEPOT
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
BINGHAM PARK
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
NC A&T UNIVERSITY FARM
GATEWAY RESEARCH PARK
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
S. ENGLISH ST
FRIENDLY AVE
E. MARKET ST
WASHINGTON ST
GORRELL ST
BENNETT ST
S BENBOW RD
GILLESPIE ST
APACHE ST
FINE ST
BANNER AVE
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85

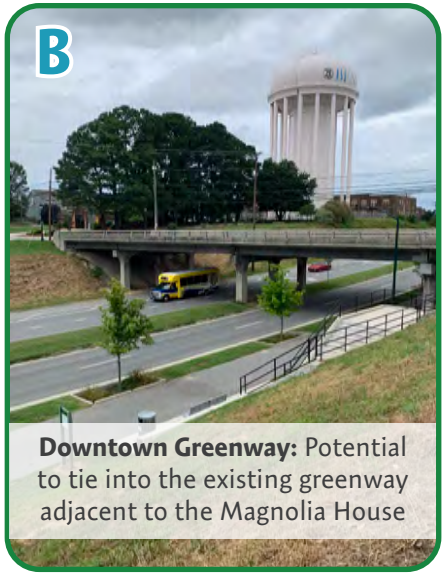
SUMMARY OF FIELD OBSERVATIONS

Fieldwork is an important part of the planning process that helps the project team understand the local culture and existing conditions associated with a site. It also helps the project team develop design solutions that respond to the specific needs and characteristics of a given site.

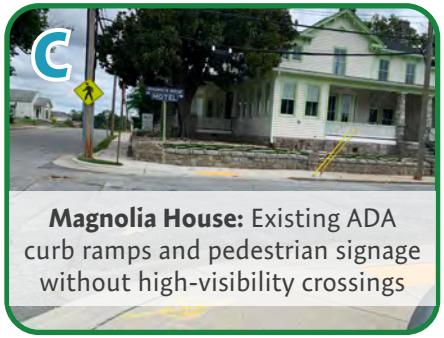
The project team conducted a site visit in August 2023 and visited key destinations such as existing parks, existing bicycle and pedestrian facilities, roadways, railroads, and environmentally sensitive and constrained areas. Challenges to greenway design such as bridges, high-speed traffic, or environmental constraints are found along the corridor. The following photos highlight conditions in the study area. Photo labels correspond with the labels on the following map.



S. Church St: Existing hi-visibility crossings and ADA curb ramps at existing sidewalks



Downtown Greenway: Potential to tie into the existing greenway adjacent to the Magnolia House



Magnolia House: Existing ADA curb ramps and pedestrian signage without high-visibility crossings



Windsor Chavis Nocho Community Complex: Pedestrian tunnel improvements submitted to SPOT 7.0



Bingham Park: Contaminated site awaiting remediation with existing paved path into the park



Apache St + Banner Ave: Primarily residential and lacks sidewalks



McConnell Rd: Potential property impacts alongside creek next to the fence line



NC A&T Farm: Wetland and topographical challenges associated with nearby construction site



E. Florida St: Existing sidewalks to the south with transit stops. Potential to add bike lanes.



Barber Park: Potential to tie the East Greensboro Greenway into Barber Park


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Study Area
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
A
J. DOUGLAS GALYON DEPOT
B
C
HISTORIC MAGNOLIA HOUSE
D
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
E
MAPLEWOOD CEMETERY
BINGHAM PARK
F
G
H
I
J
NC A&T STATE UNIVERSITY
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
GATEWAY RESEARCH PARK
NC A&T UNIVERSITY FARM
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
FRIENDLY AVE
WASHINGTON ST
E. MARKET ST
GORRELL ST
BENNETT ST
MLK JR. DR
S. BENBOW RD
N. O. HENRY BLVD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
BANNER AVE
PINE ST
BEAUMONT AVE
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
220
70
29
40
85

ALTERNATIVES DEVELOPMENT

DESIGN CRITERIA + TYPICAL SECTION CONSIDERATIONS

The design criteria for the East Greensboro Greenway assumes a preferred paved trail width of 10 feet for bidirectional use and cross slopes of two percent or less. The trail width should be increased to 12 feet when located at the back of curb or where conditions allow to provide an improved user experience. The trail width may be reduced to a minimum of eight feet in very constrained circumstances; however, FHWA often references the 10 foot minimum width guideline when evaluating projects for Federal funding programs. In open areas where space allows, five foot shoulders should be provided while two foot shoulders may be used in constrained areas to limit impacts to wooded areas and areas of steep topography. Any structures (bridges/boardwalks/tunnels) should provide a 10 foot minimum clear width. In areas where the greenway routes alongside roadways, if space is available, a planting strip should be provided. In constrained areas, additional trail width should extend from the back of the curb. Longitudinal slopes of five percent or less are desired and should be incorporated to the maximum extent practicable. In areas where the greenway is along the road, it shall adhere to the Public Right-Of-Way Accessibility Guidelines (PROWAG). A minimum longitudinal grade of 0.5 percent and a vertical clearance of 10 feet above the greenway should be provided. In highly constrained areas, the absolute minimum vertical clearance above the greenway may be reduced to eight feet. The minimum horizontal clear width should be equal to the trail width plus two feet on either side with no horizontal protrusions allowed.

For the East Greensboro Greenway to create a continuous and cohesive route it must cross multiple roadways. Grade-separated crossings, while preferred, may not be feasible within the constraints of the project. As such, well-designed at-grade crossings are a critical component of greenway safety as users transition from a separated space to a space that may contain multiple points of conflict with vehicles. Crossing designs will ensure high levels of visibility and awareness between trail users and motorists through a variety of available measures including pavement markings, advance warning signage, curb bumpouts, pedestrian refuge islands, rectangular rapid flashing beacons (RRFBs) and other signalization as appropriate.

Additional design resource information may be found in **Appendix B: Design Resources**.

SEGMENT ALTERNATIVES

Informed by study considerations, field observations, and the above design guidelines, the project team developed a series of segment alternatives that meet the project's purpose and need. Subsequently, the project team identified segments for further consideration based on right of way availability, environmental constraints, roadway crossings, and connectivity to local destinations as shown on the following maps and outlined in the opportunities and constraints table. The project team then combined the remaining segment alternatives into four route alternatives for further evaluation (see **chapter 4**).





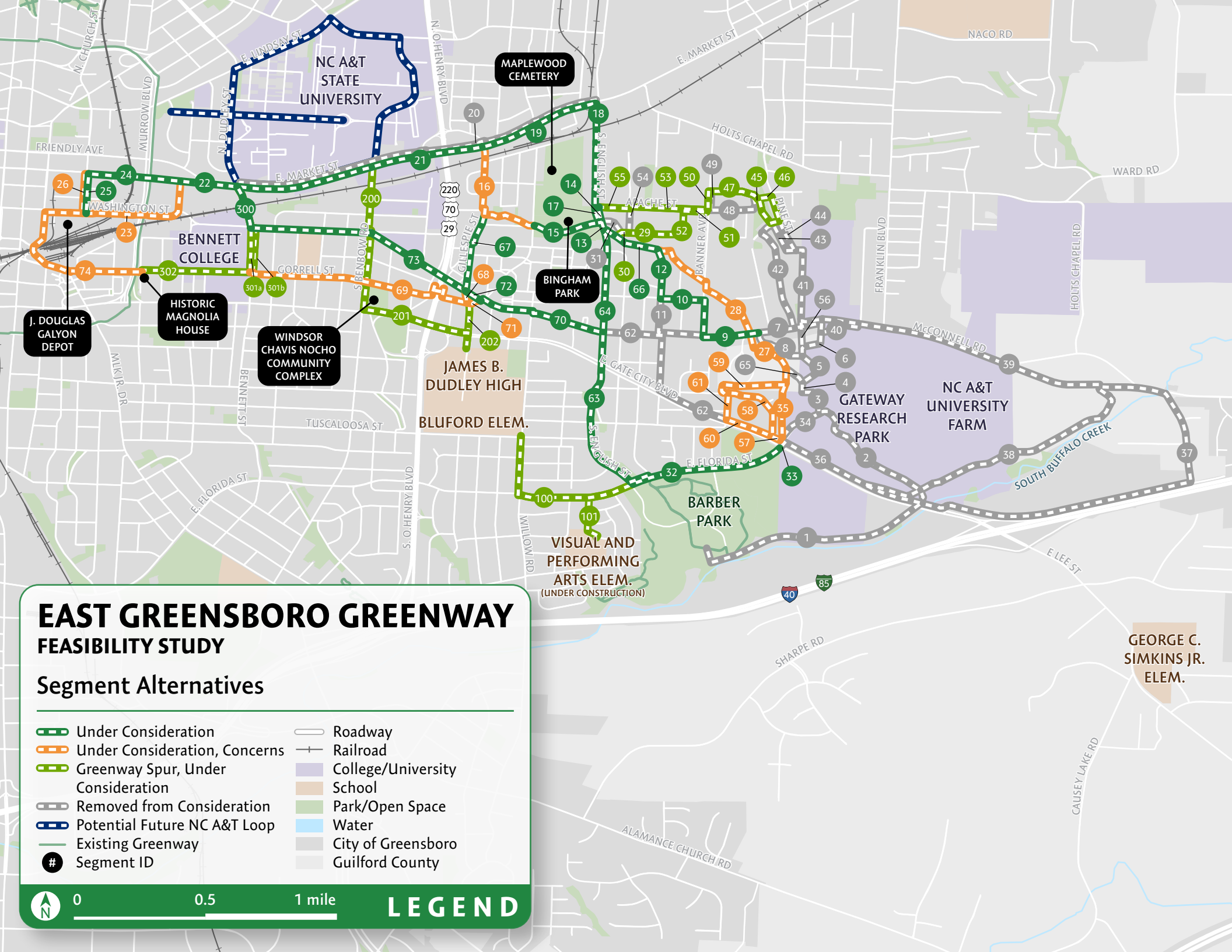
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Preliminary Route Segments

- Segment Alternative
- Greenway Spur
- Potential Future NC A&T Loop
- Existing Greenway
- # Segment ID
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

0 0.5 1 mile

LEGEND


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Segment Alternatives
Under Consideration
Under Consideration, Concerns
Greenway Spur, Under Consideration
Removed from Consideration
Potential Future NC A&T Loop
Existing Greenway
Segment ID
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
BENNETT COLLEGE
BINGHAM PARK
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
GATEWAY RESEARCH PARK
NC A&T UNIVERSITY FARM
GEORGE C. SIMKINS JR. ELEM.
N. CHURCH ST
MURROW BLVD
FRIENDLY AVE
E. LINDSAY ST
N. DUDLEY ST
N. O. HENRY BLVD
E. MARKET ST
NACO RD
HOLTS CHAPEL RD
WARD RD
WASHINGTON ST
GORRELL ST
S. RENBOW RD
GILLESPIE ST
S. ENGLISH ST
APACHE ST
BANNER AVE
PINE ST
FRANKLIN BLVD
HOLTS CHAPEL RD
McCONNELL RD
E. GATE CITY BLVD
MLK JR. DR
BENNETT ST
TUSCALOOSA ST
E. FLORIDA ST
S. O. HENRY BLVD
WILLOW RD
SOUTH BUFFALO CREEK
E LEE ST
SHARPE RD
CAUSEY LAKE RD
ALAMANCE CHURCH RD
220
70
29
40
85

OPPORTUNITIES + CONSTRAINTS ANALYSIS

The following table provides a detailed opportunities and constraints analysis for each segment alternative, including information on the segment limits, opportunities, constraints, notes, and key stakeholders who will likely be involved if the segment is implemented in the future. This analysis, paired with Steering Committee and community input informed the segments that were removed from consideration.

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 1	Yes	Follows South Buffalo Creek from Barber Park to E. Gate City Blvd	0.86	User experience, grade-separation, publicly-owned land
Segment 2	Yes	Along backside of Gateway Research Park from South Buffalo Creek to E. Florida St (private)	0.48	User experience, connection to Gateway Research Park
Segment 3	Yes	Parallel to proposed roadway near Data Center	0.12	User experience, connection to Gateway Research Park
Segment 4	Yes	Heads North from Data Center towards creek	0.04	User experience
Segment 5	Yes	Crosses creek from Gateway Research Park side to NC A&T farm side	0.15	User experience

Note: Segment alternatives may be evaluated as either a spine or spur route segment depending on the route alternative.

SEGMENT STATUS
Under Consideration
Under Consideration - Construction & Maintenance Concerns
Removed from Consideration

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Conditions under E. Gate City Blvd roadway bridges, transmission easement, floodplain impacts	5 Parcels (3 owners, all publicly-owned)		Removed from Consideration	Concerns with encroachment in floodplain for majority of length, future conditions beneath roadway bridges, and overall routing	NC A&T, NCDOT, Duke Energy
Floodplain impacts	2 Parcels (1 Owner, both publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Minor floodplain impacts	1 Parcel (1 Owner, publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
N/A	1 Parcel (1 Owner, publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Impacts to existing farm operations, floodplain impacts from proposed pedestrian bridge	1 Parcel (1 Owner, publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 6	Yes	Follows western parcel boundary of NC A&T farmland and heads north towards McConnell Rd	0.13	User experience
Segment 7	Yes	Along south side of McConnell Rd from Solid Rock Baptist Church to just west of Borders Terrace	0.24	Trail visibility along McConnell Rd
Segment 8	Yes	Heads northwest towards McConnell Rd along north side of creek	0.18	User experience
Segment 9	Yes	Along south side of McConnell Rd from just west of Borders Terrace to Banner Ave	0.19	Trail visibility along McConnell Rd
Segment 10	Yes	Heads north from McConnell Rd along east side of Banner Ave, crosses to south side of Everitt St eventually ending at Moody St	0.28	Trail visibility, sidepath along lower volume/speed neighborhood streets, Transit connectivity

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Impacts to existing farm operations, steeper trail profile required	1 Parcel (1 Owner, publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Impacts to existing farm operations, narrow setbacks with existing buildings, may require roadway lane reconfiguration	1 Parcel (1 Owner, publicly-owned). For section along roadway, impacts to 9 additional Parcels possible (6 Owners)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Floodplain impacts	3 Parcels (3 Owners, 2 publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Narrow setbacks of existing buildings, may require roadway lane reconfiguration, at-grade unsignalized roadway crossing of McConnell Rd	Predominantly within right of way, impacts to 11 Parcels (10 Owners) possible		Under Consideration		
At-grade unsignalized roadway crossings of Moody St, Arbor Dr, and Banner Ave	Predominantly within right of way, impacts to 6 Parcels (4 Owners) possible		Under Consideration		

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 11	Yes	Along north side of McConnell Rd and west side of Moody St between Banner Ave and Everitt St	0.28	Trail visibility
Segment 12	Yes	Heads north from Everitt St along west side of Moody St then continues west towards S. English St	0.20	User experience, connectivity to Hampton Elementary School site
Segment 13	Yes	Along east side of S. English St towards Apache St	0.03	Trail visibility, park connectivity
Segment 14	No	Along east side of S. English St heading north towards Apache St	0.06	Trail visibility
Segment 15	Yes	Through Bingham Street Park from S. English St to Bingham St	0.22	User experience, park and transit connectivity

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Narrow setbacks of existing buildings, existing utilities along roadway, multiple at-grade unsignalized roadway crossings	Predominantly within right of way, impacts to 15 Parcels (15 Owners) possible		Removed from Consideration	Concerns with narrow building setbacks, multiple at-grade unsignalized roadway crossings near McConnell Rd, and impacts to existing utilities along roadways. Relative to Segment 10, this segment is less desirable for a similar distance and shared segment terminus.	
Environmentally-sensitive areas on site, topography challenges, at=grade unsignalized roadway crossings of Trade St and Everitt St	3 Parcels (3 Owners, 2 publicly-owned)		Under Consideration		Guilford County
At-grade unsignalized roadway crossing of S. English St, topography challenges	2 Parcels (2 Owners, 1 City-owned)		Under Consideration		
Existing utilities along roadway, at-grade unsignalized roadway crossing	Predominantly within right of way, impacts to 1 Parcel (1 Owner) possible		Under Consideration		
Environmentally-sensitive areas on site, contingent on future park project	1 Parcel (1 Owner, publicly-owned)		Under Consideration		

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 16	Yes	Along creek between Bingham St and Gillespie St, then heads north along Gillespie St to E. Market St	0.45	User experience through park, park connectivity
Segment 17	No	Along west side of S. English St heading north towards Apache St	0.06	Trail visibility, park and transit connectivity
Segment 18	Yes	Along west side of S. English St from Apache St to E. Market St	0.41	Proposed NCDOT STIP project features grade-separated crossing of railroad at English St, segment provides access to a grocery store in a food desert area
Segment 19	Yes	Along south side of E. Market St from S. English St to Gillespie St	0.41	Trail visibility, transit connectivity, limits required crossings of E. Market St, utilizes existing signalized crossing of Gillespie St

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Narrow building setbacks along Gillespie, at-grade crossing of railroad, four at-grade unsignalized roadway crossings	17 Parcels (15 Owners, 5 publicly-owned parcels)		Under Consideration - Construction & Maintenance Concerns		NCDOT, North Carolina Railroad Company (NCRR), Norfolk Southern, Redevelopment Commission of Greensboro
N/A	Predominantly within right of way, impacts to 5 Parcels (1 Owner, publicly-owned) possible		Under Consideration		
Feasibility of segment contingent on roadway grade-separation project, narrow building setbacks	Predominantly within right of way, impacts to 23 Parcels (17 Owners) possible	P-5747	Under Consideration		NCDOT, NCRR, Norfolk Southern, Redevelopment Commission of Greensboro
User experience, potential impacts to existing business operations, increased potential for interaction between trail users and traffic along high-volume roadway, narrow building setbacks, existing at-grade unsignalized crossing of S Raleigh St	Predominantly within right of way, impacts to 9 Parcels (9 Owners) possible		Under Consideration		NCDOT

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 20	Yes	Along north side of E. Market St from S. English St to S Dudley St	1.24	Trail visibility, transit connectivity, along NC A&T campus, utilizes existing signalized crossings, existing street lighting
Segment 21	Yes	Along south side of E. Market St from Gillespie St to S Dudley St	0.81	Trail visibility, transit connectivity, utilizes existing signalized crossings, existing street lighting, connectivity for NC A&T students and faculty, provides east-west connection between Bingham Park and transit depot that avoids impacts to residential neighborhoods, connection to existing businesses

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
User experience, potential impacts to existing business operations, increased potential for interaction between trail users and traffic along high-volume roadway, narrow building setbacks, multiple driveway crossings, bridge modifications required over S O Henry Blvd, ten at-grade crossings (six signalized) including exit ramps from US-29.	Predominantly within right of way, impacts to 22 Parcels (16 Owners) possible		Removed from Consideration	Concerns with narrow building setbacks, interaction between trail users and vehicle traffic at highway interchange, impacts to NC A&T campus	NCDOT, NC A&T
User experience, potential impacts to existing business operations, increased potential for interaction between trail users and traffic along high-volume roadway, narrow building setbacks, multiple driveway crossings, three at-grade signalized roadway crossings, bridge modifications required over S O Henry Blvd	Predominantly within right of way, impacts to 21 Parcels (13 Owners) possible		Under Consideration		NCDOT, NC A&T

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 22	Yes	Along south side of E. Market St from S Dudley St to Pastor Anderson Way	0.18	Trail visibility, transit connectivity, utilizes existing signalized roadway crossings, existing street lighting, connectivity for NC A&T students and faculty, provides east-west connection between Bingham Park and transit depot that avoids impacts to residential neighborhoods, connection to existing businesses
Segment 23	Yes	Along east side of Pastor Anderson Way and south side of E Washington St from E. Market St to the J. Douglas Gaylon Intermodal Depot	0.48	Trail visibility, transit connectivity, grade-separated roadway crossing of S Murrow Blvd
Segment 24	Yes	Along south side of E. Market St from Pastor Anderson Way to S Church St	0.30	Trail visibility, utilizes existing signalized roadway crossing at S Murrow Blvd, connection to Downtown Greenway, connection to existing businesses
Segment 25	No	Along east side of S Church St from E. Market St to E Washington St	0.16	Trail visibility, chance to utilize existing bike lanes and sidewalk

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Increased potential for interaction between trail users and traffic along high-volume roadway	Predominantly within right of way, impacts to 1 Parcel (1 Owner) possible		Under Consideration		NC A&T
Bridge modifications required over S Murrow Blvd, limited space available underneath railroad bridge, utilities along roadway, at-grade unsignalized roadway crossing of E Washington St	Predominantly within right of way, impacts to 8 Parcels (8 Owners) possible		Under Consideration - Construction & Maintenance Concerns		NCRR, Norfolk Southern
Limited space available underneath railroad bridge, utilities along roadway, narrow building setbacks, at-grade unsignalized roadway crossings of S Lyndon St and Pastor Anderson Dr	Predominantly within right of way, impacts to 18 Parcels (11 Owners) possible		Under Consideration		NCRR, Norfolk Southern
Existing utilities along roadway, narrow building setbacks, three at-grade unsignalized roadway crossings	Within right of way		Under Consideration		

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 26	No	Along west side of S Church St from E. Market St to E Washington St	0.17	Trail visibility, chance to utilize existing bike lanes and sidewalk, opportunity to use signalized roadway crossing at E Washington St and N Church St
Segment 27	Yes	Follows creek from just north of Data Center to McConnell Rd	0.20	User experience, direct route to McConnell Rd, limits need for creek crossing
Segment 28	Yes	Follows creek from McConnell Rd to Hampton Elementary School site	0.48	User experience
Segment 29	Yes	Follows creek along northern boundary of the Hampton Elementary School site	0.09	User experience, connectivity to Hampton Elementary School and Bingham Park sites
Segment 30	Yes	Crosses creek on along northern boundary of Hampton Elementary School site heading west towards S. English St	0.05	User experience, connectivity to Hampton Elementary School and Bingham Park sites

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Existing utilities along roadway, narrow building setbacks, three existing at-grade (one signalized) roadway crossings	Within right of way		Under Consideration - Construction & Maintenance Concerns		
Topography along cemetery	3 Parcels (3 Owners, 2 publicly-owned)		Under Consideration - Construction & Maintenance Concerns		
Floodway impacts, impacts to private property, topography, at-grade unsignalized roadway crossings of Banner Ave and McConnell Rd	14 parcels (9 Owners, 1 publicly-owned)		Under Consideration - Construction & Maintenance Concerns	While a creek-side trail would offer an enhanced user experience, there are concerns with the number of private properties impacted, challenging topography in areas, and impacts to the floodway.	
Topography	1 Parcel (1 owner, publicly-owned)		Under Consideration, Spur		
Topography, floodway impacts	1 Parcel (1 owner, publicly-owned)		Under Consideration, Spur		

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 31	No	Along north side of creek heading west towards S. English St	0.09	User experience, connectivity to Hampton Elementary School and Bingham Park sites
Segment 32	Yes	Along south side of E. Florida St from S. English St to E. Gate City Blvd	0.50	Trail visibility, park and transit connectivity, publicly-owned land adjacent, connects to existing at-grade signalized roadway crossings at E. Florida St and E. Gate City Blvd
Segment 33	No	Crossing of E. Gate City Blvd into Gateway Research Park	0.05	Utilizes existing at-grade signalized roadway crossings, connection to Gateway Research Park
Segment 34	No	Along north side of E. Florida St (private)	0.15	Trail visibility, connection to Gateway Research Park
Segment 35	Yes	Follows western parcel boundary of Gateway Research Park from E. Florida St heading north	0.22	Publicly-owned land
Segment 36	Yes	Along north side of E. Gate City Blvd from E. Florida St to South Buffalo Creek	0.53	Trail visibility, publicly-owned land, connection to Gateway Research Park, utilizes existing at-grade signalized roadway crossing at E. Florida St and E. Gate City Blvd

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Topography, floodway impacts, existing utilities	3 Parcels (3 Owners, 1 publicly-owned)		Removed from Consideration	Concerns with impacts to private property, interaction with existing sanitary sewer infrastructure, and challenging topography.	
N/A	1 Parcel (1 Owner, publicly-owned)		Under Consideration		Hayes-Taylor YMCA, NCDOT
Lengthy at-grade roadway intersection crossings, crossing at high-volume and high-speed intersection	Predominantly within right of way, 1 parcel (1 owner)	HL-0046	Under Consideration		Hayes-Taylor YMCA, NC A&T, NCDOT
N/A	1 Parcel (1 Owner, publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Steeper trail profile required due to topography, lack of trail visibility due to existing wall	1 Parcel (1 Owner, publicly-owned)		Under Consideration - Construction & Maintenance Concerns	Concerns with presence of existing wall that would limit trail visibility and steep topography. Biosecurity concerns with NC A&T farm property.	NC A&T
Floodplain impacts	Predominantly within right of way, 1 parcel (1 owner)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T, NCDOT

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 37	No	Follows E. Gate City Blvd, Cedar Park Rd, Bridgepoint Rd and McConnell Rd to just west of South Buffalo Creek	1.66	Follows existing roadways
Segment 38	Yes	Along west side of South Buffalo Creek from E. Gate City Blvd to McConnell Rd	0.80	User experience
Segment 39	Yes	Along north side of McConnell Rd from Old McConnell Loop to Cole St	0.83	Trail visibility
Segment 40	Yes	From western parcel boundary of NC A&T farmland towards McConnell Rd in front of Poultry Research Unit	0.14	Trail visibility
Segment 41	Yes	Along north side of McConnell Rd from Cole St western parcel boundary of NC A&T farmland heading north to Pine St	0.48	User experience, majority on publicly-owned land

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Exposure to many commercial and residential driveways, indirect routing, private property impacts	Predominantly within right of way, Impacts to 29 parcels possible		Removed from Consideration	Concerns with increased interaction with roadway traffic, driveways, and indirect routing which may contribute to a poor user experience.	NC A&T, NCDOT, Duke Energy
Transmission easement, floodplain impacts	4 Parcels (3 Owners, 2 publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T, NCDOT, Duke Energy
Four unsignalized at-grade roadway crossings and multiple driveway crossings, impacts to existing business operations, existing utilities and drainage along roadway	Predominantly within right of way, Impacts to 23 parcels (16 owners) possible		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T, NCDOT
At-grade unsignalized roadway crossings of McConnell Rd and Borders Terrace, impacts to existing farm operations	1 Parcel (1 Owner, publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Impacts to existing farm operations, steeper trail profile required to match existing topography, impacts around existing ponds	3 Parcels (3 Owners, 1 publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 42	No	Along east side of Beaumont Ave and south side of Borders Terrace between McConnell Rd and just west of Pine St	0.45	Trail visibility, follows existing roadways
Segment 43	No	Along east side of creek from Pine St terminus to Borders Terrace	0.15	User experience
Segment 44	No	Along Pine St from terminus to Borders Terrace	0.13	Existing sidewalk along west side of Pine St, limit impacts by utilizing sharrows for cyclists along low-volume/speed roadway
Segment 45	Yes	Along creek from Borders Terrace heading north	0.14	User experience, publicly-owned land

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Narrow setbacks of existing buildings, at-grade unsignalized roadway crossing of McConnell Rd, challenging topography	Predominantly within right of way, Impacts to 22 Parcels (14 Owners) possible		Removed from Consideration	Concerns with limited space along roadway and within right of way to accommodate a desirable facility without increased private property impacts, costly construction methods, and narrow setbacks to existing homes.	
Loss of vegetation between creek and homes, environmental impacts, long-term durability	2 Parcels (2 Owners, 1 publicly-owned)		Removed from Consideration	Concerns with environmental impacts and long-term durability of trail constructed within existing vegetated stream buffer in very close proximity to stream to mitigate private property impacts.	
Narrow setbacks of existing buildings, existing on-street parking, at-grade unsignalized roadway crossing of Borders Terrace	Within right of way		Removed from Consideration	Dependent on connection to infeasible alignments	
Steeper trail profile required due to topography	3 Parcels (3 Owners, all publicly-owned)		Under Consideration, Spur		

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 46	Yes	Along Pine St from Borders Terrace to just south of Mullin Dr before heading west	0.15	Existing sidewalk along west side of Pine St, limit impacts by utilizing sharrows for cyclists along low-volume/speed roadway
Segment 47	No	From creek heading west towards Banner Ave	0.16	Limited footprint/impacts on private parcel
Segment 48	No	From creek heading west towards Banner Ave along Apache St extension (private)	0.24	Limited footprint/impacts on private parcels
Segment 49	Yes	Along east side of Banner Ave heading south towards Apache St	0.08	Trail visibility, transit connectivity

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Narrow setbacks of existing buildings adjacent to City property, existing on-street parking	1 Parcel (1 Owner, publicly-owned)		Under Consideration - Construction & Maintenance Concerns, Spur		
Steeper trail profile required due to topography, potential impacts to existing business operations	2 Parcels (2 Owners, 1 publicly-owned)		Under Consideration, Spur		
User experience, steeper trail profile required due to topography, potential impacts to existing business operations, increased potential for interaction between trail users and truck traffic	3 Parcels (3 Owners, 1 publicly-owned)		Removed from Consideration	Concerns with interactions between truck traffic and trail users along this segment along with increased likelihood of impacts to existing business operations.	
Increased potential for interaction between trail users and truck traffic at driveways and near intersection, existing utilities along roadway, at-grade unsignalized roadway crossing of Banner Ave	Predominantly within right of way, impacts to 1 Parcel (1 Owner) possible		Removed from Consideration	Concerns with interactions between truck traffic and trail users at both driveways, as well as the at-grade unsignalized roadway crossing of Banner Ave at the intersection with Apache St. Relative to Segment 50, this segment is less desirable for a similar distance and shared segment terminus.	

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 50	No	Along west side of Banner Ave heading south towards Apache St	0.09	Trail visibility, transit connectivity
Segment 51	Yes	Along south side of Apache St heading west from Banner Ave	0.05	Trail visibility, at-grade roadway crossing near intersection
Segment 52	Yes	Heads south from Apache St and then west towards S. English St	0.20	User experience, park connectivity
Segment 53	Yes	Along north side of Apache St from Banner Ave to Avalon Rd	0.25	Trail visibility, transit and park connectivity, direct route to S. English St
Segment 54	Yes	Along east side of Avalon Rd from Apache St to terminus	0.09	Trail visibility, park connectivity
Segment 55	Yes	Along south side of Apache St from Avalon Rd to S. English St	0.11	Trail visibility, direct route to S. English St

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Existing utilities along roadway, at-grade unsignalized roadway crossing of Banner Ave	Predominantly within right of way, impacts to 1 Parcel (1 Owner) possible		Under Consideration, Spur		
Existing utilities along roadway, narrow setback of existing building, unsignalized at-grade roadway crossing of Apache St	2 Parcels (1 Owner)		Under Consideration - Construction & Maintenance Concerns, Spur		
Steeper trail profile required due to topography	4 Parcels (3 Owners, 1 publicly-owned)		Under Consideration, Spur		
Multiple driveway crossings, at-grade unsignalized roadway crossing of Apache St	Predominantly within right of way, impacts to 9 Parcels (8 Owners) possible		Under Consideration, Spur		
Indirect routing, narrow setbacks of existing buildings, constrained right of way	Predominantly within right of way, impacts to 1 Parcel (1 Owner) possible		Removed from Consideration	Concerns with limited space along roadway and within right of way to accommodate a desirable facility.	
Narrow setbacks of existing buildings, existing utilities along roadway	Predominantly within right of way, impacts to 2 Parcels (2 Owners) possible		Under Consideration, Spur		

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 56	No	Tunnel Under McConnell Rd near Beaumont Ave	0.12	Grade-separation, user experience
Segment 57	No	Sidepath along E. Gate City Blvd from E. Florida St	0.04	Trail visibility
Segment 58	Yes	Sidepath along Aster Dr off of E. Gate City Blvd	0.27	Trail visibility
Segment 59	Yes	From Aster Dr towards and around the back of the cemetery to the creek	0.25	Trail visibility, user experience
Segment 60	No	Sidepath along E. Gate City Blvd from Aster Dr	0.15	Utilizes existing project that is underway that incorporates bike lanes and sidewalk

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Requires roadway improvements to McConnell Rd to ensure adequate tunnel height/cover, costly to construct	3 Parcels (3 Owners, 1 publicly-owned)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Indirect routing, narrow setbacks of existing buildings, constrained right of way	Predominantly within right of way, impacts to 1 Parcel (1 Owner) possible		Under Consideration - Construction & Maintenance Concerns		NCDOT, NC A&T
Indirect routing, narrow setbacks of existing buildings, constrained right of way, existing at-grade unsignalized roadway crossing of Belles Ct	Predominantly within right of way, impacts to 22 Parcel (22 Owners) possible		Under Consideration - Construction & Maintenance Concerns		
Indirect routing, narrow setbacks of existing buildings	3 Parcels (3 owners)		Under Consideration - Construction & Maintenance Concerns		
Indirect routing, close to busy road, two existing at-grade unsignalized roadway crossings of Cyril Ln and Aster Dr	Predominantly within right of way		Under Consideration - Construction & Maintenance Concerns		NCDOT

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 61	No	Sidepath along Cyril Ln	0.10	Trail visibility
Segment 62	No	Sidepath along E. Gate City Blvd, Moody Street and McConnell Rd to S. English St	0.65	Utilizes existing project that is underway that incorporates bike lanes and sidewalk
Segment 63	Yes	Sidepath along S. English St from E. Florida St to McConnell Rd	0.72	Trail visibility, crosses McConnell Rd and E. Gate City Blvd at signalized intersections, wide right of way
Segment 64	Yes	Sidepath along S. English St from McConnell Rd to Hampton Elementary School site	0.40	Trail visibility, existing bike lanes, wide right of way
Segment 65	No	Follows along creek and towards the cemetery	0.08	Trail visibility, user experience
Segment 66	Yes	Follows along the backside of Hampton Elementary School site near the creek	0.19	Trail visibility, user experience

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Indirect routing, narrow setbacks of existing buildings, existing at-grade unsignalized roadway crossing of Cork St	Predominantly within right of way, impacts to 8 Parcel (8 Owners) possible		Under Consideration - Construction & Maintenance Concerns		
Indirect routing, narrow setbacks of existing buildings, along busy road, two existing at-grade unsignalized roadway crossings	Predominantly within right of way, impacts to 22 Parcel (22 Owners) possible		Removed from Consideration	Concerns with indirect routing, private property impacts, and modifications to sidewalk project currently underway	NCDOT
User experience, includes four at-grade unsignalized roadway crossings and multiple driveway crossings	Predominantly within right of way, impacts to 13 Parcel (13 Owners) possible		Under Consideration		NCDOT
User experience, includes three at-grade unsignalized roadway crossings and multiple driveway crossings			Under Consideration		NCDOT
Would raise concerns of biosecurity from NC A&T	2 Parcel (2 Owner)		Removed from Consideration	Biosecurity concerns with NC A&T farm property	NC A&T
Flood model concerns, no plans to revamp into park	1 Parcel (1 Owner)		Under Consideration		

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 67	No	Follows down Gillespie St to McConnell Rd	0.32	Connects more neighborhoods, trail visibility, trail lighting, transit connectivity, street lighting, connects to Bingham Park
Segment 68	No	Along Gillespie St between McConnell Rd and Gorrell St	0.05	Trail visibility, connectivity to City owned parcel
Segment 69	No	Follows along Gorrell St to Bennett College on Bennett St	0.82	Direct connection to Nocho Park, connects more neighborhoods, utilizes existing pedestrian bridge, transit connectivity
Segment 70	No	Along McConnell Rd between S. English St and Gillespie St	0.43	Trail visibility, connectivity to City owned parcel, wide right of way, future bike route, direct routing, street lighting, crosses McConnell Rd at a signalized intersection
Segment 71	No	Follows through City owned parcel between McConnell Rd and Gorrell St	0.05	Trail visibility, connectivity to City owned parcel, street lighting, minimal utility relocation

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
At-grade unsignalized crossing of McConnell Rd	Predominantly within right of way, potential parcel impacts		Under Consideration		Greensboro Housing Authority, Redevelopment Commission of Greensboro
Indirect routing, narrow setbacks, minimal street lighting	Predominantly within right of way, potential parcel impacts		Under Consideration - Construction & Maintenance Concerns		
Narrow setbacks along homes on Gorrell St, substantial utility poles to relocate, minimal street lighting, substantial driveway crossings, seven at-grade (one signalized) roadway crossings	Predominantly within right of way, potential parcel impacts	U-6100	Under Consideration - Construction & Maintenance Concerns		NCDOT, Guilford County, Bennett College
Along busy road, seven at-grade roadway crossings (three signalized) in a small stretch on McConnell Rd, moderate utility relocations, some driveway crossings	Predominantly within right of way, potential parcel impacts		Under Consideration		Greensboro Housing Authority, Redevelopment Commission of Greensboro
At an on/off ramp for S O.Henry Blvd, along a busy road, indirect routing	1 Parcel (1 Owner, publicly-owned)		Under Consideration - Construction & Maintenance Concerns		NCDOT, Guilford County, Bennett College Redevelopment Commission of Greensboro

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 72	No	Follows along McConnell Road from Gorrell St to Gillespie St	0.06	Trail visibility, connectivity to City owned parcel, street lighting, minimal utility relocation
Segment 73	No	Follows along McConnell Rd from Gillespie St to Bennett St	0.76	Trail visibility, connects more neighborhoods and student housing, direct routing, street lighting, future bike route, transit connectivity
Segment 74	No	Follows along Gorrell St to Martin Luther King Blvd up to S Davie St	0.63	Connects more neighborhoods, utilizes existing bike lanes, direct connection to the J. Douglas Galyon Intermodal Depot from Bennett College, connects to businesses
Segment 100	Yes	Connection from Barber Park to Dudley High/Bluford Elementary/The Academy at Lincoln school campus	0.61	Trail visibility, utilizes existing at-grade signalized roadway crossings at E. Florida St/Willow Rd, connection to school campus
Segment 101	No	Connection from E. Florida Street to future Visual and Performing Arts Elementary School	0.18	Trail visibility, utilizes the proposed connection along E. Florida Street, connection to future school campus

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
At an on/off ramp for S O.Henry Blvd, along a busy road	1 Parcel (1 Owner)		Under Consideration		
Along busy road, moderate utility relocations, moderate driveway crossings	Predominantly within right of way, potential parcel impacts	U-6100	Under Consideration		
Narrow right of way, trail visibility, substantial utility relocations, tight setbacks, moderate removal of parking spaces	Predominantly within right of way, potential parcel impacts		Under Consideration - Construction & Maintenance Concerns		NCDOT, NCRR, Norfolk Southern, Historic Magnolia House
Existing utilities along roadway, multiple driveway crossings, eight at-grade (two signalized) roadway crossings	Predominantly within right of way		Under Consideration, Spur		Guilford County
Multiple driveway crossings, three at-grade unsignalized roadway crossings	Predominantly within right of way		Under Consideration, Spur		Guilford County

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 200	Yes	Connection from E. Market St to E. Gate City Blvd and future Windsor-Chavis-Nocho Community Complex	0.57	Trail visibility, grade-separated railroad crossing, connection to Windsor-Chavis-Nocho Community Complex and Nocho Park
Segment 201	Yes	Connection along north side of E. Gate City Blvd from S Benbow Rd to Lincoln St and Dudley High/Bluford Elementary/The Academy at Lincoln school campus	0.40	Connection to Nocho Park, connection to school campus, grade-separated crossing of O.Henry Blvd, utilizes existing at-grade signalized intersection at E. Gate City Blvd
Segment 202	No	Connection along west side of Lincoln St from Gorrell St to Dudley High/Bluford Elementary/The Academy at Lincoln school campus	0.17	Connection to school campus, uses existing at-grade signalized intersection at E. Gate City Blvd
Segment 300	Yes	Along west side of S Dudley St from E. Market St to E Washington St	0.17	Trail visibility, utilizes existing at-grade signalized roadway crossing at E Washington St

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Narrow building setbacks, existing utilities along roadway, impacts to existing business operations, multiple driveway crossings, five at-grade (two signalized) roadway crossings, limited space available underneath railroad bridge	Predominantly within right of way	U-6100	Under Consideration, Spur		NC A&T, NCDOT, NCRR, Norfolk Southern
Narrow building setbacks, existing utilities along roadway, multiple driveway crossings, four at-grade (one signalized) intersection and exit ramp crossings	Predominantly within right of way	U-6100	Under Consideration, Spur		NCDOT, Guilford County
Narrow building setbacks, existing utilities along roadway, two at-grade (one signalized) roadway crossings	Predominantly within right of way		Under Consideration, Spur		NCDOT, Guilford County
At-grade railroad crossing, existing utilities along roadway	Predominantly within right of way		Under Consideration, Spur		Bennett College, NCDOT, NCRR, Norfolk Southern

ID	MODELED	DESCRIPTION	LENGTH (MI)	OPPORTUNITIES
Segment 301a	Yes	Along west side of S Dudley St from E Washington St to Gorrell St	0.17	Trail visibility, direct route
Segment 301b	Yes	Along east side of S Dudley St from E Washington St to Gorrell St	0.20	Trail visibility, utilizes existing signalized intersection crossings
Segment 302	Yes	Along north side of Gorrell St from S Dudley St to Plott St	0.36	Trail visibility, connection to Magnolia House and Downtown Greenway

CONSTRAINTS	PARCEL IMPACTS	STIP/SPOT PROJECT IMPACTS	CURRENT STATUS	REASON FOR REMOVAL	STAKEHOLDERS
Utilities along roadway, existing wall along Bennett College campus, requires roadway lane re-configuration to accommodate desirable facility	Predominantly within right of way		Under Consideration, Spur		Bennett College
Utilities along roadway, multiple driveway crossings, two at-grade signalized roadway crossings, indirect route	Predominantly within right of way		Under Consideration, Spur		Bennett College
Utilities along roadway, existing wall along Bennett College campus	Predominantly with-in right of way		Under Consideration, Spur		Bennett College, Historic Magnolia House




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COMMUNITY + STAKEHOLDER INVOLVEMENT

03

OVERVIEW

Intentional community engagement is a cornerstone of a successful planning process. Plans achieve maximum effectiveness when they are deeply anchored in the needs and aspirations of the community for which they are created. This study relies on a combination of input from community members, Steering Committee members, and focus groups to inform the *East Greensboro Greenway Feasibility Study*.

The project team held several engagement events throughout the study process, including four pop-up public meetings, three focus group meetings, and two public surveys. The Steering Committee, whose members include representatives from the City of Greensboro, GUAMPO, NCDOT, NC A&T University, Greensboro Housing Authority, East Greensboro NOW, and Bicycling in Greensboro, met five times to provide guidance and feedback that informed the development of the study and helped to publicize other public engagement activities.

The following sections are included within Chapter 3:

- Meeting Summaries
- Community Survey Summary
- Route Alternatives Survey Summary

MEETING SUMMARIES

OCT 05 2023

Steering Committee Meeting #1

The first Steering Committee meeting provided members with an overview of the *East Greensboro Greenway Feasibility Study* and an analysis of existing conditions along the project corridor. The project team facilitated discussions regarding definitions of success for the project, as well as opportunities and constraints within the study area.

KEY FINDINGS

- Attendees expressed a desire for meaningful and transparent engagement with the east Greensboro community.
- Attendees highlighted the need for an equitable approach to greenway planning so that the future alignment does not contribute to patterns of gentrification in east Greensboro.
- There are opportunities for safety improvements for future greenway users along E. Market St (next to NC A&T University).
- Right of way, railroad crossings, and building setbacks in dense areas of the City may act as constraints for the greenway.

DEC 12 2023

Steering Committee Meeting #2

The second Steering Committee meeting gave members an overview of community engagement efforts to date, including focus groups, pop-up events, and the community survey. The meeting included a review of preliminary route alternatives and evaluation criteria as well as a discussion of greenway connections.

KEY FINDINGS

- Attendees expressed a desire to incorporate greenway design strategies such as lane markings that may prevent conflict between users.
- Attendees have concerns with route segments in residential areas due to greenway design, anticipated impacts on private property, and support for the project.
- Parks are the most desired destinations for greenway spurs.
- The Committee prioritized Accessibility + User Experience and Community Priorities as evaluation criteria, while placing lower importance on Cost and Implementation Timeframe.

MAR 22 2024

Steering Committee Meeting #3

The third Steering Committee meeting gave members a summary of the four route alternatives, the associated decision criteria and matrix, and the typical cross-sections and intersection treatments.

KEY FINDINGS

- Attendees expressed a desire to have continued coordination with NC A&T beyond the timeframe of this study.
- The Committee prioritized economic development, noting that there should not be political pushback if technical considerations and community feedback determine the preferred route alternative.
- Alternatives #1 and #4 have the greatest challenges and the Committee showed a preference for Alternative #2 or #3.

JULY 09 2024

Steering Committee Meeting #4

The fourth Steering Committee meeting provided an overview of recent community engagement efforts and presented a preferred route alternative with recommendations for character zones, greenway spurs, trailheads and placemaking elements, and intersection and crossing improvements. A review of phasing considerations was presented as well.

KEY FINDINGS

- Community and stakeholder feedback played a large role in the selection of a preferred route alternative.
- Attendees expressed support for additional safety measures at intersections, including curb radius reductions and prohibiting right turns at red lights.
- A portion of the preferred route aligns with Greensboro's High Injury Network.

AUG 14 2024

Steering Committee Meeting #5

The fifth and final Steering Committee meeting provided an overview of the draft Feasibility Study report. Additionally, guidance on phasing, cut sheets, implementation, and maintenance was introduced, and a timeline of next steps for public comment and plan adoption was shared.

KEY FINDINGS

- The Steering Committee may be reconvened as design work advances once funding is obtained.
- The Feasibility Study will be presented to GUAMPO for incorporation into existing plans.

Focus Group Meetings

The project team conducted several meetings with area stakeholders to gather local insight and guidance on route development for the East Greensboro Greenway. Focus group meetings were held with City and County staff, schools and neighborhoods in the study area, as well as local organizations.

SEPT 18 2023

Collaborative Cottage Grove

The project team met with members of Collaborative Cottage Grove to introduce the project and gather preliminary feedback on opportunities and challenges in the study area.

NOV 29 2023

Local Organizations

Representatives from local organizations and businesses, including Bennett College, Historic Magnolia House, Greensboro Chamber of Commerce, Greensboro Redevelopment Commission, and the City of Greensboro Parks & Recreation Commission were invited to provide feedback on preliminary route development.

KEY FINDINGS

- Community input from past planning efforts found a need and desire for greenway facilities in east Greensboro.
- The City of Greensboro plans to install bike lanes on E. Gate City Blvd and Willow Rd.
- The greenway should be driven by the community, incorporating residents' feedback to create a facility embraced by the community.
- Greenway safety and user experience are key concerns.
- Greenway design strategies should be consistent with other nearby facilities to create a visually unified network.

NOV 30 2023

NC A&T

The project team engaged with representatives from NC A&T to identify needs, opportunities, and concerns related to greenway development and preliminary route evaluation.

KEY FINDINGS

- The University has concerns with biosecurity for its agricultural research investments on the University Farm campus.
- E. Market St is a key gateway to the main campus of NC A&T, and the University wants to ensure an attractive, dynamic, and safe entrance to campus as it continues to grow.
- Students and University staff who live across E. Market St from campus often cross away from designated crossings, creating a safety hazard for bicyclists and pedestrians.
- Sidewalks will be installed on E. Gate City Blvd.

DEC 08 2023

City + County Staff

Representatives from the City of Greensboro and Guilford County were invited to provide feedback on preliminary routes and identify opportunities and constraints.

KEY FINDINGS

- Connectivity is very important to Guilford County Schools, and several nearby school projects could be linked to the greenway, including a new Visual and Performing Arts Elementary School and a public-access facility at Gateway Research Park.
- A bridge replacement of Tuscaloosa St over US-29 may offer potential for a new bicycle and pedestrian connection.
- The City continues to work with NC A&T to address bicycle and pedestrian safety concerns on Lindsay St and E. Market St, including where a fatality occurred at Benbow Rd.
- The Greensboro Transit Department is updating its master plan and hopes to engage students at NC A&T to help achieve the City's goal of becoming a car-optional community by 2040.

JAN
08
2024

Collaborative Cottage Grove

The project team met with Collaborative Cottage Grove to gather feedback on route alternatives and identify opportunities and constraints.

KEY FINDINGS

- Collaborating with the community to design the greenway and amenities is critical to ensuring people will use it.
- A lack of accessibility accommodations is a challenge to transportation in the study area.
- The greenway should reflect the diverse cultural landscape of east Greensboro in the design of amenities such as signage and public art.
- There are opportunities to coordinate greenway design with community facilities such as park amenities and a social support center.



Community members from the Olde L. Richardson neighborhood attend a presentation for the project

Cottage Grove Fall Festival Pop-Up Event

The project team hosted a booth during the Cottage Grove Fall Festival on September 30, 2023. The community was notified of the project event via a flyer, the City of Greensboro website, and community groups including Collaborative Cottage Grove and East Greensboro NOW. At the event, the project team shared information about the feasibility study with residents of the community. The team distributed public surveys to further engage with the community and capture feedback on their needs, concerns, and priorities.



Community members sharing feedback with the project team



Pop-up event at the Cottage Grove Fall Festival

KEY FINDINGS

- Community members identified the need to consider a spur route connecting to James B. Dudley High School and Bluford Elementary School.
- E. Market St was highlighted as a key multimodal corridor where some people do not feel safe walking and biking.
- A facility that is safe and accessible for all members of the community is a priority.
- Connections to NC A&T State University, as well as local schools and parks, are desired.

Olde L. Richardson Neighborhood Association

The project team participated in a neighborhood association meeting on October 20, 2023. This gathering served as a unique opportunity for members of the Olde L. Richardson neighborhood to provide feedback on multiple projects in the east Greensboro area, including the East Greensboro Greenway project and concurrent plans for the nearby Gillespie Golf Course and Windsor-Chavis-Nocho Community Complex. Attendees were introduced to the project, the timeline, and key goals of the greenway. The community was also asked to help identify successful outcomes for the greenway and issues that should be addressed through the project. Members of the public offered their input via an interactive board (see following page).

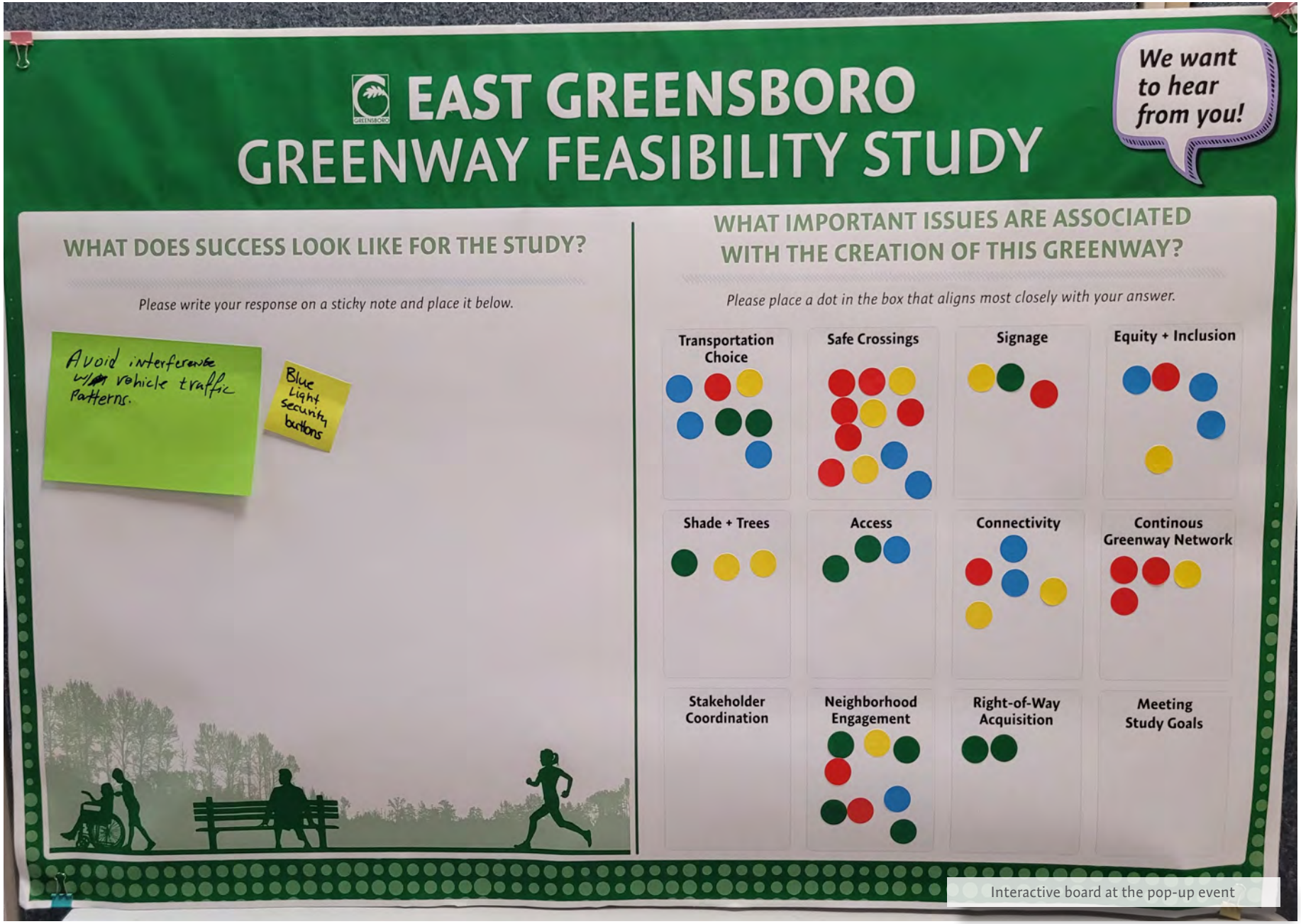


Attendees sharing feedback on the project


Attendees sharing feedback on the project

KEY FINDINGS

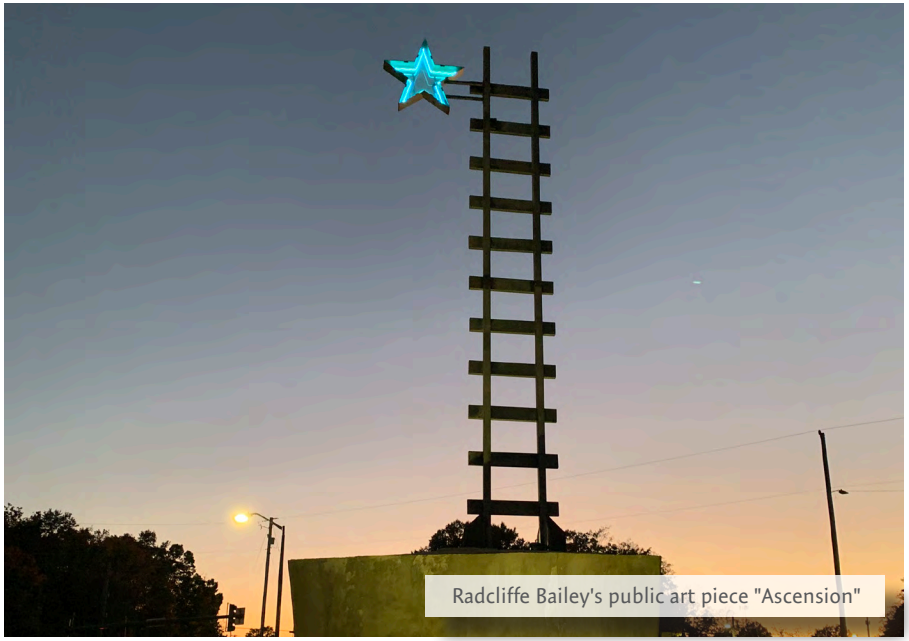
- The inclusion of safe crossings was identified as the top issue associated with the creation of the East Greensboro Greenway.
- Engagement with the neighborhoods through which the greenway traverses was highlighted as an important consideration.
- Community members would like a facility that offers transportation choice, connectivity, and incorporates equity and inclusion into the design.



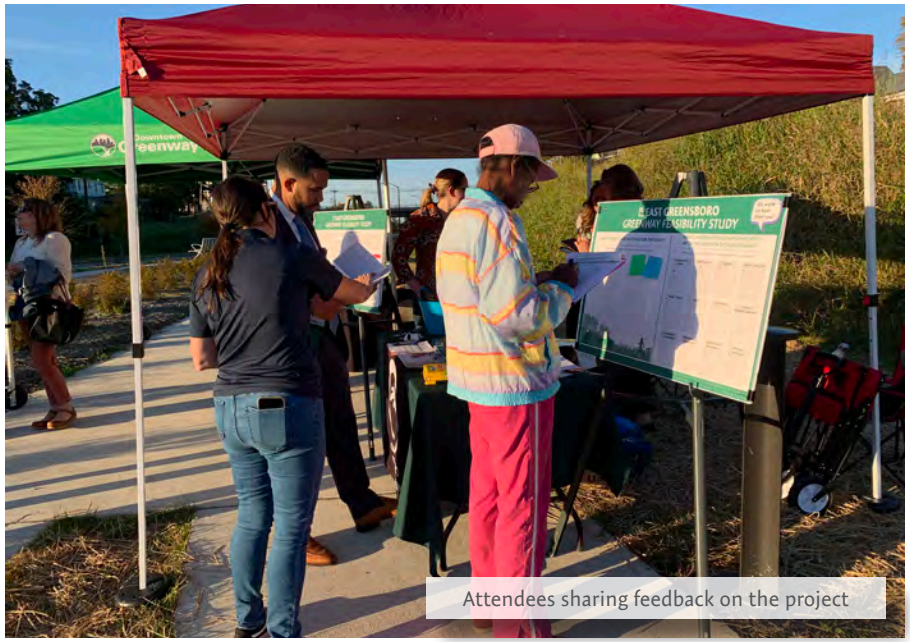
Interactive board at the pop-up event

An Evening Under the Star Pop-Up Event

The project team participated in the Evening Under the Star event on October 26, 2023, which was held on the City's new Downtown Greenway. This gathering served as a unique opportunity for the public to gain insights into the East Greensboro Greenway project. During the event, attendees had the chance to delve into the project's timeline, its central goals in connecting key destinations, and the various stakeholders who will be closely involved throughout its duration. Moreover, the community had an active role in shaping the project's direction. Members of the public actively participated in a community survey and offered their valuable input via an interactive board (see following page).



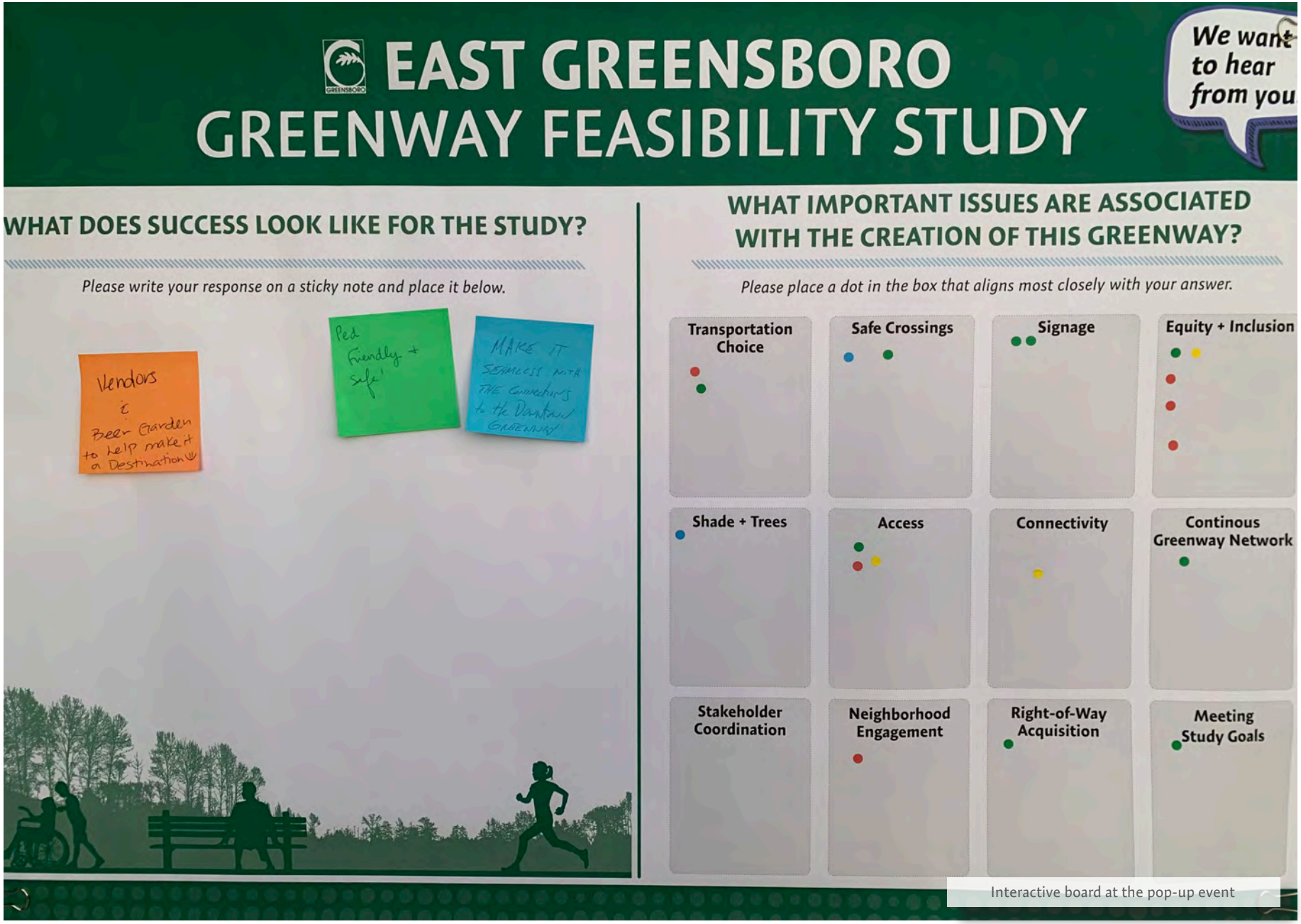
Radcliffe Bailey's public art piece "Ascension"



Attendees sharing feedback on the project

KEY FINDINGS

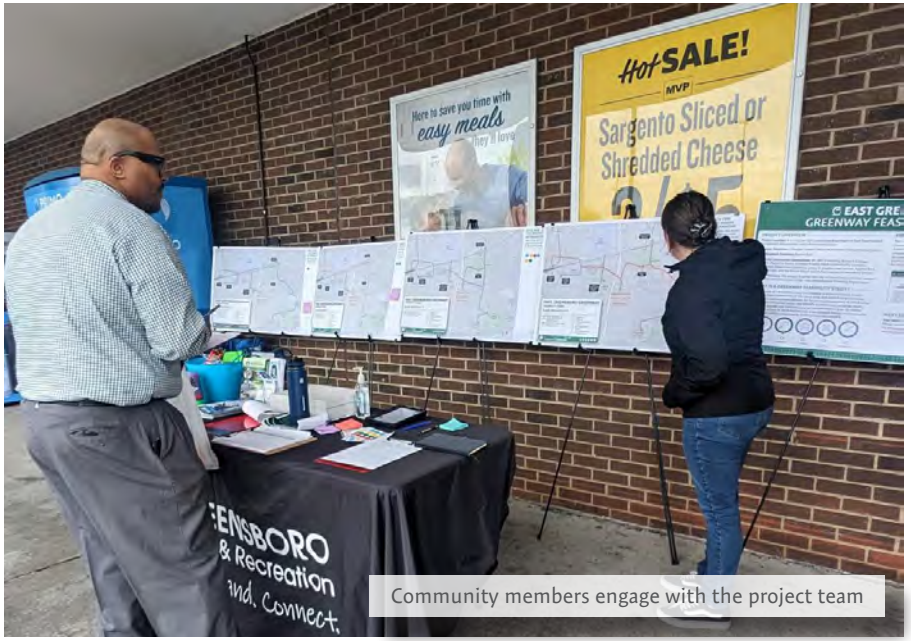
- Equity and inclusion were identified as the top challenges associated with the creation of the East Greensboro Greenway.
- Members of the public would like to see the greenway result in a facility that is pedestrian friendly and safe.
- The public would like to see vendors along the future greenway.
- Other attendees voiced preference for the creation of a seamless greenway system within the City.



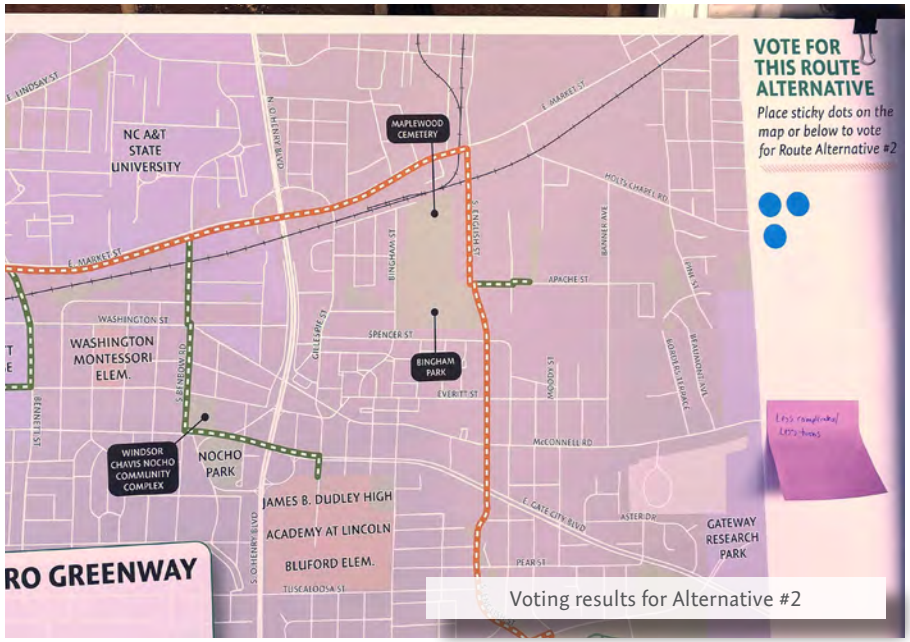
Interactive board at the pop-up event

Food Lion Pop-Up Event

The project team tabled at Food Lion on E. Market Street on March 23, 2024. This pop-up served as an opportunity to gain further insights into the East Greensboro Greenway project. Participants were asked to review the four (4) route alternatives and select their preferred alignment. Roughly 35 members of the public stopped to learn about the project, and 51 percent of those participants provided either paper surveys to identify their preferred route alternative or placed dots on the provided boards to voice their preference.



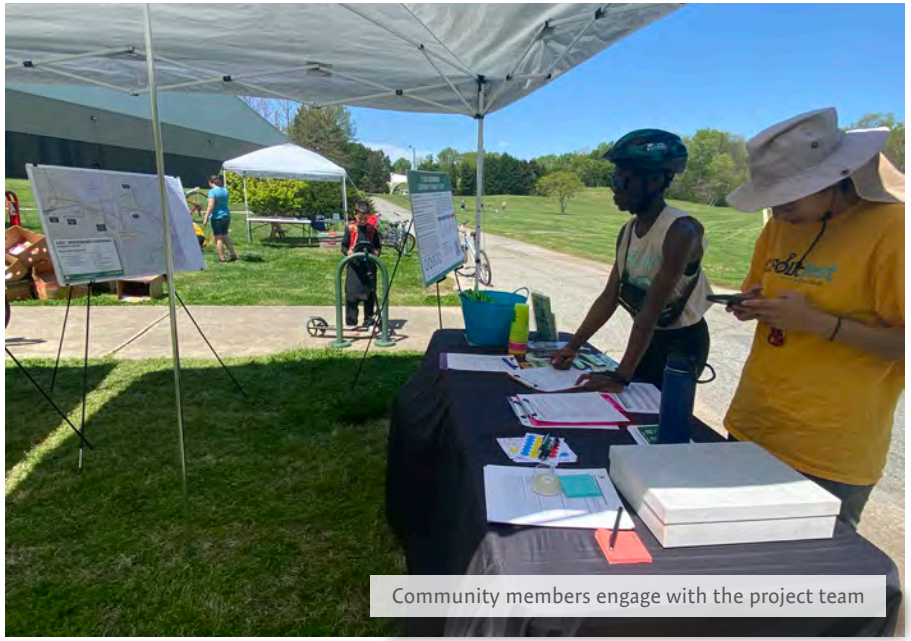
Community members engage with the project team



Voting results for Alternative #2

KEY FINDINGS

- The directness of the route and perceived safety of parallel roadways were key considerations for participants when selecting their preferred route alternative.
- Members of the public showed support for the East Greensboro Greenway and excitement about more places to walk within the City.
- The public showed a preference for Alternative #3 and Alternative #2, while Alternative #4 was the route that received the least support.



Community members engage with the project team

Greensboro Community Bike Shop Pop-Up Event

The project team tabled at the Greensboro Community Bike Shop at Barber Park on April 14, 2024 during their weekly Shop & Bike Library Hours. The Community Bike Shop at Barber Park in Greensboro NC exists to reduce barriers to biking in East Greensboro by recycling, restoring and re-homing donated bicycles for marginalized members of the community and provide assistance maintaining bicycles and teaching people how to ride. This pop-up served as an opportunity to gain further insights into the biking needs of east Greensboro as it relates to the four route alternatives under consideration. Participants shared concerns about maintenance for existing facilities as well as the East Greensboro Greenway once constructed, and some identified Route Alternative #3 as a biking route already used to travel between Barber Park and downtown. Participants also noted that routes along S. English Street would benefit workers at the Staff Zone Employment Agency, many of whom rely on bicycles provided by the Community Bike shop to commute to work.

Local News Coverage

The project received coverage in local media outlets, including a May 24, 2024 article in the Greensboro *News & Record* detailing a town hall meeting held by District 1 City Council member Sharon Hightower. At this meeting, Parks and Recreation staff presented maps of the project and provided an update on route selection.



COMMUNITY SURVEY SUMMARY

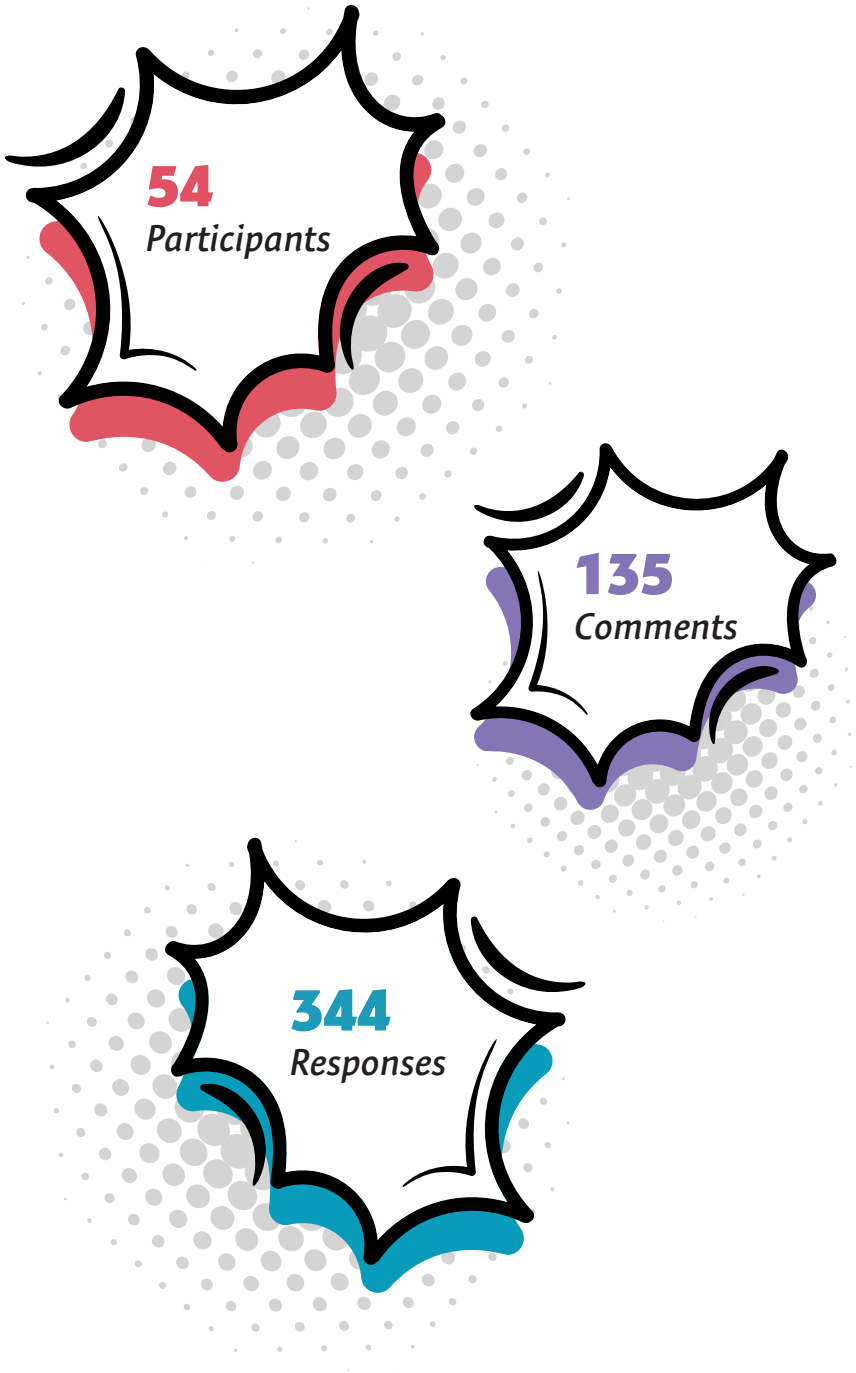
The project team conducted a survey for the *East Greensboro Greenway Feasibility Study* between August 28 and November 2, 2023, via PublicInput.com. The survey attracted 54 participants, and they shared 135 comments and 344 responses.

The project team distributed the community survey to accomplish the following goals:

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

The survey contained two sections: project-specific questions with interactive mapping questions and optional demographic questions. Public feedback is summarized on the following pages by question. Key takeaways from the community survey include the following:

- Most respondents (92 percent) expressed desire for a greenway that provides connections between existing greenways and trails in Greensboro.
- The most discouraging factor from using greenways and trails in Greensboro are the lack of safe biking and walking connections to and from existing greenways and trails (74 percent)
- Barber Park emerged as a popular choice for desired greenway destinations, garnering repeated mentions among respondents.
- When asked to highlight areas in east Greensboro that are in need of bicycle and pedestrian infrastructure improvements, locational responses were scattered throughout the study area.

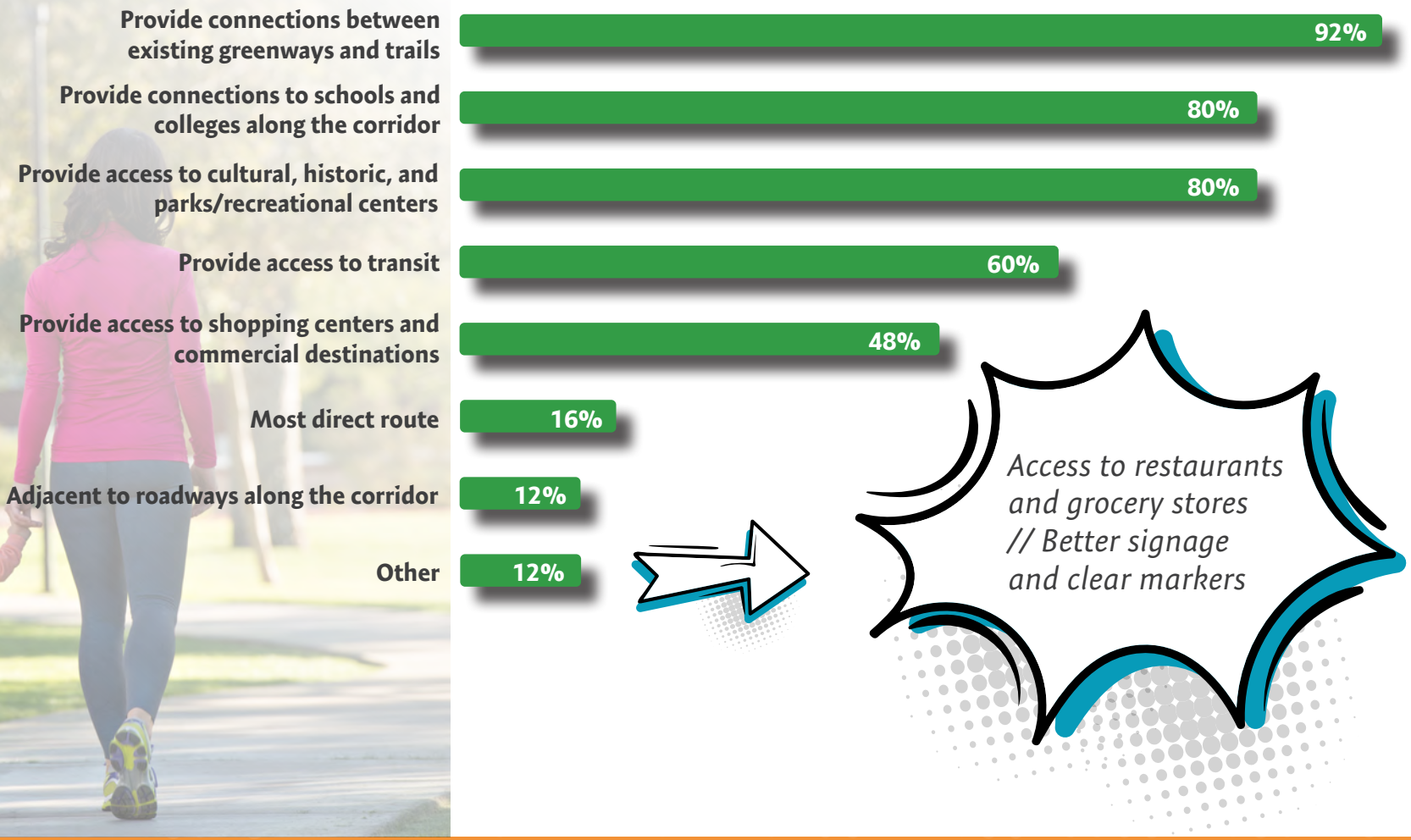


What are your five (5) most important routing preferences for the proposed East Greensboro Greenway?

Select up to five (5) routing options.

The majority of respondents (92 percent) would like to see the East Greensboro Greenway provide connections to existing trails and greenway in the study area. Eighty percent of survey respondents prioritize a route that provides connections to schools and colleges along the corridor or offers access to cultural, historic, and parks/recreational centers. Sixty percent prioritize a greenway that provides access to transit, while 48 percent prefer access to shopping centers and commercial destinations. In contrast, a smaller portion of the respondents, comprising 16 percent, prioritize a direct route, while only 12 percent express a preference for a greenway that runs parallel to roadways within the corridor. Additionally, a minority of respondents have distinct preferences falling under "other reasons," which are highlighted below.

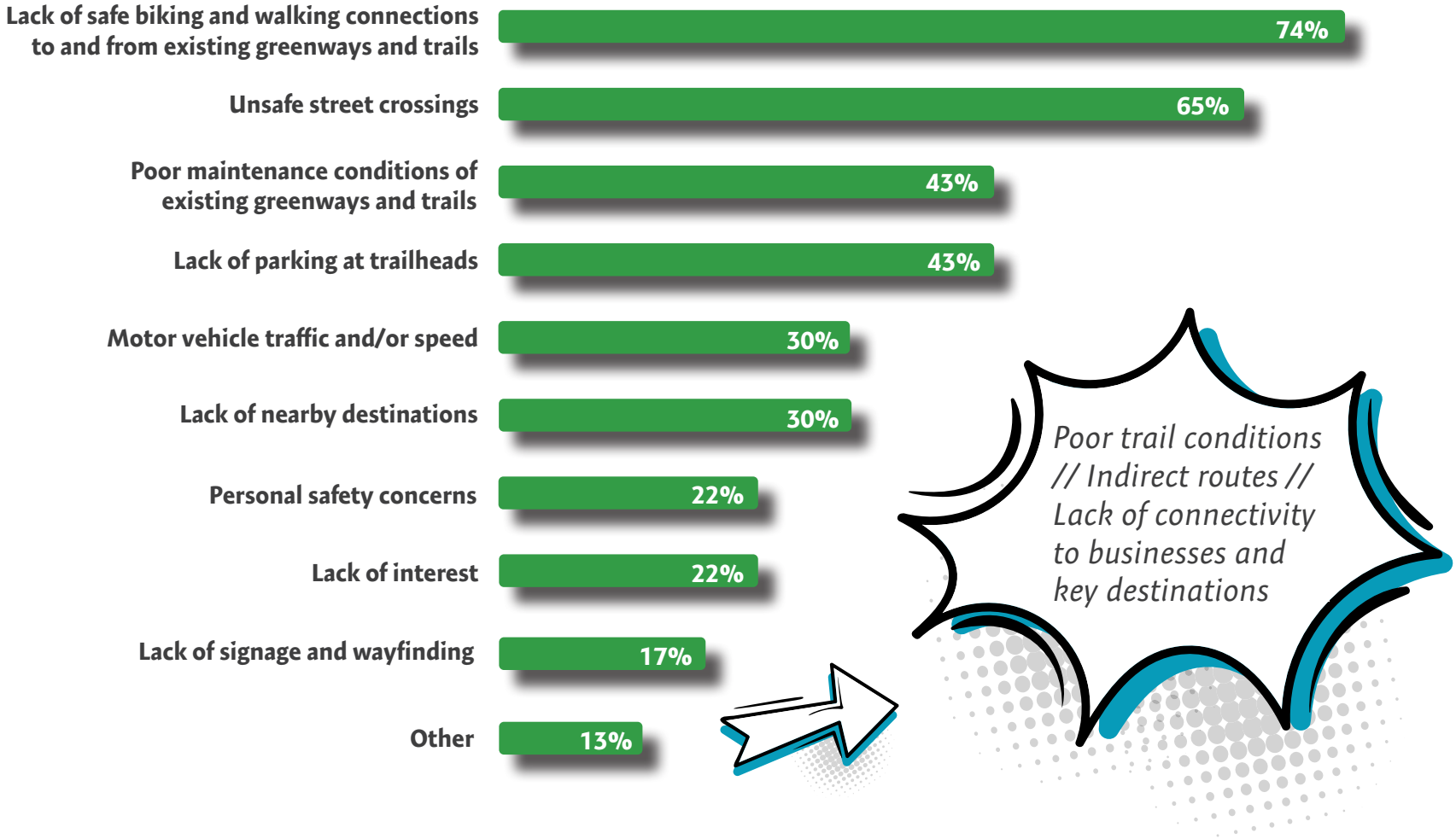


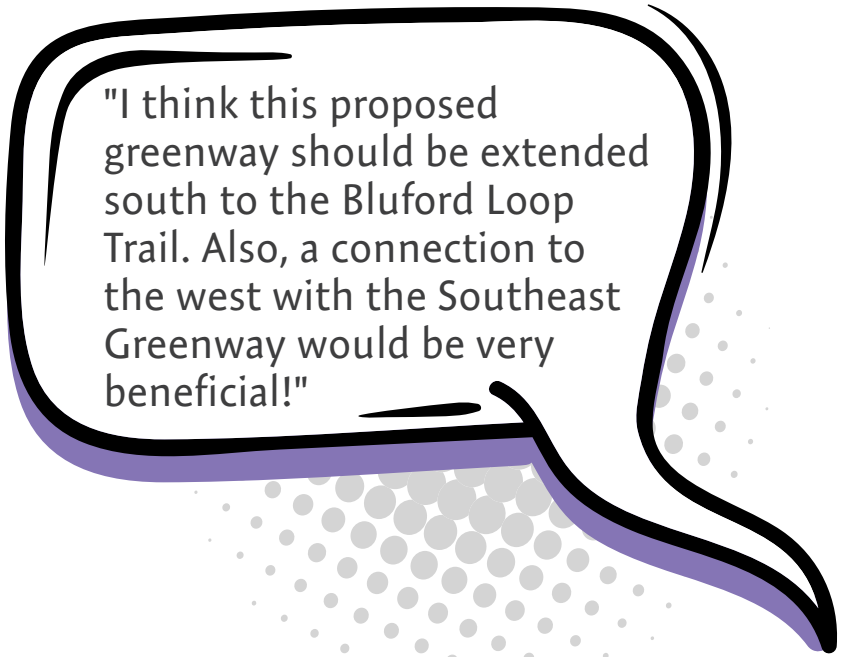


What factors discourage you from using greenways and trails in Greensboro?

Select all that apply.

Seventy-four percent of survey participants highlighted the absence of safe biking and walking connections to and from existing greenways and trails as a primary deterrent. Following closely at 65 percent, unsafe street crossings ranked as the second most significant obstacle, while poor maintenance conditions of current greenways and trails, along with inadequate parking at trailheads, shared the third position with each representing 43 percent of responses. The survey also revealed that respondents did not perceive a lack of signage and wayfinding as prominently influencing their greenway usage patterns. Among the 13 percent who selected "other" as a response, cited factors included poor trail conditions, indirect routes, and a lack of overall connectivity as additional discouraging elements.



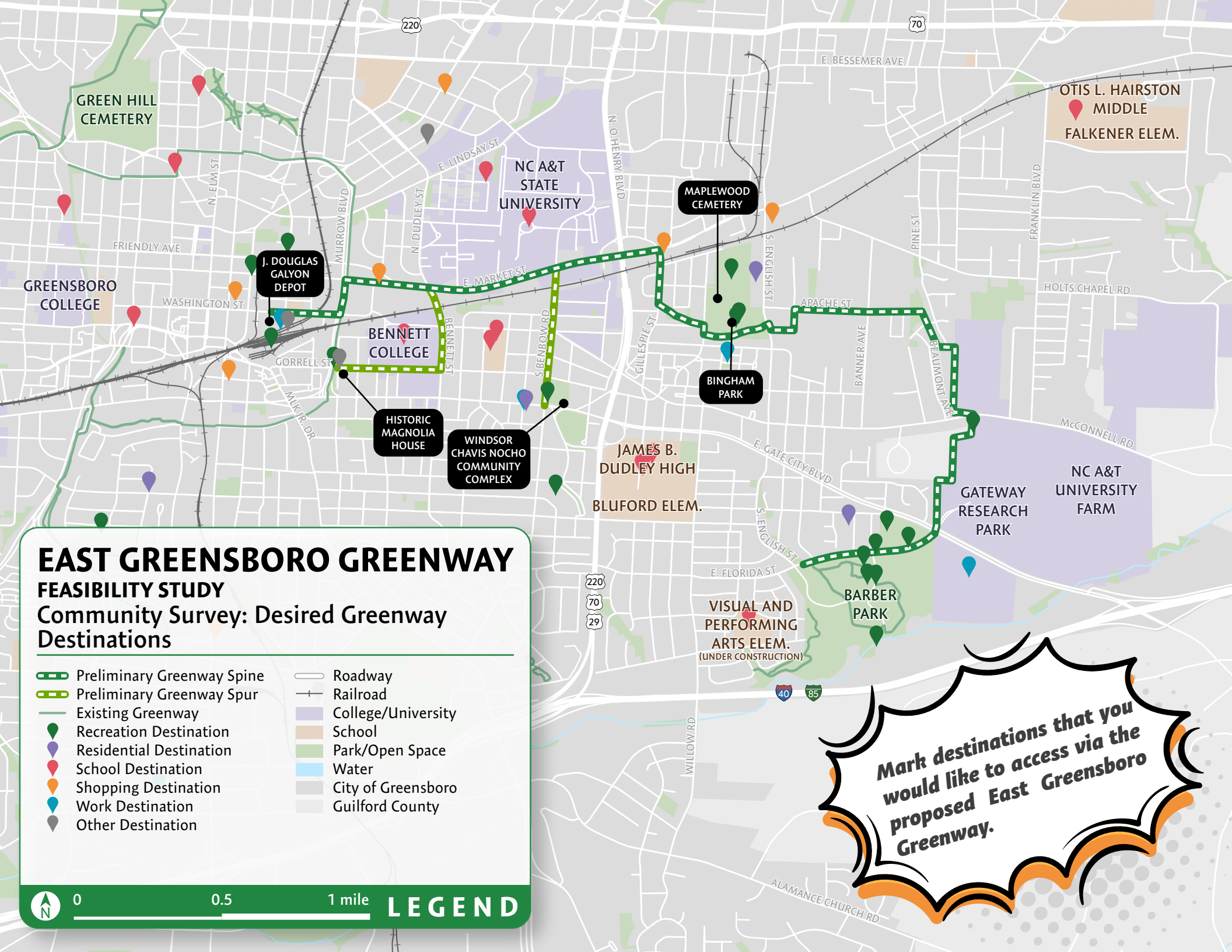






Please provide any additional comments or feedback for the East Greensboro Greenway Feasibility Study.

Survey respondents expressed desire for a greenway that prioritizes safety and offers a scenic escape in east Greensboro. They emphasize the need for safe walkways, especially for students, and suggest a spur to connect two schools (Lincoln Middle School and Bluford Elementary School). The public is optimistic about additional connectivity to the existing greenway system but expresses concerns about the Market Street section, suggesting improvements for pedestrian and cyclist friendliness. They also propose extending the greenway to the Bluford Loop Trail and connecting it to the Southeast Greenway. Additionally, the public highlights the importance of including neighborhood and business connections, along with bike parking near businesses. Overall, there is a strong emphasis on community well-being and thoughtful greenway planning.

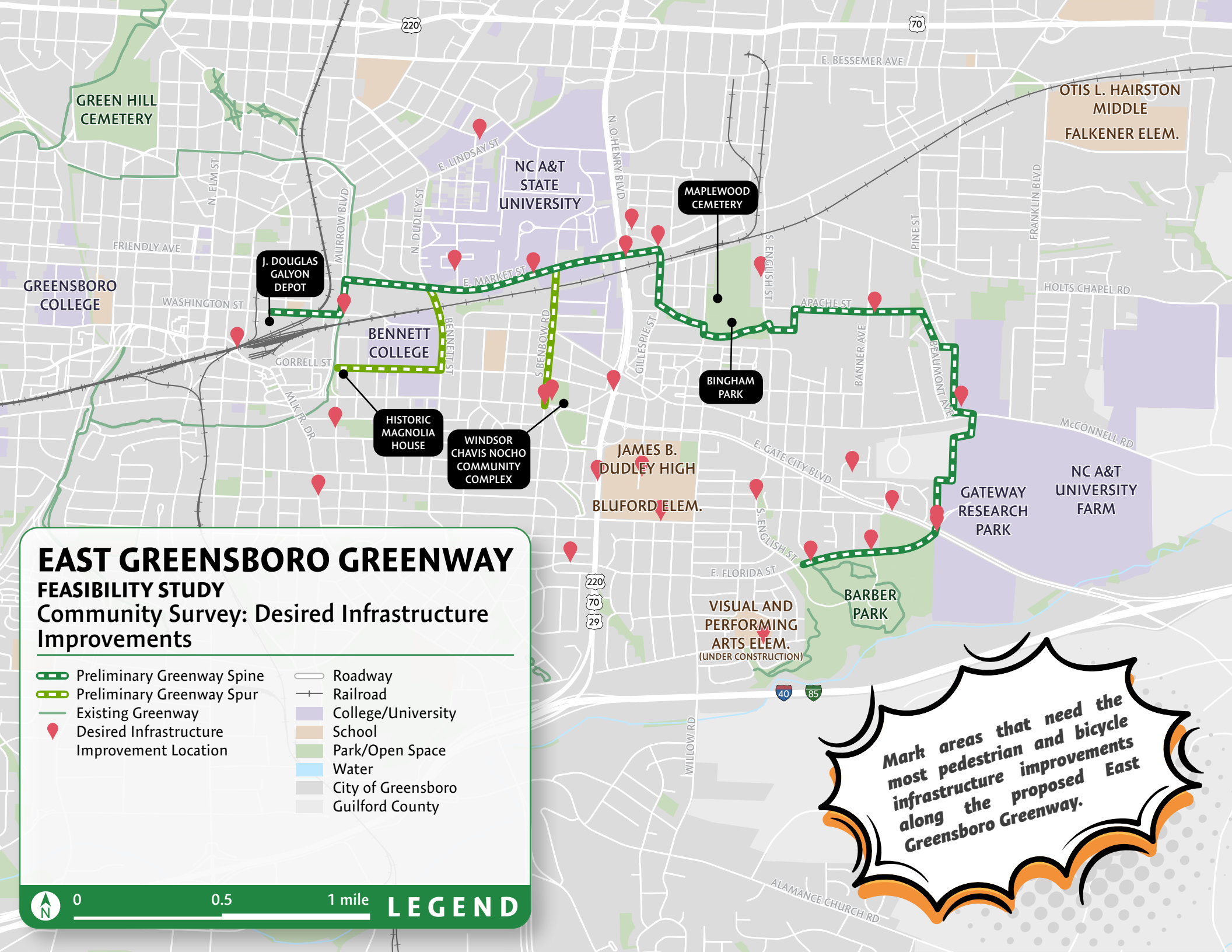

EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Community Survey: Desired Greenway Destinations
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Recreation Destination
Residential Destination
School Destination
Shopping Destination
Work Destination
Other Destination
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
Mark destinations that you would like to access via the proposed East Greensboro Greenway.
GREEN HILL CEMETERY
GREENSBORO COLLEGE
NC A&T STATE UNIVERSITY
BENNETT COLLEGE
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
MAPLEWOOD CEMETERY
BINGHAM PARK
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
OTIS L. HAIRSTON MIDDLE
FALKENER ELEM.
GATEWAY RESEARCH PARK
NC A&T UNIVERSITY FARM
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
E. BESSEMER AVE
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
WASHINGTON ST
E. MARKET ST
BENNETT ST
GORRELL ST
MLK JR. DR
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
PINE ST
FRANKLIN BLVD
APACHE ST
BANNER AVE
BEAUMONT AVE
HOLTS CHAPEL RD
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
ALAMANCE CHURCH RD
220
70
29
40
85

Interactive Mapping Question #1

The first interactive mapping question invited participants to share their desired destinations for the East Greensboro Greenway. These destinations encompassed workplaces, recreational facilities, schools, shopping areas, and more. The results are categorized in the table below.

CATEGORY	PREFERRED DESTINATIONS
Recreation	• Bingham Park • Barber Park • Windsor Chavis Nocho Community Complex • Warnersville Recreation Center
Residential	• S. Benbow Rd • S. English St
Schools	• Bennett College • NC A&T State University • James B. Dudley High School • Peeler Open Elementary School • Otis L. Hairston Middle School • Falkener Elementary School • Hairston Middle School • Kiser Middle School
Shopping	• Downtown Greensboro • Community Bike Shop at Barber Park • Mustard Seed Clinic • Food Lion • Walmart
Work	• Downtown Greensboro • NC A&T University Farm
Other	• Magnolia House • Gorrell St bike bridge • Julian St pedestrian tunnel • J. Douglas Galyon Intermodal Depot (Greensboro Station)




EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Community Survey: Desired Infrastructure Improvements
Preliminary Greenway Spine
Preliminary Greenway Spur
Existing Greenway
Desired Infrastructure Improvement Location
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
Mark areas that need the most pedestrian and bicycle infrastructure improvements along the proposed East Greensboro Greenway.
GREEN HILL CEMETERY
GREENSBORO COLLEGE
NC A&T STATE UNIVERSITY
BENNETT COLLEGE
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
MAPLEWOOD CEMETERY
BINGHAM PARK
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
VISUAL AND PERFORMING ARTS ELEM. (UNDER CONSTRUCTION)
BARBER PARK
GATEWAY RESEARCH PARK
NC A&T UNIVERSITY FARM
OTIS L. HAIRSTON MIDDLE
FALKENER ELEM.
E. BESSEMER AVE
E. LINDSAY ST
N. ELM ST
MURROW BLVD
N. DUDLEY ST
N. O. HENRY BLVD
FRIENDLY AVE
WASHINGTON ST
E. MARKET ST
GORRELL ST
MLK JR. DR
BENNETT ST
S. BENBOW RD
GILLESPIE ST
S. ENGLISH ST
PINE ST
FRANKLIN BLVD
APACHE ST
BANNER AVE
BEAUMONT AVE
HOLTS CHAPEL RD
McCONNELL RD
E. GATE CITY BLVD
E. FLORIDA ST
WILLOW RD
ALAMANCE CHURCH RD
220
70
29
40
85

Interactive Mapping Question #2

The second interactive mapping question asked participants to mark areas (e.g., streets, intersections, neighborhoods, etc.) that need the most pedestrian and bicycle infrastructure improvements within and around the proposed East Greensboro Greenway corridor.

The following were the top areas that survey participants identified as needing bicycle and pedestrian infrastructure needs within the study area:

- Apache St
- E. Gate City Boulevard
- E. Market St
- English St
- Florida St
- James B. Dudley High School
- Martin Luther King Jr Dr
- McConnell Rd
- Murrow Blvd



ROUTE ALTERNATIVES SURVEY SUMMARY

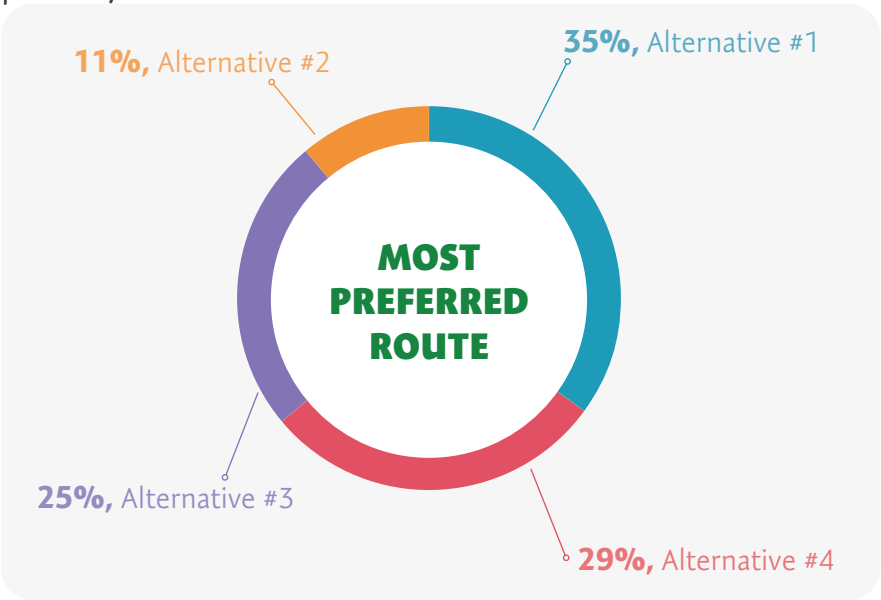
The project team conducted a survey for the *East Greensboro Greenway Feasibility Study* between March 23 and May 2, 2024, via Microsoft Forms. The survey attracted 61 participants and asked participants to provide feedback on the four route alternatives proposed.

The survey included questions to identify participants' most and least preferred route alternatives and obtain additional feedback on considerations for the identification of a preferred route alternative. Key takeaways from the community survey include the following:

- Route Alternative #1 was selected by 35 percent of respondents as their most preferred route.
- The least preferred route alternative by the community was Route Alternative #2, selected by 39 percent of respondents as their least favorite route.

Which route alternative of the East Greensboro Greenway corridor do you MOST prefer?

Route Alternative #1 was selected by 35 percent of respondents as their most preferred route, followed by Alternative #4 (29 percent), Alternative #3 (25 percent), and Alternative #2 (11 percent).

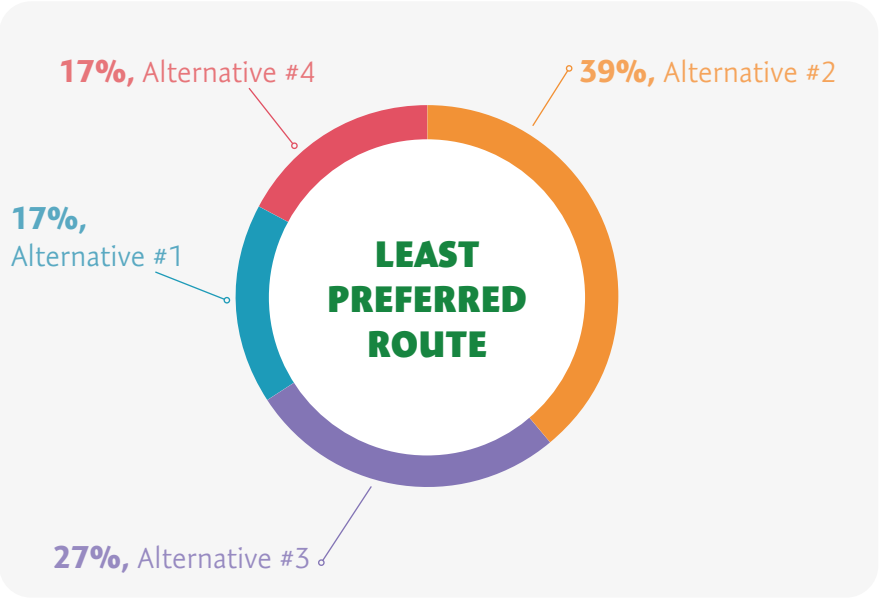


Why is this your MOST preferred route alternative?

- "Better connection to the Barber Park area. Better flow based on the streets used. More useful having a long stretch on East Market. Doesn't run as close to the elementary school, having a greenway near an elementary school is a bad idea."
- "Good connectivity to A&T and still appears to include a 'true greenway' (i.e. not just a chunky sidewalk) toward the eastern end of the route."
- "Creates a widespread route which would likely be accessible to more people, and that goes through less neighborhoods."

Which route alternative of the East Greensboro Greenway corridor do you LEAST prefer?

Route Alternative #2 was selected by 39 percent of respondents as their least preferred route, followed by Alternative #3 (27 percent), and Alternatives #1 and #4 (17 percent each).

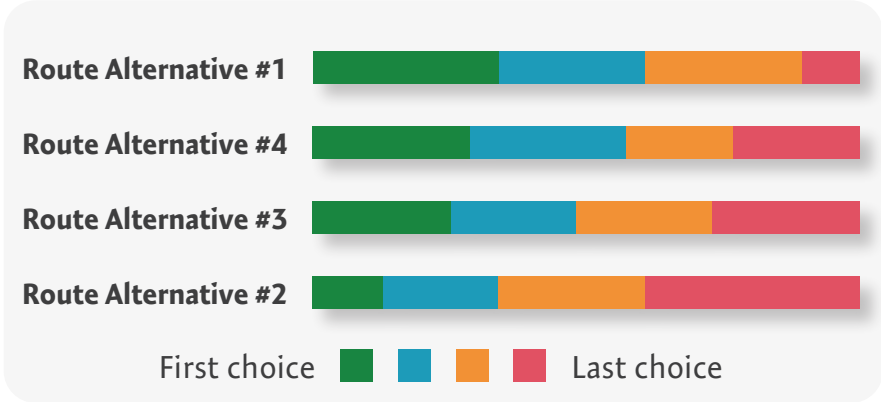


Why is this your LEAST preferred route alternative?

- "Too much walking on English Street, which is not particularly attractive and that path misses several pleasant east Greensboro parks."
- "E. Market St alignment not close enough to existing neighborhoods to the south. A&T student use would be great, but most of these students do not live in Greensboro year-round."
- "Has the least possible combinations of connections opportunities (parks, Greenway, campuses) and a large portion of the path goes through campus, which makes it intimidating for families with small children or older persons. Especially if you want to use the path during busy in between class to times or university events. Also, it has no loop, so it has all of the negative components from each other plan."

Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).

When asked to rank all four route alternatives, Route Alternative #1 received the greatest amount of support and the fewest votes for least preferred. Route Alternative #4 scored second, followed by Route Alternative #3. Route Alternative #2 received the fewest votes for most preferred and the most votes for least preferred among the four alternatives.







EVALUATION + RECOMMENDATIONS

04

OVERVIEW

The recommendations for the East Greensboro Greenway include the development of feasible route alternatives and design standards. Recommendations were developed based on community and stakeholder input, a review of existing conditions, key destinations and connections identified through the planning process, and a prioritization process. Design guidance identifies elements of greenway design that will help achieve the goals of the *East Greensboro Greenway Feasibility Study* and provide a safe, accessible, and equitable facility for the east Greensboro community.

The following sections are included within Chapter 4:

- Alternatives Development
- Evaluation Methodology
- Decision Matrix + Recommended Route
- Character Zones
- Design Guidance
- Recommended Spur Connections

ALTERNATIVES DEVELOPMENT

The project team identified individual segment alternatives for evaluation, as described in chapter 2. The alignment of these segments were determined by a variety of factors, including, but not limited to, right of way availability, environmental constraints, roadway crossings, and connectivity to local destinations. A key piece of the feasibility study is the opportunities and constraints analysis, which identifies factors that may enable easier implementation as well as other issues which may create additional barriers to greenway development. From the segments carried forward for consideration, the project team developed four route alternatives from combinations of those segments. These routes were informed by the opportunities and constraints analysis, input from the Steering Committee, engagement with area stakeholders and key landowners, and feedback from the community input session. These routes were analyzed for feasibility in additional detail to identify a preferred route alternative. The map on the opposite page displays an overview of the alignment alternatives.

Routes Studied

Route Alternative #1

This route alternative follows the east side of S. Church St to E. Market St, where it continues along south side of E. Market Street to S. English St. On S. English St it crosses the North Carolina Railroad (NCRR) corridor on the west side of the roadway; constructing a sidepath here should be coordinated with STIP project P-5747 in order to ensure the new structure accommodates bicyclists and pedestrians. The route crosses to the east side of S. English St at Apache St and diverts from the roadway until E. Gate City Blvd, with an alternate route using Moody St, Everitt St, Banner Ave, and McConnell Rd. The route continues on E. Florida St to Barber Park.

Route Alternative #2

This route alternative follows Route Alternative #1 on E. Market St and S. English St, but continues on the east side of S. English St to E. Florida St, crossing McConnell Rd and E. Gate City Blvd at existing intersections.

Route Alternative #3

This route alternative branches from Alternatives #1 and #2 at S. Dudley St, routing on the west side across the NCRR corridor and crossing to the south side of E. Washington St. The route continues onto McConnell St and crosses to the north side of the roadway at Gorrell St. At S. English St the route joins Route Alternative #2 before terminating at Barber Park.

Route Alternative #4

This route alternative follows Route Alternative #3 to Gillespie St before diverting north on Gillespie St. This alternative provides a route through Bingham Park before joining Route Alternative #1, providing two spine options between S. English St and McConnell Rd.



EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Route Alternatives

- Shared Route Alternative
- Shared Route Alternative - Alternate Spine
- Route Alternative #2
- Route Alternative #3
- Route Alternative #4
- # Route Alternative ID
- Potential Greenway Spur
- Other Studied Route Segment Alternative
- Existing Greenway
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

N

0 0.5 1 mile

LEGEND

ROUTE ALTERNATIVE #1

Route Segment IDs:

Spine: 32 > 33 > 35 > 27 > 28 > 66 > 13 > 14 > 18 > 19 > 21 > 22 > 24 > 25

Spine (Alternate to Segment 28): 9 > 10 > 12

Potential Greenway Spurs: 55, 100, 101, 200, 201, 300, 301a, 302

Length:

Spine: 3.65 miles

Spine (Alternate to Segment 28): 3.84 miles

Potential Greenway Spurs: 2.27 miles

Estimated 2024 Construction Cost:

Spine: $6,776,000

Spine (Alternate to Segment 28): $7,165,000

Potential Greenway Spurs: $4,503,000

Pros:

- Improved user experience between McConnell Rd and S. English St
- Uses existing public right-of-way in majority of corridor
- Offers connectivity to NC A&T, Bingham Park, the Hampton Elementary School site, Gateway Gardens, Gateway Research Park, and the Hayes-Taylor YMCA
- Greater opportunity for rest areas and amenities
- Least amount of non-signalized road crossings
- Business and neighborhood connectivity

Cons:

- Midblock crossing of McConnell Rd
- Greater coordination with private property owners
- Constructability and maintenance concerns along streamside segments
- Constrained areas along E. Market St near S. English St and Gillespie St (less than 10 ft)
- Construction contingent on inclusion as part of STIP Project P-5747 to create a grade separated railroad crossing at S. English St.



EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Route Alternative #1

- Route Alternative #1
- Route Alternative #1 - Alternate Spine
- Potential Greenway Spur
- Other Studied Route Segment Alternative
- Existing Greenway
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

0 0.5 1 mile

LEGEND

ROUTE ALTERNATIVE #2

Route Segment IDs:

Spine: 63 > 64 > 13 > 14 > 18 > 19 > 21 > 22 > 24 > 25

Potential Greenway Spurs: 55, 100, 101, 200, 201, 300, 301a, 302

Length:

Spine: 3.08 miles

Potential Greenway Spurs: 2.13 miles

Estimated 2024 Construction Cost:

Spine: $5,755,000

Potential Greenway Spurs: $3,764,000

Pros:

- Uses existing public right-of-way in majority of corridor
- Offers connectivity to NC A&T and Bingham Park
- Neighborhood and business connectivity
- Lower flooding frequency
- Less coordination with private property owners
- Some opportunity for rest areas and amenities
- Upgrades existing intersections

Cons:

- Increased potential for interaction with vehicles at roadway crossings and driveways
- More at-grade street and intersection crossings
- Constrained areas along E. Market St near S. English St and Gillespie St (less than 10 ft)
- Construction contingent on inclusion as part of STIP Project P-5747 to create a grade separated railroad crossing at S. English St.
- Less connectivity to destinations including Gateway Gardens, Hayes-Taylor YMCA, and Gateway Research Park



EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Route Alternative #2

- Route Alternative #2
- Potential Greenway Spur
- Other Studied Route Segment Alternative
- Existing Greenway
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

0 0.5 1 mile

LEGEND

ROUTE ALTERNATIVE #3

Route Segment IDs:

Spine: 63 > 70 > 72 > 73 > 300 > 22 > 24 > 25

Potential Greenway Spurs: 13, 14, 15, 16, 18, 55, 64, 67, 68, 100, 101, 200, 202, 301a, 302

Length:

Spine: 2.77 miles

Potential Greenway Spurs: 3.01 miles

Estimated 2024 Construction Cost:

Spine: $5,162,000

Potential Greenway Spurs: $5,467,000

Pros:

- Most direct route
- Predominately in existing public right of way
- Most major road crossings are at signalized intersections
- Intersection improvements at S. English St/E. Gate City Blvd and S. English St/McConnell Rd
- Neighborhood connectivity
- Not contingent on construction with STIP Project P-5747 or Bingham Park improvements

Cons:

- Greatest potential for interaction with vehicles at roadway crossings and driveways
- Less connectivity to destinations including NC A&T, Bingham Park, Gateway Research Park, Gateway Gardens, Hayes-Taylor YMCA
- No direct connection to Hampton Elementary School site
- Adjacent to roadway and vehicular traffic
- Fewer opportunities for rest areas and amenities
- Less connectivity to businesses


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Route Alternative #3
Route Alternative #3
Potential Greenway Spur
Other Studied Route Segment Alternative
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.5
1 mile
LEGEND
NC A&T STATE UNIVERSITY
MAPLEWOOD CEMETERY
BENNETT COLLEGE
BINGHAM PARK
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
JAMES B. DUDLEY HIGH
BLUFORD ELEM.
GATEWAY RESEARCH PARK
NC A&T UNIVERSITY FARM
BARBER PARK
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
GEORGE C. SIMKINS JR. ELEM.
N. CHURCH ST
E. LINDSAY ST
MURROW BLVD
N. DUDLEY ST
N. O.HENRY BLVD
E. MARKET ST
NACO RD
HOLTS CHAPEL RD
WARD RD
FRIENDLY AVE
WASHINGTON ST
S. ENGLISH ST
APACHE ST
PINE ST
BANNER AVE
FRANKLIN BLVD
HOLTS CHAPEL RD
GORRELL ST
S. RENBOW RD
GILLESPIE ST
220
70
29
McCONNELL RD
E. GATE CITY BLVD
MLK JR. DR
BENNETT ST
TUSCALOOSA ST
E. FLORIDA ST
S. O.HENRY BLVD
WILLOW RD
SOUTH BUFFALO CREEK
E LEE ST
40
85
SHARPE RD
CAUSEY LAKE RD
ALAMANCE CHURCH RD

ROUTE ALTERNATIVE #4

Route Segment IDs:

Spine: 32 > 33 > 35 > 27 > 28 > 66 > 13 > 15 > 67 > 73 > 300 > 22 > 24 > 25

Spine (Alternate to Segment 28): 9 > 10 > 12

Potential Greenway Spurs: 14, 18, 55, 100, 101, 200, 202, 301a, 302

Length:

Spine: 3.98 miles

Spine (Alternate to Segment 28): 4.42 miles

Potential Greenway Spurs: 1.48 miles

Estimated 2024 Construction Cost:

Spine: $6,885,000

Spine (Alternate to Segment 28): $7,274,000

Potential Greenway Spurs: $2,913,000

Pros:

- Predominately in existing public right of way
- Most major road crossings are at signalized intersections
- Greater flexibility in trail cross-sections
- Good opportunity for rest areas and amenities
- Some business connections
- Not contingent on construction with STIP Project P-5747
- Connectivity to Bingham Park
- Neighborhood connectivity

Cons:

- Least direct route
- Contingent on Bingham Park improvements
- Intersection improvements
- Greater flood frequency
- Mid-block crossings at McConnell Rd + S. English Street
- Greater coordination with private property owners



EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Route Alternative #4

- Route Alternative #4
- Route Alternative #4 - Alternate Spine
- Potential Greenway Spur
- Other Studied Route Segment Alternative
- Existing Greenway
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

0 0.5 1 mile

LEGEND

EVALUATION METHODOLOGY

The project team developed evaluation criteria to guide the decision-making process and determine the preferred route alternative for the East Greensboro Greenway. Based on community and stakeholder feedback, twelve evaluation criteria were used to guide the recommendations for the greenway

Route Alternative Selection Criteria



Physical Feasibility + Constructability

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



Desired Connectivity

To maximize use of the facility, determine which route alternatives connect key origins and destinations identified by the public and other stakeholders.



Community Priorities

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



Cost Effectiveness

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



Environmental Impacts

The ability of each alternative to minimize impacts to streams, wetlands and other environmental factors during construction and operation of the proposed facility.



Accessibility + User Experience

Convenience of use and accommodation for users of all ages and abilities to ensure the recommended route is a community amenity designed for universal use.



Property Impacts

Real estate acquisition can play a major role in project cost and schedule. Considers the extent to which route alternatives utilize publicly-owned properties and right of way as well as existing easements, and limit impacts to privately-owned parcels.



Potential Funding Opportunities

Considers the diversity of funding options from a variety of potential sources, available funds, and project competitiveness for each route alternative.



Economic Development + Placemaking

Considers the potential ability of route alternatives to drive tourism, contribute to the local economy, and establish the surrounding area as one that promotes healthy, active lifestyles.



Leadership Support

Considers the depth of support from governmental agencies, elected officials, and local advocates for each route alternative to champion the project through development and implementation.



Traffic Impacts

Considers the magnitude which each route alternative impacts vehicular traffic and associated temporary impacts during construction.



Implementation Timeframe

Considers the estimated timeframe to prioritize, fund, design, and construct each route alternative, especially in conjunction with community priorities for project completion.

DECISION MATRIX + SCORING

The decision matrix is a qualitative assessment tool that is often used to incorporate feedback obtained from the Steering Committee. The four alignment alternatives that were developed during this study were assigned a qualitative ranking (High, Medium, or Low) by the project team. "High" represents most desirable and "Low" represents least desirable in the table below. Steering Committee members ranked the evaluation criteria in the left-hand column below according to their priorities. This feedback informed the preferred route which represents the alternative that best aligns with the Steering Committee's priorities.

ROUTE ALTERNATIVE SELECTION CRITERIA	EAST GREENSBORO GREENWAY FEASIBILITY STUDY			
	Alt 1	Alt 2	Alt 3	Alt 4
Physical Feasibility + Constructability	Med	High	High	Med
Desired Connectivity	High	High	Med	High
Community Priorities	High	Med	High	High
Cost Effectiveness	Med	High	High	Med
Environmental Impacts	Med	High	High	Med
Accessibility + User Experience	Med	Med	High	Med
Property Impacts	Med	High	High	Med
Potential Funding Opportunities	Med	High	High	Low
Economic Development + Placemaking	High	High	Med	High
Leadership Support	High	Med	High	Med
Traffic Impacts	High	Med	Med	Med
Implementation Timeframe	Low	Low	High	Low

Key to Decision Matrix Scoring

High	Medium	Low
Most desirable outcome	Neutral outcome	Least desirable outcome



Community input gathered at events such as this neighborhood meeting were critical to informing the selection of a preferred route alternative.

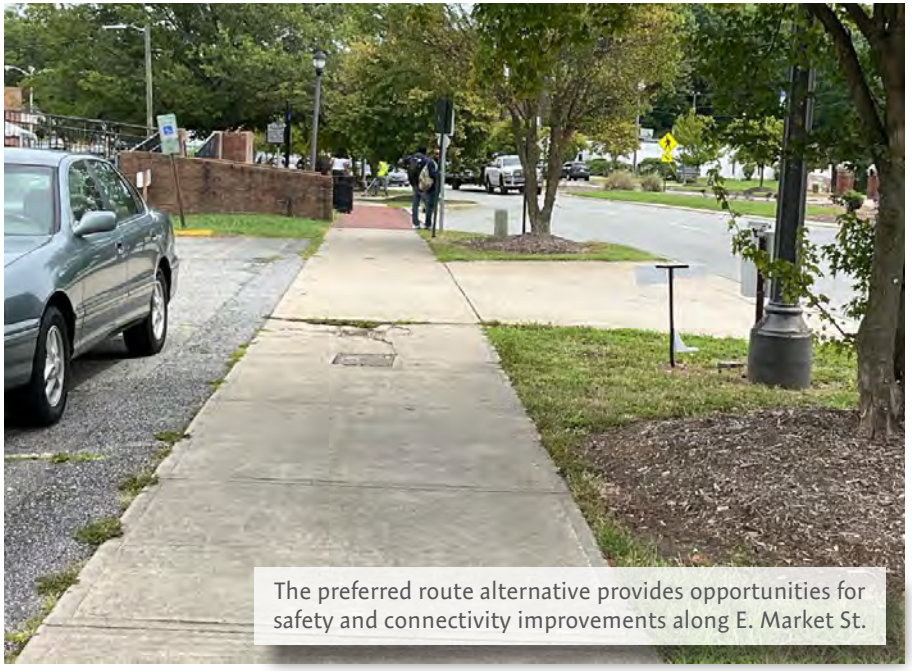
PREFERRED ROUTE ALTERNATIVE

Based on a comprehensive consideration of evaluation criteria and the decision matrix, community and stakeholder feedback, and technical constraints, the City of Greensboro with support from the project team identified Route Alternative #1 as the preferred route alternative. **While not the highest scoring route in the decision matrix on the previous page, the City identified this alignment as the preferred route for several reasons.** This route **maximizes the amount of off-street greenway facility** to provide an improved user experience and access to nature. Additionally, the spine **connects to priority community destinations** identified during community engagement, including the **Hayes-Taylor YMCA, Gateway Gardens, Gateway Research Park, Mustard Seed Community Health Clinic, Bingham Park, Food Lion, NC A&T, and the Hampton Elementary School site**. Additionally, Route Alternative #1 offers opportunities to improve safety and mobility along E. Market St by removing on-street parking on the south side of the roadway, improving intersections and midblock crossings to **create safer conditions for pedestrians and bicyclists** crossing between the NC A&T and commercial and residential areas to the south, and providing **new first- and last-mile transit connections** for the City's new Crossmax Purple high-frequency bus service.

The City requested the addition of a spur to the preferred route along E. Washington St between Bennett St and Benbow St to provide connectivity to the Washington Montessori Elementary School. An alternate spine sidepath segment between McConnell Rd and the Hampton Elementary School site may be utilized if there are unwilling landowners along the main spine in this area.



The preferred route alternative maximizes off-street greenway sections, providing an improved user experience and access to nature in an urban environment.



The preferred route alternative provides opportunities for safety and connectivity improvements along E. Market St.



EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Preferred Route Alternative

- Route Alternative #1
- Route Alternative #1 - Alternate Spine
- Potential Greenway Spur
- Existing Greenway
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

N 0 0.25 0.5 mile

LEGEND

CHARACTER ZONES

The Preferred Route traverses neighborhoods, streets, and natural settings with unique character. The following Character Zones help define areas of the approximately four mile greenway spine where the facility has a consistent relationship to the surrounding land use and transportation network. The changes in character along the East Greensboro Greenway provide opportunities for placemaking, wayfinding, and trailhead amenities which complement the user experience.

Park Character Zone

The Park Character Zone beings at the southern end of the alignment and serves as an extension of and a connection between major parks. Barber Park and Gateway Gardens both contain walking trails and the East Greensboro Greenway now serves as a connection to facilitate pedestrian trips between the these two parks and the Hayes-Taylor YMCA on an improved side path along E. Florida St.



The Park Character Zone will improve connections to and between parks along E. Florida St.
E. Florida St at Barber Park

Nature Character Zone

The Nature Character Zone provides a unique experience along the East Greensboro Greenway as the only section with an off-street greenway routed through a natural setting. The corridor will provide access to nature in a linear open space setting highlighted by shade from the canopy and opportunities for interaction with riparian and wetland ecosystems. More opportunity for open space and civic space integration is available at the Hampton Elementary School site on the northern end of the Nature Character Zone as the greenway approaches S. English St.



Near the former Hampton Elementary School site, the greenway routes through nature.
Spencer St near S. English St


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Character Zones
Preferred Route Alternative
Potential Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.25
0.5 mile
LEGEND
CHARACTER ZONES
Park
S. English St to E. Gate City Blvd
Nature
E. Gate City Blvd to S. English St
Sidepath
Spencer St to E. Market St
E. Market St
S. English St to S. Booker St
NC A&T
S. Booker St to S. Dudley St
Urban
S. Dudley St to S. Church St
Mobility
E. Market St to E. Washington St
DOWNTOWN GREENWAY
E. LINDSAY ST
N. DUDLEY ST
MURROW BLVD
NC A&T STATE UNIVERSITY
N. O. HENRY BLVD
MAPLEWOOD CEMETERY
FRIENDLY AVE
S. CHURCH ST
E. MARKET ST
S. ENGLISH ST
BINGHAM ST
APACHE ST
WASHINGTON ST
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
S. BENBOW RD
GILLESPIE ST
SPENCER ST
BINGHAM PARK
GORRELL ST
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
BENNETT ST
EVERITT ST
MOODY ST
BORDERS TERRACE
BEAUMONT AVE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
NOCHO PARK
McCONNELL RD
MLK JR. DR
JAMES B. DUDLEY HIGH
ACADEMY AT LINCOLN
BLUFORD ELEM.
S. O. HENRY BLVD
E. GATE CITY BLVD
ASTER DR
GATEWAY RESEARCH PARK
TUSCALOOSA ST
PEAR ST
S. ENGLISH ST
220
70
29
E. FLORIDA ST
BARBER PARK
NC A&T UNIVERSITY FARM
WILLOW RD
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
SOUTH BUFFALO CREEK
40
85

Sidepath Character Zone

The Sidepath Character Zone along S. English St contains a residential character and transitions between the natural experience of the greenway to the south and the more intense land uses to the north along E. Market St. This section of the greenway is easily accessible for residents living along S. English St and serves as a gateway for this neighborhood to access important destinations and enriching outdoor experiences.



The East Greensboro Greenway will widen existing sidewalk in the Sidepath Character Zone.
S. English St near Apache St

E. Market St Character Zone

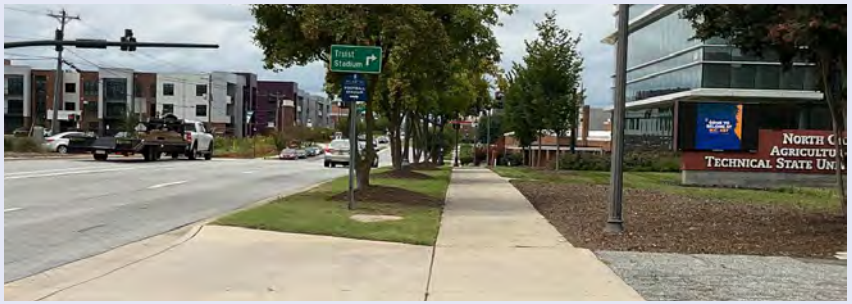
The E. Market St Character Zone spans from S. English St to the west side of the bridge over O.Henry Blvd. Land uses fronting this stretch vary and include large commercial enterprises. The East Greensboro Greenway will enhance user comfort and safety by improving road crossings for bicyclist and pedestrians and providing enhanced first- and last-mile connections that complement the Crossmax high-frequency bus service.



A major element of the E. Market St Character Zone is the bridge crossing of O.Henry Blvd.
E. Market St at O.Henry Blvd

NC A&T Character Zone

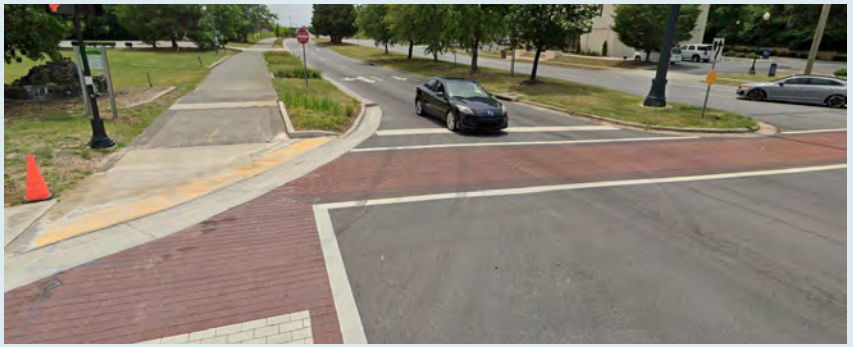
The NC A&T Character Zone spans just over a half mile along E. Market St and is a signature section of the East Greensboro Greenway. This section provides unique opportunities to enhance the greenway experience through streetscape and transit stop improvements that support Crossmax bus service. The Greenway will also interact with pedestrian crossings along E. Market St which provide access to the NC A&T campus within this character zone.



The NC A&T Character Zone includes existing sidewalks and connections to transit service.
E. Market St at Dudley St

Urban Character Zone

The Urban Character Zone serves as a transition between NC A&T and downtown Greensboro. Recent development has introduced higher density residential to this portion of E. Market St where the East Greensboro Greenway will be right outside residents' front doors. The intersection of the Downtown Greenway and the East Greensboro Greenway is within this character zone at Murrow Blvd. This interaction between two greenways provides an opportunity for a major placemaking and trailhead installation at Murrow Park.



The Urban Character Zone includes connections to the Downtown Greenway.
Downtown Greenway and Murrow Blvd at E. Market St- Davidson, NC

Mobility Character Zone

The Mobility Character Zone showcases the most urban streetscape of the entire East Greensboro Greenway alignment and terminates at the J. Douglas Galyon Intermodal Depot. The building form along S. Church St places build-to lines right up to the back of sidewalk with building entrances directly to the existing sidewalk. For this reason the proposed cross section in this area has separated bicycle and pedestrian facilities to move bicyclists away from the building frontage zone.



In downtown Greensboro, built-to lines limit the space available for a multiuse path.
S. Church St at E. Washington St

DESIGN RECOMMENDATIONS

To achieve the vision for a safe, accessible, and equitable greenway that connects people, places, and communities in the study area, this feasibility study recommends a set of design standards for the East Greensboro Greenway. Applying consistent facility widths and materials will create a seamless and intuitive user experience and promote predictable user behavior that contributes to making the facility safe for users of all ages and abilities. In conjunction with signage, wayfinding, and other branding efforts, consistent design standards will increase recognition of the East Greensboro Greenway and the connections it offers for both users and passing motorists. As the community interacts with the greenway over the course of their daily lives, these elements support a shift towards alternative modes of transportation and creating a car-optional Greensboro.

The proposed typical design for the East Greensboro Greenway consists of a paved greenway 10 to 12 feet in width to accommodate a variety of uses. This facility will incorporate design standards from local, statewide, and national trail design guides to ensure user safety and comfort while also meeting the recreation and transportation needs of the communities it serves. At intersections and crossings, the study recommends implementing proven countermeasures to minimize conflicts between greenway users and vehicles, and includes grade-separated crossings wherever feasible.

The standards and methods in which greenways are designed impact the experience and safety of the diverse users that rely on these facilities for a variety of recreational, health, and transportation purposes. This section illustrates aspects of facility design to help guide future design, construction, and maintenance activities.

The following pages detail several typical sections and the context in which they should be applied based on environmental and design constraints. Material types specified seek to balance up-front construction costs and minimize maintenance burden to reduce overall life-cycle costs. Images of similar design precedents are also provided for reference. Additional design resources are provided in **Appendix B**.

The following publications were referenced during the development of design recommendations for this plan:

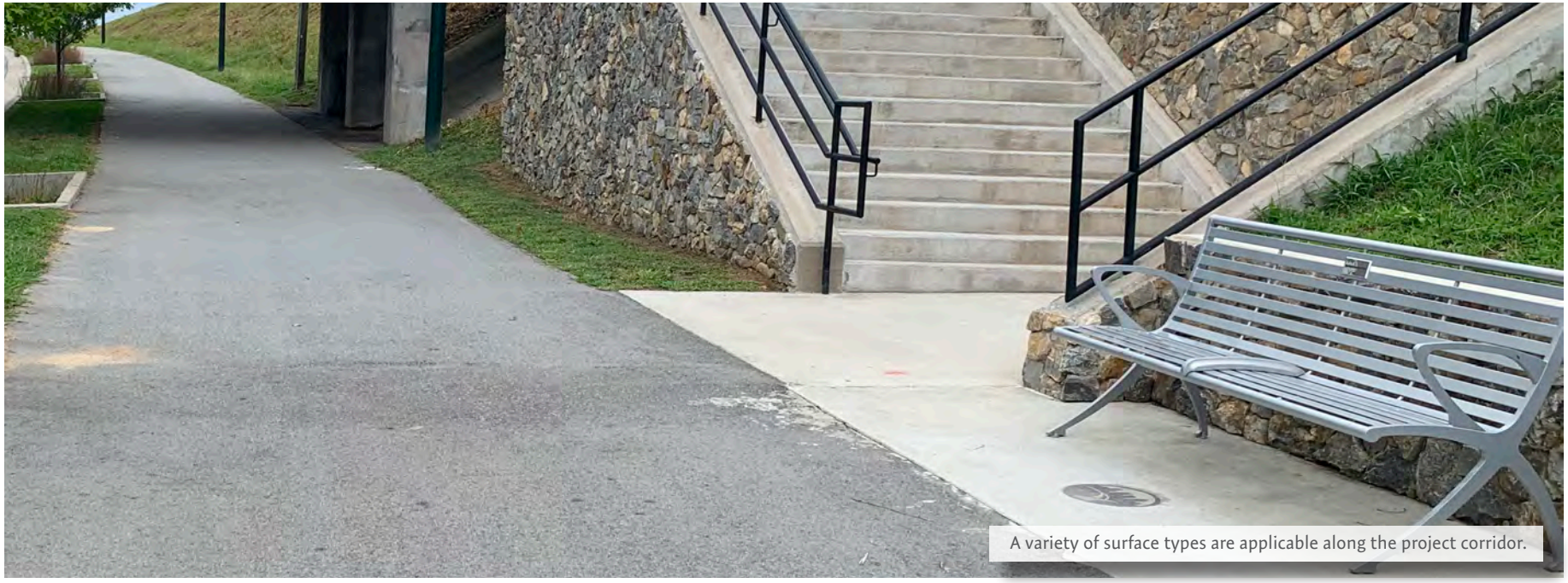
- National Association of City Transportation Officials' Urban Bikeway Design Guide and Urban Street Guide;
- American Association of State Highway and Transportation Officials' Guide for the Development of Bicycle Facilities and Guide for the Planning, Design and Operation of Pedestrian Facilities;
- Manual on Uniform Traffic Control Devices;
- Americans with Disabilities Act; and
- NCDOT Complete Streets Policy

Materials Selection

Factors to be considered in the selection of materials for the East Greensboro Greenway include:

- anticipated facility type (recreational versus commuter);
- expected use activities (i.e., walking, bicycling, running, or rolling);
- age and ability of users;
- environmental conditions;
- construction cost;
- maintenance burden and costs; and
- funding source requirements among others.

A variety of materials are described and illustrated on the following pages.



A variety of surface types are applicable along the project corridor.

Asphalt Paved Surface

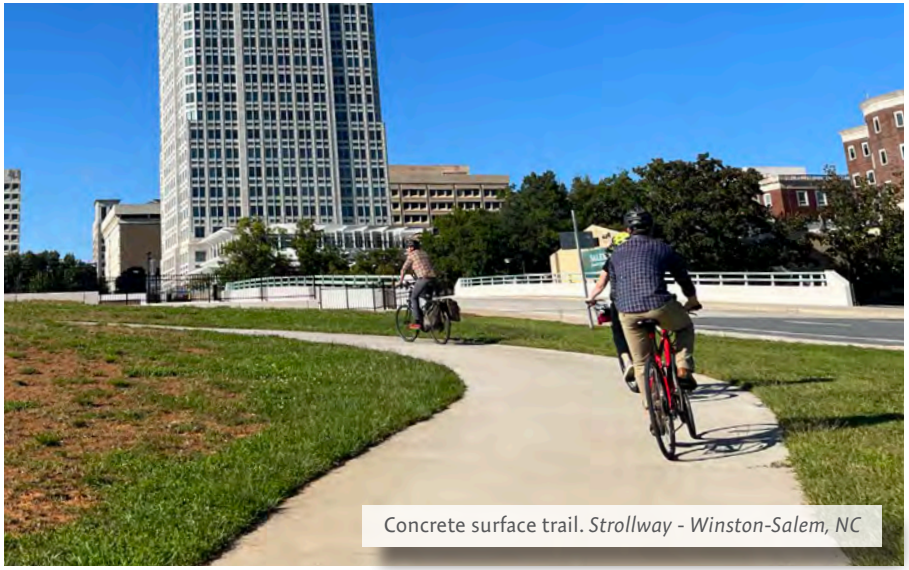
Asphalt pavement tends to be the most popular and cost-effective option for paved trails and greenways, and is typically more common in suburban and rural settings or where heavy trail usage is not expected. While asphalt pavement is less expensive than concrete pavement, it requires more frequent maintenance such as sealing to repair cracks and deformations.

Concrete Paved Surface

Concrete trails are typically more common in urban settings (where projected user volumes are high or the trail may be subject to vehicular loading more often) such as sidepath trails or in areas subject to heavy flooding forces that may cause damage to the trail. Concrete pavement is more durable, but costs more than asphalt pavement, and is more difficult and costly to maintain.



Asphalt surface trail. *Downtown Greenway - Greensboro, NC*



Concrete surface trail. *Strollway - Winston-Salem, NC*

Boardwalk

Timber and concrete (cast-in-place or pre-cast) are the two most popular material options for boardwalk decks. Timber has traditionally been used for its lower construction cost, but it requires regular maintenance and deck repairs/replacement to extend its functional life. Concrete deck options typically cost more upfront but have lower life-cycle costs due to reduced maintenance requirements.

Regardless of the deck type, safety rails and handrails should still be provided in accordance with applicable building codes. Timber, metal, and composite railing options are available depending on site conditions, desired aesthetics, and budget. Boardwalk substructure design and materials may vary depending upon specific site conditions and geotechnical recommendations.



Timber boardwalk surface. *White Oak Creek Greenway - Cary, NC*



Concrete boardwalk surface. *Toby Creek Greenway - Charlotte, NC*

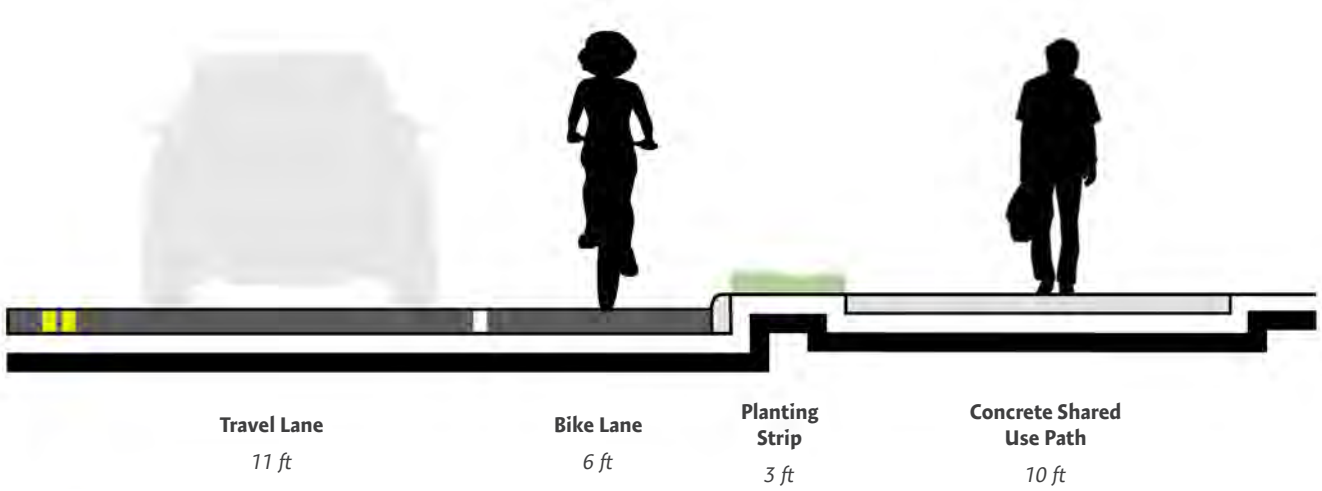
TYPICAL SECTIONS

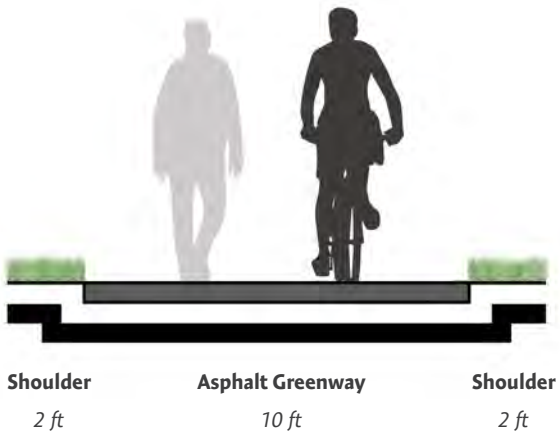
The dynamic nature of the built environment and street context along the preferred route for the East Greensboro Greenway emphasizes the need for cross-sections that adapt to and fit within the surrounding context while providing a safe and comfortable facility for those using it. To achieve this, ten primary cross-sections are proposed that represent the variety of conditions present along the project corridor. These cross-sections incorporate best practices for trail design and user safety considerations and represent an expected design for the East Greensboro Greenway.

E. Florida St Sidepath

Scale: 1 in = 5 ft, looking east

A 10 ft shared use path serves both walker and bikers along E. Florida St with a variable planting strip of approximately 3 ft. In addition to the planting strip, existing bicycle lanes provide addition separation from the sidepath a motor vehicle traffic and may be repurposed as desired to create additional space for street tree plantings or transit amenities.





Greenway

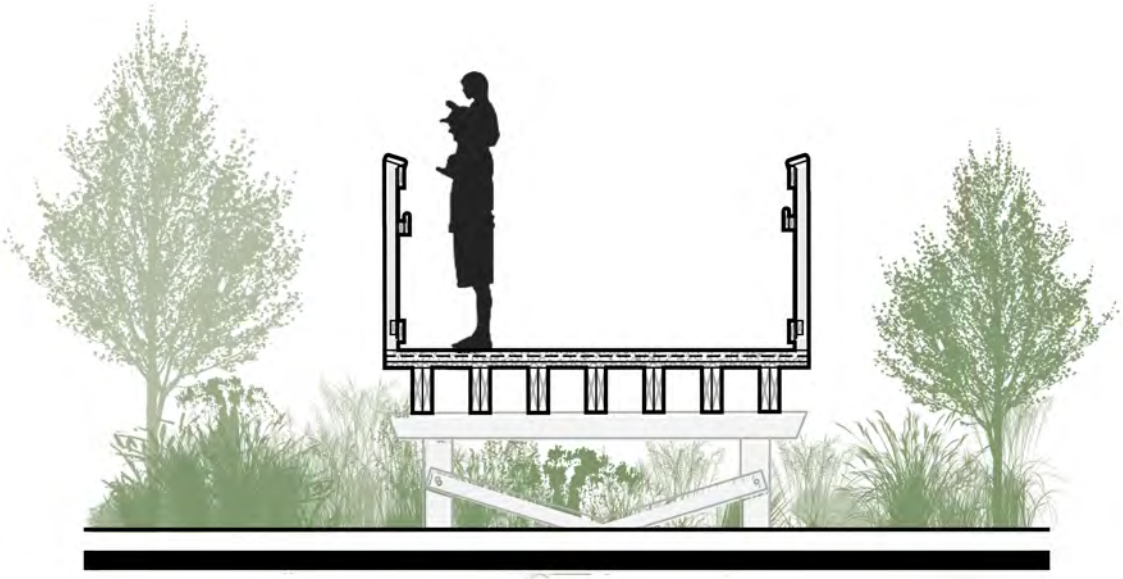
Scale: 1 in = 5 ft

Greenway sections will have a 10 ft asphalt trail width with grass shoulder of two ft at minimum. The 10 ft asphalt trail width provides an operating envelope wide enough for comfortable bi-directional shared use for bicycles and pedestrians, along with ample shy distance provided by the shoulders to ensure the full 10 ft width is usable.

Greenway Boardwalk

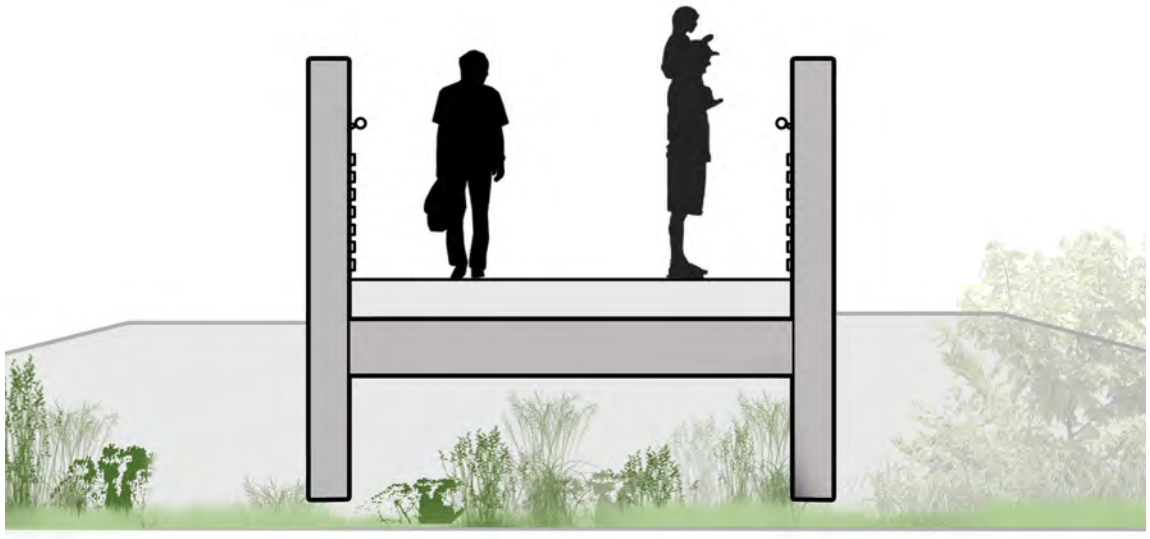
Scale: 1 in = 5 ft

Boardwalk sections will have up to a 14 ft clear width with railing provided to comply with ADA and AASHTO standards based on the height of the boardwalk above the ground. This maintains adequate horizontal space for users to pass on boardwalk sections where the usable trail width is reduced, as users will shy away from the edges of the trail against the railing.



Boardwalk

Up to 14 ft clear width



Greenway Bridge

Up to 14 ft clear width

Greenway Bridge

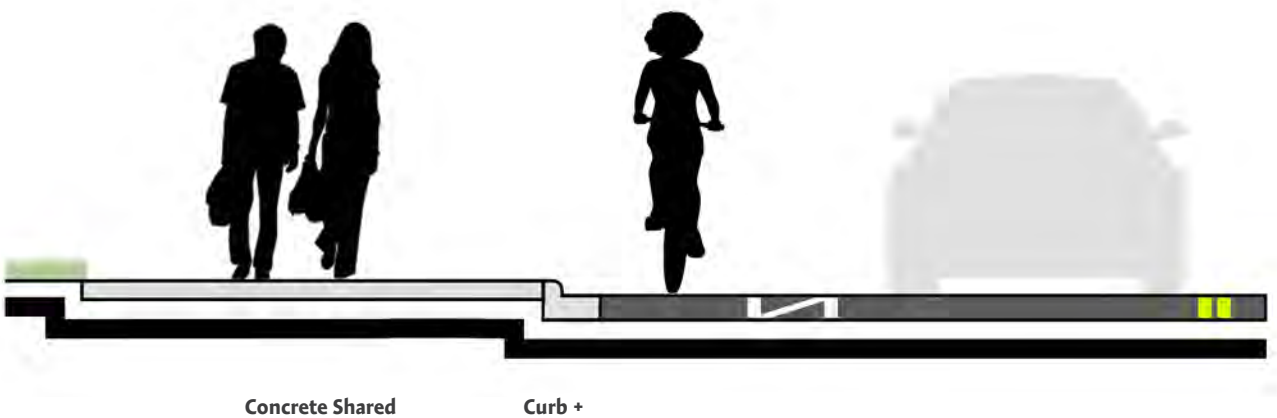
Scale: 1 in = 5 ft

In areas where terrain or riparian features are more significant than can be spanned with a boardwalk, a greenway bridge is recommended. Pedestrian bridges will include minimum 42 inch railings and up to a 14 ft trail clear width to provide room for trail users to safely maneuver between the railings.

S. English St Sidepath

Scale: 1 in = 5 ft, looking north

Along S. English St a 12 ft shared use path extends from the back of curb with the existing bicycle lane providing additional separation between the shared use path and motor vehicle traffic. The width of the shared use path may vary based conditions along the corridor, and considerations can be given to moving the curb and repurposing the bicycle lane to increase the space available for the shared use path and a planting strip as desired during design.



Concrete Shared Use Path	Curb + Gutter	Bike Lane	Buffer	Travel Lane
12 ft	*1.5 ft*	*4 ft*	*2 ft*	*10 ft*

E. Market St Sidepath

Along E. Market street between S. English St and the O.Henry Blvd bridge the current sidewalk is extended into a 12 ft wide shared use path which provides an opportunity to repurpose the existing light fixtures and maintain the decorative brick banding along this stretch. Some constrained areas will require the path dimensions to be reduced, specifically at S. Raleigh St.

Scale: 1 in = 5 ft

Looking west between S. English St and O.Henry Blvd



Concrete and Brick Shared Use Path	Curb + Gutter	Travel Lane
12 ft	*1.5 ft*	*10 ft*

Scale: 1 in = 10 ft

Looking west across bridge



Concrete Shared Use Path	Travel Lane	Travel Lane	Travel Lane	Travel Lane	Sidewalk
12 ft	*10 ft*	*10 ft*	*10 ft*	*10 ft*	*5 ft*

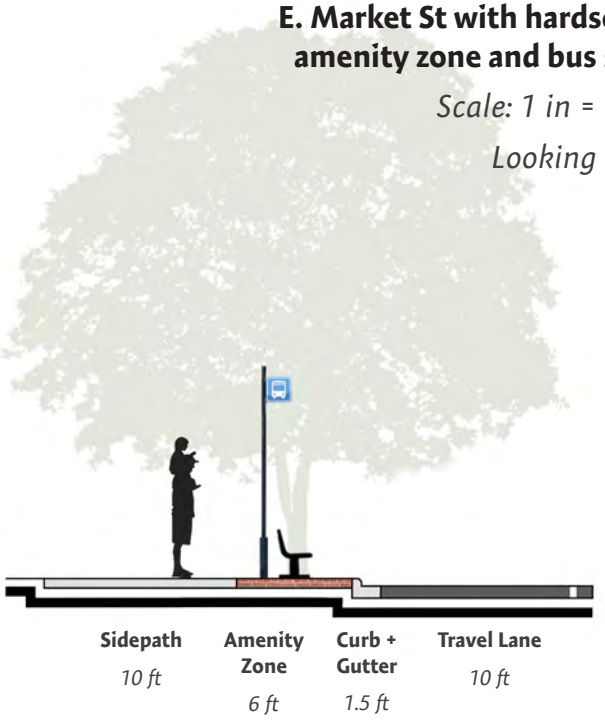
E. Market St Sidepath (West of O.Henry Blvd Bridge)

From the west side of the O.Henry Blvd bridge to S. Church St the shared use path cross section contains more space for trail users as well as street plantings and amenities. Existing on-street parking and bus pullouts along the south side of the street are removed by moving the curbline out to the outer travel lane. This repurposed space is then leveraged to create an approximately 16 ft area for the 10 ft shared use path and six ft planting strip/amenity zone. The six ft planting strip/amenity zone will provide both space for grass and street trees, as well as hardscape and transit amenities at Crossmax transit stops. Transit amenities can include route signage/information along with benches and other infrastructure that support transit trips. In areas where more than 16 feet of space is available from the back of curb to the back of right-of-way during design, extra space can be given to either the width of the shared use path or the amenity zone based on the needs along this corridor.

E. Market St with hardscape amenity zone and bus stop

Scale: 1 in = 10 ft

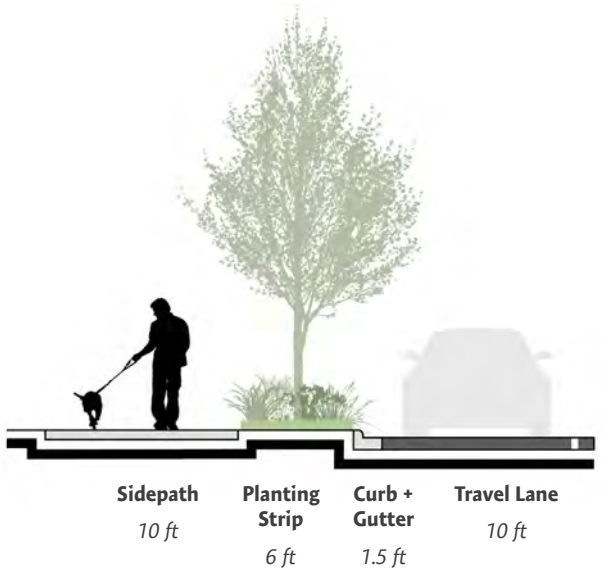
Looking west



E. Market St with planting strip

Scale: 1 in = 10 ft

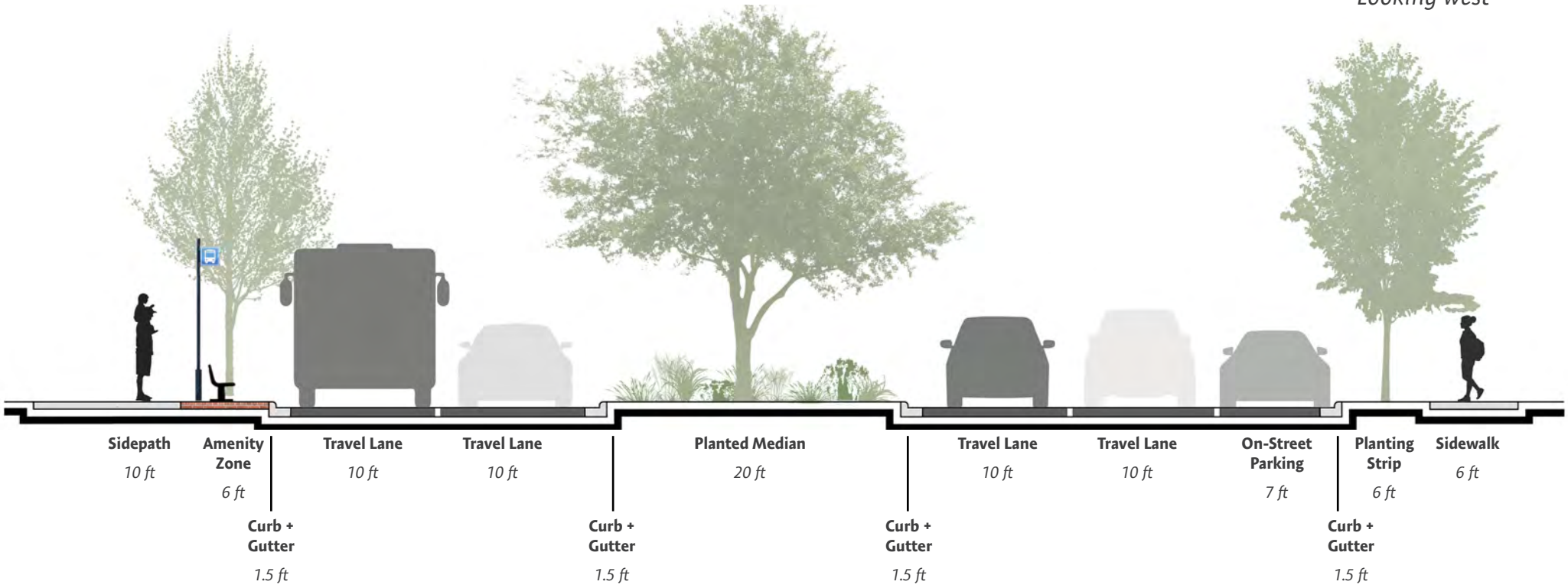
Looking west



E. Market St Sidepath west of O.Henry Blvd bridge

Scale: 1 in = 10 ft

Looking west

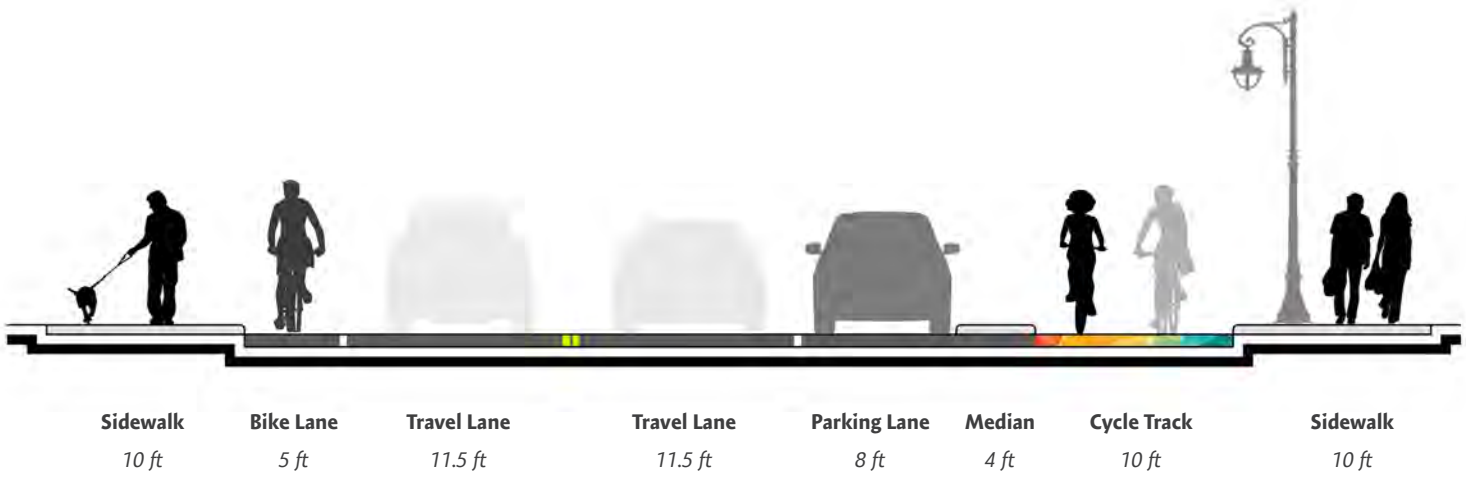


S. Church St Cycle Track

Scale: 1 in = 10 ft, looking north

In the urban context of S. Church St a separate two-way cycle track and sidewalk configuration provide the necessary operating space to serve both cyclists and pedestrians. This cross section reallocates space within the existing curb to create a 10 ft wide two-way cycle track with a four ft median to include vertical elements. As space allows, an on-street parking or loading zone can be retained as needed, with two travel lanes and a five ft bicycle lane on the southbound side of the street. Vertical element integration within the four ft median is flexible and exact materials will be determined based on driveway locations, and the presence of on-street parking or loading. This study recommends rubberized parking stops as a low maintenance and easy to install vertical element that also allows car doors to open if on-street parking is retained. The cycle track transitions to sidewalk grade at the S. Church St and E. Market St intersection to integrate back into the shared use path.

During the design phase other cycle track configurations can be evaluated, including moving the existing curb and gutter in and placing the cycle track in a raised back-of-curb condition with a planting strip.



INTERSECTION CROSSING TREATMENTS

The East Greensboro Greenway traverses an urbanized area and will require crossing roadways and driveways along its route, placing users into potential conflict with vehicles. The application of crossing safety measures at these locations is critical to ensuring the success of the greenway by making users feel comfortable at intersections and crossings. The type and variety of intersections and crossings, as well as existing crossing safety features, inform the need for additional measures to make a facility that is safe, accessible, and comfortable for users of all ages and abilities. Three crossing types are identified for the East Greensboro Greenway:

Major Crossings

Major crossings are intersections where the greenway must cross a signalized intersection, or a mid-block crossing. These crossings typically have the highest vehicle traffic volumes and speeds and require the greatest amount of crossing safety treatments, including signage, pavement markings, signal modifications, and changes to the geometry of the intersection or crossing.

Minor Crossings

Minor crossings are defined as intersections where the greenway parallels the major street and crosses the minor street. These crossings typically have lower traffic volumes and speeds and require minimal crossing safety treatments, most often consisting of crosswalk improvements or signage. Additionally, where the greenway crosses the railroad at-grade some improvements are necessary to install warning signage and pavement markings.

Driveway Crossings

The East Greensboro Greenway will interact with many driveway crossings, particularly along E. Market St. Driveway crossings should be designed so that the greenway remains at grade and vehicles must ramp up to cross the greenway. While requiring thoughtful analysis of design considerations for vehicles, this approach ultimately improves user visibility and slows vehicle speeds to improve the safety of pedestrians and bicyclists.

High Visibility Crosswalk Markings

A crosswalk is a designated place for pedestrians and greenway users to cross a road at an intersection or midblock crossing. High-visibility crosswalk markings, such as bar pairs, continental, and ladder are recommended to alert motorists of pedestrian crossing points across roadways. Inlay or thermoplastic tape is also recommended for highly reflective crosswalk markings. Crosswalks should be accompanied by Manual on Uniform Traffic Control Devices (MUTCD) pedestrian warning and advance yield signs W11-2, W16-7P, and R1-6 to alert motorists of a crosswalk.



High Visibility Crosswalks at S. Church St and E. Washington St. *Greensboro, NC*

Rectangular Rapid Flashing Beacon (RRFB)

A RRFB is a pedestrian-activated signal used in combination with pedestrian or trail crossing warning signage to improve safety at uncontrolled, marked crosswalks. The device includes two rectangular-shaped yellow indicators, each with an LED-array-based light source, that flash with high frequency when activated. RRFBs should be accompanied by MUTCD pedestrian warning and advance yield signs W11-2 and W16-7P to alert motorists of a crosswalk.

RRFBs are placed on both ends of a crosswalk. If the crosswalk contains a pedestrian refuge island or other type of median, an RRFB should be placed to the right of the crosswalk and on the median (instead of the left side of the crosswalk). RRFBs typically draw power from standalone solar panel units but may also be wired to a traditional power source.



Bruce Freeman Rail Trail. *Acton, MA*

Leading Pedestrian Interval

A Leading Pedestrian Interval (LPI) allows pedestrians to begin crossing an intersection before the traffic signal changes to permit vehicular traffic moving in the same direction. LPIs are most applicable at intersections with high pedestrian volumes and turning traffic, and typically provide a three- to seven-second head start to pedestrians in the crosswalk. LPIs help increase pedestrian visibility and establishing right-of-way over turning traffic, and have been shown to reduce collisions between pedestrians and vehicles by as much as 60 percent.

While LPIs are common in the downtown cores of major cities in North Carolina, in July 2024 NCDOT adopted a new policy making LPIs standard at all signalized pedestrian crossings statewide.



Leading Pedestrian Interval.
(Credit: City of Long Beach, CA)

Curb Radius Reduction

The radius of a corner is directly related to the speed at which a vehicle is capable of turning and impacts the distance a pedestrian must cross to reach the other side of the intersection. To ensure safer turning speeds, a curb radius of 15 ft or less should be applied, which expands the pedestrian area to allow for a shorter crosswalk. Turning speeds should be limited to 15 MPH or less, and prohibiting right turns on red may be considered to further enhance the safety of crosswalk users.



A wider curb radius supports faster vehicle turning speeds. *Greensboro, NC*

R10-15 Signage

MUTCD R10-15 signage (Turning Vehicles Yield to Pedestrians) should be used to provide additional emphasis to drivers turning at a signalized intersection. Signage should be placed on the near-right corner for right-turning vehicles, or on the far left corner of the intersection for vehicles turning left onto a two-way street.



W10-1 Signage and R1-2 Signage Assembly

MUTCD W10-1 signage (Grade Crossing Advance Warning) should be used in advance of at-grade railroad crossings to provide warning of the potential hazard to multiuse path users. A R1-2 (Yield) and R15-1 (Railroad Crossing) signage assembly should be installed a minimum of 12 feet from the railroad track.



Intersection Crossing Treatments

The map and table on the following pages identify each major and minor crossing (not including driveways) along both the spine and spurs and recommend crossing treatments at each location.



EAST GREENSBORO GREENWAY
FEASIBILITY STUDY

Intersection + Crossing Treatments

- # Intersection/Crossing
- Preferred Route Alternative
- Potential Greenway Spur
- Existing Greenway
- Roadway
- Railroad
- College/University
- School
- Park/Open Space
- Water
- City of Greensboro
- Guilford County

N 0 0.25 0.5 mile

LEGEND

INTERSECTION ID	INTERSECTION	CROSSING TYPE	SIGNALIZED
Spine			
1	E. Florida St at S. English St/Barber Park Dr	Minor	
2	E. Florida St at Barber Park Dr/Dans Rd	Minor	
3	E. Florida St at Hayes-Taylor YMCA	Minor	
4	E. Florida St at E. Gate City Blvd	Major	Yes
5	McConnell Rd	Major	
6	Banner Ave	Minor	
7	S. English St at Apache St	Major	
8	E. Market St at S. Raleigh St	Minor	
9	E. Market St at Gillespie St	Major	Yes
10	E. Market St at S. Benbow Rd	Major	Yes
11	E. Market St at Laurel St	Major	Yes
12	E. Market St at S. Dudley St	Major	Yes
13	E. Market St at Pastor Anderson Dr	Minor	
14	E. Market St at Murrow Blvd	Major	Yes
15	E. Market St at S. Lyndon St	Minor	
16	S. Church St at E. Sycamore St	Minor	
17	S. Church St at Hughes St	Minor	
18	S. Church St at E. Washington St	Major	
Spur - Visual + Performing Arts Elementary School			
19	E. Florida St at Alice Ave	Minor	
20	E. Florida St at Lansdown Ave	Minor	
Spur - Apache St			
7	S. English St at Apache St	Minor	
21	Apache St at Avalon Rd	Minor	

EXISTING TREATMENT	RECOMMENDED TREATMENT
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
Pedestrian Signal Head	High Visibility Crosswalk Markings, Curb Radius Reduction, R10-15 Signage, LPI
	High Visibility Crosswalk Markings, Pedestrian Warning Signage, RRFB, Curb Extensions
	High Visibility Crosswalk Markings, Pedestrian Warning Signage, Curb Extensions
	High Visibility Crosswalk Markings, Pedestrian Warning Signage, Pedestrian Refuge Island, RRFB
	High Visibility Crosswalk Markings
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
	High Visibility Crosswalk Markings
Pedestrian Signal Head	High Visibility Crosswalk Markings, Curb Radius Reduction, R10-15 Signage, LPI
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings, Curb Radius Reduction, RRFB
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings

INTERSECTION ID	INTERSECTION	CROSSING TYPE	SIGNALIZED
Spur - Windsor Chavis Nocho Community Complex			
10	E. Market St at S. Benbow Rd	Major	Yes
22	S. Benbow Rd at North Carolina Railroad (NCRR) corridor	Minor	
23	S. Benbow Rd at Perkins St	Minor	
24	S. Benbow Rd at E. Washington St/McConnell Rd	Major	Yes
25	S. Benbow Rd at Sloan St	Minor	
26	S. Benbow Rd at Gorrell St	Minor	
27	E. Gate City Blvd at O.Henry Blvd	Minor	
28	E. Gate City Blvd at Duke St	Minor	
29	E. Gate City Blvd at Hackett St	Minor	
30	E. Gate City Blvd at Lincoln St	Minor	Yes
Spur - E. Washington St			
24	S. Benbow Rd at E. Washington St/McConnell Rd	Major	Yes
31	E. Washington St at Logan St	Minor	
32	E. Washington St at Law St	Minor	
33	E. Washington St at Hargett St	Minor	
34	E. Washington St at High St	Minor	
35	E. Washington St at S. Dudley St/Bennett St	Major	Yes
Spur - Bennett College			
12	E. Market St at S. Dudley St	Major	Yes
36	S. Dudley St at Bishop Bailey Way	Minor	
37	S. Dudley St at NCRR corridor	Minor	
35	E. Washington St at S. Dudley St/Bennett St	Major	Yes
38	Gorrell St at Kruze St	Minor	
39	Gorrell St at Martin St	Minor	
40	Gorrell St at Plott St	Minor	

EXISTING TREATMENT	RECOMMENDED TREATMENT
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
	Consider improving crossing if rail bridge is reconstructed
	High Visibility Crosswalk Markings, 4-way Stop
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
	High Visibility Crosswalk Markings, Curb Radius Reduction
	High Visibility Crosswalk Markings, Curb Radius Reduction
	High Visibility Crosswalk Markings, Curb Radius Reduction
	High Visibility Crosswalk Markings, Curb Radius Reduction
	High Visibility Crosswalk Markings, Curb Radius Reduction
Pedestrian Signal Head	High Visibility Crosswalk Markings
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
	High Visibility Crosswalk Markings
	W10-1 Signage and R1-2 Signage Assembly
Pedestrian Signal Head	High Visibility Crosswalk Markings, R10-15 Signage, LPI
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings
	High Visibility Crosswalk Markings

PLACEMAKING

The East Greensboro Greenway aims to provide an engaging experience for users as they experience this trail by foot or bike, along with providing intentional spaces for users accessing the greenway from a parking area. The placemaking approach seeks to leverage opportunities presented by the natural and built environment settings along the preferred route. Greensboro has already established itself as a leader in creating engaging outdoor public spaces. The Downtown Greenway is a great example, and experience from that project is key to developing a successful and unique placemaking program along the East Greensboro Greenway.

Trailhead Typologies

The following recommendations for trailheads and major wayfinding installations fall into three categories:

- Major Trailheads
- Gateway Trailheads
- Decision/Confirmation Wayfinding

This hierarchy serves the demand for more intensive amenities such as parking lots and restrooms as well as the need for pedestrian-scale trailheads and regular wayfinding installations along the along the approximately four mile spine of the preferred route alternative. These recommendations rely on areas where public property or extra right-of-way currently exists. During the design process more opportunities to include trailheads in any of these three typologies will arise and should be capitalized on as they become available.

Trailhead Amenity Matrix

The table to the right summarizes the typical amenity types suitable for greenway trailhead locations and further highlights which amenities should be considered within each of the three trailhead typologies. For example, not every Gateway Trailhead will include every amenity listed in that category. Instead, this table identifies which amenities are likely to be suitable for each category of trailhead.

AMENITY TYPE	MAJOR TRAILHEAD	GATEWAY TRAILHEAD	DECISION/ CONFIRMATION WAYFINDING
Public Parking	Yes		
Restrooms	Yes		
Rest Area (shade, seating)	Yes	Yes	
Mapping/Wayfinding	Yes	Yes	Yes
Parklets	Yes	Yes	
Public Art	Yes	Yes	Yes
Greenway Branding	Yes	Yes	Yes


TRAILHEAD LOCATIONS
Major Trailhead
1. Barber Park
2. Hampton School Redevelopment
3. J. Douglas Galyon Intermodal Depot
Gateway Trailhead
4. S. Florida St and Barber Park
5. South Side of McConnell Rd at Greenway Crossing
6. S. English St and Hampton School Redevelopment
Decision/Confirmation Wayfinding
7. South Side of E. Gate City Blvd and S. Florida St
8. North Side of E. Gate City Blvd and S. Florida St
9. North Side of McConnell Rd at Greenway Crossing
10. S. English St and E. Market St
11. E. Market St at NC A&T Character Zone
12. E. Market St and Benbow Rd
13. E. Market St and Dudley St
14. E. Market St and S. Church St
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Trailheads + Wayfinding
Major Trailhead
Gateway Trailhead
Decision/Confirmation Wayfinding
Preferred Route Alternative
Potential Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.25
0.5 mile
LEGEND
DOWNTOWN GREENWAY
E. LINDSAY ST
NC A&T STATE UNIVERSITY
N. O.HENRY BLVD
MAPLEWOOD CEMETERY
FRIENDLY AVE
MURROW BLVD
N. DUDLEY ST
S. CHURCH ST
E. MARKET ST
S. ENGLISH ST
BINGHAM ST
WASHINGTON ST
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
GILLESPIE ST
SPENCER ST
BINGHAM PARK
GORRELL ST
S BENBOW RD
MOODY ST
BORDERS TERRACE
BEAUMONT AVE
EVERITT ST
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
BENNETT ST
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
NOCHO PARK
McCONNELL RD
MLK JR. DR
JAMES B. DUDLEY HIGH
ACADEMY AT LINCOLN
BLUFORD ELEM.
S. O.HENRY BLVD
E. GATE CITY BLVD
ASTER DR
GATEWAY RESEARCH PARK
PEAR ST
TUSCALOOSA ST
S. ENGLISH ST
220
70
29
E. FLORIDA ST
BARBER PARK
NC A&T UNIVERSITY FARM
WILLOW RD
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
SOUTH BUFFALO CREEK
40
85

Major Trailhead

Major Trailheads provide the highest level of infrastructure to support access to the East Greensboro Greenway. These sites provide opportunities for parking and public restrooms which are heavily desired amenities for any greenway. There is ample space at all of the major trailhead locations to incorporate all of the associated amenity types. The recommended locations leverage either existing or planned public facilities along the preferred route. Locations recommended for Major Trailheads include:

Barber Park: Existing parking and restroom facilities at Barber Park.

Hampton Elementary School Site Redevelopment: Future public redevelopment project with potential to incorporate trailhead amenities in the design.

J Douglas Gaylon Intermodal Depot: The City has received a grant to plan for transit-oriented development at the depot, and greenway access is recommended to be included in the design.

Gateway Trailhead

Gateway Trailheads serve as primary placemaking locations by enhancing the pedestrian and bicycle experience at key locations along the East Greensboro Greenway. Gateway Trailheads require significantly less space than a Major Trailhead as no parking or restrooms are provided. Gateway Trailheads may provide rest areas with seating and shade, integrating public art and parklets to invite trail users to stop and engage with their surroundings. The three Gateway Trailheads identified in this study leverage publicly-owned property; however, during the design phase additional opportunities for Gateway Trailheads may be identified. Locations recommended for Gateway Trailheads include:

S. English St and Barber Park: A trailhead at the edge of Barber Park welcomes users to the park.

South Side of McConnell Rd at Greenway Crossing: A trailhead provides an opportunity to incorporate public art and branding to increase awareness of the greenway.

S. English St and Hampton Elementary School Site: A trailhead at this location would create a gateway as users transition between greenway and sidepath sections.

Decision/Confirmation Wayfinding

Decision/Confirmation Wayfinding sites are the smallest of the trailheads hierarchy. These installations generally include only small footprint elements that can be included within the greenway right-of-way such as mapping/wayfinding, public art, and greenway branding. Typical Decision/Confirmation wayfinding sites are found in areas where multiple greenways intersect, a significant turn is required to remain along the greenway route, destinations are present just off of the greenway that require a turn, and areas where the facility type of the greenway may make a significant transition. The map on the following page highlights all locations recommended for Decision/Confirmation Wayfinding elements. The locations identified in this study could be good candidates for Gateway Trailheads if opportunities for acquiring more public space are identified during design.



Parking areas at Major Trailhead areas should provide accessible entrances to the greenway.
Abersham Park - Davidson, NC



Major Trailheads attract high volumes of users and shelters can provide shaded gathering areas.
Abersham Park - Davidson, NC



Providing restroom access along the greenway route is a key function of Major Trailheads, along with large wayfinding map installation.
West Branch Rocky River Greenway - Davidson, NC



Shade, seating, and water fountains are key elements for Gateway Trailheads which enhance user experience.
Irwin Creek Greenway - Charlotte, NC



Gateway Trailhead amenities can often fit into compact spaces at a transition point in the greenway.
Antiquity Greenway - Cornelius, NC



Greensboro is a leader in the state of North Carolina for incorporation public art into Gateway Trailheads.
Downtown Greenway - Greensboro, NC



Map installations orient greenway users.
Caldwell Station Creek Greenway - Cornelius, NC



Wayfinding installations can include smaller public art pieces as additional right of way allows.
Downtown Greenway at Grove Quest Way - Greensboro, NC



Wayfinding installations do not take up much extra space and generally fit within the right-of-way needed for the greenway.
Downtown Greenway - Greensboro, NC

Corridor-wide Placemaking Opportunities

In addition to placemaking installations at specific locations from the trailhead hierarchy, there are opportunities to further distinguish the East Greensboro Greenway as an inviting space for pedestrians and bicyclists along the entire corridor.

Greenway Trail Materials

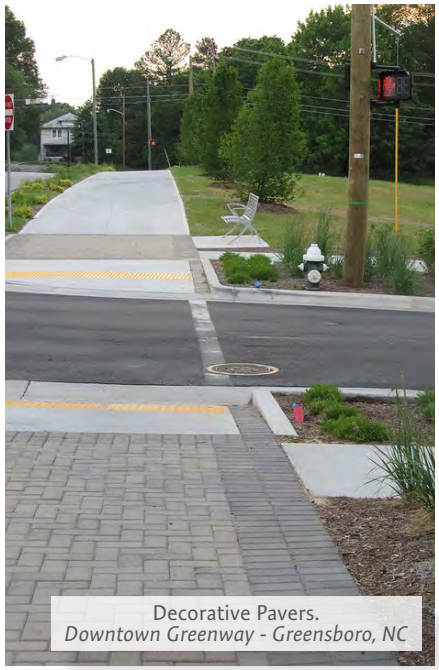
Pavers are a material that can easily be incorporated as an accent material into the design of the East Greensboro Greenway, providing a signature look and feel compared to a traditional all concrete shared use path.

Intersection Crossings

Standard high visibility crosswalk markings are ubiquitous in urban environments across North Carolina. In order to further distinguish the East Greensboro Greenway from other pedestrian and bicycle facilities, decorative crosswalks should be used at all side street and intersection crossings. The design of these crosswalk markings can be developed during the design process and should reflect the culture and spirit of east Greensboro.

Pedestrian Scale Lighting

Lighting is a critical element to enhancing the safety and utility of sidepaths particularly for commuters who use the greenway during non-daylight hours, and should be considered along much of the East Greensboro Greenway. For sections where the design effort identifies necessary lighting improvements, the design should incorporate pedestrian scale lighting as appropriate to highlight the Greenway. Lighting within the Nature Character Zone may be challenging due to the availability of utilities along the alignment and the cost of providing lighting through the approximately 1 mile off-street greenway alignment.



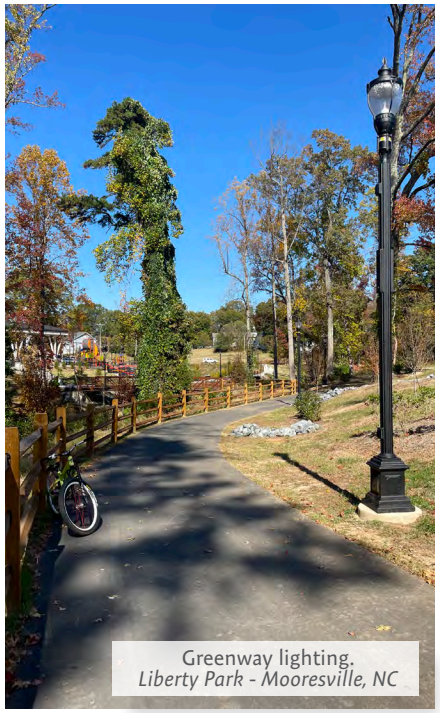
Decorative Pavers.
Downtown Greenway - Greensboro, NC



Decorative Pavers at a Crosswalk.
Downtown Greenway - Greensboro, NC



Painted Crosswalk.
XCLT Trail - Charlotte, NC



Greenway lighting.
Liberty Park - Mooresville, NC

Enhanced Landscaping

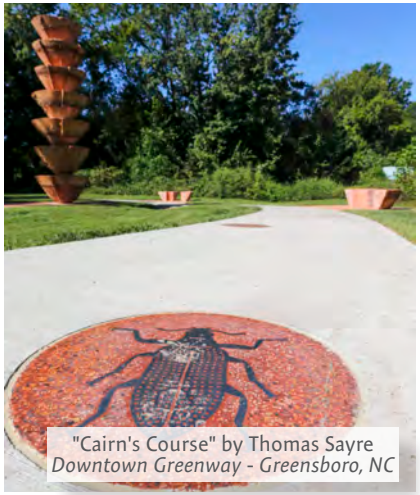
In the NC A&T and Urban Character Zones in particular, there is adequate space available for enhanced landscape plantings along the East Greensboro Greenway. As design progresses, the City should find additional opportunities to beautify streetscapes. Plantings may include shade trees, understory trees, and flowers, grasses or shrubs that enhance the greenway experience.

Public Art

Art will enhance places and spaces along greenway and will increase the overall appeal and user experience. Art should be well integrated into the trail network, placed where it can be seen, and should provide outdoor rooms to serve as a gathering places. The piece "Ascension" by Radcliffe Bailey along the Downtown Greenway provides a good precedent of how the City can add richness to public space along the East Greensboro Greenway to honor the stories and culture in east Greensboro and the City at large. The City should identify opportunities to create public art installations along the greenway that reflects the culture and history of the surrounding neighborhoods and incorporate elements like bike and skateboard racks, interpretive signage and informational kiosks, temporary or event-based art, and shade structures and visual screening. Typologies such as sculptures, murals, trail surface painting, interactive art (e.g. climbing structures, digital art, play equipment, lighting) are appropriate and their incorporation further explored during design of the East Greensboro Greenway.



Landscaping and plantings.
Downtown Greenway - Greensboro, NC



"Cairn's Course" by Thomas Sayre
Downtown Greenway - Greensboro, NC



"Ascension" by Radcliffe Bailey
Downtown Greenway - Greensboro, NC



Pavement Artwork.
11th St Cycle Track - Charlotte, NC

RECOMMENDED SPUR CONNECTIONS

In addition to the spine/preferred route alternative, a series of spur trails are proposed to complement the East Greensboro Greenway and provide connectivity to destinations not directly served by the greenway spine. These greenway spurs will improve safety and mobility across east Greensboro and provide new active transportation connections for additional residential areas, educational institutions, and community facilities in east Greensboro. Five spur routes are proposed:

- **Bennett College Spur** - E. Market St to Downtown Greenway along Bennett St and Gorrell St.
- **Washington Street Spur** - Bennett St/S. Dudley Rd to S. Benbow Rd along Washington St.
- **Windsor Chavis Nocho Community Complex Spur** - E. Market St to James B. Dudley High School along S. Benbow Rd, E. Gate City Blvd, and Lincoln St.
- **Apache Park Spur** - S. English St to Apache Park along Apache St.
- **Visual and Performing Arts Elementary School Spur** - Barber Park to Visual and Performing Arts Elementary School along E. Florida St, Lansdown Ave, and Randall St.

Bennett College Spur

This spur creates a connection along the west side of Bennett St and the north side of Gorrell St to link the East Greensboro Greenway to the existing Downtown Greenway trailhead at Plott St, across from the Historic Magnolia House. This spur will provide connectivity to the historic Magnolia House and Bennett College campus, enhancing mobility and safety for students, visitors, faculty, and staff.

This spur, approximately 0.53 miles long, provides opportunities to improve road crossings and signage, implement pedestrian countdown signals at E. Washington St, and improve safety at the railroad crossing. Constraints include utilities along both Bennett St and Gorrell St, and existing decorative walls and fences close to the roadway around the Bennett College campus.



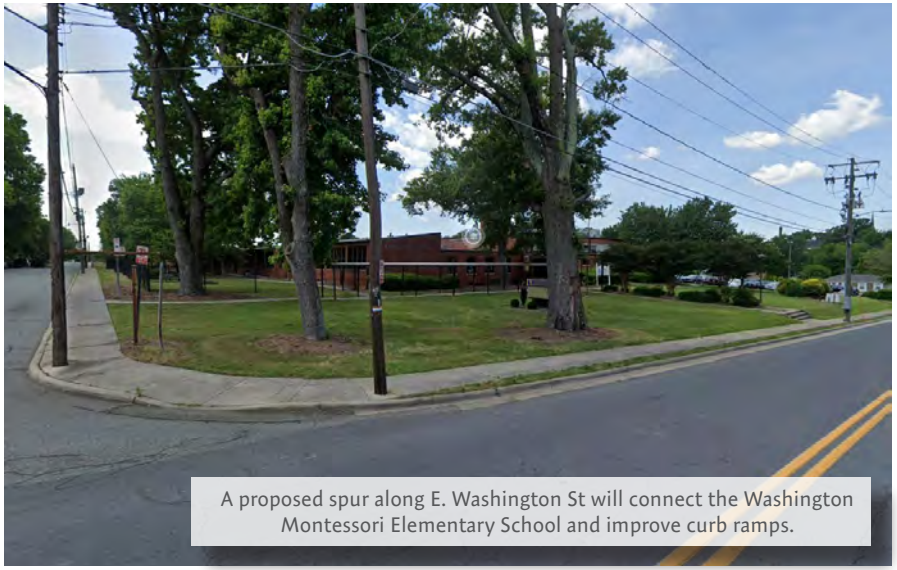
A proposed spur will connect the Historic Magnolia House, Downtown Greenway, and Bennett College to the East Greensboro Greenway.


POTENTIAL GREENWAY SPURS
Bennett College Spur
E. Market St to Downtown Greenway
E. Washington St Spur
Bennett St/S. Dudley St to S. Benbow Rd
Windsor Chavis Nocho Community Complex Spur
E. Market St to James B. Dudley HS
Apache St Spur
S. English St to Apache Park
Visual and Performing Arts Elementary School Spur
Barber Park to Elementary School
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Potential Greenway Spurs
Preferred Route Alternative
Potential Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.25
0.5 mile
LEGEND
DOWNTOWN GREENWAY
E. LINDSAY ST
NC A&T STATE UNIVERSITY
N. O.HENRY BLVD
MAPLEWOOD CEMETERY
FRIENDLY AVE
MURROW BLVD
N. DUDLEY ST
S. CHURCH ST
E. MARKET ST
S. ENGLISH ST
BINGHAM ST
APACHE ST
WASHINGTON ST
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
GILLESPIE ST
SPENCER ST
BINGHAM PARK
GORRELL ST
S BENBOW RD
BENNETT ST
EVERITT ST
MOODY ST
BORDERS TERRACE
BEAUMONT AVE
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
NOCHO PARK
McCONNELL RD
MLK JR. DR
JAMES B. DUDLEY HIGH
ACADEMY AT LINCOLN
BLUFORD ELEM.
S. O.HENRY BLVD
E. GATE CITY BLVD
ASTER DR
GATEWAY RESEARCH PARK
TUSCALOOSA ST
PEAR ST
S. ENGLISH ST
220
70
29
E. FLORIDA ST
BARBER PARK
NC A&T UNIVERSITY FARM
WILLOW RD
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
SOUTH BUFFALO CREEK
40
85

Washington Street Spur

This spur creates a connection along the south side of Washington St between Bennett St and S. Benbow Rd, connecting to the Washington Montessori Elementary School. This spur provides an alternate route parallel to E. Market St that does not require users on the south side of the railroad tracks to cross to the north side, and connects between two other proposed spur routes.

This segment is approximately 0.38 miles long and will provide marked crosswalks and improved ADA-accessible curb ramps at four intersections. Utility poles are present along sections of the corridor and may need to be relocated to accommodate trail development.



A proposed spur along E. Washington St will connect the Washington Montessori Elementary School and improve curb ramps.



The Windsor Chavis Nocho Community Complex, seen here before construction, will be connected by a proposed spur of the East Greensboro Greenway.

Windsor Chavis Nocho Community Complex Spur

This spur connects multiple key community destinations in east Greensboro, including the Windsor Chavis Nocho Community Complex, Nocho Park, and the campuses of NC A&T, James B. Dudley High School, The Academy at Lincoln, and Bluford Elementary School. The route follows the west side of S. Benbow Rd to E. Washington St where it crosses to the east side before continuing to the Windsor Chavis Nocho Community Complex at E. Gate City Blvd. From here it follows the north side of the roadway under O.Henry Blvd to Lincoln St where it crosses E. Gate City Blvd and connects to the school campuses to the south.

The spur is approximately 0.98 miles long and includes opportunities to improve pedestrian crossings at several locations with painted crosswalks and pedestrian signals. Constraints include narrow setbacks, utilities, and an existing railroad bridge crossing.

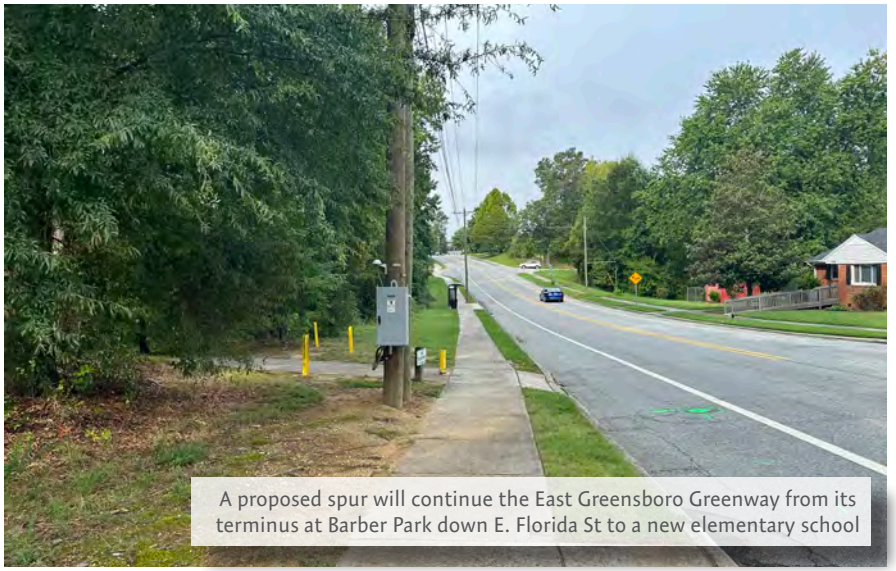
Apache Park Spur

This spur, approximately 0.17 miles long, provides a connection from the greenway spine at S. English St to Apache Park and several apartment communities along Apache St. The route begins on the south side of Apache St before crossing to the north side at Avalon Rd to minimize conflicts with utilities.

This spur connects to the spine of the East Greensboro Greenway at the intersection of Apache St and S. English St, where a new midblock crossing with a RRFB is proposed to improve pedestrian safety. The spur will also provide a crossing of Apache St at Avalon Rd.



A proposed spur will connect Apache Park and apartments along Apache St to the East Greensboro Greenway at S. English St.



A proposed spur will continue the East Greensboro Greenway from its terminus at Barber Park down E. Florida St to a new elementary school

Visual and Performing Arts Elementary School Spur

This spur connects the eastern terminus of the East Greensboro Greenway at Barber Park to the Visual and Performing Arts Elementary School under construction. The route is approximately 0.33 miles and will follow the south side of E. Florida St to Lansdown Ave, where it continues down the west side of the street to Randall St and the new school site.

The proposed spur will provide improved crossing markings and signage along E. Florida St and a new off-street multimodal connection to the elementary school site along Lansdown Ave and part of Randall St.

Greenway Amenities

Greenway amenities improve user safety and experience and enhance recreational and multi-modal accommodations. The following pages summarize recommended greenway amenities.

Lighting

Well-placed and properly maintained lighting can improve visibility, increase overall greenway access, and give users a greater sense of security. The urban context of the East Greensboro Greenway elevates the need for lighting that enhances user safety and visibility along parts of the corridor. The following lighting guidance should be considered:

- Meet the American Association of State Highway and Transportation Officials' (AASHTO) Guide for the Development of Bicycle Facilities requirements for shared-use paths.
- Light only what is needed and comply with dark-sky requirements to help minimize light pollution, which impacts people, animals, and the environment.
- Ensure lighting is of appropriate scale and spacing to provide adequate coverage.
- Strategically place lighting to enhance user safety at tunnels and overpasses, trailheads, bridges, gathering places, along streets, crosswalks, where a greenway crosses another path or sidewalk, and on signage.

A variety of lighting types are available including wired, battery-powered, and solar-powered, each of which offers unique advantages or disadvantages regarding cost, maintenance burden, and environmental impacts.

Colored or dynamic lighting schemes may be used in select areas (such as tunnels and bridges) to enhance the user experience, contribute to the overall brand and identity of the greenway network, and raise awareness of the facility to passersby.



Greenway lighting. *Credit: Sol by Sunna Design*



Greenway tunnel lighting. *Walnut Creek Greenway - Raleigh, NC*

Wayfinding

Wayfinding consists of comprehensive signage, mapping, and marking systems that help inform and educate users as they make their way to, from, and along the greenway. A cohesive system across the corridor will enhance access, provide a greater sense of security and comfort, promote desired user behaviors, improve awareness of nearby trail and transit networks, and reinforce the brand and/or identity of the facility. The following principles should guide the implementation of wayfinding on the East Greensboro Greenway:

- **CONSISTENCY** - User experience should feel consistent and continuous across the entire corridor.
- **CONNECTIVITY** - A primary function of wayfinding is to connect users to destinations and other routes. It should clearly communicate current location, access points, adjacent streets, distances, directions, destinations, estimated travel times, and historical, cultural, or environmental information where applicable.
- **IDENTITY** - A strong wayfinding identity will make the greenway more recognizable and memorable to visitors and residents alike. Custom designs and graphics should be used to create a unique identity which reflects the character and unique heritage of east Greensboro while also clearly aligning with the branding of the larger Greensboro greenway system.
- **PREDICTABILITY** - Apply wayfinding in a predictable manner (including sign placement, design, and content) to allow users to quickly understand the information being presented. For users, this builds trust, increases comfort, reduces stress, and provides a welcoming and low-stress experience as they navigate the greenway.
- **SIMPLICITY** - Present information in a clear, logical, universal way to reach the widest possible audience. The longer it takes to understand the information presented, the less likely the system will be used or relied upon.



Greenway mile marker. *American Tobacco Trail - Apex, NC*



Greenway wayfinding. *Downtown Greenway - Greensboro, NC*

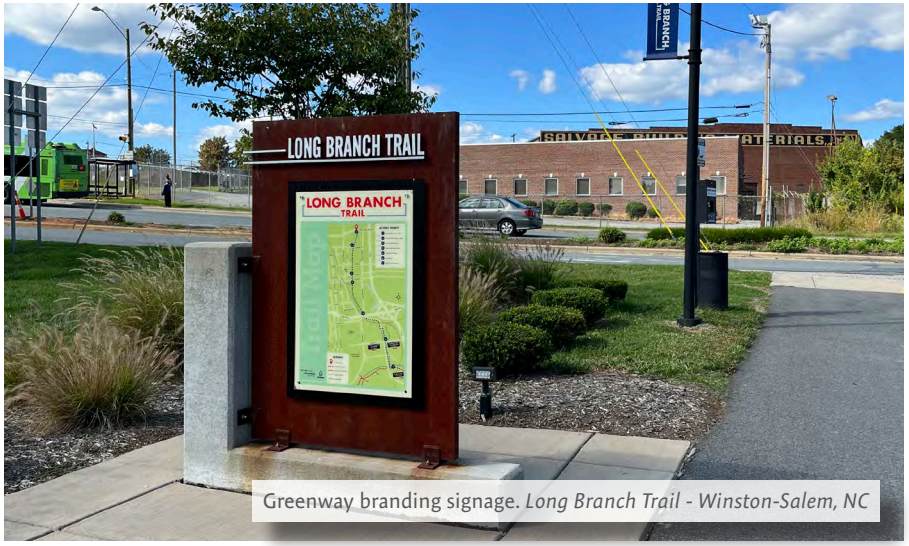
Branding

Popular greenway and trail systems establish strong brands and identities to drive recognition at the local and regional levels and beyond to attract users. A consistent, high-quality user experience may be achieved through repeating brand elements such as typical sections (including materials selection), wayfinding (including logos, graphics, and color palette), lighting, furnishings, and other amenities. At a minimum, good signage will increase the awareness of trails within a community, even outside of the system itself. Effective network signage should strike a balance between establishing a consistent look and feel, promoting the system, and respecting individual greenway corridors.

There are a variety of methods available to implement branding along the East Greensboro Greenway beyond the installation of traditional signage. Logos can be painted on greenway surfaces, and smaller signs or stickers can be added to existing streetscape elements like benches, bike racks, trash receptacles and street signs to catch the attention of passers-by and entice new users into the system. These efforts can complement the installation of dedicated signage, or in some cases, make more expensive signage unnecessary. A branding study with community input is recommended to establish these elements to be used along the East Greensboro Greenway.



Greenway branding signage. *Downtown Greenway - Greensboro, NC*



Greenway branding signage. *Long Branch Trail - Winston-Salem, NC*

Data Collection

Bicycle and pedestrian count data are an essential tool to justify investments in greenway and active transportation infrastructure and communicate needs with the public, elected officials, and other stakeholders. Collecting this data provides insights into temporal user volume trends (time of day and seasonal), user type trends (biking vs. walking), and user volume trends by geographic location (which sections are most frequently used). This information can also help identify potential areas of need as municipalities plan their future pedestrian and bicycling infrastructure projects.

A variety of counting technologies and products are available depending on the specific application and budget. These range from inductive loop detectors, pneumatic tube detectors, and passive infrared detectors among others. Mobile counters provide the flexibility to collect data in one location before moving to another collection location and are typically battery-powered. Fixed counters are used at locations where long-term data collection is desired and may be wired or battery-powered. Some blend in with their surroundings and others utilize real-time display totems to present daily and yearly counts and engage directly with those users being counted.

Depending on the specific product, count data may be retrieved manually from the counter or may streamline the process via wireless transmission, reducing trips to the field. Online, easy-to-use data platforms are also offered to analyze and visualize the data. Features include dashboards and interfaces to provide access to count data for the development of custom websites and mobile applications. The emerging use of "Big Data" crowd-sourced from mobile phone users, via services such as Streetlight and Strava, may also be an option for collecting user count data.



Bicycle traffic counter. *Stanford Street bikeway - Boston, MA*


Greenway traffic counter. *Black Creek Greenway - Cary, NC*





IMPLEMENTATION

05

OVERVIEW

Recommendations outlined in this feasibility study represent a significant investment that will positively impact how both residents and visitors experience the greenway system and east Greensboro. Key outputs of this study are the project cut sheets and cost estimates, which are essential to establishing project implementation scenarios.

Successful implementation will require a coordinated, consistent effort with a wide range of partners. Some of the key agencies and partners include the City of Greensboro, Greensboro Urban Area Metropolitan Planning Organization (GUAMPO), Guilford County, NCDOT, academia, private partners, local advocacy groups, and community members.

The following sections are included within Chapter 5:

- Phasing + Prioritization
- Partner Roles
- Funding Considerations
- Action Plan
- Maintenance Recommendations

PHASING + PRIORITIZATION

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

Destinations and Connectivity (to Existing Segments of Greenway and to Parks/Other Destinations)

The East Greensboro Greenway can be implemented to prioritize greenway segments through destination-based phasing. Greenway segments that connect to existing amenities, such as the J Douglas Gaylon Transit Dept, Barber Park, NC A&T, Bingham Park, and Gateway Research Park, can establish a well-used and highly accessible starting point for the greenway corridor.

Corridor Phasing

Along the spine of the East Greensboro Greenway there are multiple roadway corridors, each of which has different needs and considerations for phasing. For example, the ability to leverage investments along E. Market St for the Crossmax high-frequency bus service contributed to identifying Phase 1 of the project. Once established, spur connections to destinations such as James B. Dudley High School, Bennett College, and the Windsor Chavis Nocho Community Complex can be coordinated with stakeholders and prioritized.

Funding Availability

Establishing the greenway alignment through funding availability may be the most critical aspect when considering implementation strategies. Funding for the East Greensboro Greenway can come from local bond funding or capital improvement program budgets, discretionary grant awards, or Federal formula funding programs. (see **Appendix A** for full list of potential funding sources).

Private Development Coordination

Development activities can be leveraged to establish key pieces of the East Greensboro Greenway which run through or along privately held land. Coordination on these segments between private and public interests benefit the greenway system and often certain costs such as shared permitting and construction access can be split amongst parties.


MAINLINE GREENWAY IMPLEMENTATION PHASE
Phase One
J. Douglas Galyon Depot to S. English St
Phase Two
E. Gate City Blvd to S. English St at Barber Park
Phase Three
E. Market St to E. Gate City Blvd
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Implementation Phasing
Preferred Route Alternative
Potential Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.25
0.5 mile
LEGEND
DOWNTOWN GREENWAY
E. LINDSAY ST
NC A&T STATE UNIVERSITY
N. O. HENRY BLVD
MAPLEWOOD CEMETERY
FRIENDLY AVE
MURROW BLVD
N. DUDLEY ST
S. CHURCH ST
E. MARKET ST
S. ENGLISH ST
LEIS CHAPEL RD
BANNER AVE
PINE ST
BINGHAM ST
APACHE ST
WASHINGTON ST
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
GILLESPIE ST
SPENCER ST
BINGHAM PARK
GORRELL ST
S. BENBOW RD
MOODY ST
BORDERS TERRACE
BEAUMONT AVE
EVERITT ST
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
BENNETT ST
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
NOCHO PARK
McCONNELL RD
MLK JR. DR
JAMES B. DUDLEY HIGH
ACADEMY AT LINCOLN
BLUFORD ELEM.
S. O. HENRY BLVD
E. GATE CITY BLVD
ASTER DR
GATEWAY RESEARCH PARK
PEAR ST
TUSCALOOSA ST
S. ENGLISH ST
220
70
29
E. FLORIDA ST
BARBER PARK
NC A&T UNIVERSITY FARM
WILLOW RD
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
SOUTH BUFFALO CREEK
40
85

PROJECT COST ESTIMATE DESCRIPTION

In addition to understanding if a project is feasible from a technical perspective, understanding project cost is an equally important component to any feasibility study. There are several types of costs to consider when establishing a project budget including, but not limited to, the following:

Baseline Construction Cost

Baseline construction costs for the current year of 2024 were generated using quantity takeoffs and calculations based on the preliminary design concepts. The baseline construction costs include a 35 percent contingency based the preliminary nature of the design concept developed for the feasibility study.

Escalated Construction Costs

To account for inflation, the baseline costs were projected into fiscal year 2029, which represents the year of probable construction.

Construction Engineering + Inspection Services (CEI)

A requirement for many state and federal funding sources. CEI services usually range from nine percent to 12 percent of the estimated construction cost.

Project Contingency

Project contingencies help address unforeseen costs due to a variety of reasons. An additional five percent contingency was assumed based on the extent of the study area, the total length of the project, the number of potential environmental impacts, and total structures anticipated.

Survey/Design Services

The project team estimated survey and design costs using the baseline construction costs, design elements, anticipated permitting required, and other activities related to funding source requirements (e.g., additional community engagements).

Total Budget Estimates

The project team calculated the total budget estimate were calculated by adding the aforementioned cost components and contingency. All calculated values were rounded up to the nearest $1,000 for simplicity.

PHASE 1 - J. DOUGLAS GALYON DEPOT TO S. ENGLISH ST

Implementation Phase 1 begins at J. Douglas Gaylon Intermodal Depot and ends at the intersection of E. Market St and S. English St. This section was prioritized as the first phase for implementation to leverage investments coming to this corridor through a transit-oriented development grant for J. Douglas Gaylon Intermodal Depot, redevelopment of parcels along S. Church St, and the continued investment in the Crossmax Purple bus service along E. Market St. Phase 1 includes two primary cross sections, a Cycle Track and Sidewalk cross section on S. Church St and the Shared Use Path with planting strip/amenity zone on E. Market St. Along E. Market St the existing bus pull outs and on street parking on the south side of the street will be removed and the curb extended to recapture that space for the East Greensboro Greenway shared use path and a planting strip/amenity zone. It is recommended to reallocate pavement space on the E. Market St bridge over S. O.Henry Blvd to provide space for a 12 ft sidepath and four 10-ft travel lanes. The eastern most portion of E. Market St will rely on widening the existing sidewalk out to the edge of right-of-way to achieve the 12 ft sidepath.

Project Snapshot

- **Location:** S. Church St from E. Washington St to E. Market St, E. Market St from S. Church St to S. English St
- **Facility Type(s):** 2-way cycle track, sidepath
- **Total Length:** 1.84 miles
- **Structures:** None
- **Grade-Separated Crossings:** Existing O.Henry Blvd bridge
- **At-Grade Crossings:**
  - E. Market St at S. Raleigh St
  - E. Market St at Gillespie St
  - E. Market St at S. Benbow Rd
  - E. Market St at Laurel St
  - E. Market St at S. Dudley St
  - E. Market St at Pastor Anderson Dr
  - E. Market St at Murrow Blvd
  - E. Market St at S. Lyndon St
  - S. Church St at E. Sycamore St
  - S. Church St at Hughes St
  - S. Church St at E. Washington St
- **Greenway Connections:**
  - Existing Downtown Greenway (Murrow Blvd)
- **Destinations Served:**
  - J. Douglas Galyon Intermodal Depot
  - Downtown Greenway
  - NC A&T Main Campus
  - The Experiential School of Greensboro
  - The A&T Four Middle College
- **Potential Real Estate Acquisition:**
  - Temporary easement and/or right-of-way: Segment of E. Market St between Gillespie St and S. English St
- **Potential Permitting Needs:**
  - Erosion Control
  - Utility Relocation Agreements


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Preferred Route Alternative - Phase 1
J. Douglas Galyon Depot to S. English St
Preferred Route Alternative - Phase 1
Preferred Route Alternative - Additional Phase
Potential Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
0
0.25
0.5 mile
LEGEND
NC A&T STATE UNIVERSITY
E. LINDSAY ST
N. O.HENRY BLVD
12 ft back of curb sidepath between S. English St and O.Henry Blvd preserves existing decorative bricks and lighting
Sidepath narrows at constrained locations near Raleigh St
Removal of on-street parking and bus pullouts on south side of roadway to create 10 ft trail and 6 ft planting strip/amenity zone
Connection to Downtown Greenway at Murrow Blvd
Widen sidewalk to 12 ft sidepath across O.Henry Blvd bridge by removing center turn lane
Cycle track and sidewalk section on S. Church St
FRIENDLY AVE
MURROW BLVD
N. DUDLEY ST
E. MARKET ST
S. CHURCH ST
S BENBOW RD
MAPLEWOOD CEMETERY
S. ENGLISH ST
APACHE ST
BINGHAM ST
BINGHAM PARK
220
70
29
WASHINGTON ST
GILLESPIE ST
SPENCER ST
BENNETT COLLEGE
BENNETT ST
WASHINGTON MONTESSORI ELEM.
GORRELL ST
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
Phase 3
E. Market St to E. Gate City Blvd
EVERITT ST
S. O.HENRY BLVD
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
NOCHO PARK
McCONNELL RD
DOWNTOWN GREENWAY
MLK JR. DR
E. GATE CITY BLVD
JAMES B. DUDLEY HIGH
ACADEMY AT LINCOLN
BLUFORD ELEM.

Estimated Project Costs

COST CATEGORY	COST ESTIMATE
2024 Baseline Construction Cost Estimate	$3,563,000
Design Services Cost Estimate	$535,000
Escalated Construction Cost Estimate (Build Year 2029)	$4,550,000
Construction Engineering + Inspection Services	$410,000
Additional Project Contingency (5%)	$228,000
Total Recommended Project Budget	**$5,723,000**

Primary Typical Sections

E. Market St sidepath

Scale: 1 in = 10 ft

Looking west between S. English St and O.Henry Blvd



Concrete and Brick Shared Use Path *12 ft*

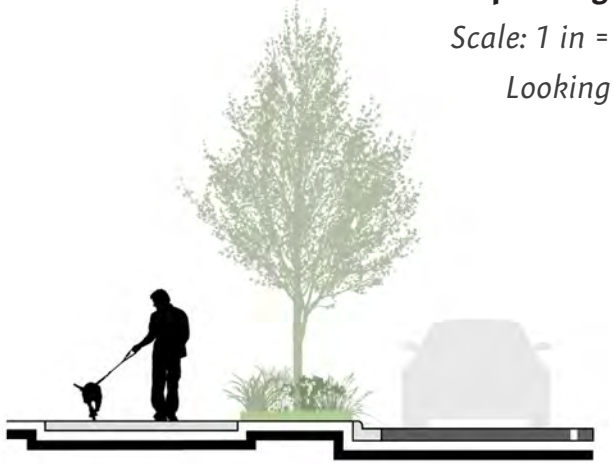
Curb + Gutter *1.5 ft*

Travel Lane *10 ft*

E. Market St with planting strip

Scale: 1 in = 10 ft

Looking west



Sidepath *10 ft*

Planting Strip *6 ft*

Curb + Gutter *1.5 ft*

Travel Lane *10 ft*

Note: Planting strip section is an alternative to amenity zone shown on facing page.

E. Market St sidepath

Scale: 1 in = 10 ft

Looking west across bridge



Concrete Shared Use Path *Up to 17 ft*

Travel Lane *12 ft*

Travel Lane *12 ft*

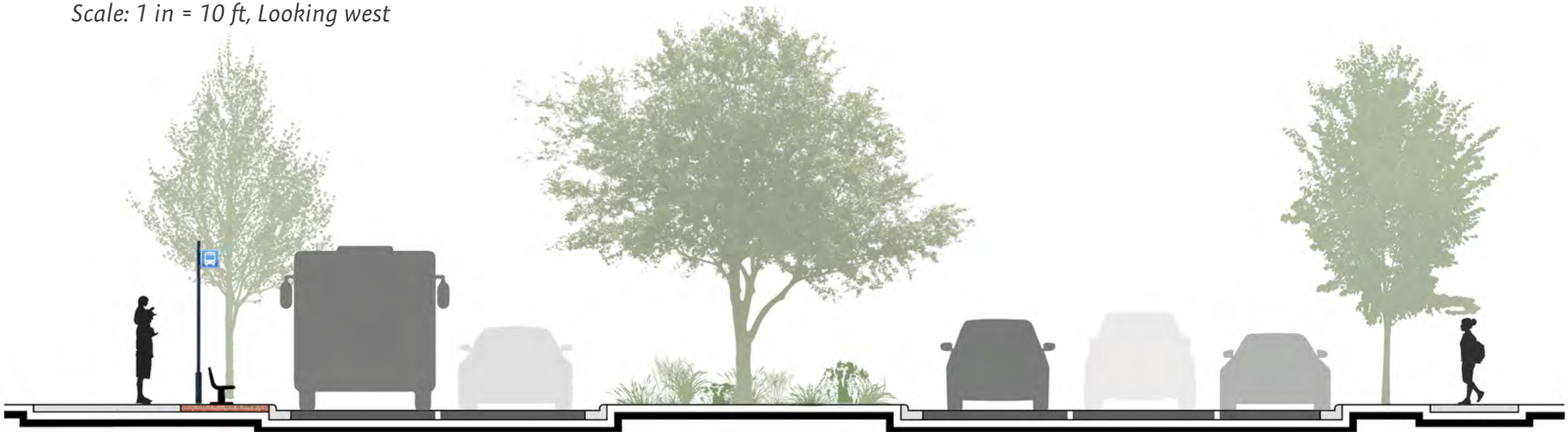
Travel Lane *12 ft*

Travel Lane *12 ft*

Sidewalk *5 ft*

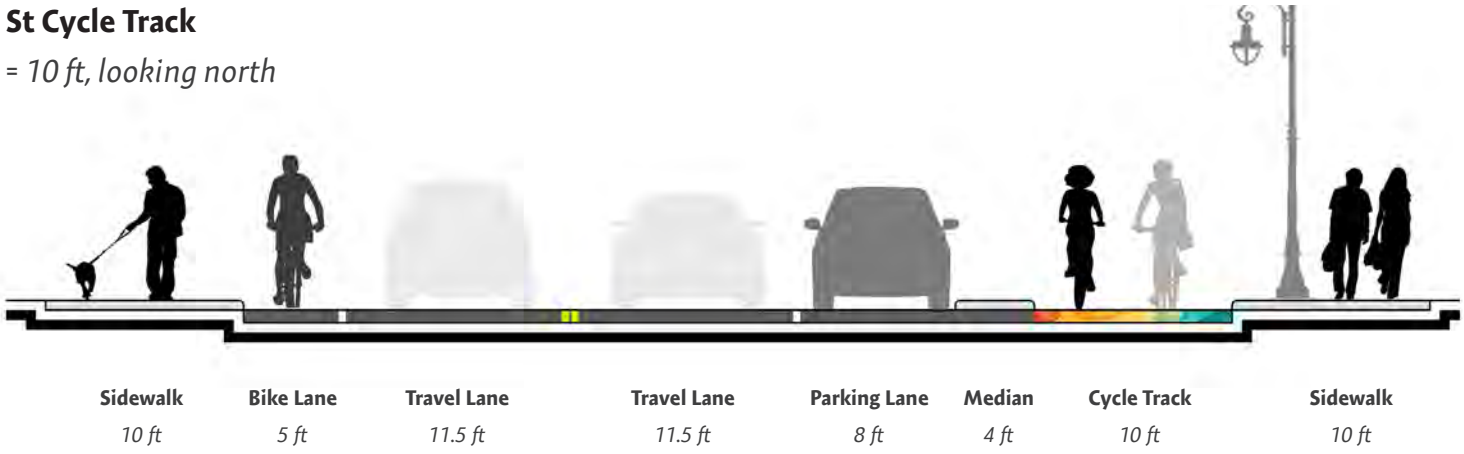
E. Market St Sidepath west of O.Henry Blvd bridge

Scale: 1 in = 10 ft, Looking west



S. Church St Cycle Track

Scale: 1 in = 10 ft, looking north



PHASE 2 - E. GATE CITY BLVD TO S. ENGLISH ST AT BARBER PARK

Implementation Phase 2 is the entire Park Character Zone along E. Florida St from E. Gate City Blvd to S. English St. As the second phase, this section is shorter and achievable with a more manageable budget (compared to Phase 3) and is also achievable with little to no right-of-way acquisition. With the existing curb line remaining in place along E. Florida St, creating the sidepath for the East Greensboro Greenway will be a straightforward construction project, further making this section desirable for Phase 2 implementation. Barber Park serves as a Major Trailhead on the southern end of the project alignment. Programming the design phase for this section into the City's Capital Improvement Plan (CIP) in the short term will help inform the property acquisition process and better position the phase for grant funding opportunities.

Project Snapshot

- **Location:** E. Florida St from E. Gate City Blvd to S. English St
- **Facility Type(s):** Sidepath
- **Total Length:** 0.54 miles
- **Structures:** None
- **Grade-Separated Crossings:** None
- **At-Grade Crossings:**
  - E. Florida St at S. English St/Barber Park Dr
  - E. Florida St at Barber Park Dr/Dans Rd
  - E. Florida St at Hayes-Taylor YMCA
  - E. Florida St at E. Gate City Blvd
- **Greenway Connections:**
  - E. Florida St bike lanes
  - E. Gate City Blvd sidewalks and bike lanes (future)
- **Destinations Served:**
  - Barber Park
  - Hayes-Taylor Memorial YMCA
  - Gateway Gardens
  - Gateway Research Park
- **Potential Real Estate Acquisition:**
  - Temporary easement and/or right-of-way along E. Florida St
- **Potential Permitting Needs:**
  - Erosion Control
  - Utility Relocation Agreements


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Preferred Route Alternative - Phase 2
E. Gate City Blvd to S. English St at Barber Park
Preferred Route Alternative - Phase 2
Preferred Route Alternative - Additional Phase
Potential Greenway Spur
Existing Greenway
Roadway
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
500
1,000 ft
LEGEND
Phase 3
E. Market St to E. Gate City Blvd
NC A&T UNIVERSITY FARM
ASTER DR
CYRIL LN
PEAR ST
Install high visibility crosswalk marking, curb radius reduction, R10-15 signage, and leading pedestrian interval at intersection
GATEWAY RESEARCH PARK
GATEWAY GARDENS
Opportunity to create trailhead with existing amenities (parking, restrooms, etc.) at Barber Park
BLUEBERRY LN
DANS RD
S. ENGLISH ST
ARDMORE DR
E. FLORIDA ST
E. GATE CITY BLVD
Install high visibility crosswalk markings
Install high visibility crosswalk markings
Widen existing sidewalk to 10 ft sidepath along E. Florida St and retain bicycle lanes and 3 ft planting strip
HAYES-TAYLOR MEMORIAL YMCA
BARBER PARK
LANSDOWN AVE
ALICE AVE
BARBER PARK DR
RANDALL ST
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
SOUTH BUFFALO CREEK

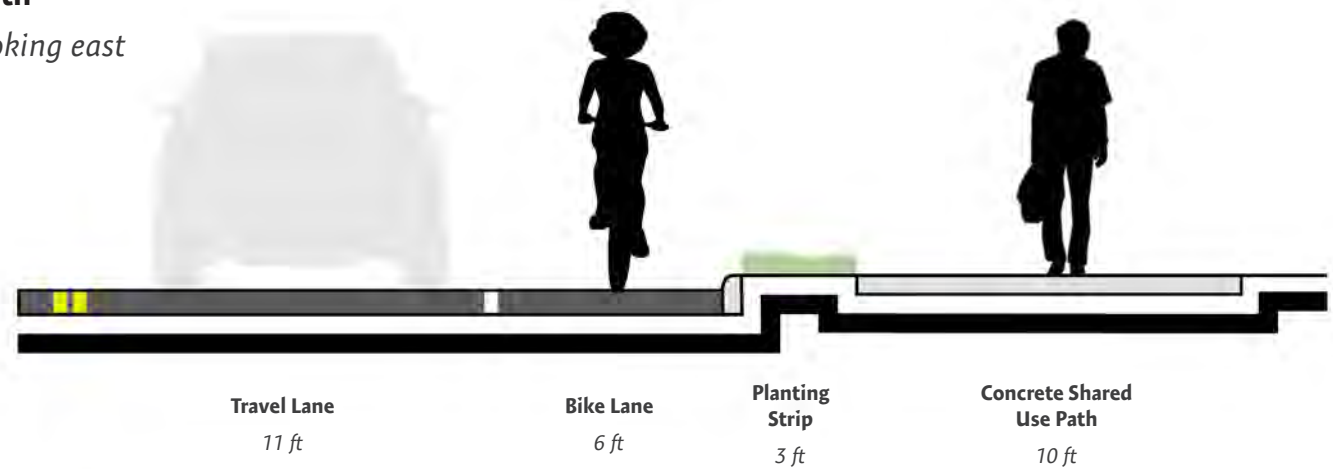
Estimated Project Costs

COST CATEGORY	COST ESTIMATE
2024 Baseline Construction Cost Estimate	$719,000
Design Services Cost Estimate	$108,000
Escalated Construction Cost Estimate (Build Year 2029)	$920,000
Construction Engineering + Inspection Services	$83,000
Additional Project Contingency (5%)	$46,000
Total Recommended Project Budget	**$1,157,000**

Primary Typical Section

E. Florida St Sidepath

Scale: 1 in = 5 ft, looking east



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PHASE 3 - E. GATE CITY BLVD TO E. MARKET ST

Implementation Phase 3 includes the sidepath along S. English St and the approximately one mile of off-street greenway trail between S. English St and E. Gate City Blvd. Challenges to accelerating implementation exist on S. English St as NCDOT STIP project P-5747 will create a grade separated crossing of S. English St, raising the street above the North Carolina Railroad Company rail corridor on a bridge and providing a safe rail crossing for the East Greensboro Greenway. The P-5747 project is currently scheduled to begin construction in Federal Fiscal Year 2026 if the project remains on the current schedule. The off-street greenway trail portion of phase 3 will require right-of-way and/or easement acquisition and additional permitting requirements which will take time to complete and contributes to this section being included in Phase 3 of implementation. Programming the design phase for this section into the City's CIP in the short term will help inform the property acquisition process and better position the phase for grant funding opportunities

Project Snapshot

- **Location:** E. Gate City Blvd to E. Market St
- **Facility Type(s):** Sidepath, Greenway
- **Total Length:** 1.66 miles
- **Structures:** Boardwalk (approximately 150 ft), pedestrian bridge (approximately 70 ft bridge east of the Hampton Elementary School site)
- **Grade-Separated Crossings:** North Carolina Railroad Company rail corridor (S. English St with future NCDOT STIP project)
- **At-Grade Crossings:**
  - McConnell Rd
  - Banner Ave
  - S. English St at Apache St
- **Greenway Connections:**
  - S. English St bike lanes
  - McConnell Rd bike lanes (future)
  - E. Gate City Blvd sidewalks (future)
- **Destinations Served:**
  - Bingham Park
  - Hampton Elementary School site
  - Gateway Research Park
  - Food Lion
  - Mustard Seed Community Health Clinic
- **Potential Real Estate Acquisition:**
  - Temporary easement and/or right-of-way along S. English St
  - Right-of-way or easement for off-street greenway between S. English St and E. Gate City Blvd
- **Potential Permitting Needs:**
  - Erosion Control
  - Floodplain Development Permit
  - Utility Relocation Agreements


EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Preferred Route Alternative - Phase 3
E. Gate City Blvd to E. Market St
Preferred Route Alternative - Phase 3
Preferred Route Alternative - Additional Phase
Potential Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.25
0.5 mile
LEGEND
Phase 1
J. Douglas Galyon Depot to S. English St
NCDOT STIP project P-5747 to construct S. English St grade separation at railroad
12 ft back of curb sidepath on west side of S. English St
Install rectangular rapid flashing beacon at S. English St midblock crossing
10 ft asphalt greenway alignment provides improved user experience
Boardwalk required for stormwater management
Planned redevelopment at former Hampton Elementary School site provides opportunities for trailhead construction
Bridge structure required for stream crossing
Install high-visibility crosswalk, curb extension, and signage at Banner Ave midblock crossing
Install rectangular rapid flashing beacon at McConnell Rd midblock crossing
Boardwalk likely required to address steep grades
10 ft asphalt greenway behind existing brick fence provides improved user experience and minimizes impacts to Gateway Research Park
Phase 2
E. Gate City Blvd to S. English St at Barber Park
MAPLEWOOD CEMETERY
BINGHAM PARK
JAMES B. DUDLEY HIGH
ACADEMY AT LINCOLN
BLUFORD ELEM.
GATEWAY GARDENS
GATEWAY RESEARCH PARK
NC A&T UNIVERSITY FARM
N. O.HENRY BLVD
S. O.HENRY BLVD
E. MARKET ST
HOLTS CHAPEL RD
S. ENGLISH ST
BINGHAM ST
APACHE ST
GILLESPIE ST
SPENCER ST
BANNER AVE
BEAUMONT AVE
BORDERS TERRACE
EVERITT ST
MOODY ST
McCONNELL RD
E. GATE CITY BLVD
ASTER DR
WILLOW RD
PEAR ST
TUSCALOOSA ST
E. FLORIDA ST
220
70
29

Estimated Project Costs

COST CATEGORY	COST ESTIMATE
2024 Baseline Construction Cost Estimate*	$2,422,000
Design Services Cost Estimate	$364,000
Escalated Construction Cost Estimate (Build Year 2029)	$3,100,000
Construction Engineering + Inspection Services	$279,000
Additional Project Contingency (5%)	$155,000
Total Recommended Project Budget	**$3,898,000**

The preferred route alternative for Phase 3 includes a section of spine trail between the former Hampton Elementary School site and McConnell Rd. Two alternatives for this segment were developed—an off-street greenway trail along a creek and a sidepath along Moody St, Everitt St, Banner Ave, and McConnell Rd. The off-street greenway alternative is preferred to provide a segment of a greenway in a natural setting, and has a lower cost estimate. In the event that private property or environmental constraints make the preferred spine alternative unfeasible, the sidepath alternative, which has a higher estimate, may be pursued instead.

Primary Typical Sections

Greenway

Scale: 1 in = 5 ft



Shoulder *2 ft* | **Asphalt Greenway** *10 ft* | **Shoulder** *2 ft*

Greenway Boardwalk

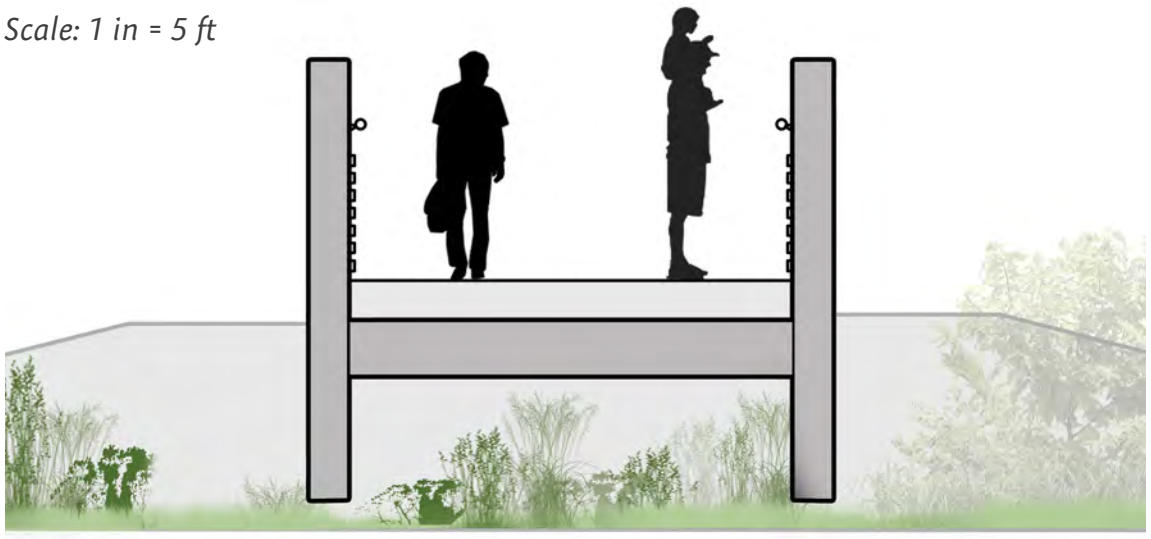
Scale: 1 in = 5 ft



Boardwalk *10 ft*

Greenway Bridge

Scale: 1 in = 5 ft



Greenway Bridge

10 ft

S. English St Sidepath

Scale: 1 in = 5 ft, looking north



Concrete Shared Use Path	Curb + Gutter	Bike Lane	Buffer	Travel Lane
12 ft	*1.5 ft*	*4 ft*	*2 ft*	*10 ft*

PHASE 4 - GREENWAY SPURS / CONNECTIONS

The feasibility study identified five greenway spurs that provide impactful connections to important educational, recreational, and cultural destinations in east Greensboro. Although the spurs are listed as the final phase, implementation of individual spurs may be accelerated if opportunities for resources or private development partnerships arise. The cross section for all spurs recommends a 10 ft sidepath with a planting strip which will vary based on the available right-of-way found on the streets that facilitate the spur connections.

Project Snapshot

- **Location:**
  - Bennett College Spur – E. Market St to Downtown Greenway
  - E. Washington St Spur – Bennett St/S. Dudley St to S. Benbow Rd
  - Windsor Chavis Nocho Community Complex Spur – E. Market St to James B. Dudley High School
  - Apache St Spur – S. English St to Apache Park
  - Visual and Performing Arts Elementary School Spur – S. English St to Randall St
- **Facility Type(s):** Sidepath
- **Total Length:** 2.44 miles
- **Structures:** None
- **Grade-Separated Crossings:** None
- **At-Grade Crossings:**
  - See Chapter 4: Intersection Crossing Treatments for full list
- **Greenway Connections:**
  - Downtown Greenway at Gorrell St and Murrow Blvd
- **Destinations Served:**
  - Historic Magnolia House
  - Bennett College
  - Washington Montessori Elementary School
  - Windsor Chavis Nocho Community Complex
  - Nocho Park
  - James B. Dudley High School
  - The Academy at Lincoln
  - Bluford Elementary School
  - Visual and Performing Arts Elementary (future)
- **Potential Real Estate Acquisition:**
  - Temporary easement and/or right-of-way
- **Potential Permitting Needs:**
  - Erosion Control
  - Utility Relocation Agreements


POTENTIAL GREENWAY SPURS
Bennett College Spur
E. Market St to Downtown Greenway
E. Washington St Spur
Bennett St/S. Dudley St to S. Benbow Rd
Windsor Chavis Nocho Community Complex Spur
E. Market St to James B. Dudley HS
Apache St Spur
S. English St to Apache Park
Visual and Performing Arts Elementary School Spur
Barber Park to Elementary School
EAST GREENSBORO GREENWAY
FEASIBILITY STUDY
Potential Greenway Spurs - Phase 4
Preferred Route Alternative
Potential Greenway Spur
Existing Greenway
Roadway
Railroad
College/University
School
Park/Open Space
Water
City of Greensboro
Guilford County
0
0.25
0.5 mile
LEGEND
DOWNTOWN GREENWAY
E. LINDSAY ST
NC A&T STATE UNIVERSITY
N. O.HENRY BLVD
MAPLEWOOD CEMETERY
FRIENDLY AVE
MURROW BLVD
N. DUDLEY ST
S. CHURCH ST
E. MARKET ST
S. ENGLISH ST
BINGHAM ST
APACHE ST
WASHINGTON ST
BENNETT COLLEGE
WASHINGTON MONTESSORI ELEM.
GILLESPIE ST
SPENCER ST
BINGHAM PARK
GORRELL ST
S BENBOW RD
BENNETT ST
EVERITT ST
MOODY ST
BORDERS TERRACE
BEAUMONT AVE
J. DOUGLAS GALYON DEPOT
HISTORIC MAGNOLIA HOUSE
WINDSOR CHAVIS NOCHO COMMUNITY COMPLEX
NOCHO PARK
McCONNELL RD
MLK JR. DR
JAMES B. DUDLEY HIGH
ACADEMY AT LINCOLN
BLUFORD ELEM.
S. O.HENRY BLVD
E. GATE CITY BLVD
ASTER DR
GATEWAY RESEARCH PARK
TUSCALOOSA ST
PEAR ST
S. ENGLISH ST
220
70
29
E. FLORIDA ST
BARBER PARK
NC A&T UNIVERSITY FARM
WILLOW RD
VISUAL AND PERFORMING ARTS ELEM.
(UNDER CONSTRUCTION)
SOUTH BUFFALO CREEK
40
85

Estimated Project Costs

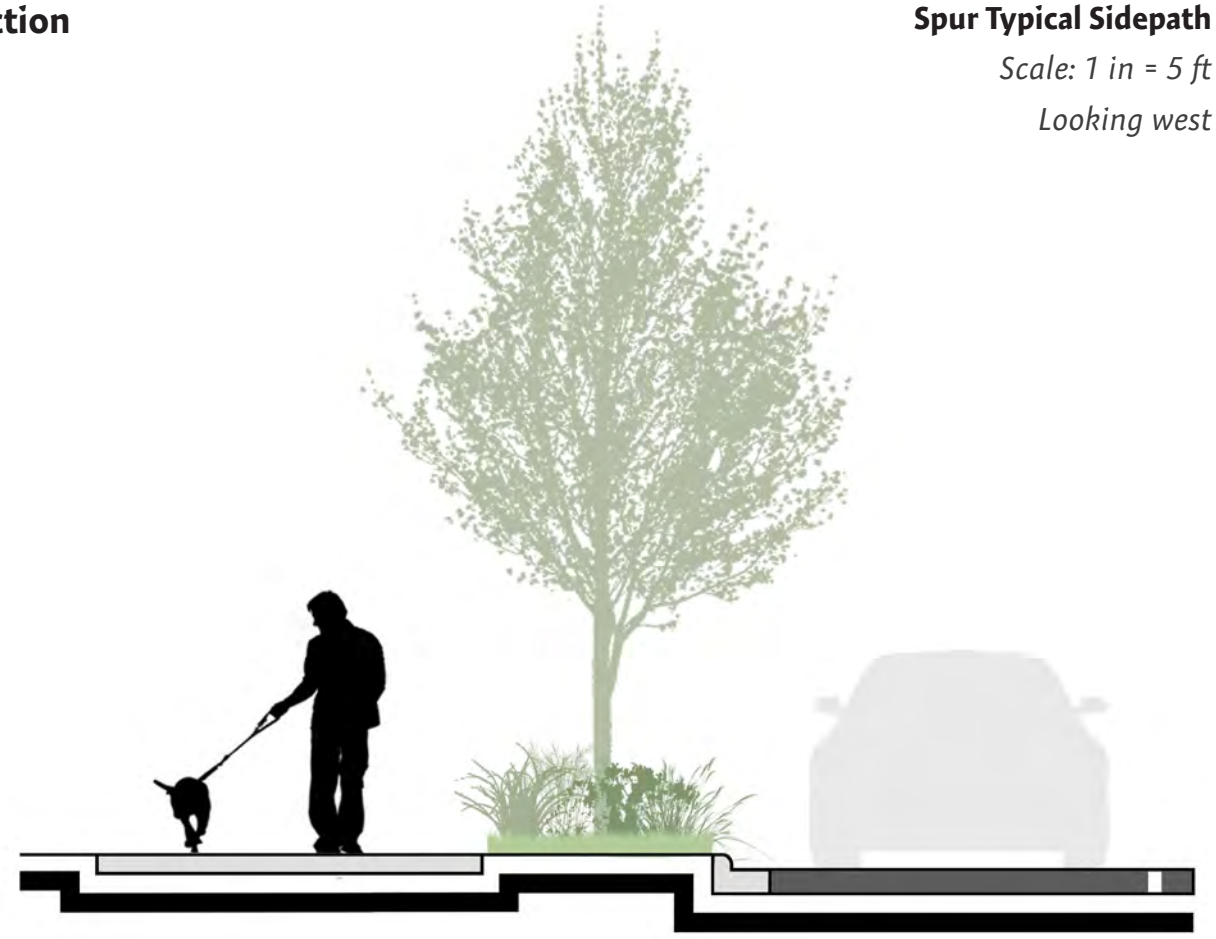
COST CATEGORY	COST ESTIMATE
2024 Baseline Construction Cost Estimate	$4,503,000
Design Services Cost Estimate	$676,000
Escalated Construction Cost Estimate (Build Year 2029)	$5,750,000
Construction Engineering + Inspection Services	$518,000
Additional Project Contingency (5%)	$288,000
Total Recommended Project Budget	**$7,232,000**

Primary Typical Section

Spur Typical Sidepath

Scale: 1 in = 5 ft

Looking west



PARTNER ROLES

Achieving success in the development of the East Greensboro Greenway depends on collaboration with community partners and stakeholders at the state, regional, and local levels. Successful implementation is contingent on maintaining and developing partnerships with all project stakeholders. Key partners and their respective roles in the implementation of the project are outlined in the following section.

Key partners:

- City of Greensboro
- Greensboro Urban Area Metropolitan Planning Organization (GUAMPO)
- Guilford County
- NCDOT Division 7 + IMD
- Economic development groups
- Nonprofits + community groups
- Private sector partners + local residents
  - Developers
  - Local Businesses
  - Landowners



City of Greensboro

Municipalities are responsible for the planning, review, and compliance of growth and development of private and public improvements within their boundaries. Municipal staff support and guide other agencies and organizations to carry out community development projects and programs. Municipal staff often play a large role on projects that they lead, such as through the act of primary coordinators for project development, community engagement, policy development, funding strategies, and maintenance. Greensboro Parks and Recreation Department and the Greensboro Department of Transportation have partnered to lead project development and construction of the East Greensboro Greenway, and the Greensboro Transit Agencyleads transit planning and implementation along roadways adjacent to the greenway.

The City of Greensboro plays an integral role in delivering the East Greensboro Greenway and should coordinate with stakeholders and partners to create a vibrant corridor that fosters a sense of place.

Anticipated Roles:

- City Council should review the *East Greensboro Greenway Feasibility Study*.
- The transportation and parks and recreation departments should involve with other departments as needed to assist in project development, construction, and maintenance.
- The City should coordinate with NCDOT and the GUAMPO on future STIP projects proposed along the project corridor to ensure elements of the greenway are included with roadway improvement projects.
- The City should conduct landowner outreach and coordinate with developers and landowners along the project corridor.

GUAMPO

GUAMPO often acts as a facilitator to develop plans and projects in conjunction with NCDOT. GUAMPO also ranks and prioritizes projects submitted to the Strategic Transportation Prioritization (SPOT), which is the methodology NCDOT uses to develop the State Transportation Improvement Program (STIP). GUAMPO's key role in the implementation of the East Greensboro Greenway in coordinating funding opportunities between the City, Guilford County, and NCDOT and is a key partner throughout the development and implementation of the East Greensboro Greenway. By adopting the feasibility study and amending the CTP, MTP, and BiPed Plan, the MPO expresses their commitment to expanding active transportation infrastructure within the region.

Anticipated Roles:

- GUAMPO should include the East Greensboro Greenway in the CTP, BiPed Plan, and 2050 MTP—either in the recommendations for projects or in the unfunded recommendations appendix.
- GUAMPO should work with the City and NCDOT to refine implementation phasing and identify funding opportunities as they arise.
- GUAMPO should work with the City and NCDOT to submit the East Greensboro Greenway as an NCDOT SPOT project.

Guilford County

Guilford County is responsible for land use and land development ordinances in its boundaries. The County will be responsible for supporting the City of Greensboro's efforts to incorporate the East Greensboro Greenway into the regional trail network and leveraging the economic development opportunities presented by the greenway's implementation to further county-wide objectives.

Anticipated Roles:

- Coordination on wayfinding and signage for appropriate consistency with the regional trail network.

NCDOT

NCDOT allocates federal and state funding and establishes policies for transportation improvements in communities across North Carolina. Every two years, NCDOT develops the State Transportation Improvement Program (STIP), which identifies projects that will receive funding during a 10-year period. NCDOT policies, such as Complete Streets provide guidance and oversight for permitting and implementing active transportation projects. The Complete Streets Policy (adopted in 2009, updated in 2019) requires NCDOT to consider and incorporate multimodal facilities in the design and improvement of the state's transportation projects. According to the Complete Streets Policy, if an active transportation facility is included in an adopted local plan, the municipalities will not be held responsible for the cost. As the lead state agency allocating funding, guiding implementation of the Complete Streets Policy, and approving activities along NCDOT-maintained roadway corridors, NCDOT plays a critical role in the implementation of the East Greensboro Greenway.

There are two STIP projects that affect the East Greensboro Greenway corridor (HL-0046 and P-5747), and one unfunded access management project that intersects with the greenway (U-6100). Coordination between partners and property owners along the corridor will also be crucial in securing land for the project. Facility improvements along NCDOT-maintained roadways (E. Gate City Blvd, and O. Henry Blvd) would require review and approval by NCDOT Division 7 prior to implementation. IMD will also play a large role in the process as it works with other business units of the NCDOT as well as local municipalities to develop and design active transportation projects.

Anticipated Roles:

- NCDOT Division 7 should provide guidance on the design of the East Greensboro Greenway and approve facility improvements where the Greenway crosses O. Henry Blvd and East Gate City Blvd.
- NCDOT Division 7 should include a greenway facility in the design and construction of STIP Project P-5747
- NCDOT should support the City of Greensboro and the GUAMPO on determining project phases for implementation.
- NCDOT IMD and Division 7 should provide technical assistance to on Complete Streets Policy, and priortization process, STIP projects, and other state funding opportunities.

Economic Development Agencies

Economic development agencies and community groups promote tourism and convention business, support small businesses and entrepreneurs, and further community development goals. The following key economic development agencies may be associated with the East Greensboro Greenway:

Greensboro Convention and Visitors Bureau (Tourism Development Authority)

The Greensboro area's tourism development authority (TDA) promotes tourism and convention business within Guilford County for economic betterment. The authority is funded by the net proceeds of the Room Occupancy and Tourism development tax. The TDA's purpose is to further the development of travel, tourism, meetings and events in the county through marketing, advertising, sales and promotion.

Downtown Greensboro, Inc.

Downtown Greensboro Incorporated (DGI) is an economic development organization focused on stimulating investment and activity in the center city. DGI manages the Municipal Service District for downtown and is funded by a special assessment tax levied on downtown businesses and property owners.

East Greensboro Now

East Greensboro Now works toward the revitalization of east Greensboro. Committed to minority entrepreneurial development, community development, and economic development, the organization has seen significant development in east Greensboro totaling over $750 million in a variety of ventures.

Greensboro Chamber of Commerce

The Greensboro Chamber of Commerce represents the business community within Greenboro, helping to attract and retain businesses, support local entrepreneurs, and advance initiatives that improve Greensboro. The organization builds relationships between businesses, educational institutions, and civic leaders through business development programs, networking events, and mentorship programs to support a strong local economy. The Chamber of Commerce includes Action Greensboro, a program that specifically focuses on public-private partnerships such as the Downtown Greenway.

Action Greensboro

Action Greensboro, a program of the Greensboro Chamber of Commerce, acts as a catalyst for public-private partnerships that advance the city and the way it serves residents. The organization builds relationships between sectors to grow and meet economic and business demands. Action Greensboro was one of the primary partners involved in the development of the Downtown Greenway.

Anticipated Roles:

- The TDA should partner with municipal staff to explore economic development opportunities along the corridor and understand the economic impact of constructing the East Greensboro Greenway.
- If the City, County, or GUAMPO pursues competitive funding for the East Greensboro Greenway, the TDA, DGI, East Greensboro Now, Greensboro Chamber of Commerce, and Action Greensboro could contribute letters of support for the grant application.

Non-Profits + Community Groups

In general, non-profits may participate as partners in active transportation projects, while others may act as advocates for policies and funding that support the facilities they endorse. Non-profits can provide technical assistance for things like branding and wayfinding. The following key nonprofit and community group partners which may be associated with the East Greensboro Greenway are described below:

NC A&T State University

The East Greensboro Greenway spine will directly serve NC A&T's main campus and Gateway Research Park. NC A&T advertises the Downtown Greenway on its website, encouraging faculty, staff, and students to utilize the nearby facility. As a major employment and activity center within the City, NC A&T plays a role in facilitating active transportation for its students, faculty, and staff.

Bennett College

A spur of the East Greensboro Greenway will directly serve the Bennett College campus, and the Downtown Greenway connects nearby at Gorrell St. Bennett College plays a role in facilitating active transportation for its students, faculty, and staff.

Bicycling in Greensboro (BIG)

BIG is an organization that aims to transform Greensboro into a more bicycle-friendly community. The group educates the public, hosts safety events, and works with other organizations to promote things such as Open Streets events, the Ride of Silence, and bikeshare programs. BIG may play a role in supporting additional planning, design, and community engagement for the East Greensboro Greenway and in activating it once constructed.

BikeWalk NC

BikeWalk NC is a statewide, member-based nonprofit whose mission is to lead, support, and inspire advocacy and educational efforts throughout North Carolina for an environment that fairly, safely, and equitably serves bicyclists, pedestrians, and others using active mobility and human-powered transportation. This organization has a long history of advocacy and work surrounding public policy, hosts an annual summit, and leads safety and educational events.

Piedmont Legacy Trails

Piedmont Legacy Trails is a trails collective whose primary goal is to highlight natural places, connect trail efforts, and give voice to regional trail interests for the benefit of communities. The organization covers 12 counties in the Piedmont Triad area and was established by the Piedmont Land Conservancy and the Piedmont Triad Regional Council to brand the Triad as a trails destination. Piedmont Legacy Trails plays a role in advocating for the East Greensboro Greenway and working with community partners to support its implementation and use.

Preservation Greensboro

Since 1966 Preservation Greensboro has served to preserve historic sites, neighborhoods, and streetscapes that provide the Gate City with a unique sense of history and place. The organization provides resources to enhance the city's distinctive sense of heritage and helps the city maintain a tradition of adaptive reuse, renovation, and recycling. Portions of the route pass existing historic resources.

Greensboro Beautiful

Greensboro Beautiful is a nonprofit that seeks to conserve and enhance the beauty and ecology of the Greensboro community. The organization plants trees, leads litter cleanups, and assists with garden enhancements. Greensboro Beautiful also develops events in Greensboro's public gardens to educate residents and showcase the richness of talent within the community. Greensboro Beautiful and similar organizations may play a role in assisting with beautification of the East Greensboro Greenway.

Great Trails State Coalition (GTSC)

The GTSC is a broad-based group of diverse organizations, agencies, and supporters advocating for increased state investment in all types of trails. The GTSC's goal is to make trails accessible to all 100 counties in North Carolina. Formed in 2020, the GTSC lobbied the legislature to designate 2023 the Year of the Trail successfully and more recently, successfully lobbied for the initiation of the Great Trails State Program, a competitive funding program for planning and construction of trails in NC.

Anticipated Roles:

- The nonprofit and community group partners should coordinate with municipal, county, and regional government staff to support inter-agency coordination and assist in project development and public engagement.
- The nonprofit and community group partners should work with the City of Greensboro to incorporate wayfinding along the project corridor.
- If the City, County, or GUAMPO pursues competitive funding for the East Greensboro Greenway, NC A&T, Bennett College, BikeWalkNC, BIG, Piedmont Legacy Trails, Preservation Greensboro, Greensboro Beautiful, and GTSC could contribute letters of support for the grant application.

Private Sector Partners + Local Residents

Greenway champions from the public and private sector can be integral in maintaining momentum for a greenway projects. The Downtown Greenway organization was the champion that pushed that project forward, and opportunities to develop a similar coalition for the East Greensboro Greenway should be explored. Private sector partners and local residents can assist with community outreach, ROW acquisition, and cultivating public support for the project. Partnerships between the public sector, local businesses, and philanthropic organizations can also provide much needed funding for design and construction activities which can be leveraged as match funding for state and Federal grant programs.

Developers

The City may ask developers to construct planned sidepaths and greenways as a requirement to develop property bordering the East Greensboro Greenway. The alignment for the East Greensboro Greenway transects a mixture of land uses and zoning types, including Residential Multi Family, Residential Single Family, Planned Unit Development, Public and Institutional, Heavy and Light Industrial, and Office. If zoning along the corridor changes in the future, the City should coordinate to ensure that developers include active transportation facilities in future developments that provide connection to the East Greensboro Greenway.

Anticipated Roles:

- Developers should be prepared to include active transportation facilities in future developments along the project corridor, including the construction or dedication of easements for segments of the East Greensboro Greenway that pass through or along their property.

Local Residents + Businesses

Local businesses adjacent to the East Greensboro Greenway may serve as key destinations and potential generators of bicycle and pedestrian travel along the corridor. As a result, they may have the resource capacity to advance phases of the project and make the case for increased investment in active transportation infrastructure within the region.

Anticipated Roles:

- Landowners and businesses should support regional agencies and municipalities in developing public/private partnerships to fund the design and construction of the project.
- Landowners and businesses should support marketing efforts and participate in future fundraising campaigns for the project.
- Landowners and businesses should participate in future landowner outreach to streamline coordination between project stakeholders as development opportunities arise along the corridor.

FUNDING RESOURCES

The Bipartisan Infrastructure Law (BIL) authorized $1.2 trillion for transportation and infrastructure spending, with $550 billion of that figure going toward new investments and programs, while the Inflation Reduction Act (IRA) provides $700 billion in incentives, grants, and loans to support new infrastructure investments in the areas of clean energy, transportation, and the environment. These historic investments in infrastructure provide new and expanded opportunities for the planning, design, and construction of the East Greensboro Greenway. There are several Federal, state, and private funding programs that have been instrumental in the successful development of bicycle and pedestrian networks in North Carolina communities and can be leveraged to provide the necessary funding to plan, design, and construct the East Greensboro Greenway.

Federal Funding Opportunities

The Federal government provides significant funding for active transportation which it distributes through state DOTs, Metropolitan Planning Organizations (MPOs) and directly to eligible recipients through discretionary grant programs. Federal funding opportunities that the City of Greensboro can pursue for the planning, design, and construction of the East Greensboro Greenway Transportation Alternatives (TA), Surface Transportation Block Grant-Direct Attributable (STBG-DA), Congestion Mitigation & Air Quality (CMAQ), Rebuilding American Infrastructure with Sustainability and Equity (RAISE), Reconnecting Communities and Neighborhoods (RCN), Recreational Trails Program (RTP), Highway Safety Improvement Program (HSIP), Carbon Reduction Program, and the Active Transportation Infrastructure Investment Program (ATIIP). The City of Greensboro applied for ATIIP funding to complete 100 percent design and environmental review in July 2024.

Federal Funding Priorities

To compete for discretionary grant programs, it is important to align with the priorities and goals of the awarding agency. This project involves various elements that enhance its competitiveness for discretionary funding and align with the merit and evaluation criteria for funding programs outlined in this memorandum.

Equity

USDOT discretionary grant programs under the current administration aim to reduce transportation-related disparities and adverse community and health impacts The Justice40 initiative embodies this commitment to equity. Justice40 mandates that 40% of the overall benefits of certain Federal investments, including clean transportation, flow to disadvantaged communities that are marginalized, underserved, or overburdened by pollution. Several funding programs have less stringent or no match requirements for projects located in disadvantaged communities. East Greensboro Greenway aligns with this priority by serving a census tracts in Guilford County that are identified as disadvantaged by the Climate and Economic Justice Screening Tool (CEJST).

Safety

One of USDOT's strategic goals for FY 22 to FY 26 is to make the transportation system safer for all people and advance a future without transportation-related serious injuries and fatalities. The National Roadway Safety Strategy (NRSS) outlines a comprehensive approach that communities can take to significantly reduce injuries and deaths on roadways, using a Safe System Approach that supports safer roads, safer speeds, safer people, safer vehicles, and post-crash care. This project could align with this priority if the proposed project bundled together with safety improvements along the preferred East Greensboro Greenway alignment. Improving multimodal access to Barber Park, NC A&T, and the Downtown Greenway would address safety concerns within downtown Greensboro.

Sustainability and Resiliency

Climate change presents a significant and growing risk to transportation infrastructure. USDOT is working to tackle the climate crisis by ensuring that transportation plays a significant role in the solution. This includes substantially reducing greenhouse gas emissions and transportation-related pollution and building more resilient and sustainable transportation systems to benefit and protect communities from the impacts of climate change. The East Greensboro Greenway project aligns with this priority by reducing greenhouse gas emissions through increased bicycle and pedestrian travel and providing opportunities to improve stormwater management through the design process within the existing floodways.

Economic Competitiveness and Opportunity

This priority aims to grow an inclusive and sustainable economy, invest in the transportation system to provide American workers and businesses reliable and efficient access to resources, markets, and good-paying jobs. Several Federal discretionary grant programs aim to promote greater public and private investments in land-use productivity, including rural main street revitalization or locally driven density decisions that support equitable commercial and mixed-income residential development. The project aligns with this priority by connecting the disadvantaged populations in food deserts to downtown Greensboro, including residential areas and commercial centers, with connections to the planned Windsor-Chavis-Nocho Community Complex, L. Richardson Memorial Hospital, Hayes-Taylor YMCA, Bingham Park, and two HBCUs.

Mobility and Accessibility

This priority aims to improve mobility and community connectivity and address gaps in the existing network, remove physical barriers for individuals by reconnecting communities to direct, affordable transportation options; and include transportation features that increase accessibility for non-motorized travelers. Projects that improve mobility are viewed favorably for several transportation grant programs. The East Greensboro Greenway aligns with this priority by improving bicycle and pedestrian connectivity to the downtown multimodal center, J. Douglas Galyon Depot, and enhancing connections to recreational opportunities.

Innovation and Transformation

USDOT is investing in purpose-driven research and innovation to meet the challenges of the present and modernize a transportation system of the future that serves everyone today and in the decades to come. There are opportunities to incorporate innovative stormwater infrastructure such as green stormwater infrastructure and to use innovative construction methods such as top-down construction in environmentally sensitive areas.

State Funding Opportunities

There are several state programs to support the development and construction of park facilities and greenways. NCDOT and the North Carolina Department of Natural and Cultural Resources (NCDNCR) North Carolina Division of Parks and Recreation are the primary state agencies that fund planning, infrastructure, and programs for parks and greenways. The North Carolina Department of Health and Human Services (DHHS), North Carolina Department of Environmental Quality (NCDEQ), North Carolina Department of Commerce (NCDOC), and the North Carolina Department of Agriculture administer discretionary grant programs focusing on public health and community development, when funding is available.

State funding opportunities that East Greensboro Greenway can pursue to improve the park and construct new trails and pedestrian connections construct the trail include the Great Trails State Program Fund, Parks and Recreation Trust Fund (PARTF), North Carolina Land and Water Fund, and the Accessible Parks program.

Local Funding Opportunities

While Federal and state funding can support the costs for parks and trails planning and construction activities, local funding is often ideal for supporting the delivery of specific components of projects or as a match for Federal and state funding programs. Municipalities often plan for funding of bicycle and pedestrian facilities through their Capital Improvement Program (CIP). Local funding is often necessary to supplement Federal and state funding.

There are a few local funding opportunities that the East Greensboro Greenway can pursue, including developer- or in-lieu fees, Capital Improvement Program (CIP) funds, developer agreements, impact fees, zoning requirements, bonds, and private grants for the City of Greensboro and Guilford County. Developing Public/Private Partnerships with employers and other private entities or establishing a corporate sponsorship program could also help advance the project.

POWER OF PARTNERSHIPS

One critical step in obtaining funding for the East Greensboro Greenway is building consensus and developing partnerships. Strong partnerships and broad support are a cornerstone of successful grant applications and are often invaluable to project teams for the provision of data and information that supports grant applications, sources of match funding, demonstration of broad-based community support to agencies awarding funding, and the provision of technical assistance during project development. Potential partners and supporters for the East Greensboro Greenway may include, but are not limited to:

- State agencies including NCDOT, NC Department of Natural and Cultural Resources, NC Department of Commerce, NC Wildlife Resources Commission, NC Department of Environmental Quality, and NC Department of Health and Human Services
- Greensboro Urban Area Metropolitan Planning Organization (GUAMPO)
- Piedmont Triad Regional Council
- Guilford County
- Greensboro Chamber of Commerce
- VisitGreensboro (i.e. Greensboro Area Convention and Visitors Bureau)
- Greensboro Beautiful
- East Greensboro Now
- Bicycling in Greensboro (BIG)
- Downtown Greensboro, Inc.
- Preservation Greensboro
- Collaborative Cottage Grove
- Neighborhood associations
- Mustard Seed Community Health
- Cone Health
- Piedmont Legacy Trails
- Great Trails State Coalition
- BikeWalk NC
- Bennett College
- NC A&T University
- Developers for new developments along the corridor

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

ACTION PLAN

The following table provides a summary of action steps to implement the East Greensboro Greenway over an 8-year planning horizon. The previously mentioned partners may act as the responsible parties for various actions associated with the greenway development. Action steps are grouped into three categories: Policy and Planning, Project Development and Funding, and Community Engagement and Maintenance.

Policy and Planning

TASK #	ACTION	LEAD	PARTNERS	TIMEFRAME
1	Adopt the *East Greensboro Greenway Feasibility Study*. This action allows the study to become the official planning document for the greenway and demonstrates local intention to support project implementation.	GUAMPO	City of Greensboro	Short-Term
2	Amend the *City of Greensboro Parks and Recreation Master Plan* as needed to reflect the adopted East Greensboro Greenway alignment.	City of Greensboro		Short-Term
3	Amend the GUAMPO *Metropolitan Transportation Plan (MTP)* and *Comprehensive Transportation Plan (CTP)* to include the East Greensboro Greenway as a candidate bicycle/pedestrian project.	GUAMPO	City of Greensboro, NCDOT	Short-Term
4	Include the East Greensboro Greenway alignment in the *Guilford County Parks and Recreation Master Plan Update*.	Guilford County Parks and Recreation	City of Greensboro	Short-Term

Project Development and Funding

TASK #	ACTION	LEAD	PARTNERS	TIMEFRAME
5	Coordinate with NCDOT and GUAMPO on prioritizing the project corridor to submit through NCDOT SPOT 8.0. Consider bundling with other projects for competitive scoring purposes.	City of Greensboro, NCDOT	GUAMPO	Short-Term
6	Coordinate with NCDOT Division 7 on active STIP projects along the project corridor to ensure that the greenway is incorporated (P-5747, HL-0056).	NCDOT	City of Greensboro	Short/Medium-Term
7	Remain engaged with NCDOT IMD for funding opportunities and submit applications for funding through federal, state, and other grant programs as appropriate.	City of Greensboro	Nonprofit organizations, GUAMPO, GTSC, NCDOT	Short-Term/ Perpetual
8	Program the design of the East Greensboro Greenway phase 1 into the City's CIP.	City of Greensboro		Medium-Term
9	Complete 100% design and construction documents. Design plans should be guided by the recommendations developed through this study.	City of Greensboro	NCDOT, East Greensboro Greenway Steering Committee	Medium/Long-Term
10	Construct the East Greensboro Greenway.	City of Greensboro		Medium/Long-Term

Community Engagement and Maintenance

TASK #	ACTION	LEAD	PARTNERS	TIMEFRAME
11	Develop a community engagement plan to guide the project development of the East Greensboro Greenway project.	City of Greensboro	GUAMPO, NCDOT	Short/Medium-Term
12	Continue to convene the Steering Committee to provide guidance and support community outreach throughout design and construction.	City of Greensboro	Steering Committee	Short/Medium/ Long-Term
13	Partner with community groups to build supprt for the East Greensboro Greenway.	City of Greensboro	Community Groups	Medium-Term/ Perpetual
14	Develop a landowner outreach program to coordinate with developers and landowners as development opportunities arise along the project corridor. The program should include strategies to work towards acquiring easements from willing landowners and working with developers to coordinate access across the trail and/or build planned segments that may be constructed outside of public right of way.	City of Greensboro		Short/Medium-Term
15	Engage with NC A&T on a corridor landscaping strategy along E. Market St that aligns the goals of NC A&T and the East Greensboro Greenway.	City of Greensboro	NC A&T, GTA, NC A&T Real Estate Foundation	Medium-Term
16	Perform additional outreach and engagement activities for project elements such as public art, wayfinding, interpretive signage and branding in accordance with the community engaement plan.	City of Greensboro	NC A&T, Bennett College, Preservation Greensboro, Greensboro Beautiful, other partners as applicable.	Medium-Term
17	Develop a maintenance plan for the project.	City of Greensboro		Long-Term

SAFETY

While it is important for a greenway or trail to be connected, functional, and scenic, it must be safe above all else to attract and retain users and serve its intended purpose. Personal safety, both real and perceived, heavily influences a greenway user's decision to use a facility and a community's decision to embrace a greenway. Design that encourages safety must address both perceived safety issues (i.e. feeling safe or fear of crime) and actual safety threats (i.e. infrastructure failure and criminal acts). Greenway safety can be achieved through a variety of strategies including design, equity, maintenance, enforcement, and activation.

DESIGN

Safety is a key factor influencing greenway design, with numerous design strategies available to create a facility that looks and feels both comfortable and safe. Crime Prevention Through Environmental Design (CPTED) is a multidisciplinary approach to design of public space that incorporates numerous strategies to discourage crime. Some considerations include maximizing visibility while on the trail and minimizing hidden areas, including lighting at parking areas and trailheads, maintaining a clear zone of at least 10 feet between the greenway and wooded areas, establishing a clear separation between private property and the greenway, and placing clearly marked informational and directional signage along the greenway. It is also important that access points along the trail have clear emergency exit routes and contact information.

EQUITY

Applying an equity lens to the design of greenways acknowledges the different ways people experience public space and the potential for discrimination based on many factors, including but not limited to age, race, gender, physical ability, and socioeconomic status. Intentional public engagement with disadvantaged populations can inform the design, operations, and programming of a greenway to ensure everyone feels safe and welcome, cultivating a sense of collective ownership over the space and increasing its use.

MAINTENANCE

Physical obstructions to the greenway, including cracked or heaved pavement, tree root damage, overgrowth, and debris accumulation, can pose safety hazards for greenway users and impair accessibility. Establishing regular and effective maintenance practices to keep the greenway clear and accessible helps prevent slips and falls for trail users. Additional guidance on maintenance is included in this chapter.

ENFORCEMENT

The presence of law enforcement can be a deterrent to crime on greenways and trails and can help some greenway users feel safe while on the trail. Local law enforcement and emergency personnel should be prepared, trained, and able to access the greenway to respond in the event of an emergency, and should be included in the greenway design process. The trail and its access points should be designed to accommodate emergency response vehicles from the Greensboro Police Department and other agencies. Emergency call boxes, cameras, and lighting can be installed to improve user safety on the trail and at trailheads. Specialized vehicles, equipment, and training can be provided to ensure enforcement agencies are well-prepared to respond and have a plan for regular patrols on the greenway.



Including lighting at key places on the greenway, including trailheads, parking areas, and underpasses, can improve visibility and safety. *Walnut Creek Greenway - Raleigh, NC*

MAINTENANCE RECOMMENDATIONS

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

Key considerations for a greenway maintenance plan include:

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

Budgeting for Routine Maintenance of Trails

Some of the factors which managers should consider in budgeting for future trail maintenance could include:

- Trail environment and costs of labor and materials
- Trail surface material
- Number of visitors
- Number and type of amenities like bathrooms, trash cans, lawns, or special plantings
- Number and length of structures such as bridges or boardwalks
- Frequency of flooding events
- Capacity of community members and volunteer groups to help perform maintenance tasks

According to a 2022 study by the Rails to Trails Conservancy (RTC), the maintenance costs of multi-use trails has not been well documented. Annual per mile maintenance costs for urban and suburban areas vary from lower amounts for a trail with low amenities and volunteer maintenance support to higher amounts for a trail with a large number of visitors, restrooms, and dedicated staff and maintenance support.



Landscaping and brush removal should be performed regularly to maintain a safe and well-kept greenway. *Cary, NC*



Temporary closures may be required during some maintenance activities such as resurfacing. *American Tobacco Trail - Durham, NC*

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

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





APPENDICES

- A: Funding Resources
- B: Design Resources
- C: Detailed Cost Information
- D: Additional Community Engagement Information
- E: 8.0 SPOT Scoring Component Resources

APPENDIX A: FUNDING RESOURCES

OVERVIEW

The Bipartisan Infrastructure Law (BIL) authorized $1.2 trillion for transportation and infrastructure spending, with $550 billion of that figure going toward new investments and programs. Additionally, the Inflation Reduction Act (IRA) provides $700 billion in incentives, grants, and loans to support new infrastructure investments in the areas of clean energy, transportation, and the environment. The following Federal, state, local and private funding programs have been instrumental in the successful development of active transportation and parks projects in North Carolina communities. This section includes information on funding programs known at the time of publication; funding amounts, cycles, and programs may change over time. All discretionary grant programs are reimbursement-based unless otherwise stated.

FEDERAL FUNDING OPPORTUNITIES

North Carolina communities have partnered with Federal agencies to obtain funding for the design and construction of multi-use paths, greenways, sidewalks, bike lanes, and improved crossings. The Federal government provides significant funding for active transportation which it distributes through Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs) as well as through discretionary grant programs. The City of Greensboro falls within the Greensboro Urban Area Metropolitan Planning Organization (GUAMPO) boundaries.

The BIL authorizes transportation funding for highway, transit, rail, bicycle and pedestrian, and safety programs and infrastructure through fiscal year (FY) 2026. Federal Highways Administration (FHWA) administers BIL funding for surface transportation projects, which it distributes to the North Carolina Department of Transportation (NCDOT) and directly to Local Government Agencies (LGAs) through the Locally Administered Projects Program (LAPP). Communities wishing to access Federal funding must submit their candidate projects to their MPO or RPO, who then enter them into the NCDOT's Strategic Transportation Investment (STI) Mobility Formula. This formula ranks projects and identifies those for funding in the State Transportation Improvement Program (STIP). These funds require a 20% match from the LGA. Federal transportation funds for bicycle and pedestrian projects are primary distributed through four programs: Transportation Alternatives (TA), Surface Transportation Block Grant (STBG) Direct Attributable (DA), Congestion Mitigation & Air Quality (CMAQ), Recreational Trails Program, (RTP), and Highway Safety Improvement Program (HSIP).

STATE + REGIONALLY ADMINISTERED FEDERAL FUNDING

Transportation funding, apportioned by Congress, using enabling legislation such as the former FAST Act and current BIL, goes from USDOT and its departments to State DOTs and both rural and metropolitan planning organizations. Federal funding often follows a

formula, which provides USDOT with a blueprint for distribution of funding amongst the states. States and RPOs/MPOs must distribute allocated funds.

Transportation Alternatives (TA)

Transportation Alternatives (TA) provides Federal funds for community-based projects that expand travel choices and enhance the transportation experience by integrating modes and improving the cultural, historic, and environmental aspects of our transportation infrastructure. In North Carolina, NCDOT administers TA funds and allocates funding to Program-eligible projects through STI. NCDOT developed a bicycle and pedestrian scoping guidance document for local governments that have received TA funding. The Bike/Ped Project Scoping Guidance for Local Governments (link below) provides an overview of the four scoping tools used for locally managed, Federally-funded projects in North Carolina. The document provides guidance on the project delivery process, scoping, identifying project risks, and project cost estimation. The project team recommends submitting the East Greensboro Greenway in SPOT 8.0.

- **Total Funding:** $7.2 billion (FY22-26)
- **Application Deadline/Cycle:** Varies based on MPO/RPO administering funding
- **Project Awards:** minimum $100,000
- **Match Requirements:** 20%
- **Eligible Applicants:** MPOs, RPOs, local governments, nonprofits, tribal governments, regional transportation authorities, transit agencies
- **Eligible Projects:** Construction/planning/design of on-road or off-road trails for bicyclists and pedestrians; infrastructure projects for improving non-driver access to public transportation and enhanced mobility; community improvement activities; refurbishment of historic transportation facilities such as the conversion and use of abandoned railroad corridors for trails; recreational trails program; environmental mitigation; streetscape improvements; safe routes to school projects.

https://www.fhwa.dot.gov/environment/transportation_alternatives/

https://connect.ncdot.gov/projects/BikePed/Documents/BikePed%20Project%20Scoping%20Guidance%20for%20Local%20Governments.pdf

Surface Transportation Block Grant (STBG)

The Surface Transportation Block Grant program (STBG) provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road,

pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. STBG-Direct Attributable (DA) funding is one of the most flexible funding sources for highway programs and provides immense financial support to local agencies.

- **Total Funding:** $30 million (FY24)
- **Application Deadline/Cycle:** February - Biennial
- **Project Awards:** minimum $100,000
- **Match Requirements:** 20% non-Federal
- **Eligible Applicants:** MPOs, RPOs, local governments, nonprofits, tribal governments, regional transportation authorities, transit agencies
- **Eligible Projects:** Maintenance/restoration of existing recreational trails; Planning/construction of projects that facilitate intermodal connections; Protective features to enhance transportation facility resiliency; Projects that enhance travel and tourism; Bicycle and pedestrian projects.

As a Transportation Management Area (TMA), GUAMPO has the authority to program available STBG-DA funding for transportation planning, bicycle, greenway, sidewalk, street and highway, transit, and other projects. STBG-DA funding could support construction of the East Greensboro Greenway.

https://www.fhwa.dot.gov/bipartisan-infrastructure-law/stbg.cfm

Congestion Mitigation & Air Quality (CMAQ)

CMAQ is a federal program that funds transportation projects and programs in air quality nonattainment and maintenance areas to help achieve and maintain national standards for air quality. In North Carolina, NCDOT serves as the administrator for this program. Population in non-attainment areas and maintenance areas of the state along with severity of air quality problems determine funding apportionment in North Carolina. North Carolina's allocation of CMAQ funding is split in three pots available for funding, as follows:

- NCDOT administers Statewide CMAQ funds, which support NCDOT-driven, CMAQ eligible projects either on a statewide tier facility or involving a system wide improvement within nonattainment and maintenance areas. Statewide CMAQ funds are not subject to regional or subregional allocations or the allocation formula. This category accounts for 35% of the total North Carolina CMAQ apportionment.

- Local governments administer Regional CMAQ funds, which support projects spanning more than one air quality region that are ineligible for subregional projects. Air quality regions include the Triangle. The local project sponsor is responsible for providing the required match. This category accounts for 5% of the total North Carolina CMAQ apportionment.
- Local governments also administer Subregional CMAQ funds, which are awarded at the RPO/MPO level to projects within eligible counties. The local project sponsor is responsible for providing the required match and meeting federal funding requirements. This category accounts for 60% of the total North Carolina CMAQ apportionment.

Guilford County is a CMAQ-eligible county. As such, CMAQ funding can be used to construct the East Greensboro Greenway.

https://www.fhwa.dot.gov/environment/air_quality/cmaq/

https://www.fhwa.dot.gov/environment/air_quality/cmaq/toolkit/bikeped_userguide_update.pdf

Recreational Trails Program (RTP)

The BIL reauthorized the RTP in FYs 22-26 as a set aside from the Transportation-Alternatives Program under the Surface Transportation Block Grant. The program funds state agencies to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. The allocation of the total RTP budget to each state is based on a formula, mandated by law, which apportions half of the total funds equally among all states with the other half distributed in proportion to the estimated amount of non-highway recreational fuel use in each state. In North Carolina, NCDCNR's Division of Parks and Recreation and State Trails Program manages these funds with a goal of helping citizens, organizations, and agencies plan, develop and manage all types of trails ranging from greenways and trails for hiking, biking, and horseback riding to river trails and off-highway vehicle trails.

- **Total Annual Funding:** $1.49 million (FY23)
- **Application Deadline/Cycle:** Annual – Spring
- **Project Awards:** $10,000 to $100,000
- **Match Requirement:** 25%
- **Eligible Applicants:** Local Governments, government agencies, nonprofit agencies
- **Eligible Projects:** New trail/greenway construction or renovation; trailhead or trail markers; purchase of tools to construct/renovate greenway; land acquisition for trails; planning, legal, environmental, and permitting costs (up to 10% of grant amount)

Due to the high cost of construction relative to the available project awards through RTP, this funding could support land acquisition or the addition of trail markers along the East Greensboro Greenway.

https://trails.nc.gov/trail-grants/apply-grant

Highway Safety Improvement Program

The purpose of the North Carolina Highway Safety Improvement Program (HSIP) is to provide a continuous and systematic procedure that identifies and reviews specific traffic safety concerns throughout the state. The goal of the HSIP process is to reduce the number of traffic crashes, injuries, and fatalities by reducing the potential for these incidents on public roadways. USDOT provides this core Federal aid program through annual allocations, which vary from year to year. States must spend at least 15% pf HSIP funds on biking and walking safety when bicyclist and pedestrian fatalities are 15% or more of traffic fatalities. NCDOT uses a set of criteria called safety warrants to identify locations that need improvements. NCDOT then evaluates these locations, designated as potentially hazardous locations, using crash analyses, field investigations, and other tools to develop safety recommendations and implement countermeasures.

https://safety.fhwa.dot.gov/hsip/reports/pdf/2020/nc.pdf

https://connect.ncdot.gov/resources/safety/Pages/NC-Highway-Safety-Program-and-Projects.aspx

https://www.nhtsa.gov/sites/nhtsa.gov/files/2023-10/NC_FY24HSP-tag.pdf

Federal Land and Water Conservation Fund

Congress established the Land and Water Conservation Fund in 1964 to create parks and open space; protect wilderness, wetlands, and refuges; preserve habitat; and enhance outdoor recreational opportunities. In 2020, the Great American Outdoors Act included a provision to permanently fund the LWCF using royalties from offshore oil and natural gas. Sixty percent of LWCF funding is allocated to the National Park Service, and the remaining forty percent of the funds are allocated to states and local governments according to a national formula for outdoor recreation development and land acquisition by local governments and state agencies. In North Carolina, the program is administered by the Department of Natural and Cultural Resources. A project must be located on a single site.

- **Application Deadline/Cycle:** Annual

- **Project Awards:** up to $500,000
- **Match Requirements:** 50%
- **Eligible Applicants:** North Carolina counties and incorporated municipalities, Federally recognized Native American tribes
- **Eligible Projects:** LWCF grants can be used to acquire land for a public park; to develop outdoor recreation and support facilities; or a combination of both.

North Carolina Land & Water Fund (NCLWF)

Created by the General Assembly in 1996, the NCLWF, formerly known as Clean Water Management Trust Fund, aims to conserve North Carolina's streams, rivers, and open space. This funding, distributed through the North Carolina Department of Natural and Cultural Resources (NCDCNR), improves water quality, sustains ecological diversity, and protects open space and cultural resources by funding projects to acquire lands, construct trails, preserve open space, restore the habitat for fish, wildlife, and other species, and enhance the filtering of stormwater runoff to reduce pollutants from entering water supplies. The NCLWF also funds mini grants of up to $50,000 for transaction, property management, and stewardship costs associated with the donation of property or a permanent conservation agreement; applications for mini-grants are reviewed three times a year. All NCLWF funded projects must sign a permanent conservation agreement.

- **Application Deadline/Cycle:** April, August, January - Annual
- **Project Awards:** up to $500,000
- **Match Requirements:** Not required, but encouraged for scoring
- **Eligible Applicants:** North Carolina counties and incorporated municipalities
- **Eligible Projects:** restoration of degraded lands and waterbodies, land acquisition, innovative stormwater, and planning projects

https://nclwf.nc.gov/apply

Carbon Reduction Program

The BIL establishes the Carbon Reduction Program (CRP), which provides funds for projects designed to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources. Federal funds for the Carbon Reduction Program

flow to NCDOT then through the MPOs/RPOs through a competitive call for projects. A state may transfer up to 50% of CRP funds to any other apportionment of the state including National Highway Performance, Program, Surface Transportation Block Grant Program, Highway Safety Improvement Program, Congestion Mitigation and Air Quality Improvement (CMAQ) Program, National Highway Freight Program, and Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Formula Program. Title 23 of US code requires each state to apportion 65% of CRP funds based on population and can choose how to obligate the remaining 35%.

- **Total Funding:** $6.4 billion (FY22-26)
- **Application Deadline/Cycle:** March – Annual
- **Project Awards:** minimum $100,000
- **Match Requirements:** 20%
- **Eligible Applicants:** Municipalities, county governments, and public transit agencies
- **Eligible Projects:** projects that reduce transportation emissions, including transportation alternatives such as the planning, design, and construction of on-road and off-road trail facilities

https://www.fhwa.dot.gov/bipartisan-infrastructure-law/crp_fact_ sheet.cfm

https://www.ptrc.org/services/regional-planning/transportation/clean-transportation

DISCRETIONARY GRANTS

The competitive, discretionary grant programs outlined in this section can provide millions of dollars toward the East Greensboro Greenway's planning, design, and construction costs. These programs are competitive and require applicants to submit forms, project narratives, and benefit-cost analyses (BCAs) for construction projects; and encourage the submittal of supplemental materials and letters of support. The completion of a BCA involves the quantification and comparison of a project's expected costs and benefits according to USDOT-determined method. The result is a Benefit-Cost Ratio (BCR). A project is considered cost-effective when the BCR is 1.0 or greater. Transparency in the assumptions and data used to complete the analysis, and documentation of a data sources in the BCA is essential to receiving construction funding from discretionary programs. Federal discretionary grant applications should emphasize how the project aligns with a program's merit criteria as well as following USDOT priorities and strategic goals.

- **Equity:** USDOT aims to reduce inequities across transportation systems and the communities they affect, and to support and engage people and communities to promote safe, affordable, accessible, and multimodal access to opportunities and services while reducing transportation-related disparities, adverse community impacts, and health effects. Justice40 embodies this commitment to equity. Justice40 mandates that 40% of the overall benefits of certain Federal investments, including climate change and clean transportation, flow to disadvantaged communities that are marginalized, underserved, or overburdened by pollution.
- **Safety:** One of USDOT's strategic goals for FY 22 to FY 26 is to make the transportation system safer for all people and advance a future without transportation-related serious injuries and fatalities. The National Roadway Safety Strategy (NRSS) outlines a comprehensive approach that communities can take to significantly reduce injuries and deaths on roadways, using a Safe System Approach that supports safer roads, safer speeds, safer people, safer vehicles, and post-crash care.
- **Climate and Sustainability:** Climate change presents a significant and growing risk to transportation infrastructure. USDOT is working to tackle the climate crisis by ensuring that transportation plays a significant role in the solution. This includes substantially reducing greenhouse gas emissions and transportation-related pollution and building more resilient and sustainable transportation systems to benefit and protect communities.
- **Innovation and Transformation:** USDOT is investing in purpose-driven research and innovation to meet the challenges of the present and modernize a transportation system of the future that serves everyone today and in the decades to come.
- **Economic Strength and Global Competitiveness:** This priority aims to grow an inclusive and sustainable economy, invest in the transportation system to provide American workers and businesses reliable and efficient access to resources, markets, and good-paying jobs. One of the priorities of the Federal government is the promotion of diversity and inclusion in the workforce. Executive Order 14035 on Diversity, Equity, Inclusion, and Accessibility (DEIA) in the Federal Workforce provided agencies with information, resources, and a methodology to assess the state of DEIA and give a framework to promote DEIA practices.
- **Rural Opportunities to Use Transportation for Economic Success (ROUTES):** This initiative prioritizes the needs of rural America by supporting rural transportation policy and equitable access for communities that face challenges related to safety, mobility, and economic development, addressing disparities in rural transportation infrastructure by developing user-friendly tools and information, aggregating DOT resources, and providing direct technical assistance to better connect rural communities with funding, financing, and outreach resources available.

Rebuilding American Infrastructure with Sustainability and Equity (RAISE)

This program, formerly known as TIGER and BUILD, and now as Rebuilding American Infrastructure with Sustainability and Equity

(RAISE) Grants, awards funding to invest in road, rail, transit, and port projects that promise to achieve national objectives and have a significant local or regional impact. Since. The eligibility requirements of RAISE allow project sponsors at the State and local levels to obtain funding for multi-modal, multi-jurisdictional projects that are more difficult to support through traditional DOT programs. Historically, annual appropriations largely funded this program, however the BIL included $7.5 billion in supplemental funding between FY 22 and 26. Since the program's inception, USDOT has awarded over $14 billion to projects in all 50 states and several US territories.

- **Total Funding:** $2.3 billion (FY 23) with set asides for Areas of Persistent Poverty and Historically Disadvantaged Communities
- **Application Deadline/Cycle:** February - Annual
- **Project Awards:**
  - **Planning Projects:** No minimum
  - **Capital Projects:** Minimum $1 million (rural); minimum $5 million (urban)
- **Match Requirement:** 20%– Federal share may increase in rural areas, Areas of Persistent Poverty, and Historically Disadvantaged Communities
- **Eligible Applicants:** State/local governments; multijurisdictional entity or group of entities; tribal government; transit agency.
- **Eligible Projects:** Capital projects (highway, intermodal, surface transportation, infrastructure, culvert replacement or stormwater runoff) and Planning (preparation for eligible surface transportation capital projects)

https://www.transportation.gov/RAISEgrants/about

Reconnecting Communities and Neighborhoods (RCN)

In FY23, USDOT combined the Reconnecting Communities Pilot (RCP) and Neighborhood Access and Equity (NAE) programs into a single Notice of Funding Opportunity (NOFO) called Reconnecting Communities and Neighborhoods (RCN). This funding seeks to advance community-centered connection transportation projects, with a priority for projects that benefit disadvantaged communities, by improving access to daily needs such as jobs, education, health care, food, nature and recreation; fostering equitable development and restoration; and reconnecting communities by removing, retrofitting, or mitigating highways or other transportation facilities that create barriers to community connectivity, including to mobility, access, or economic development.

NAE was established by the Inflation Reduction Act (IRA) and provides up to $3.155 billion until September 30, 2026 in grant awards to connect communities by supporting neighborhood equity, safety, and affordable transportation access as well as mitigating negative environmental impacts. The NAE program emphasizes assisting economically disadvantaged or underserved communities with planning

and capacity building. Capital Construction Grants can be used to carry out a project to remove, retrofit, mitigate, or replace an existing eligible dividing facility with a new facility that reconnects communities; mitigate a burdening facility that is a source of air pollution, noise, stormwater, or other burdens; or implement a strategy to reduce environmental harm and/or improve access.

- **Total Funding:** $1.785 billion (FY22-26)
  - **Capital Construction:** $1.15 billion ($148 million in RCP and $1 billion in NAE funds)
  - **Community Planning:** $185 million ($50 million in RCP and $135million in NAE funds)
  - **Regional Partnerships Challenge:** $450 million (NAE funds)
- **Application Deadline/Cycle:** September - Annual
- **Project Awards:**
  - **RCP:**
    - **Planning:** Up to $2 million
    - **Construction:** Minimum of $5 million
  - **NAE:**
    - **Planning:** No min/max
    - **Construction:** No min/max
    - **Regional Partnerships Challenge:** No min/max – 3-5 projects will be awarded
- **Match Requirements:**
  - **RCP-Community Planning Grants:** 20%
  - **RCP-Capital Construction Grants:** 50% (other Federal funds may be used to bring the total Federal share up to a maximum of 80% of the total cost of the project)
  - **NAE-Community Planning, Capital Construction, and Regional Partnerships Challenge Grants:** 20% (projects in disadvantaged or underserved community do not require a local match)
- **Eligible Applicants:**
  - **RCP Planning:** State, local government, Tribal government, MPO, nonprofit organization
  - **RCP Capital Construction:** Owner of facility; partnership between facility owner and applicant eligible for RCP planning grants.
  - **NAE Grants:** state/local government, tribal government, MPO, nonprofit organization, special purpose district
- **Eligible Projects:** Facilities that divide or burden community; planning studies to assess feasibility of mitigating existing dividing

facility or build capacity in disadvantaged area; pre-construction and construction activities for mitigating a burdening/dividing facility; improving complete streets/ multi-use trails/ regional greenways.

- **Merit Criteria:** Equity and Environmental Justice; Access; Facility Suitability; Community Engagement, and Community-based Stewardship, Management, and Partnerships; Equitable Development; Climate and Environment; and Workforce Development and Economic Opportunity.

https://www.transportation.gov/grants/rcnprogram

Active Transportation Infrastructure Investment Program (ATIIP)

Among the new discretionary grants created through the BIL is the Active Transportation Infrastructure Investment Program (ATIIP), which was authorized for $200 million annually. This program will award $45 million, as allocated by the FY23 Omnibus Appropriations Act, to communities for projects that plan, design, or construct safe, affordable, and accessible active transportation networks (facilities that connect destinations within a community) and transportation spines (facilities that connect communities). ATIIP takes a holistic, network-level approach to walking, biking, and rolling by addressing gaps in active transportation routes that push people to other modes of travel. The East Greensboro Greenway is a strong candidate for this funding opportunity because of how it fits the definition of an active transportation network and connects key destinations within disadvantaged communities. The City is applying for ATIIP funding for a Planning & Design Grant to take the East Greensboro Greenway through design.

- **Total Funding:** $45 million (FY23)
  - **Construction Grants:** up to $41,550,000 – of that, at least 30% ($12,465,000) will be set aside for construction of active transportation networks and at least 30% ($12,465,000) will be set aside for construction of active transportation spines
  - **Planning & Design Grants:** at least $3,000,000 and up to $19,620,000 will be awarded
- **Application Deadline/Cycle:** June 17, 2024 – Contingent on future year allocations
- **Project Awards:**
  - **Construction Grants:** Recommended minimum of $7.5 million and recommended maximum of $12 million (general applicants) and $15 million (qualified disadvantaged communities)
  - **Planning & Design Grants:** Recommended minimum of $100,000 and recommended maximum of $2 million
- **Match Requirements:** 20% or more (qualified disadvantaged census tracts are those with 40% or higher of the population falling below poverty level and do not require any match)

- **Eligible Applicants:** Local/regional governments; MPOs and regional planning councils; Multicounty special districts; States; Tribes; Multistate group of governments
- **Eligible Projects:** Projects that support active transportation networks connecting destinations.
- **Merit Criteria:** Mobility and Community Connectivity; Community Support; Commitment to Increasing Walking and Biking; Financial Completeness; Equitable Development; Other DOT Goals and Priorities (safety, accessibility to jobs, economic competitiveness, environmental protection, quality of life)

https://www.railstotrails.org/policy/funding/active-transportation-infrastructure-investment-program/

Community Change Grant

The Community Change Grant program administered by the Environmental Protection Agency seeks to fund community-driven investments for change, specifically projects that involve strong collaborations to achieve sustained impacts related to climate resilience, pollution reduction, community health, economic prosperity, and community strength. A successful project will implement Climate Action Strategies that build the resilience of communities and reduce greenhouse gas emissions, reduce quantifiable health-harming pollutants to improve public health, conduct robust community engagement, develop strategies to increase investments to residents in disadvantaged communities, reach priority populations, and ensure that projects are integrated to achieve maximum benefits.

- **Total Annual Funding:** $2 billion (FY24)
  - **Track 1 (Community Driven Investments for Change):** $1.96 billion
  - **Track 2 (Meaningful Engagement for Equitable Governance):** $40 million
- **Application Deadline/Cycle:** November 21, 2024 (rolling)
- **Project Awards:**
  - **Track 1 (Community Driven Investments for Change):** $10-20 million
  - **Track 2 (Meaningful Engagement for Equitable Governance):** $1-3 million
- **Match Requirements:** N/A
- **Eligible Applicants:** Partnership between two community-based nonprofit organizations (CBOs); Partnership between CBO and either a Federally-recognized tribe, local government, or institution of higher education
- **Eligible Projects:** Climate resiliency/adaptation; Mitigating climate/health risks from urban heat islands, extreme heat and wildfire

events; Community-led air pollution monitoring, prevention and remediation; Investments in low- and zero-emission and resilient technologies/ infrastructure; Workforce development to supports the reduction of GHG emissions; Facilitating engagement of disadvantaged communities in State and Federal advisory groups, workshops, rulemakings, and other public processes.

https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-community-change-grants-program

National Endowment for the Arts Our Town Program

Our Town is the National Endowment for the Arts' creative placemaking grants program. Through project-based funding, the NEA supports projects that integrate arts, culture, and design activities into efforts that strengthen communities by advancing local economic, physical, and/or social outcomes. These projects require a partnership between a local government entity and nonprofit organization, one of which must be a cultural organization; and should engage in partnership with other sectors (such as agriculture and food, economic development, education and youth, environment and energy, health, housing, public safety, transportation, and workforce development). Cost share/matching grants range from $25,000 to $150,000, with a minimum cost share/match equal to the grant amount.

https://www.arts.gov/grants/our-town

STATE FUNDING OPPORTUNITIES

North Carolina communities have partnered with state agencies to build multi-use paths, greenways, sidewalks, bike lanes and improve crossings. NCDOT, North Carolina Department of Natural and Cultural Resources (NCDNCR), and North Carolina Department of Commerce (NCDOC) are the primary state agencies that fund bicycle and pedestrian planning, infrastructure, and programs. the North Carolina Department of Health and Human Services (DHHS), North Carolina Department of Environmental Quality (NCDEQ), and the North Carolina Department of Agriculture administer discretionary grant programs focusing on public health and community development, when funding is available.

Discretionary state grants promote alignment with both statewide goals and initiatives. While these are similar to Federal priorities and strategies, they are distinct to North Carolina and include the following:

- North Carolina Executive Order 80: North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy

Economy: https://governor.nc.gov/documents/files/executive-order-no-80-north-carolinas-commitment-address-climate-change-and-transition-clean-energy/open

- North Carolina Executive Order 246: North Carolina's Transformation to a Clean, Equitable Economy: https://governor.nc.gov/executive-order-no-246/open
- NC Moves 2050 Plan: https://www.ncdot.gov/initiatives-policies/Transportation/nc-2050-plan/ncmoves2050/Pages/default.aspx
- Great Trails State Plan: https://www.ncdot.gov/divisions/integrated-mobility/multimodal-planning/great-trails-state/Pages/default.aspx
- Statewide Transportation Improvements Program (STIP): https://connect.ncdot.gov/projects/planning/pages/state-transportation-improvement-program.aspx
- Strategic Highway Safety Plan (FY 24-FY 26): https://www.nhtsa.gov/document/north-carolina-fy2024-2026-highway-safety-plan
- NC Clean Transportation Plan: https://www.ncdot.gov/initiatives-policies/environmental/climate-change/Pages/ncctp-executive-summary-final-report.aspx

Great Trails Program Fund

The North Carolina General Assembly's 2023-2025 budget passed in October 2023 invests $54.9 million to advance trail and greenway infrastructure in North Carolina. This funding investment comes during the 2023's North Carolina Year of the Trail celebration, the largest celebration of outdoor recreation in North Carolina history. The budget creates a new, non-recurring $25 million trail and greenway funding program over two fiscal years called the Great Trails State Program. The program provides funding for the new trail development and extension of existing trails with the goal of accelerating the completion of significant trails statewide. This includes paved trails or greenways, natural surface trails, biking trails, equestrian trails, and any other type of trail recognized by the Department of Natural and Cultural Resources.

- **Total Funding:** $25 million per year (FY23-25).
- **Application Deadline/Cycle:** September 3, 2024 – Annual (for two FYs)
- **Project Awards:** $100,000 (minimum for planning/design/acquisition minimum), $250,000 (minimum for maintenance of paved trails, and $300,000 (minimum for construction) and up to $500,000
- **Match Requirements:**
  - **Tier 1:** one non-State dollar ($1.00) for every four dollars ($4.00) of State funds
  - **Tier 2:** one non-State dollar ($1.00) for every two dollars ($2.00) of State funds
  - **Tier 3:** one non-State ($1.00) for every one dollar ($1.00) of State funds

- **Eligible Applicants:** Municipalities/counties, regional governments, public authorities, nonprofit organizations
- **Eligible Projects:** Planning; design; environmental assessment or permitting and review; land or easement acquisition; trail construction; trail structures (bridges); trail amenities like trailhead parking, and signage; maintenance; matching funds for other Federal or non-state grants

https://greattrailsstatecoalition.org/latest/#:~:text=The%20North%20Carolina%20General%20Assembly's,outdoor%20recreation%20in%20American%20history

Parks and Recreation Trust Fund (PARTF)

Since 1994, the North Carolina parks and Recreation Trust Fund (PARTF) awards matching grants to local governments for parks, public beach access, and improvements to state parks. The program helps local governments reach their park and public access goals and improve the quality of life in their communities. Funding for PARTF is allocated annually, and the Parks and Recreation Authority, a citizen board appointed by the Governor, President Pro Tempore of NC Senate, and Speaker of the NC House of Representatives select grant recipients and allocate the funding. The projects must be located on a single site, and the applicant must own or have at least a 25-year signed lease or easement for the property where the PARTF facility will be located.

- **Total Funding:** $8.5 million (FY24)
- **Application Deadline:** Annual – May
- **Project Awards:** up to $500,000
- **Match Requirements:** 50%
- **Eligible Applicants:** North Carolina counties and incorporated municipalities. Public authorities, as defined by GS 159-7, are also eligible if they are authorized by N.C. general statutes to acquire land and develop recreation facilities for public use.
- **Eligible projects:** Land acquisition; construction or renovation of facilities for a linear or non-linear public park; must be located on a single site and applicant must own or have at least a 25-year signed lease/easement for the property.

https://www.ncparks.gov/about-us/grants/parks-and-recreation-trust-fund

Accessible Parks Grant

The Accessible Parks Grant Program is administered through the Division of Parks and Recreation and the North Carolina PARTF. It provides $12.5 million in matching grants for parks and recreation to benefit people living with disabilities in North Carolina. Grants can be used for the construction of special facilities, or adaptation of existing facilities that meet the unique needs of persons living with disabilities or enable them to participate in recreational and sporting activities, regardless of their abilities. Facilities built or renovated with an Accessible Parks grant must be available for public recreational use for at least 25 years.

- **Total Annual Funding:** $12.5 million (FY24)
- **Application Deadline/Cycle:** May 1, 2024 (unclear if additional years will be funded)
- **Project Awards:** up to $500,000
- **Match Requirements:** 20% match (The value of in-kind services, such as volunteer work, cannot be used as part of the match.)
- **Eligible Applicants:** North Carolina counties and incorporated municipalities, including public authorities authorized to develop recreational facilities for the general public
- **Eligible Projects:** Construction of special facilities and adaptation of existing facilities. Applicants cannot request Accessible Parks Grant funding for and active PARTF site or land acquisition.

https://www.ncparks.gov/about-us/grants/accessible-parks-grant

Strategic Transportation Investments (STI)

The Strategic Transportation Investments law, passed in 2013, establishes the Strategic Mobility Formula, which allocates available funding based on data-driven scoring and local input. NCDOT, working collaboratively with MPOs and RPOs, uses the Strategic Mobility Formula to develop the State Transportation Improvement Program (STIP), which identifies projects that will receive funding during a 10-year period. The STIP is state and federally mandated and updated by NCDOT every two years. The Strategic Mobility Formula groups projects in three categories: Division Needs, Regional Impact, and Statewide Mobility.

NCDOT programs independent bicycle and pedestrian projects in the Division Needs category. Eligible bicycle and pedestrian projects submitted for prioritization must be included in a locally adopted plan and have a minimum project cost of $100,000. Eligible activities include right-of-way acquisition, design, and construction. Additionally, the Statewide Transportation Investments (STI) law prohibits the use of state funding for bicycle and pedestrian projects, requiring municipalities to provide the 20% match for Federally-funded projects.

FUNDING CATEGORY	FUNDING DISTRIBUTION	OVERVIEW
Division Needs	30%	NCDOT's 14 transportation divisions share funding in this category equally. Project scores are based 50% on data and 50% on rankings by MPOs and RPOs and the NCDOT Divisions.
Regional Impact	30%	Projects on this level compete within regions made up of two NCDOT Divisions with funding based on population. Project scores are based 70% on data and 30% on rankings by MPOs and RPOs and the NCDOT Divisions.
Statewide Mobility	40%	Projects in this category are of statewide significance and are based 100% on data.

Bicycle and Pedestrian STI Prioritization: Qualitative Scoring

CRITERIA	MEASURE	DIVISION NEEDS (30%)
Safety	(Number of crashes x 40%) + (Crash severity x 20%) + (Safety risk x 20%) + (Safety benefit x 20%)	20%
Accessibility / Connectivity	Points of Interest pts + Connection pts + Route pts	15%
Demand / Density	# of households and employees per square mile near project	10%
Cost Effectiveness	(Safety + Accessibility /Connectivity + Demand / Density) / Cost to NCDOT	5%

Bicycle and Pedestrian STI Prioritization: Quantitative Scoring

Local input points represent 50% of the scoring for bicycle and pedestrian projects. MPOs and RPOs assign 25% of local input points, which are determined by municipal and county project priorities and public comment. NCDOT Division Engineers assign the remaining 50% of the local input points.

It is highly recommended to submit the City of Greensboro submit the East Greensboro Greenway to NCDOT's prioritization 8.0 (P8.0) through GUAMPO. The schedule for the next round of prioritization (P8.0) has not yet been announced. Depending on project scoring, this will open up State funding. It is important to note that since the East Greensboro Greenway only falls within the boundaries of the GUAMPO, funding through the STIP will be more competitive. The most competitive funding source that the GUAMPO is eligible for will be Surface Transportation Block Grant (STBG) funding, of which 55% of a State's apportionment (after the set-aside for Transportation Alternatives) is allocated in proportion of the relative shares of the population to various categories of areas, including urban areas with a population of at least 5,000 but no more than 49,999.

Project Bundling

Project sponsors can bundle multiple bicycle and pedestrian projects to better compete with other projects submitted in the Division Needs category. NCDOT allows bundled projects across various geographies and project types. Projects do not have to be contiguous or related, and projects can fall within a single municipality or across multiple jurisdictions. Bundled projects must have one project manager, a TAP eligible entity.

East Greensboro Greenway would be more competitive in P8.0 if the greenway was bundled with vital bicycle and pedestrian infrastructure within the project area.

Statewide Projects Funds

Small Construction Funds: These funds were established in 1985 to fund small projects in and around cities and towns that could not be funded in the Statewide Transportation Improvement Program (STIP). Funds are allocated equally to each of 14 Transportation Divisions. Funds can be used on a variety of transportation projects for municipalities, counties, businesses, schools, and industries throughout the State. Funds projects up to $250,000 per fiscal year, unless otherwise approved by the Secretary of Transportation. Right-of-way and utility relocations should be provided and accomplished at no cost to NCDOT. Funding requests should be submitted to the Division Engineer providing technical information such as location, improvements being requested, and project timeline.

Statewide Contingency Funds: These funds were created for statewide rural or small urban highway improvements and related transportation enhancements to public roads/public facilities, industrial access roads, and spot safety projects. The President Pro Tempore of the Senate, the Speaker of the House, and the Secretary of Transportation sponsor project requests from this fund. $12 million in funds are administered by the Secretary of Transportation. Requests can be submitted from municipalities, counties, businesses, schools, citizens, legislative members, and NCDOT staff. Request should include a clear description and justification of the

project.

Economic Development Funds: These funds were created to expedite transportation projects that promote commercial growth as well as either job creation or job retention. $2500 per job (new & retained) allowed unless waived by the Secretary of Transportation. Funds projects up to $400,000 per fiscal year, unless otherwise approved by the Secretary of Transportation. New access roads must be approved by NCDOT and serve multiple property owners or government owned property; roads will become part of the State Highway System or serve as public roads maintained by a government agency.

High Impact / Low-Cost Funds: This program provides funds complete low-cost projects with high impacts to the transportation system including intersection improvement projects, minor widening projects, and operational improvement projects. Funds are allocated equally to each of 14 Transportation Divisions. Each Division is responsible for selecting their own scoring criteria for determining projects funded in this program. At a minimum, Divisions must consider all of the following in developing scoring formulas: (1) The AADT of a roadway and whether the proposed project will generate additional traffic. (2) Any restrictions on a roadway. (3) Any safety issues with a roadway. (4) The condition of the lanes, shoulders, and pavement on a roadway. (5) The site distance and radius of any intersection on a roadway. Funds projects up to $1.5 million per fiscal year, unless otherwise approved by the Secretary. Projects are expected to be under contract within 12 months of funding approval by the BOT.

https://connect.ncdot.gov/projects/planning/Economic%20Development/Small%20Project%20Fund%20Request.docx

LOCAL FUNDING OPPORTUNITIES

While Federal funding can support high-cost projects, local funding is often ideal for supporting the delivery of specific components of greenway projects or as a match for Federal funding programs. Municipalities often plan for funding of bicycle and pedestrian facilities through their Capital Improvement Program (CIP). Local funding is often necessary to supplement Federal and state funding and can come in various forms.

Bonds

Towns can propose bonds to protect open space corridors and build greenway networks, as has been see in Wake County, City of Raleigh, City of Wilmington, Town of Chapel Hill, and City of Greenville. For example, Wake County successfully passed a $120 million Parks, Greenways, Recreation and Open Space Bond in 2018. Successful bond campaigns require a well-defined plan with specific projects supported by the community. Bond campaigns should be well organized with a community's public affairs department and thoroughly coordinated across all internal departments. Public outreach during the campaign is essential to educate residents about

the benefits of infrastructure investment and to understand which projects garner the highest community support.

Developer Built Trails/In-Lieu Fees

North Carolina communities can require developers to dedicate land for greenways and recreational areas, open space, streets, and sidewalks through local land use and development ordinances. In-lieu fees are one-time fees that developers pay to municipalities instead of dedicating land for these purposes. These fees can then be used to fund larger capital and operational improvements. For example, the Town of Cary built its first greenway 40 years ago, now has over 80 miles of greenway trails, and requires developers to set aside important open space providing trail connectivity, wildlife habitat corridors, and water quality protection. Cary requires developers to dedicate land or make payment in-lieu of public park and/or greenway development to serve the recreational needs of residents.

The portions of the East Greensboro Greenway that intersect with private development could obtain in-lieu fees that could be used as match/leverage funding for Federal grant opportunities.

Developer Constructed/Development Agreements

Development agreements are legislative land use tools that allows local governments to negotiate binding contractual agreements with private property owners that vest developers' rights while allowing for a jurisdiction to obtain community benefits. Development agreements can secure enhanced public amenities in exchange for expanded land use entitlements beyond those that could otherwise be secured through conditional rezoning or regulatory tools like site plans and subdivision approvals. In 2005, the North Carolina General Assembly enacted Part 3D of North Carolina General Statute (NCGS) 160A, Article 9 that authorized municipalities and counties to enter into these agreements to facilitate larger scale development projects that include the implementation of public infrastructure projects. NCGS 16D Article 10, enacted in 2019, expanded options for development agreements to allow them to be used for smaller projects, and allowing provisions to be incorporated into zoning conditions.

Capital Improvement Plan

A Capital Improvement Program (CIP) is one element in a municipality's long-term planning process. It is a bridge between the municipality's Comprehensive Plan and short-term planning for infrastructure and operations. A Capital Improvement Program analyzes major facility and equipment needs, establishes priorities, estimates fiscal resources, and schedules the development of funded projects. For example, the City of Raleigh funds parks, greenways, and active transportation facilities through the city's Capital Improvement Program. The Parks, Recreation and Cultural Resources Department's CIP primary sources of funding come from Parks and Recreation Bonds, Facility Fees, General Fund (Tax Base), grants, and donations.

Zoning Requirements

Conditional zoning is a popular development regulation tool. The standards in conventional zoning districts must be uniformly applied throughout a city or county. The same permitted uses and dimensional standards apply to all property placed in the same zoning district. However, conditional zoning districts can include individualized development conditions. For some developments, the location, construction standards, and financing of roads, utilities, parks, and greenways are important for both the developer and local government. G.S. 160D-1006(d) allows a development agreement to include mutually acceptable provisions for financing public facilities, provided any measures offered by the developer beyond those that could be required by the local government are expressly set out in the agreement. These additional measures can include donation of land and construction of public facilities but cannot include a tax or impact fee not otherwise authorized.

Impact Fees

Impact fees represent financial payments made to a local government by a developer to fund certain off-site capital improvements needed to accommodate future growth. In North Carolina, local governments can impose impact fees on developers to offset the budgetary impact a new development places on public roads, schools, parks, recreational facilities, and water and sewerage. Many North Carolina communities impose impact fees for transportation, parks and recreation, and open space facility needs. For example, the City of Durham imposes transportation impact fees to fund for a portion of the costs for new streets and sidewalks, paving, grading, resurfacing, and widening of existing streets, traffic control signals and markings, lighting, and crosswalks. Durham also uses development fees for open space and parks and recreation for the acquisition of park land and the provision of facilities, including athletic fields, parks, playgrounds, courts, recreation centers, shelters, stadiums, arenas, swimming pools, lighting, trail construction, and bike paths.

Community Foundation of Greater Greensboro Grants

The Community Foundation of Greater Greensboro (CFGG) is focused on providing grants to nonprofits that demonstrate impact and outcomes in the areas of Health and Wellness, Cultural Vibrancy, and Economic Mobility. CFGG funds can support access to fresh food, access to jobs, The 2024 grant cycle opens on April 1st, with applications due on May 15th.

https://cfgg.org/grantseekers/nonprofits-community-groups/community-grants/#overview

Sternberger Foundation Grants

The Tannenbaum-Sternberger Foundation provides grants that benefit residents of Guilford County. Grants are awarded for new initiatives, expansions of current programs/activities, capital improvement, special projects, and other needs. Nonprofit organizations

that serve Guilford County are eligible to apply for Tannenbaum-Sternberger Foundation grants, which are considered three times annually. The grant categories include: Health, Human Services, Economic Development, and Historic Preservation. There is not a set minimum/maximum award amount, but recent grants have not exceeded $25,000.

This funding could support various elements of the East Greensboro Greenway, such as public art, trail markers, or the installation of bicycle racks or repair stations.

https://www.tsfoundation.com/grant-guidelines

Cone Health Foundation

The Cone Health Foundation invests in community-based solutions that help eliminate health disparities and advance racial equity. Cone Health Foundation provides grants that support access to healthcare, healthy food, education, safe and healthy housing, and economic mobility. Among the organizations eligible for Cone Health grants are public agencies including state and local governments. Cone Health Foundation regularly works with community groups and nonprofits in Greensboro, and in 2024 contributed $5 million to the construction of the Windsor Chavis Nocho Community Complex.

https://conehealthfoundation.com/what-we-fund/

Special Events and Tourism Related Activities Committee (SETRAC) Grant Program

The Greensboro Area Convention & Visitors Bureau administers this funding source to stimulate and assist Greensboro/Guilford County organizations and agencies in the enhancement, promotion, and marketing of tourism and culturally related events and activities. The objective of the program is to give greater scope to innovative ideas and help organizations and agencies undertake agencies that would not be considered without special funding. Funded by the Guilford County occupancy tax, this program can support improving, constructing, or acquiring facilities or attractions that enhance the development of tourism. Funding decisions are based on an applicant's ability and intent to attract visitors and generate hotel/motel room nights from outside the immediate Greensboro area. Grants are made once during the fiscal year, in July. The deadline for submission is May 3, 2024. It is important to note that there is a 50% cost-share through this program and funding cannot exceed $5,000.

Considering the smaller award amount possible through SETRAC, these funds could further contribute to public art along the East Greensboro Greenway or trail markers strategically placed near hotels/motels in the project corridor.

https://www.visitgreensboronc.com/about-us/grant-application.aspx

PRIVATE FUNDING OPPORTUNITIES

Private grant opportunities offer more limited information on the number of applications received per cycle, so determining the competitiveness of the funding sources listed in this section is nebulous. With few exceptions, private grant awards are often smaller.

Public/Private Partnerships

Public private partnerships (P3s) are long-term contractual agreements between a public agency and a private entity to design, build, finance, operate and/or maintain infrastructure projects. This allows for greater private participation in the delivery of projects and allows private partners to share in the risks for design, construction, finance, and long-term operation of facilities. P3s give public entities access to private capital, technology and expertise; and can accelerate project delivery, encourage innovation, and allow partners to manage projects more efficiently. However, they require substantial up-front administrative costs and procurement may involve complicated financial and legal issues. P3s and may not deliver the best value as compared to traditional or other alternative delivery methods.

Partnerships engender a spirit of cooperation, civic pride, and community participation. The key to the involvement of private partners is to make a compelling argument for their participation. For example, specific segments of a greenway may make critical connections to employment centers or potential partners' place of business, which would incentivize private participation in its design and construction. Furthermore, signage at trail heads or interpretive signage along greenway systems can incentivize private participation through name recognition for corporate partners. Greensboro has a history of success with a P3, a strategy employed in leveraging funds to complete the Downtown Greenway Loop. The Action Greensboro Foundation raised over $10 million in private funds by working with foundations and private donors. The money leverages over $21 million in local and Federal funds. Utilizing similar strategies for the East Greensboro Greenway would help further the project through design, engineering, and construction.

Corporate Sponsorships

Corporate sponsorships create a pathway for corporations or nonprofits to develop long term partnerships fitting with their priorities. By offering opportunities for corporations to sponsor construction or signage, they can market their company while also contributing to the development of a trail. Furthermore, a trail or greenway can offer various levels of corporate sponsorship to accelerate the development of projects. For example, Buncombe County established a corporate sponsorship program for their Connect Buncombe effort.

https://connectbuncombe.org/wp-content/uploads/2022/05/Corp-Sponsor-flyer-electronic-5822.pdf

AARP Community Challenge

The AARP Community Challenge provides small grants to fund quick-action projects that can help communities become more livable for people of all ages. AARP accepts applications for projects that improve public spaces, housing, transportation, civic engagement, coronavirus recovery, diversity, and inclusion, and more. Project types include those that provide permanent physical improvements in the community, temporary demonstrations that lead to long-term change, and innovative programming or services. The program is open to 501(C)(3), 501(C)(4) and 501(c)(6) nonprofits and government entities. Grants can range from several hundred dollars for smaller, short-term activities to several thousand or tens of thousands of dollars for larger projects.

- Total Funding: $3.6 million
- Grant Deadline/Cycle: March – Annual
- Project Awards: $500 to $50,000
- Match Requirements: N/A
- Eligible Applicants: Governments and nonprofit organizations
- Eligible Projects: Projects that improve public spaces, transportation, and inclusion that provide permanent physical improvements in the community and innovative programming or services.

Additionally, AARP has introduced a Capacity Building Microgrant program, which provides $2,500 to either conduct a walk audit to enhance pedestrian safety and walkability or to start/grow a community garden. The Capacity Building Microgrant is better suited to fund amenities after the construction of the greenway.

https://www.aarp.org/livable-communities/community-challenge/

Golden LEAF Foundation

The Golden LEAF Foundation is a nonprofit organization established in 1999 to receive a portion of North Carolina's funding received from the 1998 Master Settlement Agreement with cigarette manufacturers. Golden LEAF works to increase economic opportunity in North Carolina's rural and tobacco-dependent communities through leadership in grantmaking, collaboration, innovation, and stewardship as an independent and perpetual foundation. Golden LEAF's grantmaking focuses on the following priorities: Job creation and economic investment; workforce preparedness; agriculture; and community competitiveness, capacity, and vitality. Golden LEAF has two standard programs open to eligible entities seeking grants: Open Grants Program and Economic Catalyst Program. These programs complement other ongoing initiatives of the Foundation, such as the Community-Based Grants Initiative.

- **Open Grants Program:** The Open Grants Program process is open to all governmental entities and 501(c)(3) organizations that propose projects in Golden LEAF's priority areas. This program is for economic development projects aligned with the Golden LEAF priority areas. Most awards in the Open Grants Program will be for $200,000 or less.
- **Economic Catalyst Program:** The Economic Catalyst process is open to governmental entities and 501(c)(3) organizations with projects that will create jobs at risk without Golden LEAF funding. Grants include funds for public infrastructure, job training, upfit for buildings owned by governmental or nonprofit entities, or equipment acquisition where the building or equipment will be leased or sold at fair-market value to a company creating jobs. Grants are available only for projects that include a specific company's commitment to create full-time jobs in NC.
- **Community-Based Grants Initiative:** Each year, the Golden LEAF Foundation invites organizations from counties from a different Prosperity Zone to participate in the Community-Based Grant Initiative (CBGI). The process is competitive, but organizations from all counties within the Prosperity Zone will have an opportunity to apply. The CBGI identifies projects with the potential to have a significant impact. It is a focused process with grants targeted toward investments in the building blocks of economic growth. Projects must address economic development, agriculture, workforce preparedness, infrastructure, and capital costs necessary to create health care jobs. County managers serve a key role in the process. Each county manager will submit a slate of up to four projects for consideration. Applicants must be 501(c)(3) organizations or governmental entities, such as county and municipal governments, community colleges, or universities. Golden Leaf limits awards to no more than three projects per county and will total no more than $1.5 million per county.
- **Flood Mitigation Program:** Each year, Golden LEAF funds local governments that aim to construct new or improve existing stormwater infrastructure, including natural drainage and flood control equipment, repair existing stormwater infrastructure, support engineering expenses related to planning and development of flood mitigation solutions. The deadline for this funding is in March, annually, and applicants can request up to $2 million per project.

People for Bikes Community Grant Program

The People For Bikes Community Grant Program supports bicycle infrastructure projects and targeted advocacy initiatives that make it easier and safer for people of all ages and abilities to ride. People For Bikes accepts grant applications from non-profit organizations with a focus on bicycling, active transportation, or community development; city or county agencies or departments, and state or Federal agencies working locally. People For Bikes focuses most grant funds on bicycle infrastructure projects, such as bike paths, lanes, trails and bridges, mountain bike facilities, bike parks and pump tracks, BMX facilities, and end-of-trip facilities such as bike racks, bike parking, bike repair stations and bike storage. Advocacy projects funded through the program include open street events

and campaigns to increase investment in bicycle infrastructure. People For Bikes accepts requests for funding up to $10,000. People For Bikes does not require a specific percentage match, but they will not consider requests in which the grant funding would amount to 50% or more of the project budget.

https://www.peopleforbikes.org/grant-guidelines

National Association of Realtors Placemaking Grants

The National Association of Realtors (NAR) funds placemaking and smart growth grants to make communities better places to live by transforming unused or underutilized sites into welcoming destinations accessible to everyone in a community.

- Smart Growth Grants: Smart Growth grants can fund visioning sessions, community workshops, and placemaking visioning for meaningful transportation projects and issues. These community planning activities would align with the intent of the greenway feasibility study and contribute to intentional and thoughtful collection of public input over the course of the development of the East Greensboro Greenway.
- Placemaking Grants: Placemaking Grants fund the creation of new, outdoor public spaces and destinations in a community. This program funds amenities such as street furniture, paint, signage, materials, landscaping, murals, site preparation, and artist fees. a state or local REALTOR® association must submit applications can, and grants provide up to $5,000 per award.

https://realtorparty.realtor/community-outreach/

Two for the Trails (Athletic Brewing Company)

Athletic Brewing Company provides funding to protect and restore trails, waterways, beaches, parks, and urban areas in need of maintenance.

- **Total Funding:** $2 million annually
- **Grant Deadline/Cycle:** Summer – Annual
- **Project Awards:** up to $50,000
- **Match Requirements:** 20%
- **Eligible Applicants:** Any registered LLC with an environmental cleanup project.

- **Eligible Projects:** Projects that restore trails and outdoor recreation facilities.

https://athleticbrewing.com/pages/two-for-the-trails-application

Rails to Trails Trail Grants

Rails to Trails Conservancy sponsors this grant program to invest in the necessary infrastructure and programming to create more access to trail. These grants help organizations and government agencies accelerate their trail network plans, while supporting community-based organizations working to connect more people to these spaces in neighborhoods across the country. Since 2008, almost $3 million has been awarded to more than 225 organizations.

https://www.railstotrails.org/our-work/grants/

TECHNICAL ASSISTANCE PROGRAMS

The following Technical Assistance Programs can be leveraged to provide additional design and technical expertise to assist with obtaining funding and providing additional resources during the design and construction process.

Rivers, Trails, and Conservation Assistance Program (RTCA)

The National Parks Service (NPS) Rivers, Trails, and Conservation Assistance (RCTA) Program supports community-led natural resource conservation and outdoor recreation projects across the nation. Although RTCA is not a traditional funding program, NPS staff provide planning, design and technical expertise for trails and outdoor recreation projects. Depending on the scale of the project, RTCA can invest up to four years of planning and project development assistance. Eligible entities include community groups, nonprofit organizations, tribes, and government agencies. Technical assistance services include:

- Define project vision and goals.
- Set priorities and build consensus.
- Inventory and map community resources.
- Identify funding strategies.

- Identify and analyze key issues and opportunities.
- Design community outreach, participation, and partnerships plans.
- Create project management and strategic action plans.
- Develop concept plans for trails, parks, and natural areas.

https://www.nps.gov/orgs/rtca/index.htm

Building Blocks for Sustainable Communities

Local land use decisions, such as transportation options, housing type and location, stormwater management, and issues of equity, all have direct impacts on the health and environment of our communities. Founded in 2011, the Building Blocks for Sustainable Communities program collaborates with local communities across the US including tribes and territories, to develop smart growth solutions and strategies in ways that benefit human health and the environment. The program uses an inclusive and locally-led process that strengthens local capacity, facilities partnerships, and creates a path forward to achieve community-identified goals.

EPA staff and EPA-hired consultant teams deliver the Building Blocks for Sustainable Communities technical assistance program. Each technical assistance project spans a period of roughly eight months, including inclusive public engagement through a two-day workshop, the involvement of relevant decision-makers and potential public and private sector partners, and a report outlining the workshop process and specific next steps generated that the community could take to achieve its goals. The workshop focuses on the issues and priorities determined by the community.

The application for Building Blocks consists of a two-page letter of interest that outlines the issue(s) the community wishes to address. The most recent call for letters closed in 2020. Between 6 and 56 communities are selected each year to receive technical support through Building Blocks for Sustainable Communities depending on the funding available.

https://www.epa.gov/smartgrowth/building-blocks-sustainable-communities

APPENDIX B: DESIGN RESOURCES

OVERVIEW

Below are several design resources that may be used to inform design decisions for bicycle and pedestrian facilities. Organizations such as the Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), National Association of City Transportation Officials (NACTO), and North Carolina Department of Transportation (NCDOT) offer general guidelines and project-specific tools to help professionals make design decisions. These guidelines promote flexibility to ensure context-sensitive applications.

AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES



The AASHTO Guide for the Development of Bicycle Facilities is the authoritative national standard for bikeway design. The document provides guidance to designers and planners by referencing a recommended range of design values and describing alternative design approaches. The guide provides information on how to accommodate bicycle travel and operations in most environments. Sufficient flexibility is permitted to encourage designs that are sensitive to local context and incorporate the needs of bicyclists, pedestrians, and motorists.

https://nacto.org/wp-content/uploads/2015/04/AASHTO_Bicycle-Facilities-Guide_2012-toc.pdf

AASHTO GUIDE FOR THE PLANNING, DESIGN AND OPERATION OF PEDESTRIAN FACILITIES



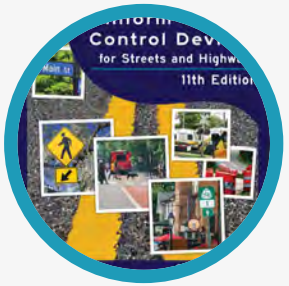
The AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities provides guidance for pedestrian facilities along streets and highways. The primary audiences for this manual are planners, roadway designers, and transportation engineers, whom make decisions on a daily basis that affect pedestrians. The guide focuses on identifying effective measures for accommodating pedestrians on public rights-of-way, and it recognizes the effect that land use planning and site design have on pedestrian mobility and addresses these topics as well.

https://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(263)_FR.pdf

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

The Manual on Uniform Traffic Control Devices for Streets and Highways, or MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel. The MUTCD is published by the Federal Highway Administration (FHWA) and is a compilation of national standards for all traffic control devices, including road markings, roadway signs, and traffic signals.

https://mutcd.fhwa.dot.gov/



NCDOT ROADWAY DESIGN GUIDE

The North Carolina Department of Transportation (NCDOT) Roadway Design Guide defines standards for roadways owned and maintained by NCDOT, including typical sections for roadways. Typical sections establish design elements that emphasize safety, mobility, complete streets, and accessibility for multiple modes of travel. Typical sections also provide guidelines for comprehensive transportation planning, project planning, and project design activities.

https://connect.ncdot.gov/projects/Roadway/pages/roadway-design-manual.aspx



NCDOT COMPLETE STREETS IMPLEMENTATION GUIDANCE

The North Carolina Department of Transportation (NCDOT) Complete Streets Implementation Guide is designed to assist NCDOT staff engineers, project managers and designers in implementing the Complete Streets Policy adopted by the Board of Transportation in August 2019. This document provides comprehensive guidance for incorporating a complete streets approach into NCDOT's planning, programming, design, and maintenance processes.

https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx



NACTO URBAN STREETS DESIGN GUIDE



The Urban Street Design Guide charts the principles and practices of the nation's foremost engineers, planners, and designers working in cities today. A blueprint for designing 21st century streets, the guide unveils the toolbox and the tactics cities use to make streets safer, more livable, and more economically vibrant. The Guide outlines both a clear vision for complete streets and a basic road map for how to bring them to fruition.

https://nacto.org/publication/urban-street-design-guide/

NACTO URBAN BIKEWAY DESIGN GUIDE



The NACTO Urban Bikeway Design Guide provides cities with state-of-the- practice solutions that can help create complete streets that are safe and enjoyable for bicyclists. Design treatments included in the guide offer required, recommended, and optional design elements to address the complexity of individual streetscape situations. In August 2013, the FHWA issued a memorandum officially supporting the use of this document. All of the NACTO Urban Bikeway Design Guide treatments are in use internationally and in many cities around the US.

https://nacto.org/publication/urban-bikeway-design-guide/

NACTO URBAN STREET STORMWATER GUIDE



The Urban Street Stormwater Guide advances the discussion about how to design and construct sustainable streets. The guide provides cities with national best practices for sustainable stormwater management in the public right-ofway, including core principles about the purpose of streets, strategies for building inter-departmental partnerships around sustainable infrastructure, technical design details for siting and building bioretention facilities, and a visual language for communicating the benefits of such projects. The guide sheds light on effective policy and programmatic approaches to starting and scaling up green infrastructure, provides insight on innovative street design strategies, and proposes a framework for measuring performance of streets comprehensively.

https://nacto.org/publication/urban-street-stormwater-guide/

FHWA BIKEWAY SELECTION GUIDE



A resource to help transportation practitioners consider the trade-offs relating to the selection of bikeway types. The document builds upon other FHWA resources that promote design flexibility and support connected, safe, and comfortable bicycle networks. The Bikeway Selection Guide outlines a process for identifying the desired bikeway type and assessing and refining potential options based on real-world conditions and decision-making factors. This process is intended to accelerate the delivery of high-quality multimodal projects that improve safety for everyone and meet the transportation needs of people of all ages and abilities.

https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-07/fhwasa18077.pdf

FHWA SEPARATED BIKE LANE PLANNING AND DESIGN GUIDE



The Separated Bike Lane Planning and Design Guide outlines planning considerations for separated bike lanes and provides a menu of design options covering typical one and two-way scenarios. It highlights different options for providing separation, while also documenting intersection treatments and mid-block design considerations for driveways, transit stops, accessible parking, and loading zones. Case studies within the guide highlight best practices and lessons learned.

https://nacto.org/wp-content/uploads/2016/05/2-4_FHWA-Separated-Bike-Lane-Guide-ch-5_2014.pdf

PENNSYLVANIA TRAIL DESIGN & DEVELOPMENT PRINCIPLES: GUIDELINE FOR SUSTAINABLE, NONMOTORIZED TRAILS



This document compiles the best practices and guidelines for the planning, design, construction, and management of trails. Techniques are presented for developing trails that create desirable and enjoyable experiences for trail users. These techniques employ sustainable design elements and construction practices that allow the trail to make use of natural systems so that the trail remains both physically and environmentally sustainable.

https://www.americantrails.org/resources/pennsylvania-trail-design-development-principles

BEST PRACTICES IN TRAIL MAINTENANCE: A MANUAL BY THE OHIO RIVER GREENWAY



This manual is intended for practical use by trail maintenance managers. It will also be useful for policy makers who are tasked with anticipating and planning for maintenance budget and personnel needs. The recommendations included in this manual were chosen, in part, to facilitate widespread adoption by other trail operators. They are cost-effective solutions that require minimal technological or financial commitments. It also provides guidance for trail construction and design where a maintenance issue can best be resolved by constructing new trail segments.

https://www.railstotrails.org/resourcehandler.ashx?name=best-practices-in-trail-maintenance-a-manual-by-theohio-river-nway&id=21221&fileName=Best%20Practices%20in%20Trail%20Maintenance.pdf

FHWA ACHIEVING MULTIMODAL NETWORKS: APPLYING DESIGN FLEXIBILITY AND REDUCING CONFLICTS



This publication is resource for practitioners seeking to build multimodal transportation networks. It highlights ways that planners and designers can apply the design flexibility found in current national design guidance to address common roadway design challenges and barriers. It focuses on reducing multimodal conflicts and achieving connected networks so that walking and bicycling are safe, comfortable, and attractive options for people of all ages and abilities.

https://www.fhwa.dot.gov/environment/recreational_trails/publications/rwt2021/

ADA STANDARDS FOR ACCESSIBLE DESIGN



This guide explains requirements in the current editions of the Americans with Disabilities Act (ADA) Standards issued by the Department of Justice (DOJ) and the Department of Transportation (DOT). It provides the scoping and technical requirements for new construction and alterations resulting from the adoption of revised 2010 Standards in the final rules for Title II and Title III.

https://www.ada.gov/2010ADAstandards_index.htm

RAILS TO TRAILS CONSERVANCY (RTC) RAIL WITH TRAILS: BEST PRACTICES AND LESSONS LEARNED



This updated USDOT Rails-with-Trails: Lessons Learned report documents how the state of the practice, perspectives, and context for rails-with-trails have evolved since the first report in 2002 and includes updated effective practices. Best practices are based on extensive research into existing and planned rails with-trails that involved interviews with railroad officials and trail managers; a literature review of previous rail-with-trail studies; a review of trail planning guidance documents; and input from various railroad and trail professionals.

https://www.fhwa.dot.gov/environment/recreational_trails/publications/rwt2021/

APPENDIX C: DETAILED COST INFORMATION

OVERVIEW

On the following pages are detailed cost estimate information for the preferred route and its component segments. Costs shown are for the current year in which the feasibility study was conducted, and are subject to change following additional design work.

McAdams

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

ROUTE 1 SUMMARY

PHASE 1

Segment	Segment Length (mi.)	Cost
19	0.41	$938,000.00
21	0.81	$1,541,000.00
22	0.18	$298,000.00
24	0.30	$572,000.00
25	0.16	$214,000.00
2024 CONSTRUCTION COST =	1.85	$3,563,000.00

PHASE 2

Segment	Segment Length (mi.)	Cost
32	0.50	$604,000.00
33	0.05	$115,000.00
2024 CONSTRUCTION COST =	0.55	$719,000.00

PHASE 3

Segment	Segment Length (mi.)	Cost
9	0.19	$541,000.00
10	0.28	$537,000.00
12	0.20	$278,000.00
13	0.04	$108,000.00
14	0.07	$150,000.00
27	0.25	$385,000.00
35	0.22	$167,000.00
66	0.19	$256,000.00
2024 CONSTRUCTION COST =	1.43	$2,422,000.00

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ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

ROUTE 1 SUMMARY

SPURS

Segment	Segment Length (mi.)	Cost
55	0.16	$393,000.00
73A	0.31	$739,000.00
100	0.15	$299,000.00
101	0.18	$292,000.00
200	0.57	$1,051,000.00
201	0.36	$534,000.00
300	0.17	$232,000.00
301	0.17	$343,000.00
302	0.36	$620,000.00
2024 CONSTRUCTION COST =	2.44	$4,503,000.00

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ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 9

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 18,600.00	$ 18,600.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
520	1121000000-E	AGGREGATE BASE COURSE	220	TON	$ 55.00	$ 12,100.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	20	TON	$ 110.00	$ 2,200.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	20	TON	$ 115.00	$ 2,300.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	945	LF	$ 40.00	$ 37,800.00
848	2760000000-N	6" CONCRETE DRIVEWAY	10	EA	$ 7,500.00	$ 75,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 9,000.00	$ 9,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 25,000.00	$ 25,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	1260	SY	$ 90.00	$ 113,400.00
		MID-BLOCK CROSSING (WITH RFB)	1	EA	$ 30,000.00	$ 30,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	7	EA	$ 6,000.00	$ 42,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 9	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $400,400.00

CONTINGENCY @ 35% $140,140.00

CONSTRUCTION COST SAY $541,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 10

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 18,500.00	$ 18,500.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
520	1121000000-E	AGGREGATE BASE COURSE	170	TON	$ 55.00	$ 9,350.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	20	TON	$ 110.00	$ 2,200.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	20	TON	$ 115.00	$ 2,300.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	725	LF	$ 40.00	$ 29,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	1	EA	$ 7,500.00	$ 7,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 14,000.00	$ 14,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 37,000.00	$ 37,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	1810	SY	$ 90.00	$ 162,900.00
SP		AT-GRADE CROSSING	3	EA	$ 10,000.00	$ 30,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	7	EA	$ 6,000.00	$ 42,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 10	1	LS	$ 30,000.00	$ 30,000.00

SUBTOTAL $397,750.00

CONTINGENCY @ 35% $139,212.50

CONSTRUCTION COST SAY $537,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

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East Greensboro Feasibility Study

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Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 12

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 9,300.00	$ 9,300.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
SP	1115000000-E	GEOTEXTILE FOR PAVEMENT STABILIZATION	430	SY	$ 4.00	$ 1,720.00
520	1121000000-E	AGGREGATE BASE COURSE	210	TON	$ 55.00	$ 11,550.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	10	TON	$ 110.00	$ 1,100.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	50	TON	$ 115.00	$ 5,750.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	180	LF	$ 40.00	$ 7,200.00
848	2760000000-N	6" CONCRETE DRIVEWAY	2	EA	$ 7,500.00	$ 15,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 10,000.00	$ 10,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 27,000.00	$ 27,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	440	SY	$ 90.00	$ 39,600.00
SP		AT-GRADE CROSSING	2	EA	$ 10,000.00	$ 20,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	4	EA	$ 6,000.00	$ 24,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 12	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $205,220.00

CONTINGENCY @ 35% $71,827.00

CONSTRUCTION COST SAY $278,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 13

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 3,400.00	$ 3,400.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 2,000.00	$ 2,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 6,000.00	$ 6,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	140	SY	$ 90.00	$ 12,600.00
		MID-BLOCK CROSSING (WITH RFB)	1	EA	$ 30,000.00	$ 30,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	1	EA	$ 6,000.00	$ 6,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 13	1	LS	$ 10,000.00	$ 10,000.00

SUBTOTAL $80,000.00

CONTINGENCY @ 35% $28,000.00

CONSTRUCTION COST SAY $108,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 14

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 4,800.00	$ 4,800.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	1	EA	$ 7,500.00	$ 7,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 4,000.00	$ 4,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 10,000.00	$ 10,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	250	SY	$ 90.00	$ 22,500.00
		MID-BLOCK CROSSING (WITH RFB)	1	EA	$ 30,000.00	$ 30,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	2	EA	$ 6,000.00	$ 12,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 14	1	LS	$ 10,000.00	$ 10,000.00

SUBTOTAL $110,800.00

CONTINGENCY @ 35% $38,780.00

CONSTRUCTION COST SAY $150,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 19

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 32,600.00	$ 32,600.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	16	EA	$ 7,500.00	$ 120,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 20,000.00	$ 20,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 54,000.00	$ 54,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	2760	SY	$ 90.00	$ 248,400.00
SP		AT-GRADE CROSSING	1	EA	$ 10,000.00	$ 10,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	7	EA	$ 6,000.00	$ 42,000.00
SP		LIGHT POLE RELOCATION	15	EA	$ 6,000.00	$ 90,000.00
SP		BUS STOP W/O AMENITIES	3	EA	$ 2,500.00	$ 7,500.00
SP		COMPREHENSIVE GRADING, SEGMENT 19	1	LS	$ 40,000.00	$ 40,000.00
SP		INTERSECTION IMPROVEMENTS (E MARKET ST & GILLESPIE ST)	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $694,500.00

CONTINGENCY @ 35% $243,075.00

CONSTRUCTION COST SAY $938,000

Notes:
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ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 21

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 53,400.00	$ 53,400.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 20,000.00	$ 20,000.00
520	1121000000-E	AGGREGATE BASE COURSE	310	TON	$ 55.00	$ 17,050.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	30	TON	$ 110.00	$ 3,300.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	20	TON	$ 115.00	$ 2,300.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	930	LF	$ 40.00	$ 37,200.00
848	2760000000-N	6" CONCRETE DRIVEWAY	22	EA	$ 7,500.00	$ 165,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 40,000.00	$ 40,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 107,000.00	$ 107,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	3440	SY	$ 90.00	$ 309,600.00
SP		AT-GRADE CROSSING	1	EA	$ 10,000.00	$ 10,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	20	EA	$ 6,000.00	$ 120,000.00
SP		LIGHT POLE RELOCATION	16	EA	$ 6,000.00	$ 96,000.00
SP		BUS STOP W/ AMENITIES	2	EA	$ 10,000.00	$ 20,000.00
SP		BUS STOP W/O AMENITIES	1	EA	$ 2,500.00	$ 2,500.00
SP		COMPREHENSIVE GRADING, SEGMENT 21	1	LS	$ 70,000.00	$ 70,000.00
SP		INTERSECTION IMPROVEMENTS (E MARKET ST & S BENBOW RD)	1	LS	$ 35,000.00	$ 35,000.00
SP		INTERSECTION IMPROVEMENTS (E MARKET ST & S DUDLEY ST)	1	LS	$ 30,000.00	$ 30,000.00

SUBTOTAL $1,141,350.00

CONTINGENCY @ 35% $399,472.50

CONSTRUCTION COST SAY $1,541,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

3. Unit costs used in this cost opinion are representative of typical market costs as best known to the Consultant as of the date of this estimate, and do not account for inflationary cost escalation.

4. Quantities used in this cost opinion are approximations based on feasibility study alignments by McAdams dated June 2024 and are subject to revision prior to bid.

5. The Engineer has no control over the cost of labor, materials, or equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs, as provided here, are made on the basis of the Engineer's experience and qualifications and represent the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from opinions of probable cost prepared for the Owner.

MCADAMS

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 22

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 10,100.00	$ 10,100.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
848	2613000000-N	REMOVE AND REPLACE CURB RAMPS	4	EA	$ 3,500.00	$ 14,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	2	EA	$ 7,500.00	$ 15,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 9,000.00	$ 9,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 24,000.00	$ 24,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	580	SY	$ 90.00	$ 52,200.00
SP		UTILITY POLE/GUY WIRE RELOCATION	6	EA	$ 6,000.00	$ 36,000.00
SP		LIGHT POLE RELOCATION	5	EA	$ 6,000.00	$ 30,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 22	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $220,300.00

CONTINGENCY @ 35% $77,105.00

CONSTRUCTION COST SAY $298,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

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MCADAMS

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 24

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 19,700.00	$ 19,700.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
520	1121000000-E	AGGREGATE BASE COURSE	160	TON	$ 55.00	$ 8,800.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	20	TON	$ 110.00	$ 2,200.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	20	TON	$ 115.00	$ 2,300.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	700	LF	$ 40.00	$ 28,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	5	EA	$ 7,500.00	$ 37,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 15,000.00	$ 15,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 39,000.00	$ 39,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	1120	SY	$ 90.00	$ 100,800.00
SP		AT-GRADE CROSSING	1	EA	$ 10,000.00	$ 10,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	8	EA	$ 6,000.00	$ 48,000.00
SP		LIGHT POLE RELOCATION	9	EA	$ 6,000.00	$ 54,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 24	1	LS	$ 20,000.00	$ 20,000.00
SP		INTERSECTION IMPROVEMENTS (E MARKET ST & MURROW BLVD)	1	LS	$ 25,000.00	$ 25,000.00

SUBTOTAL $423,300.00

CONTINGENCY @ 35% $148,155.00

CONSTRUCTION COST SAY $572,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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MCADAMS

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 25

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 7,100.00	$ 7,100.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	1	EA	$ 7,500.00	$ 7,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 8,000.00	$ 8,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 21,000.00	$ 21,000.00
SP		PAVEMENT MARKINGS	1	LS	$ 12,000.00	$ 12,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	190	SY	$ 90.00	$ 17,100.00
SP		AT-GRADE CROSSING	1	EA	$ 10,000.00	$ 10,000.00
SP		LIGHT POLE RELOCATION	8	EA	$ 6,000.00	$ 48,000.00
SP		PARKING STOPS (RUBBER, BLACK/WHITE)	60	EA	$ 130.00	$ 7,800.00
SP		COMPREHENSIVE GRADING, SEGMENT 25	1	LS	$ 10,000.00	$ 10,000.00

SUBTOTAL $158,500.00

CONTINGENCY @ 35% $55,475.00

CONSTRUCTION COST SAY $214,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

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McAdams

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 27						
Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 13,100.00	$ 13,100.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
SP	1115000000-E	GEOTEXTILE FOR PAVEMENT STABILIZATION	1520	SY	$ 4.00	$ 6,080.00
520	1121000000-E	AGGREGATE BASE COURSE	590	TON	$ 55.00	$ 32,450.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	160	TON	$ 115.00	$ 18,400.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	10	TON	$ 600.00	$ 6,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 34,000.00	$ 34,000.00
SP		BOARDWALK (10' WIDE, TIMBER PILES, CONCRETE DECKING)	90	LF	$ 1,500.00	$ 135,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 27	1	LS	$ 30,000.00	$ 30,000.00

SUBTOTAL $285,030.00

CONTINGENCY @ 35% $99,760.50

CONSTRUCTION COST SAY $385,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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McAdams

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Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 32						
Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 20,900.00	$ 20,900.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
848	2613000000-N	REMOVE AND REPLACE CURB RAMPS	4	EA	$ 3,500.00	$ 14,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	3	EA	$ 7,500.00	$ 22,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 25,000.00	$ 25,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 66,000.00	$ 66,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	1980	SY	$ 90.00	$ 178,200.00
SP		UTILITY POLE/GUY WIRE RELOCATION	8	EA	$ 6,000.00	$ 48,000.00
SP		BUS STOP W/ AMENITIES	2	EA	$ 10,000.00	$ 20,000.00
SP		BUS STOP W/O AMENITIES	1	EA	$ 2,500.00	$ 2,500.00
SP		COMPREHENSIVE GRADING, SEGMENT 32	1	LS	$ 40,000.00	$ 40,000.00

SUBTOTAL $447,100.00

CONTINGENCY @ 35% $156,485.00

CONSTRUCTION COST SAY $604,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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McAdams

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Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 33

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 3,600.00	$ 3,600.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 3,000.00	$ 3,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 8,000.00	$ 8,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	60	SY	$ 90.00	$ 5,400.00
SP		COMPREHENSIVE GRADING, SEGMENT 33	1	LS	$ 10,000.00	$ 10,000.00
SP		INTERSECTION IMPROVEMENTS (E FLORIDA ST & E GATE CITY BLVD)	1	LS	$ 45,000.00	$ 45,000.00

SUBTOTAL $85,000.00

CONTINGENCY @ 35% $29,750.00

CONSTRUCTION COST SAY $115,000

Notes:
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McAdams

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 35

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 5,500.00	$ 5,500.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
SP	1115000000-E	GEOTEXTILE FOR PAVEMENT STABILIZATION	1400	SY	$ 4.00	$ 5,600.00
520	1121000000-E	AGGREGATE BASE COURSE	550	TON	$ 55.00	$ 30,250.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	150	TON	$ 115.00	$ 17,250.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	10	TON	$ 600.00	$ 6,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 29,000.00	$ 29,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 35	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $123,600.00

CONTINGENCY @ 35% $43,260.00

CONSTRUCTION COST SAY $167,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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MCADAMS

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 55

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 13,400.00	$ 13,400.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
520	1121000000-E	AGGREGATE BASE COURSE	180	TON	$ 55.00	$ 9,900.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	20	TON	$ 110.00	$ 2,200.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	20	TON	$ 115.00	$ 2,300.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	785	LF	$ 40.00	$ 31,400.00
848	2760000000-N	6" CONCRETE DRIVEWAY	4	EA	$ 7,500.00	$ 30,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 8,000.00	$ 8,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 22,000.00	$ 22,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	1050	SY	$ 90.00	$ 94,500.00
SP		AT-GRADE CROSSING	1	EA	$ 10,000.00	$ 10,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	4	EA	$ 6,000.00	$ 24,000.00
SP		BUS STOP W/ AMENITIES	1	EA	$ 10,000.00	$ 10,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 55	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $290,700.00

CONTINGENCY @ 35% $101,745.00

CONSTRUCTION COST SAY $393,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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MCADAMS

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 66

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 8,600.00	$ 8,600.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
SP	1115000000-E	GEOTEXTILE FOR PAVEMENT STABILIZATION	1170	SY	$ 4.00	$ 4,680.00
520	1121000000-E	AGGREGATE BASE COURSE	460	TON	$ 55.00	$ 25,300.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	130	TON	$ 115.00	$ 14,950.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	10	TON	$ 600.00	$ 6,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 25,000.00	$ 25,000.00
SP		BOARDWALK (10' WIDE, TIMBER PILES, CONCRETE DECKING)	50	LF	$ 1,500.00	$ 75,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 66	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $189,530.00

CONTINGENCY @ 35% $66,335.50

CONSTRUCTION COST SAY $256,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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MCADAMS

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Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 73A

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 25,100.00	$ 25,100.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 20,000.00	$ 20,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	6	EA	$ 7,500.00	$ 45,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 38,000.00	$ 38,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 101,000.00	$ 101,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	1120	SY	$ 90.00	$ 100,800.00
SP		AT-GRADE CROSSING	4	EA	$ 10,000.00	$ 40,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	12	EA	$ 6,000.00	$ 72,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 73	1	LS	$ 60,000.00	$ 60,000.00
SP		INTERSECTION IMPROVEMENTS (E WASHINGTON ST & BENNETT ST)	1	LS	$ 45,000.00	$ 45,000.00

SUBTOTAL $546,900.00

CONTINGENCY @ 35% $191,415.00

CONSTRUCTION COST SAY $739,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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MCADAMS

Prepared By: BTB Date: 6/21/2024
Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 100

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 10,100.00	$ 10,100.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	5	EA	$ 7,500.00	$ 37,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 8,000.00	$ 8,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 20,000.00	$ 20,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	570	SY	$ 90.00	$ 51,300.00
SP		AT-GRADE CROSSING	2	EA	$ 10,000.00	$ 20,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	7	EA	$ 6,000.00	$ 42,000.00
SP		BUS STOP W/O AMENITIES	1	EA	$ 2,500.00	$ 2,500.00
SP		COMPREHENSIVE GRADING, SEGMENT 100	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $221,400.00

CONTINGENCY @ 35% $77,490.00

CONSTRUCTION COST SAY $299,000

Notes:
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McAdams

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McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 101

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 9,900.00	$ 9,900.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	3	EA	$ 7,500.00	$ 22,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 9,000.00	$ 9,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 24,000.00	$ 24,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	820	SY	$ 90.00	$ 73,800.00
SP		AT-GRADE CROSSING	2	EA	$ 10,000.00	$ 20,000.00
SP		MID-BLOCK CROSSING	1	EA	$ 15,000.00	$ 15,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	2	EA	$ 6,000.00	$ 12,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 101	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL **$216,200.00**

CONTINGENCY @ **35%** **$75,670.00**

CONSTRUCTION COST **SAY** **$292,000**

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McAdams

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McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 200

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 36,100.00	$ 36,100.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 20,000.00	$ 20,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	13	EA	$ 7,500.00	$ 97,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 29,000.00	$ 29,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 76,000.00	$ 76,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	2170	SY	$ 90.00	$ 195,300.00
SP		AT-GRADE CROSSING	3	EA	$ 10,000.00	$ 30,000.00
SP		MID-BLOCK CROSSING	1	EA	$ 15,000.00	$ 15,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	28	EA	$ 6,000.00	$ 168,000.00
SP		LIGHT POLE RELOCATION	1	EA	$ 6,000.00	$ 6,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 200	1	LS	$ 50,000.00	$ 50,000.00
SP		INTERSECTION IMPROVEMENTS (MCCONNELL RD & S BENBOW RD)	1	LS	$ 55,000.00	$ 55,000.00

SUBTOTAL **$777,900.00**

CONTINGENCY @ **35%** **$272,265.00**

CONSTRUCTION COST **SAY** **$1,051,000**

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East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 201

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 18,400.00	$ 18,400.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
520	1121000000-E	AGGREGATE BASE COURSE	120	TON	$ 55.00	$ 6,600.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	20	TON	$ 110.00	$ 2,200.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	10	TON	$ 115.00	$ 1,150.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	525	LF	$ 40.00	$ 21,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	4	EA	$ 7,500.00	$ 30,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 18,000.00	$ 18,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 48,000.00	$ 48,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	1100	SY	$ 90.00	$ 99,000.00
SP		AT-GRADE CROSSING	3	EA	$ 10,000.00	$ 30,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	12	EA	$ 6,000.00	$ 72,000.00
SP		LIGHT POLE RELOCATION	1	EA	$ 6,000.00	$ 6,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 201	1	LS	$ 30,000.00	$ 30,000.00

SUBTOTAL $395,350.00

CONTINGENCY @ 35% $138,372.50

CONSTRUCTION COST SAY $534,000

Notes:
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McAdams

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Checked By: JAP Date: 6/21/2024
McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 300

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 7,800.00	$ 7,800.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
520	1121000000-E	AGGREGATE BASE COURSE	170	TON	$ 55.00	$ 9,350.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	20	TON	$ 110.00	$ 2,200.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	20	TON	$ 115.00	$ 2,300.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 8,000.00	$ 8,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 23,000.00	$ 23,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	580	SY	$ 90.00	$ 52,200.00
SP		AT-GRADE CROSSING	1	EA	$ 10,000.00	$ 10,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	4	EA	$ 6,000.00	$ 24,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 300	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $171,850.00

CONTINGENCY @ 35% $60,147.50

CONSTRUCTION COST SAY $232,000

Notes:
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2. Cost opinion does not include engineering, geotech, design survey, or construction administration.

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McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 301

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 11,200.00	$ 11,200.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 20,000.00	$ 20,000.00
520	1121000000-E	AGGREGATE BASE COURSE	210	TON	$ 55.00	$ 11,550.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	20	TON	$ 110.00	$ 2,200.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	20	TON	$ 115.00	$ 2,300.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	920	LF	$ 40.00	$ 36,800.00
848	2760000000-N	6" CONCRETE DRIVEWAY	1	EA	$ 7,500.00	$ 7,500.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 50,000.00	$ 50,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 25.00	$ 25.00
SP		6" CLASS B CONCRETE (REINFORCED)	720	SY	$ 90.00	$ 64,800.00
SP		UTILITY POLE/GUY WIRE RELOCATION	4	EA	$ 6,000.00	$ 24,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 301	1	LS	$ 20,000.00	$ 20,000.00

SUBTOTAL $253,375.00

CONTINGENCY @ 35% $88,681.25

CONSTRUCTION COST SAY $343,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

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MCADAMS

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McAdams Project No: NCD22015.03 Greensboro

East Greensboro Feasibility Study

Project Location: Greensboro, NC
Project Description: 10' Paved Trail Mainline
Client: City of Greensboro
Client Project No.

ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION - Feasibility Study

SEGMENT 302

Section	Item Code	Item Description	Quantity	Unit	Unit Price	Cost
800	0000100000-N	MOBILIZATION	1	LS	$ 21,400.00	$ 21,400.00
801	0000400000-N	CONSTRUCTION SURVEYING	1	LS	$ 10,000.00	$ 10,000.00
520	1121000000-E	AGGREGATE BASE COURSE	410	TON	$ 55.00	$ 22,550.00
610	1503000000-E	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	40	TON	$ 110.00	$ 4,400.00
610	1519000000-E	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	30	TON	$ 115.00	$ 3,450.00
620	1575000000-E	ASPHALT BINDER FOR PLANT MIX	5	TON	$ 600.00	$ 3,000.00
846	2549000000-E	2'-6" CONCRETE CURB & GUTTER	1800	LF	$ 40.00	$ 72,000.00
848	2760000000-N	6" CONCRETE DRIVEWAY	8	EA	$ 7,500.00	$ 60,000.00
SP	4457000000-N	TEMPORARY TRAFFIC CONTROL	1	LS	$ 9,000.00	$ 9,000.00
SP	6133000000-N	EROSION CONTROL	1	LS	$ 23,000.00	$ 23,000.00
SP		6" CLASS B CONCRETE (REINFORCED)	1400	SY	$ 90.00	$ 126,000.00
SP		AT-GRADE CROSSING	1	EA	$ 10,000.00	$ 10,000.00
SP		UTILITY POLE/GUY WIRE RELOCATION	8	EA	$ 6,000.00	$ 48,000.00
SP		LIGHT POLE RELOCATION	1	EA	$ 6,000.00	$ 6,000.00
SP		BUS STOP W/ AMENITIES	1	EA	$ 10,000.00	$ 10,000.00
SP		COMPREHENSIVE GRADING, SEGMENT 302	1	LS	$ 30,000.00	$ 30,000.00

SUBTOTAL $458,800.00

CONTINGENCY @ 35% $160,580.00

CONSTRUCTION COST SAY $620,000

Notes:
1. Cost opinion does not include costs for easement or ROW acquisition.

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APPENDIX D: ADDITIONAL COMMUNITY ENGAGEMENT INFORMATION

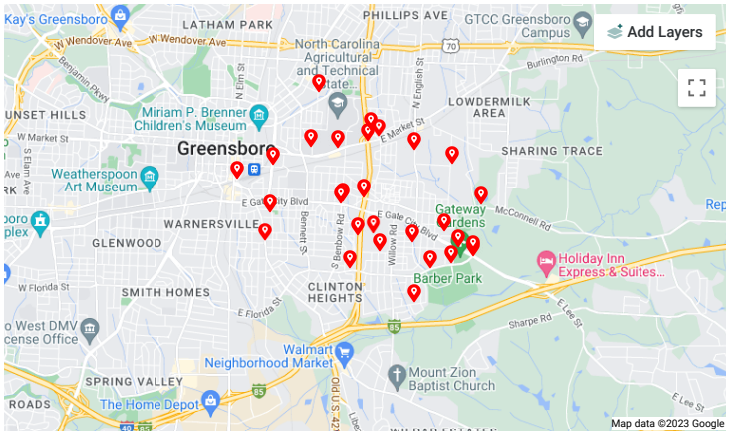
OVERVIEW

Presentation slides, notes, boards, maps, and other materials from community engagement efforts conducted throughout the planning process for the East Greensboro Greenway are included on the following pages. The following engagement efforts are represented in this section:

- Community Survey Results
- Steering Committee Meeting #1 Notes
- Steering Committee Meeting #2 Notes
- Steering Committee Meeting #3 Notes
- Steering Committee Meeting #4 Notes
- Steering Committee Meeting #5 Notes
- Local Organizations Focus Group Meeting Notes
- NC A&T State University Focus Group Meeting Notes
- City + County Staff Focus Group Meeting Notes
- Cottage Grove Fall Fest Pop-Up Event Boards
- An Evening Under the Star Pop-Up Event Boards
- Food Lion Pop-Up Event Boards
- Route Alternatives Survey
- Media Coverage

Community Survey Results

2. Mark areas (streets, intersections, neighborhoods, etc.) that need the most pedestrian and bicycle infrastructure improvements along the proposed East Greensboro Greenway corridor. *The preliminary study corridors for the East Greensboro Greenway Feasibility Study are represented by the green lines. The preliminary routes shown in the map illustrate the general study area and do not reflect the exact route that may be recommended.*



3. What are your five (5) most important routing preferences for the proposed East Greensboro Greenway? *Select up to five (5) routing options.*

92%	Provide connections between existing greenways and trails	23 ✓
80%	Provide connections to schools and colleges along the corridor (Washington Montessori Elementary School, James B. Dudley High School, Bluford Elementary School, Peeler Open Elementary School, NC A&T State University, Bennett College)	20 ✓
80%	Provide access to cultural, historic, and parks/recreational centers	20 ✓
60%	Provide access to transit	15 ✓
48%	Provide access to shopping centers and commercial destinations	12 ✓
16%	Most direct route	4 ✓
12%	Adjacent to roadways along the corridor	3 ✓
12%	Other (please specify)	3 ✓

25 Respondents

4. What factors discourage you from using greenways and trails in Greensboro? *Select all that apply.*

74%	Lack of safe biking and walking connections to and from existing greenways and trails	17 ✓
65%	Unsafe street crossings and intersections	15 ✓
43%	Poor maintenance conditions of existing greenways and trails	10 ✓
43%	Lack of parking at trailheads	10 ✓
30%	Motor vehicle traffic and/or speed	7 ✓
30%	Lack of nearby destinations	7 ✓
22%	Personal safety concerns	5 ✓
22%	Lack of interest	5 ✓
17%	Lack of signage and wayfinding	4 ✓
13%	Other (please specify)	3 ✓

23 Respondents

5. What is your home ZIP Code?

27401
6 days ago

27401
7 days ago

27405
7 days ago

27403
7 days ago

27403
16 days ago

27407
18 days ago

27403
19 days ago

27410
21 days ago

27410
27 days ago

27405
27 days ago

27406
27 days ago

27408
28 days ago

27401
one month ago

27265
one month ago

27406
one month ago

27406
one month ago

27105
one month ago

27407
one month ago

27403
one month ago

27405
one month ago

27107
one month ago

N/A
one month ago

27401
one month ago

6. Please provide any additional comments or feedback for the East Greensboro Greenway Feasibility Study.

You need to include neighborhood and business connections, plus bike parking near businesses.
7 days ago

I think this proposed greenway should be extended south to the Bluford Loop Trail. Also, a connection to the west with the Southeast Greenway would be very beneficial!
18 days ago

I'm excited to see this additional connectivity added to our existing greenway system. I don't love the Market Street section. I am sure you did it to connect with A&T, but I don't know how you are going to make that corridor more friendly to pedestrians and cyclists.
28 days ago

I feel they need to do more for the comunity
one month ago

A spur to connect Lincoln Middle School and Bluford Elem. Safe Route to Schools
one month ago

I definitely we need more safe walk ways for the communities and ones that students can interact with.
one month ago

I would like a greenway that provides safety and a beautiful getaway
one month ago

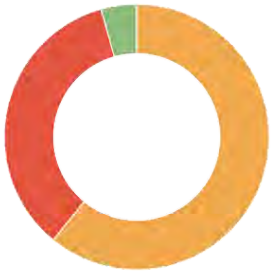
What is your age?



- 22% 18-25
- 22% 46-55
- 17% 36-45
- 17% 56-65
- 4% Under 18
- 4% 26-35
- 4% 66-75
- 4% Over 75
- 4% Prefer not to answer

23 respondents

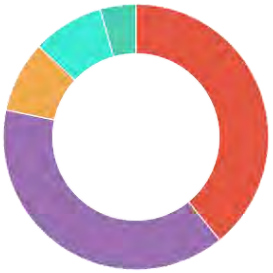
What is your gender?



- 61% Female
- 35% Male
- 4% Prefer not to answer
- 0% Non-Binary

23 respondents

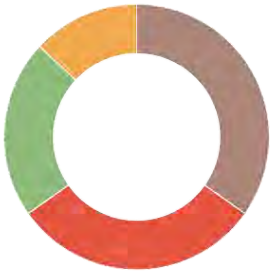
What is your race/ethnicity?



- 39% Black or African American
- 39% White
- 9% Asian
- 9% Prefer not to answer
- 4% Other (please specify)
- 0% Others

23 respondents

How many household vehicles do you have access to?



- 35% 2 vehicles available
- 30% 1 vehicle available
- 22% 3 or more vehicles available
- 13% No vehicle available

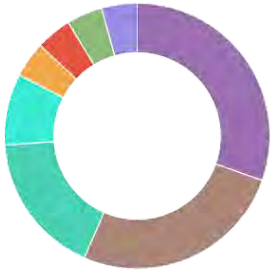
23 respondents

What is your annual household income?



- 22% $100,000 - $149,999
- 17% Less than $25,000
- 17% $50,000 - $74,999
- 13% $25,000 - $49,999
- 13% Prefer not to answer
- 9% $75,000 - $99,999
- 9% $150,000 or more

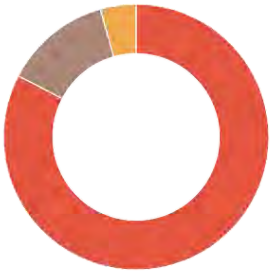
What is the highest level of education you have completed?



- 30% Bachelor's degree
- 26% Some college, no degree
- 17% Master's degree
- 9% Doctorate degree
- 4% Less than a high school diploma
- 4% High school diploma or GED
- 4% Vocational training
- 4% Prefer not to answer
- 0% Associates degree

23 respondents

Do you have a disability?



- 83% No
- 13% Prefer not to answer
- 4% Yes

23 respondents

Steering Committee Meeting #1 Notes

MCADAMS

EAST GREENSBORO GREENWAY STEERING COMMITTEE #1
MEETING MINUTES

October 5, 2023

From: Allison Anolik, McAdams
Attendees: Elizabeth Jernigan, City of Greensboro
Shawna Tillery, City of Greensboro
Hanna Cockburn, City of Greensboro
George Linney, City of Greensboro
Deniece Conway, City of Greensboro
Mary Harward, Greensboro Urban Area MPO
Craig McKinney, Greensboro Urban Area MPO
Joe Furstenberg, NCDOT IMD
Alex Rotenberry, NCDOT IMD
Chad Reimakoski, NCDOT Division 7
Nishant Shah, NCDOT Division 7 Corridor Development Engineer
Dabney Sanders, Action Greensboro
Nicole Lindahl, Bicycling in Greensboro
Phil Barnhill, East Greensboro Now
Mac Sims, East Greensboro Now ()
Jimmy Prestwood, McAdams
Brian Bernard, McAdams

RE: East Greensboro Greenway Feasibility Study Steering Committee #1

Introduction

Study Purpose + Study Area

- What does success look like?

Defining Project Success

- Equity: how do we measure and ensure equitable outcomes?
    - Importance of Community Engagement and collaboration with community (Hanna Cockburn)
    - Meaningful investments in mobility choice
    - Input/resources from Professor Steve Cancian, NC A&T to avoid gentrification

Project Schedule

Community + Stakeholder Engagement

- Meaningful engagement includes laying out what the study is, property acquisition considerations, schedule, and keep community updated regularly, sharing results (Mac Sims)

Study Considerations

Group Discussion + Mapping Assessment

- Preliminary Alignments: Safety at problem intersections and along E Market Street (a major conflict zone) is important. Try to keep is accessible to peoples homes and provide safe crossings, involve bicyclists who know the area (Nicole Lindahl)
- Built environment: ROW, RR crossings, small setbacks are challenges

- Take a closer look into food deserts
- Request to send both initial alignment and preliminary alternatives for detailed review

Next Steps + Questions

Steering Committee Meeting #2 Notes

December 12, 2023

From: Allison Anolik, McAdams
Attendees: Elizabeth Jernigan, City of Greensboro
Shawna Tillery, City of Greensboro
Lydia McIntyre, City of Greensboro
Hanna Cockburn, City of Greensboro
Deniece Conway, City of Greensboro
Kelly Larkins, City of Greensboro
Craig McKinney, Greensboro Urban Area MPO
Alex Rotenberry, NCDOT IMD
Dabney Sanders, Action Greensboro
Nicole Lindahl, Bicycling in Greensboro
Phil Barnhill, East Greensboro Now
Mac Sims, East Greensboro Now
Oliver M. Thomas, NC A&T
Staci Manter, NC A&T
Brian Bernard, McAdams

RE: East Greensboro Greenway Feasibility Study Steering Committee #2

Introduction

- Allison began the presentation and shared instructions for using Mentimeter.
- Icebreaker question: What is your favorite greenway or trail in Greensboro, and why?
  - *I don't have one!*
  - *Nat Greene. Beautiful views*
  - *The downtown greenway because it connects 8 neighborhoods and tells community stories with public art*
  - *The A&Y Greenway, because it is close to my house*
  - *Downtown Greenway. It allows the opportunity to learn more about Greensboro's neighborhoods.*
- Allison reviewed the agenda for the meeting, and noted that opportunities and constraints for the route segments are still in the internal QA/QC process but will be shared as soon as available.

Project Schedule

- Allison reviewed the project schedule and noted that the project is now in the Route Analysis phase.

Project Goals

- Allison reviewed the project goals of Safety, Accessibility + Connectivity, Placemaking, Equity + Inclusion, and Project Feasibility.

MCADAMS EAST GREENSBORO GREENWAY STEERING COMMITTEE #2
MEETING MINUTES

Stakeholder Engagement

- Allison reviewed key findings from the two pop-up events where greenway feedback was sought.
  - Cottage Grove Fall Festival, Sept. 30
  - An Evening Under the Star, Oct. 26
- Allison reviewed key findings from focus group meetings.
  - Local Organizations, Nov. 29
    - A key idea that emerged from this meeting was to create a facility *with* the community, not *for* the community.
  - NC A&T, Nov. 30
    - The University is very concerned with biosecurity on the University Farm property, and as a result most segment alternatives on or adjacent to the property were removed from consideration.
    - The University if also concerned with making sure any greenway alignments along E Market Street are in harmony with the corridor as the "front door" of the University
    - Allison asked if Oliver or Staci would like to add anything to recap the meeting. Oliver said the historic community around the University campus, E. Market St, and Dudley St don't provide many opportunities to learn about the history of the neighborhood and its role in Greensboro history.
    - Dabney asked if the NC A&T Real Estate Foundation was part of the conversation. Allison said they were not but would be included in a future conversation.
  - City + County Staff, Dec. 8

Survey Results

- Allison reviewed results from the community survey.
- Dabney said she knows the voices of bicyclists have been represented in the survey, but asked if the voices of pedestrians have been represented as well as their experiences are different. Allison asked if there are organizations who could better represent pedestrians.
  - Alex suggested perhaps a running club. There are many around the City, especially at local breweries, but the committee is not sure if any are specifically based in East Greensboro. Local project partners will look into this and provide some names and contact information.
- There was a question about design strategies for ensuring bicyclists and pedestrians don't have conflicts on the greenway. Allison noted the project will follow best practices and standards for greenway design including greenway widths of at least 10-12 ft that allows space to comfortably pass. Dabney suggested that pavement markings could also be employed to delineate the lanes, but that NCDOT has been resistant to the idea.
- Nicole said she thinks the greenway will attract a lot of commuters in East Greensboro who may not ride as fast as recreational cyclists. She noted that the A&Y Greenway uses lane markings at sharp curves, but that a universal application of lane markings along the whole greenway could desensitize greenway users to the intended safety message of markings, making them less effective.

- Allison noted some of the community engagement with neighborhood associations, especially Old L. Richardson and Cottage Grove.

Preliminary Routes

- Allison reviewed preliminary route segments.

Segments Evaluated

- Allison reviewed a map of updated route segments following stakeholder engagement, including a loop and cultural trail on A&T's campus.
  - There was a comment that routing greenways through neighborhoods may encounter pushback over increased traffic and activities along the corridor. Allison said the team is trying to use public right of way or property as much as possible.
  - Nicole said some concerns over greenways may be misinformed and would be willing to provide resources to share accurate information with residents.
  - There was a question about if the project team had been on site, and Allison described the site visit and community engagement visits conducted earlier in the study process.

Opportunities + Constraints

- Allison reviewed a summary of opportunities and constraints for the project, including determining the best location to cross the railroad, and segments that were removed due to biosecurity concerns from NC A&T. She also noted segments where the project team has concerns about constructability and feasibility.

Route Alternatives

- Allison introduced the preliminary route alternatives, noting that they are subject to change following community and stakeholder feedback.
- Dabney asked what the difference is between the greenway and the spur routes shown on the map. Brian said spur routes are just connections between the mainline and nearby destinations. Allison noted that the connections can be changed.

Alternative #1

- Brian reviewed Alternative #1, noting a segment that crosses A&T property but behind an existing retaining wall adjacent to a shared-use public access facility on the property. The project team noted that this segment and route Alternative #2 are dependent on NC A&T support for the alignment, and provides a more greenway-like user experience overall.
- Brian noted that the segments along E. Market St would use the south side of the roadway to make crossing US-29 safer.

MCADAMS EAST GREENSBORO GREENWAY STEERING COMMITTEE #2
MEETING MINUTES

- There was a question about why Bingham Park is included along the route, and Allison noted that it was a priority of the initial project corridor, and that the City is beginning a planning process to imagine the future of the park.
- Dabney asked why the two spurs connecting to Dudley High and Bluford Elementary don't connect, and Allison noted that the Project team has not yet engaged the school system to identify a potential alignment through the school property. These spurs are preliminary options that can be modified based on stakeholder feedback.
- Brian noted that many segments away from NC A&T property were not evaluated initially due to the scope of the project and initial destinations, but following stakeholder engagement the project team began looking at more options to the west of the farm property and along S English St.
- There was a question about phasing and implementation. Allison said this is still under development, and cost estimates later in the planning process may help guide this process.
- Brian noted this alternative crosses more private property between English St and McConnell Rd and could be infeasible if landowners do not support it.
- There was a question about if pedestrian refuges could be incorporated at major crossings.
- There was a question about what impact lighting on the greenway could have. Brian said lighting is typically only used along streetside segments and not along creeks or in natural areas. But since the corridor could be used for transportation and commuting, lighting could be necessary for some segments as some people may be riding the greenway home after buses stop running. The steering committee was supportive of making sure the greenway is well lit at night for commuters (particularly during the winter when daylight hours are shorter)

Alternative #2

- Brian noted the similarities to Alternative #1, and described the route along Everitt St, Banner Ave, and Moody St that this alternative offers.
- Brian said the team is aware of challenges with implementing a greenway cross-section that is safe for bicyclists and pedestrians but does not adversely impact adjacent property owners. He said there are existing sidewalk gaps in the area that could be filled as part of the project.
- Brian noted this alternative has a lower risk of flooding than Alternative #1 and requires less coordination with private property owners but requires more roadway crossings.

Alternative #3

- Brian introduced Alternative #3 and noted the route along the east side of English St south of Bingham Park predominantly uses existing public right of way and has a lower risk of flooding, but does cross more roadways and driveways. It provides fewer opportunities for rest areas and amenities, but a greater flexibility in trail cross-sections.
- Brian noted the alternative does not directly connect to the Hampton School site, but a connection could be provided.

- Nicole asked what the typical section for the English St segment would look like. Brian noted that the roadway width would likely be reduced from 30 to 24 feet, and a planting strip would be added between the roadway and a 10-ft sidepath on the east side of the roadway. North of Apache St, the trail would be on the west side of the roadway.
- Craig recommended the project team review the City's street sign standards before going too far into the design process.
- The project team should review Greensboro and NCDOT standards on paint/taper distances to allow narrowing of roads.
- There was a question about using Alternative #1 but incorporating Alternative #3 as a spur to provide a commuter-based and a leisure-based option.

Mentimeter Exercise: What are the most important community connections for the spurs?

- *1. Windsor-Chavis Nocho Community Complex*
- *2. Barber Park*
- *3. Bingham Park*
- *4. Dudley High School/Bluford Elementary School*
- *5. Downtown Greenway*
- *6. Bennett College*
- *7. Historic Magnolia House*
- *8. Hampton School Site*
- *9. Visual and Performing Arts Elementary School*
- *10. Apache St Corridor*

Route Evaluation Criteria/Decision Matrix

- Allison reviewed route evaluation criteria and how they will be used to guide route selection.
  - Physical Feasibility + Constructability
  - Desired Connectivity
  - Community Priorities
  - Cost
  - Environmental Impacts
  - Accessibility + User Experience
  - Property Impacts
  - Potential Funding Opportunities
  - Placemaking
  - Leadership Support
  - Traffic Impacts
  - Implementation Timeframe
- There was a question about if the criteria are weighted, and Allison said they can be.

MCADAMS EAST GREENSBORO GREENWAY STEERING COMMITTEE #2
MEETING MINUTES

- Nicole noted that safety is not specifically included as a prioritization selection criterion. Allison said that all alternatives evaluated will prioritize safety per the goals of the project, and that safety is incorporated as a consideration in many of the other selection criteria. Nicole suggested adding Safety as a separate criterion.

Mentimeter Exercise: How would you prioritize the Evaluation Criteria?

- *19% Accessibility + User Experience*
- *16% Community Priorities*
- *14% Physical Feasibility + Constructability*
- *12% Desired Connectivity*
- *12% Placemaking*
- *6% Potential Funding Opportunities*
- *5% Property Impacts*
- *5% Traffic Impacts*
- *4% Environmental Impacts*
- *3% Leadership Support*
- *3% Implementation Timeframe*
- *3% Cost*

Next Steps + Questions

- Allison reviewed next steps for the project, including evaluating alternatives.
- The project team hopes to meet with NC A&T again in January to discuss alignments along the edge of the farm property and along E. Market St.
- Landowner coordination meetings to identify willing and unwilling landowners.
- Steering Committee Meeting #3 to present evaluations and recommendations.
- Additional public engagement (Spring 2024).
- Dabney asked what information will be presented to the public and community members about considerations for route selection. Allison said this is still to be determined, but noted that the project team does not want to impose a vision on the community and will leave it open to community feedback.
- There was a question about which City Council districts the routes are in. Hanna said it is in Districts 1, 2 and 4.

Steering Committee Meeting #3 Notes

March 22, 2024

From: Allison Anolik, McAdams
Attendees: Elizabeth Jernigan, City of Greensboro
Shawna Tillery, City of Greensboro
George Linney, City of Greensboro
Hanna Cockburn, City of Greensboro
Craig McKinney, Greensboro Urban Area MPO
Alex Rotenberry, NCDOT IMD
Joe Furstenberg, NCDOT IMD
Chad Reimakoski, NCDOT IMD
Dabney Sanders, Action Greensboro
Nicole Lindahl, Bicycling in Greensboro
Phil Barnhill, East Greensboro Now
Mac Sims, East Greensboro Now
Staci Manter, NC A&T
Brian Bernard, McAdams
Andrew Hickling, McAdams
Christopher Normile, McAdams

RE: East Greensboro Greenway Feasibility Study Steering Committee #3

Introduction

- Allison introduced the project and meeting agenda.

Project Schedule

- Allison reviewed the project schedule, noting some of the remaining community engagement efforts and goals to be achieved following this meeting.

Community Engagement Updates

- Allison reviewed key findings from community engagement efforts conducted since the last meeting, including a meeting with the Cottage Grove Collaborative on January 8. She noted that the team will setup a booth outside the Food Lion on S English St on March 23.

Alternative Development Recap

- Allison reviewed the route development process, from preliminary route alignments to preliminary route segments and segment alternatives which were combined into the route alternatives being presented.
- Key factors of the route alternative development process include the crossings of the railroad and O.Henry Blvd. Other factors were considered including biosecurity concerns from NC A&T and constraints on Gorrell St.

MCADAMS EAST GREENSBORO GREENWAY STEERING COMMITTEE #3
MEETING MINUTES

Route Alternatives

- Brian reviewed the four route alternatives, their pros and cons, and their cost estimates.
- Alternative #1
  - $6.9m mainline, $3.6m spurs
- Alternative #2
  - $5.5m mainline, $3.6m spurs
- Alternative #3
  - $4.9m mainline, $5.2m spurs
- Alternative #4
  - $7m mainline, $2.8m spurs
- Craig asked what the cost estimates include. Brian and Allison said it is construction and materials in 2024 dollars and does not include costs for easement or ROW acquisition, engineering, Geotech, design survey, or construction administration, nor does it include costs for private utility relocations.

Route Alternative Decision Criteria and Matrix

- Allison reviewed route evaluation criteria and considerations for scoring each criterion.
- Allison reviewed scoring levels for the matrix, saying that the team chose to use three instead of five scoring levels to avoid giving a false sense of precision at this early stage in the project, and that the alternatives are primarily being compared to each other rather than in isolation.
- Alex indicated in the chat that he would be interested to see what data sets make up each of these criteria.
- Accessibility + User Experience
  - Route Alternative 1 has a midblock crossing at a busy street (McConnell) and is not very direct. Allison noted that while Safety is not its own criteria, it is incorporated into the decision-making process for several criteria including User Experience. Property setbacks and utility poles along E Market St are very close and constrain the route.
  - Nicole said accessibility and safety are different things and should be evaluated separately. Safety is a very high priority. Allison asked if Nicole expects the scores to change if they are evaluated separately, and Nicole said that it would give more meaning to each. Hanna said her concern with evaluating safety separately is because the team is not doing a full safety analysis of the route alternatives, and that safety features in the design to address safety concerns are not being evaluated at the feasibility study level.
- Community Priorities
  - Route Alternative 3 mainline does not connect directly to as many destinations as the other alternatives, but they could be provided with spur routes. Connectivity to the Food Lion was a key consideration brought up by the Cottage Grove community.
- Physical Feasibility + Constructability
  - Route Alternatives 2 and 3 score the highest because they are within the right-of-way, but will require bridge modifications at O.Henry Blvd.

- Route Alternatives 1 and 4 have some constructability challenges relating to wetlands and floodplain between Florida and Apache.

- Desired Connectivity
  - Route Alternative 3 has less connectivity to Bingham Park, The Food Lion and NC A&T.
- Economic Development + Placemaking
  - Route Alternatives 1 and 4 have greater placemaking opportunities with greenway sections, while Route Alternatives 2 and 3 are more constrained with respect to the ability to create pocket parks or rest areas that help create a sense of place.
  - Mac said economic mobility is a concern in the community and thinks this greenway and the addition of sidewalks could be an important economic development tool to help people get to and from employment centers. He said there is a lack of services and retail in the area, but that E Market St is the primary commercial and employment corridor in the area. Allison said Route Alternatives 1 and 2 were scored higher due to their connectivity to commercial centers along E Market Street, but that access to community facilities such as the Mustard Seed healthcare site could also be considered.
  - Mac said NC A&T recently announced the Resurgent Development project, a joint effort of Cone Health, NC A&T on the south side of E Market St at Benbow Road, which may increase traffic. He said public art is important for placemaking and beautification. Allison said public art is a key consideration but can't be addressed with certainty at the feasibility study level. Publicly owned properties likely offer the greatest opportunity to provide public art and placemaking.
  - Staci said she has spoken with Bill Barlow who has concerns with giving up space on the campus and what that may mean, and that the University would like to talk about it more internally. Allison emphasized that Route Alternatives 1 and 2 along E Market St would be on the south side of the roadway and could likely be accommodated entirely within the public right-of-way. The City has expressed support to remove on street parking and bus pull offs to accommodate both the greenway and higher frequency transit service proposed in GoBORO. Hanna noted that E Market St is now being served by the CrossMax Purple route with 15-minute frequencies and is a demonstration route recommended in GoBORO.
- Potential Funding Opportunities
  - Parts of the study area are classified as disadvantaged communities and could be more competitive for discretionary funding through the current federal administration. Providing access to a grocery store is also advantageous due to the study area being classified as a food desert.
- Property Impacts
  - Route Alternatives 2 and 3 are entirely within the public right-of-way and have few property impacts. Routes 1 and 4 have more property impacts and would require an easement through the Piedmont Memorial Cemetery.
- Traffic Impacts
  - Each of the alternatives have challenges, with greater construction impacts on Route Alternatives 2 and 3, while Route Alternatives 1 and 4 require midblock crossings.
- Environmental Impacts

McADAMS EAST GREENSBORO GREENWAY STEERING COMMITTEE #3
MEETING MINUTES

- Leadership Support
  - The City has concerns about acquiring an easement through Piedmont Memorial Cemetery affecting Route Alternatives 1 and 4, while NC A&T has concerns about a route along E Market St affecting Route Alternatives 1 and 2.
- Implementation Timeframe
  - Route Alternatives 1 and 2 depend on the timeline of the English St grade separation project included in the State Transportation Improvement Program. Route Alternatives 1 and 4 also pass through the former Hampton School site and may need to coordinate with any proposed redevelopment there.
- Cost Effectiveness
  - Scoring is based on the opinion of probable construction cost for the mainline routes. Route Alternatives 1 and 4 have higher costs due to anticipated boardwalk and/or structures in floodplain.
- Allison opened the meeting to questions and asked which routes the steering committee members felt were most feasible and desired based on the concerns discussed.
  - Dabney said criteria where Route Alternative 3 did not score as highly are still very important and could be addressed further. Allison said the spur routes help the alternative address those challenges.
  - Nicole asked for a week to review the maps and provide feedback. Allison said the committee can take two weeks if they need.
  - Phil asked if there is a numeric score associated with the matrix. Allison said the project team has rough estimates of the score for each route alternative. Phil said numeric scores would help the team identify where opportunities to improve the performance of the alternatives.
  - Allison asked Phil and Mac if they have any ideas about what may help differentiate between Route Alternatives 2 and 3 or things that should be considered when choosing a recommended route. Mac asked if the final decision is made by City staff or political leaders. Hanna said it has the potential to become a political decision but doesn't have to be if staff and the consultant make the very best decision based on all the community feedback and technical considerations documented throughout the process, and just because a route scored lower doesn't mean it is not being considered. Elizabeth added that staff is working with the City Manager's office to communicated updates on the project to elected officials, and that the team is trying to incorporate as much information as possible into the decision-making process. She recalled that the project team has included community engagement at many stages of the project wherever possible, and that the project is aiming to gather support for one route alternative before going into additional detail on design considerations.
  - Dabney asked if NC A&T has done any polling of students, faculty, and staff on their transportation needs and desires. She recalled from the Downtown Greenway project that a nearby developer of Bailey Village asked if it was possible to connect their development to the Downtown Greenway, although it was ultimately not possible. She asked if there was opportunity to work with the University on getting support for the project. Staci said she will be sharing information internally and gathering more feedback from the University community.
  - Mac said the project should be discussed with someone who will remain at the University long-term considering there will be a chancellor transition in the next two months.

- Nicole suggested setting up a table at Barber Park near the community bike shop to gather feedback from the neighborhood. She said she has a contact for the project team.

Typical Cross-Sections + Intersection Treatments

- Christopher reviewed typical cross sections and intersection treatments for the greenway.
- Nicole asked if the feasibility study will include a maintenance plan. Christopher said the study will detail typical maintenance activities and estimated frequency of those activities and recommending the development of a maintenance plan by the City.
- Craig asked if intersection improvements are included in the cost estimates, and if it includes the cost of rebuilding driveways that the trail crosses. Brian said they are included.

Next Steps + Questions

- Allison reviewed next steps for the project.
  - Continued coordination with NC A&T
  - Landowner coordination meetings
  - Community pop-up event (March 23 at Food Lion)
  - Identify recommended route alternative
  - Steering Committee Meeting #4 (Implementation)
- Dabney asked if a site visit would be conducted. Allison said if it does it would likely be in late April or early May, but would depend on the feedback received from the public and from A&T. She said steering committee members can email her and recommend places to look at further.

Steering Committee Meeting #4 Notes

July 9, 2024

From: Allison Anolik, McAdams
Attendees: Elizabeth Jernigan, City of Greensboro
Shawna Tillery, City of Greensboro
Mary Harward, City of Greensboro
Craig McKinney, Greensboro Urban Area MPO
Alex Rotenberry, NCDOT IMD
Chad Reimakoski, NCDOT IMD
Dabney Sanders, Action Greensboro
Nicole Lindahl, Bicycling in Greensboro
Phil Barnhill, East Greensboro Now
Mac Sims, East Greensboro Now
Will Washam, McAdams
Christopher Normile, McAdams

RE: East Greensboro Greenway Feasibility Study Steering Committee #4

Introduction

- Allison opened the meeting and reviewed and meeting agenda. Will introduced himself to the Steering Committee.

Project Updates + Schedule

- Allison reviewed the project schedule, noting some of the changes in the schedule throughout the project process. She reviewed remaining milestones for the project, with a plan to have a draft of the feasibility study for steering committee review on or about August 1, a final Steering Committee meeting in mid-august, and present the plan to the Greensboro Urban Area Metropolitan Planning Organization (GUAMPO) for amendment to its Metropolitan Transportation Plan (MTP) in September.
- Allison reviewed the four route alternatives and noted that cost estimates were revised to raise the contingency from 30% to 35%.
- Allison reviewed community engagement conducted since the last meeting.
  - Food Lion engagement
    - Community members were very excited about the greenway.
    - Discussion about directness of the route.
  - Route Alternatives survey
    - Route Alternative #1 received the most votes, while Route Alternative #2 received the least.
    - Nicole asked why Route Alternative #2 received the lowest ranking. Allison said the team would look back through the survey data and could follow-up (see notes at end).
  - Barber Park Bike Shop pop-up

McADAMS EAST GREENSBORO GREENWAY STEERING COMMITTEE #4
MEETING MINUTES

    - Conversations with community members and volunteers revealed that several people already bike along Route Alternative #3.
- Allison reviewed the route alternatives evaluation matrix, noting changes to scoring since the last meeting.
  - Environmental Impacts changed from Low to Med for Route Alternatives 1 and 4.
  - Community Priorities and Leadership Support changed to High for Route Alternative #1 based on community engagement and discussions with the City.
- Active Transportation Infrastructure Investment Program (ATIIP) Grant Application
  - An application in partnership with NCDOT will be submitted on Friday, July 12, before applications are due on July 17.
  - ATIIP is funded through the Bipartisan Infrastructure Law and provides $44.5M for active transportation networks that improve safety, public transportation connections, quality of life in disadvantaged communities, and advance USDOT environmental goals
  - The City intends to keep the Steering Committee together throughout the design process for the greenway if it is awarded grant funding.
  - City/GUAMPO are requesting $1,525,600 to complete 100% design, including environmental review, permitting and additional community engagement. The grant is expected to be very competitive, so the City is committing a 20% local match although it is not required due to the proportion of the study area that is identified as disadvantaged.
  - Allison said this program is a very good fit for this project and the goals it attempts to meet.

Recommendations

- Allison shared reasons why the City selected Route Alternative #1 as the preferred route alternative.
  - Favored in route alternatives survey
  - Maximizes greenway section to improve user experience and access to nature, balances recreation and transportation needs
  - Desired connectivity
  - Coordinates with multimodal improvements along E Market St including transit investments and helps address safety/crossing concerns.
  - Nicole asked about the demographics of the survey. Allison said this could be provided later.
  - Elizabeth added that this project grew out of community engagement conducted for this project and others and includes findings based on statistically valid surveys.
- Mainline Character Zones
  - Will reviewed character zones for the different areas along the preferred route alternative and how they impact the development of cross sections and design guidance.
    - Character zones are defined as Park, Nature, Sidepath, E. Market St, NC A&T, Urban, and Mobility.
- Potential Greenway Spurs
  - Will briefly reviewed potential greenway spurs identified along the recommended route alternative.
- Typical Sections

- E. Florida St Sidepath would widen the existing sidewalk within the right-of-way (ROW), while providing enough room for a small planting strip.
- Greenway, Boardwalk, and Bridge sections are identified primarily within the Nature character zone and would traverse natural and more environmentally sensitive areas.
- S. English St Sidepath in the Sidepath character zone would include a 12 ft sidepath. The path is proposed to be 12 ft in lieu of providing a planting strip to ensure adequate width of the trail.
- E. Market St Sidepath would widen the existing sidewalk to 12 ft, with some places such as near Raleigh St. This section is identified for the E. Market St, NC A&T, and Urban character zones.
  - At O.Henry Blvd bridge, the existing 5-lane cross section would be reduced to 4 lanes to provide space for a 12 ft sidepath on the south side.
  - West of the O.Henry Blvd bridge, existing street parking and bus pullouts would be removed to provide an additional 8 feet of space for the sidepath and a 6 ft amenity zone or planting strip.
  - Allison noted that no changes to the north side of E. Market St are proposed as part of this study, but changes based on feedback from NC A&T and other planned projects could be made.
- S. Church St Cycletrack would implement a two-way cycletrack within the Mobility character zone, reallocating some of the existing 50 ft wide street.

> Trailheads and Placemaking
- Will reviewed potential major trailheads, which create opportunities for people to drive to and park at the greenway to use it. Major trailheads including Barber Park, J Douglas Galyon Intermodal Depot, and the future Hampton School redevelopment.
  - Amenity opportunities include public parking, restrooms, mapping and wayfinding, greenway branding, and public art.
- Gateway trailheads are meant for people who are on foot already, and are identified at Barber Park, McConnell Rd, and S. English St.
- Confirmation/decision wayfinding locations are opportunities for major wayfinding and directional signage, although Will noted that wayfinding and signage will be used throughout the corridor.
- Opportunities for placemaking through public art are located throughout the corridor, but especially on the proposed S. Church St cycletrack.

> Intersection + Crossing Recommendations
- Will reviewed major crossings, minor crossings, and driveway crossings.
  - Major crossings are primarily signalized already, with the exception of proposed midblock crossings of McConnell Rd and S. English St.
  - Key goals of crossing treatments are to increase visibility, increase yielding compliance, and reduce vehicle speeds and crash potential.
- Alex asked about particular treatments at road crossings. Will said traffic volumes and geometry should permit curb extensions at midblock crossings. Turning radii can be reevaluated at signalized intersections to tighten radii where possible, and implementation of leading pedestrian intervals where not already existing.

McAdams
EAST GREENSBORO GREENWAY STEERING COMMITTEE #4
MEETING MINUTES

- Alex asked if the plan will recommend prohibiting right turns on red at locations such as the S. Church St cycletrack. Will said that right turn or red prohibition had not been specifically discussed but the project team will evaluate the signals and include that recommendation as appropriate. The current recommendation is to include R10-15 signage, right turns yield to pedestrians at all signalized locations. signage.
- Nicole said painted brick crosswalks such as those near UNC Greensboro seem to work well for safety and visibility.

Implementation + Phasing

> Allison reviewed considerations for a phased implementation of the project due to the length and complexity of the corridor.
- Phase 1: Galyon Depot to S. English St
  - Within existing ROW makes permitting easier and more streamlined
  - Incorporate trailhead considerations into TOD study of Galyon Depot
  - Coordinate with planned changes to cross-section on E. Market St associated with Crossmax service.
- Phase 2: Barber Park to E. Gate City Blvd
  - Within existing ROW, limited environmental permitting.
- Phase 3: E. Gate City Blvd to E. Market St
  - Environmental permitting will be more complicated and time-consuming here due to wetland and stream impacts.
  - S. English St railroad crossing is included as a NCDOT STIP project that is still several years away.
  - Coordination with Hampton Elementary School site redevelopment
  - Cohesive connection within Bingham Park Master Plan

Next Steps/Closing

> Allison reviewed next steps for the project.
- Submit ATIIP grant application at the end of this week (7/12).
- Complete implementation and action planning
- Draft feasibility study document
- The final steering committee meeting will be held in August, and a Doodle poll will be sent out soon.

> Alex asked if any of the recommended route sections align with the High Injury Network (HIN). The team said about a third of it does (note: this is not correct as stated in the meeting; about 1.5 miles or 23% of the project is along the HIN), especially on Market St. He said Greensboro's emphasis on identifying and addressing safety issues in its community helps it pursue grant applications and is very forward-thinking.

> Elizabeth expressed gratitude to NCDOT and McAdams for their commitment to this project.

> Shawna said she presented to the Old Asheboro neighborhood the night before this meeting about this project, and that the community was very excited about it.

Steering Committee Meeting #5 Notes

Addendum: Route Alternatives Survey

- Nicole asked why Route Alternative #2 received the least support. Written responses to the route alternatives survey expressing reasons for Route Alternative #2 being selected as respondents' least preferred alternative are listed below:
  - "Does not connect to Research Park"
  - "Goes down market st"
  - "It's. Fine, I just like it going by Washington Montessori "
  - "Least incorporation of neighborhoods & no Gateway Park "
  - "Not as much coverage "
  - "Has the least possible combinations of connections opportunities (parks, Greenway, campuses) and a large portion of the path goes through campus, which makes it intimidating for families with small children or older persons. Especially if you want to use the path during busy in between class to times or university events. Also, it has no loop, so it has all of the negative components from each other plan."
  - "Busy roads the whole time."
  - "Too boring"
  - "Doesn't fully connect parks and green spaces, along major roadways"
  - "Too much walking on English Street, which is not particularly attractive and that path misses several pleasant east Greensboro parks."
  - "East Market and English Street don't feel like the safest places for walking."
  - "Less inclusive"
  - "I want Less biking on major roads."
  - "It is too much near or on roads."
  - "The high crime area along English St and East Market St might lead to future problems."
  - "Crossing more major roads in this route "
  - "E Market St alignment not close enough to existing neighborhoods to the south. A&T student use would be great, but most of these students do not live in Greensboro year-round."

August 14, 2024

From: Allison Anolik, McAdams
Attendees: Elizabeth Jernigan, City of Greensboro
Shawna Tillery, City of Greensboro
Chad Reimakoski, NCDOT IMD
Dabney Sanders, Action Greensboro
Phil Barnhill, East Greensboro Now
Mac Sims, East Greensboro Now
George Linney, Greensboro Transit Agency
Will Washam, McAdams
Christopher Normile, McAdams
RE: East Greensboro Greenway Feasibility Study Steering Committee #5

Introduction

- Allison opened the meeting and reviewed and meeting agenda. She outlined the upcoming remaining milestones for the project, including a final draft, presentation to the Greensboro Urban Area Metropolitan Planning Organization (GUAMPO) for an amendment to its Metropolitan Transportation Plan (MTP) and public comment period, resulting in a final feasibility study.
- Allison provided a refresher of NCDOT IMD Feasibility Study Grant Program content standards and how they are reflected in this document.
- Allison reminded meeting attendees of the answers they provided to interactive questions at the first Steering Committee meeting and asked attendees to reflect on how the study attempted to meet their vision for the project.

Chapter 1: Introduction

- Allison reviewed key elements of Chapter 1, noting that the project team included a Purpose and Need Statement to support environmental review if Federal funding if allocated to the project.

Chapter 2: Study Considerations + Alternatives Development

- Allison reviewed key elements of Chapter 2.
- This chapter contains a large amount of analysis, as well as the considerations for each route segment alternative evaluated by the project team as part of the study.

Chapter 3: Community + Stakeholder Involvement

- Allison reviewed key components of Chapter 3, and how engagement activities targeted what the community wants and needs related to a multiuse trail.
- More detail and notes on engagement activities are included in an Appendix.

Chapter 4: Evaluation + Recommendations

- Allison reviewed key elements of Chapter 4, including the evaluation of route alternatives and considerations for why the City identified Alternative #1 as the preferred alternative.
- Allison noted trailheads and wayfinding, placemaking, intersection and crossing treatments, spurs, and design guidance are also included in Chapter 4.
- Allison noted that the recommendations included in Chapter 4, Chapter 5 (Implementation) and the Draft Purpose and Need Statement are the places where Steering Committee members should focus their review.

Chapter 5: Implementation

- Will provided an overview of phasing considerations for the preferred alignment.
  - Phase 1: Strong potential for Federal funding, and the greenway can be built almost entirely within existing ROW.
  - Phase 2: Few barriers, provides connectivity to existing parks and NC A&T facilities.
  - Phase 3: More challenging, and dependent on ROW acquisition and STIP project timeline.
- Will reviewed elements of project cost estimates, acknowledging that this is a planning-level cost estimate and includes a 35 percent contingency to account for variations. The cost estimates are escalated to a probable build year 2029.
- Will reviewed project phase cutsheets:
  - Phase 1: Total estimated cost of $5.7m, and includes a cycle track section on S. Church St.
  - Phase 2: This phase is entirely sidepath, with a planning-level cost estimate of $1.15m and provides good park connectivity for the community.
  - Phase 3: Includes several key community destinations, with a planning-level cost estimate of $3.89m and sections of greenway, boardwalk, bridge, and sidepath along S. English St. Part of this corridor is anticipated to be implemented through a STIP project constructing a grade-separated crossing of the railroad at S. English St.
- Christopher reviewed partner roles, funding resources, and implementation action steps for the project. Will noted that each step is important for laying the groundwork to implement this project.
- Will reviewed maintenance considerations for the project, and information recommended to be included in a maintenance plan.

Appendices

- Will provided an overview of information included in the appendices.

Next Steps/Closing

- Allison noted that the feasibility process is a key piece of the project development process, and provided information about remaining phases, including funding, design and acquisition, and construction.

- Allison shared that the City intends to continue to convene the Steering Committee as funding is secured to begin the design process, and that members can expect to be invited to future meetings once additional funding is in place.
- Allison reviewed next steps for the project.
  - Steering Committee members should provide feedback on the draft study by the end of the month.
  - The draft study will be presented to GUAMPO in October for an MTP amendment.
    - A 30-day public comment period will be provided during this process.
  - Final draft and study adoption
- Elizabeth thanked Steering Committee members for their involvement and said substantial additional engagement will be conducted as the design process advances.

Local Organizations Focus Group Meeting Notes

MCADAMS

EAST GREENSBORO GREENWAY STEERING COMMITTEE #1
MEETING NOTES

November 29, 2023

From: Allison Anolik, McAdams
Attendees: Elizabeth Jernigan, City of Greensboro
Johanna Cockburn, City of Greensboro
Craig McKinney, City of Greensboro
Deniece Conway, City of Greensboro
Lydia McIntyre, City of Greensboro
Alex Rotenberry, NCDOT IMD
Betty Watson, Bennett College
Phanalphie Rhue, Bennett College
Natalie Miller, Magnolia House
Megan Mabry, Greensboro Chamber
Kesha Cunningham-Dockery, City of Greensboro Parks & Recreation Commission
Cecile Crawford, City of Greensboro Parks & Recreation Commission
Douglas Heberle, Greensboro Redevelopment Commission
Brian Bernard, McAdams
Christopher Normile, McAdams

RE: East Greensboro Greenway Feasibility Study Local Organizations Focus Group Meeting

Introductions

- Allison opened the meeting and provided an overview of the agenda, then shared instructions for using Mentimeter.
- Allison introduced the McAdams team and their roles, and recognized Elizabeth Jernigan and City of Greensboro staff for their part in leading the project.
- Allison provided an overview of the components of a feasibility study and the goals of the project.

Mentimeter Exercise

- What are the most critical issues associated with the creation of a multiuse facility in East Greensboro?
  - *Willpower* (Douglas)
    - Douglas clarified that the community needs to get behind the project.
  - *Funding* (x3)
  - *Location*
  - *Railroad*
  - *Accessibility*
  - *Connectivity*
  - *Environment*
  - *Convenience*
  - *Equity* (x2)
  - *Buy-in*
  - *Built Environment*

  - *Sustainability*
  - *Community*
  - *Funds*
  - *Connections*
  - *Access*

Project Schedule

- Allison reviewed the project schedule and community engagement efforts, and detailed remaining tasks for the project.

Study Area

- Allison reviewed the study area, detailing the proposed greenway spine and spur routes, with initial desired connections to the Historic Magnolia House and Windsor Chavis Nocho Community Complex.

Preliminary Alignments

- Allison introduced the preliminary alignments map and noted the addition of spur routes to connect to Dudley High School and Bluford Elementary School following community feedback.
- Craig noted that the City has some projects on E Gate City Blvd, including extending bike lanes on the corridor. Bike lanes will also be added to Willow Rd. These projects may help achieve the goals of the extended spur serving Dudley High School and Bluford Elementary School.
- Natalie asked how the Project team envisions the greenway spurs being leveraged for the community. Allison replied that the spurs are intended to provide connectivity to community destinations that are not on the mainline route. Elizabeth added that there won't be any difference between the spurs and the spine from a design and user experience perspective.
- Kesha asked if affected landowners have been identified yet. Allison said the team is almost ready to begin looking at potential property owner impacts and will begin that process in earnest following this meeting and meetings with additional stakeholders such as A&T, City and County staff, and neighborhood organizations. She noted that the greenway will use public right of way wherever possible. Elizabeth added that the City decided to pursue a feasibility study for this project partially to gather additional feedback from the community.

Segments Evaluated

- Allison reviewed the segment alternatives and how they will be evaluated for further consideration. The segments will be further refined following community feedback and combined into route alternatives that will be evaluated based on criteria such as construction feasibility and connectivity. Route alternatives will be shared at a future meeting.

Mentimeter Exercise

- What are some key challenges in the study area?
  - *Railroad crossings*
    - Allison noted that a STIP project would construct a grade separated crossing of English St, and this project may use that crossing to carry the greenway over the railroad. The team is also considering an at-grade crossing of the railroad at Gillespie Rd.
  - *Safety and access to emergency call boxes would be of interest.*

- *Residents accepting changes in the neighborhood*
- *Proactively addressing gentrification*
- *Project Funding*
- *Will these changes affect the communities tax base?*
- *Possible neighborhood displacement*
- *Safety*
- *Conflicts with automobiles at crossings and business/residential access points.*
- *Project needs to be done WITH the community, not FOR the community. Helps to get residents on board and excited.* (Megan)
  - Megan said it is really important to get out in the community and make the project visible and emphasize that this project is to help the community and enable access to other parts of Greensboro. Elizabeth added that this project came out of the Plan2Play effort, which won awards for its community engagement process, and that feedback received from the community continues to indicate highest levels of need for greenway facilities in East Greensboro. Staff has been working to ensure that this need is met while shaping it around community feedback.
- *Monitoring of the trails by safety personnel. Also, rest spots might be interesting.* (Phanalphie)
  - Phanalphie asked if there would be "bike attendants" who would also ride the trail and provide community support and emergency response. Rest spots would include things like benches and could be connected to historical markers for particular areas of the community. Natalie added that this approach should also be applied to public art and programming, similar to the Downtown Greenway. Brian noted that some potential rest spots are near places where the greenway climbs at a grade of about 5%, including near NC A&T (segments 6 and 41), Hampton Elementary School (segments 12 and 13), Bingham Park (segment 15), and E Market St.
- *Ongoing engagement from feasibility to funding/construction process so community maintain awareness*
- *Speeders and/or inattentive drivers on sections sharing space with trail users.*
- Alex asked if all segments of the feasibility study are intended to be off the roadway. Allison and City staff replied that this is unlikely given the constraints of the project corridor.
- Kesha asked if the project team has attended any neighborhood association meetings. Allison said that City staff has attended some meetings including the O. L. Richardson community. The project team is planning to meet with the Cottage Grove community and has attempted to reach other neighborhood organizations for additional engagement.
  - Betty shared that the project team visited her neighborhood's community meeting and provided helpful information.

> What are some key opportunities in the study area?

- Betty said she feels the project allows residents of the community to claim the project as their own and fully appreciate the benefits of the greenway.

- *Community Pride*
- *Increased access to parks and open space*
  - Allison added that there will be connections to the Downtown Greenway, Barber Park, and Bingham Park.
- *Improving community health*
- *Increased exercise options and enhanced health outcomes. Bike rentals could be helpful.*
- *Increasing walk/bike ability :)*
  - Allison noted that the study area includes Census tracts with higher rates of zero vehicle households, and this project will support greater options for residents to get around.
- Elizabeth said the City intends to develop the project as a linear park, and this could support programmatic opportunities such as bike safety classes, walking school buses, etc. The downtown greenway is an example of this more holistic approach
- *Needs to FEEL safe. This could be protection from motorists, lighting for possible evening use, wayfinding (with mileage!) to keep people informed, etc.*
- Alex added that he likes to see the growth of partnerships with key stakeholders such as the university and noted that these projects often cannot be achieved successfully alone.

> How can the greenway be designed to ensure accessibility and inclusivity for all members of the community?

- Natalie said that the strategy of installing rest areas should be consistent and standard across the system so that residents don't feel segregated by the design of this greenway segment relative to trails such as the Downtown Greenway.
- *Parking/access points for patrons who may not immediately neighbor the greenway*
- *Paths with no stairs*
- *Making sure the greenway is pleasant, comfortable, and safe. Consider shade, seating, etc. so people can be comfortable walking short distances and resting frequently.*
- *Will there be a regular crew of folks removing debris for accessibility*
- *It will be important to communicate the greenway locations and access points. Guided walks to familiarize communities with them. Proper lighting.*
- *Shade trees!*
- *Maps on the trail so people can orient themselves regarding where they are.*

> Is there specific expertise or resources your organization can contribute to the planning or implementation phases?

- Phanalphie said that Bennett College could host a community meeting or gathering in that area of the city, and that whenever additional personnel are needed there could be opportunities for student internships.
  - Allison said the timing of the project schedule is not aligned well with school calendars, but interns may be helpful for community engagement and outreach.
- *Greensboro Chamber – wider business community involvement, awareness, and buy-in. Happy to have y'all at a Coffee & Conversation to tell our members more.*

        - Megan added that the Chamber is still working on developing their calendar for Q1 2024 and can incorporate greenway events. She noted that a previous event covering transit was very popular.
    - Craig added that ensuring accessibility for all userswill be important.

Next Steps + Questions

- Allison reviewed next steps for the project and shared that feedback will be integrated into development of route alternatives and decision matrix. Additional coordination with stakeholders will be conducted before landowner coordination to refine preliminary routes and identify recommended routes. An additional community survey may be conducted to get target feedback, and a public meeting will be held in Spring 2024.
- Elizabeth said her department and the Parks and Recreation department at the City are both spearheading this project and trying to collaborate to make it happen successfully.

NC A&T State University Focus Group Meeting Notes

November 30, 2023

From: Allison Anolik, McAdams
Attendees: Elizabeth Jernigan, City of Greensboro
Johanna Cockburn, City of Greensboro
Craig McKinney, City of Greensboro
Lydia McIntyre, City of Greensboro
Alex Rotenberry, NCDOT IMD
Staci Manter, NC A&T
Shirley Hymon-Parker, NC A&T
Oliver Thomas, NC A&T
William Barlow, NC A&T
Winfred Locus, NC A&T
Jimmy Prestwood, McAdams
Brian Bernard, McAdams
Christopher Normile, McAdams

RE: East Greensboro Greenway Feasibility Study NC A&T Focus Group Meeting

Introductions

- Allison opened the meeting and reviewed the materials provided for in-person attendees, then shared instructions for using Mentimeter.
- Allison introduced the McAdams team and their roles, and recognized Elizabeth Jernigan and City of Greensboro staff for their part in leading the project. Elizabeth noted that this project came out of an NCDOT feasibility study program and aims to address the community need for more greenway and trail facilities as identified in the City's Plan2Play Recreation plan and other previous planning efforts. She clarified that the feasibility study will not result in a completed greenway or full funding plan, but rather a preliminary alignment and community vision for the project and a plan for phasing construction.
- Allison provided an overview of the components of a feasibility study and the goals of the project.

Mentimeter Exercise

- What are the most critical issues for NC A&T related to the creation of a multiuse facility in East Greensboro?
  - *Safety*
  - *Biosecurity – do not want to cross-contaminate animal units. The University is strict about keeping animal units separate to prevent disease spread.*
  - *Traffic*
  - *Impacts*
  - *Coexistence*
  - *Research institution*

Project Schedule

MCADAMS EAST GREENSBORO GREENWAY FOCUS GROUP MEETING
MEETING NOTES

- Allison reviewed the project schedule and completed and planned community engagement efforts, and detailed remaining tasks for the project.
- Oliver asked how often the project team meets with the community as part of the project. Allison replied that the scope of the project partially dictates engagement activities, but the actual result is more closely aligned with the needs of the community to ensure that the project develops a vision *with* the community, not *for* the community. Elizabeth noted that the City is assisting with public input and engagement and can perform additional engagement activities not covered by McAdams's scope of services.

Study Area

- Allison reviewed the study area, detailing the proposed greenway spine and spur routes, with initial desired connections to the Historic Magnolia House, Bennet College, NC A&T, Bingham Park, Barber Park, and Windsor Chavis Nocho Community Complex.

Preliminary Alignments

- Allison introduced the preliminary alignments map and noted the addition of spur routes to connect to Dudley High School and Bluford Elementary School following community feedback. She noted that there are two options for railroad crossings at Gillespie St and English St, but that the crossing will likely be at English St to integrate with a planned grade separation project included in the NCDOT STIP. Allison also noted that Greensboro is planning bike infrastructure on E Gate City Blvd.

Segments Evaluated

- Allison reviewed the segment alternatives and how they will be evaluated for further consideration. The segments will be further refined following community feedback and combined into route alternatives that will be evaluated based on criteria such as construction feasibility, cost, and environmental impacts. Route alternatives will be shared at a future meeting.
- Oliver asked a question about cost estimates for the preliminary route segments. Brian answered that the project is very early in the design process, but that cost estimates will be developed for route alternatives. Elizabeth added that the project will set the City up to pursue additional funding opportunities, but that funding bike and pedestrian infrastructure is difficult in North Carolina. She added that the project may be phased, and recognized the work of Iona Thomas, Palmer McIntyre, and others with the Great Trails State Coalition to raise awareness of the benefits of trails and create new funding opportunities.
- Bill said the University would prefer to look at Dudley St than Market St due to impacts to campus entrances. The University would be willing to provide a greenway easement if necessary, but only as long as desired provisions are made.
- The University farm is not a petting zoo, and while the University wants to educate the community about the animals, plants, and research they are doing, a large fence may be necessary to keep trail users out of sensitive areas. Sometimes farm activities take place after hours, but the greenway will be active 24 hours a day and the University does have some safety concerns. Brian added that the alignment under consideration through the farm property hugs the property line as much as possible.
- One of the yellow lines tries to route within the Duke power easement as much as possible. The current segment is on the south side of McConnell to minimize crossings, but since A&T would prefer the greenway not be on the farm property the team can explore the other side of the road.

- Allison asked if the University could provide information on which fields are used for research and farming activities, and what an appropriate buffer distance would be. The University team said it varies and expects issues with greenway users trespassing on farm property to cross fences.
- The University team suggested using Summit Ave to connect to Bessemer Ave, which had a road diet to add bike lanes recently.
- Allison asked how to best connect to Bingham Park using the University's preferred alignment. She noted that there are nearly complete design plans for sidewalks on Gate City Blvd.

Mentimeter Exercise

- What are some key opportunities for NC A&T and East Greensboro Greenway coordination?
    - Oliver asked for clarification on what an opportunity represents, and Allison clarified that it is something the University sees as a benefit and a way to connect with the community.
    - Oliver also noted that a beautification of the campus entrance is currently underway on E Market St. The University sees E Market St as the front door and gateway of the campus, and wants to ensure a visually attractive and safe entrance to campus. This includes choosing trees and vegetation that do not block views of the campus and the University's beautiful buildings. He said the University has been partnering with the City to slow traffic and improve pedestrian safety, but there are additional opportunities to make improvements. He added that the University is projected to grow to over 17,000 students, and that it is important to balance the different transportation modes.
    - Bill commented that improvements to create safer crossings is an opportunity. This includes crosswalks to increase visibility, perhaps through using a different marking or material (such as riveted brick or something that slows traffic) and creating means to direct bicyclists and pedestrians to cross at designated locations. This could include lighting, signage, and pavement markings. He also added that pedestrian crossings with warning lights to slow traffic and refuge islands could be added as well. He said the University wants to be able to control its planning to make the impact it wants, not be at the mercy of the City, and that other universities will look to A&T for a vision of campus growth and planning.
        - Allison asked what the preferred plantings, landscaping designs, and signage are for the University, and Bill said it changes sometimes as they see what works and what does not. The University is a business to attract students and cannot stay stagnant and must constantly evolve to remain competitive.
        - Allison asked about a desire by the University to ensure that bicycles and pedestrians are crossing at designated places, and where crossings may be needed but do not currently exist. University staff responded that pedestrians sometimes cross near the commercial areas and have been hit before. Bill would like to see deterrents to crossing in unsafe areas, as long as it can be designed to remain attractive.
        - Someone added that many students live on the other side of Market St and must cross to get to campus. They may make risky decisions and cross at a break in traffic.

        - Bill added that the University is very supportive of the greenway but is also concerned with how it impacts their campus and entrance. Oliver added that the original Downtown Greenway plan included a connection to A&T.
    - Connecting our community
    - Beautification of East Market and the front door of the University.
    - Allowing for increased growth that supports all modes of transportation.
        - There are bus stops along East Market Street
    - Pedestrian safety, especially at crossings, improved signage, traffic calming.
        - For safe and signalized crossings. Could include HAWK Signals at existing crosswalks not at an intersection.
    - Opportunity to reconnect people with the community.
    - Improved crosswalks, beautification, opportunity for RRFB, increased driver awareness.
- What are some key challenges for implementing the East Greensboro Greenway from NC A&T's perspective?
    - Biosecurity is of up most importance when going through the farm parcels.
        - Ensure that people do not see the farm and think it is a petting zoo.
        - Ensure people do not throw trash onto the crops or feed the animals.
        - The farm parcels are very research intensive and not something that NC A&T would allow people to leisurely walk around.
- Discussion: Routing Preferences through Farm Property
    - NC A&T prefers the East Greensboro Greenway not be on Farm property, since it will be difficult to ensure the integrity of research (biosecurity) due to interactions between greenway users/pets and the Farm's crops and animals (e.g., litter, interacting with the animals).
- Discussion: Greenway Considerations for Main Campus/E Market Street
    - NC A&T wants to keep the current sidewalk as dynamic as possible and wants to control the look of it for future generations to come.
    - Potential ways to loop around:
        - Dudley to Lindsay, Lindsay to Sullivan to cross US-29.
            - "Dudley is more picturesque than market street."
    - Crosswalk signalization and ensuring people cross on the cross
    - The University would like seed Strict Easement terms to ensure they control the look of the "Face" of the school.
- Discussion: NC A&T expansion plans or other development projects that might impact the project?
    - NC A&T referred us to their recently passed Master Plan on their website.
    - Reach out to Stacey and/or Kim Cameron for Future developments.
    - Development near the baseball stadium
    - Look into plans for downtown greenway for loop around campus.
- Are there programs focusing on health, recreation, and transportation that may benefit from access to the greenway or involvement in the project?
    - Dean Ongeri will be another good contact.

- Use the engineering department to get them involved.
- Vice Chancellor Melanie Pierce will be the best to discuss programs.

Next Steps + Questions

- Allison reviewed next steps for the project and shared that feedback will be integrated into development of route alternatives and decision matrix. Additional coordination with stakeholders will be conducted before landowner coordination to refine preliminary routes and identify recommended routes. An additional community survey may be conducted to get targeted feedback, and a public meeting will be held in Spring 2024.

City + County Staff Focus Group Meeting Notes

December 8, 2023

From: Allison Anolik, McAdams
Attendees: Elizabeth Jernigan, City of Greensboro
Johanna Cockburn, City of Greensboro
Craig McKinney, City of Greensboro
Shawna Tillery, City of Greensboro
Phillip Fleischmann, City of Greensboro
Jason Geary, City of Greensboro
Mary Harward, City of Greensboro
Gray Johnston, City of Greensboro
David Ortega, City of Greensboro
Donna Bell, Guilford County Schools
Thomas Patterson, Guilford County Schools
Alex Rotenberry, NCDOT IMD
Brian Bernard, McAdams
Christopher Normile, McAdams

RE: East Greensboro Greenway Feasibility Study City + County Staff Focus Group Meeting

Introductions

- Allison opened the meeting and shared instructions for using Mentimeter.
- Allison introduced the McAdams team and their roles, and recognized Elizabeth Jernigan and City of Greensboro staff for their part in leading the project. Allison noted that this project is funded by an NCDOT feasibility study program and aims to address the community need for more greenway and trail facilities in East Greensboro as identified in the City's Plan2Play Recreation plan and other previous planning efforts. She clarified that the feasibility study will not result in a completed greenway or full funding plan, but rather a preliminary alignment and community vision and consensus for the project and a plan for construction phasing.
- Allison provided an overview of the components of a feasibility study and the goals of the project.

Mentimeter Exercise

- What are the most critical issues associated with the creation of a new greenway in East Greensboro?
  - *Connectivity* (3)
  - *Equity* (3)
  - *Accessible*
  - *Usership*
  - *Safety*
  - *Access*
  - *Local neighborhood buy-in*
  - *Neighborhood support*
  - *Utility*

  - *Art integration*
  - *Community buy-in*
  - *Cooperation*

Project Schedule

- Allison reviewed the project schedule and completed and planned community engagement efforts, and detailed remaining tasks for the project.

Study Area

- Allison reviewed the study area, detailing the proposed greenway spine and spur routes, with the preliminary desired connections to the Historic Magnolia House, Bennet College, NC A&T, Bingham Park, Barber Park, and Windsor Chavis Nocho Community Complex.

Preliminary Alignments

- Allison introduced the preliminary alignments map and noted the addition of spur routes to connect to Dudley High School and Bluford Elementary School following community feedback. She noted that there are two options for railroad crossings at Gillespie St and English St, but that the crossing will likely be at English St to integrate with a planned grade separation project included in the NCDOT STIP. Allison also noted that bike infrastructure is planned on E Gate City Blvd.

Segments Evaluated

- Allison reviewed the segment alternatives and how they will be evaluated for further consideration. The segments will be further refined following additional community feedback and combined into route alternatives that will be evaluated based on criteria such as construction feasibility, cost, and environmental impacts. Route alternatives will be shared at a future meeting.
- Allison reviewed feedback shared by NC A&T and how it impacted preliminary route development. The project team took the University's feedback and drafted new route options. She noted that one segment on A&T property was left on the map which routes behind a large wall and near a secured area associated with a new development on the Research Park campus to see if they are open to this option.
- A new option for a loop around NC A&T was proposed based on feedback from the University, and a route tracing the steps of the A&T Four.
- Donna noted that connectivity is very important and desired for Guilford County Schools. She noted that they are working with NC A&T on a shared-use public access building at Gateway Research Park that is currently under construction. This will require coordination with NC A&T. She also noted that a Visual Performing Arts Center is being constructed on the old Peeler Open Elementary School site and could be a useful connection. The school system is very open to considering connections to greenways, and Donna will get more information about their projects to the team.
  - Craig suggested that Donna attend the next meeting with NC A&T to support the greenway option at Gateway Research Park.
- Allison said segments on the cemetery property may be difficult to incorporate as the cemetery entity appears to have been administratively dissolved by the state for not filing the required business paperwork.
- If the mainline is shifted away to English St, segments along Apache would become spurs.

- David asked if there is a typical greenway cross-section identified, and whether there would be impacts to smaller, local streets. Brian said for local streets the team is looking at available roadway width and trying to work within existing right-of-way. Sharrows are being considered for some roadways but only if traffic conditions are appropriate.
    - Mary said that Burlington has segments of greenway that are part sidewalk, part bike lane, and it feels disconnected. It is not optimal to cut through neighborhoods.
- Allison asked if the City has any insight into particular safety hotspots along E Market St or any context on engagement between the City and NC A&T. Johanna said the City has worked with the University on a number of safety concerns along E Market St, and has lowered the speed limit along the roadway in front of the campus. They have had discussions about implementing additional physical controls to pedestrian movement across roadways, such as installing a fence or taller plantings in the median to direct pedestrians to marked crossings that were recently updated. She noted that there was a pedestrian fatality at E Market/Benbow. The University has several properties, including residential halls, across E Market St, and future development plans for those properties, making Benbow a particular interest.
- Allison asked about the current progress on Muddy Creek Greenway as it may overlap with the NC A&T Loop proposal. Johanna noted that she is not aware of any work on the corridor, and that it was prioritized lower in the BiPed Plan from 2018.
- David noted that the City is currently reevaluating Lindsay St, but the University has expressed concerns about taking the roadway from 4 lanes to 3 lanes. A&T has growth plans across Lindsay and is concerned about losing capacity. There will be additional discussion between the City and the University, and the City is trying to convince the University of the benefits of a street diet. David said the University's concerns are likely related to large events such as homecoming and football games.
- Allison noted that the NC A&T Loop proposal will not be comprehensively evaluated within this feasibility study as it is outside of the scope of the project, but it is important to note for future planning efforts.
- Gray said the transit authority is updating its master plan (GoBORO) and thinks there is a lot of potential to engage with students at NC A&T who would like to get around without a car. First-year students are not allowed to have cars on campus. Elizabeth said the City has had similar thoughts and is considering working with landscape architecture students to do research and envision a better transportation system around campus.
- Donna said the school system has been working with NCDOT on a bridge replacement on Tuscaloosa St, and this may provide a good multimodal option to get across O.Henry. She also noted that a connection to the farmers market could be valuable, although it may be too far out of the way for this study.
- Allison reviewed previous planning efforts and policies for the study and asked if there are additional resources to review.
    - GoBORO transit plan is currently in development.
    - Alex asked if the CTP was included. Johanna said it is implemented into the MTP.

Mentimeter Exercise

- What are some key challenges in the study area?
    - *Gaining access that connects neighborhoods in an optimal way*
    - *A&T*
    - *Railroad*
    - *Connectivity*
    - *Buy-in*
    - *Right-of-Way constraints*
    - *Securing funding for construction in a reasonable timeframe*
    - *Signage – making sure people know the path of the greenway*
    - *Becoming a car-optional city by 2040*
    - *Economic development for east Greensboro*
    - *Car-optional GSO by 2040*
    - *Presentation to MPO's Transportation Advisory Committee.*
- What are some key opportunities in the study area?
    - *Community support*
    - *A&T*
        - As a major landowner, this could provide a benefit for students and staff.
    - *Need and desire for more trail access*
    - *To repair relationship with Cottage Grove neighborhood. They are going through a rough time with Bingham Park*
        - David – after attending meetings in the area, the remediation process has been difficult. This neighborhood has historically not been treated very well, and this project represents an opportunity for the City to show that they care about this community by providing a facility that gives residents the amenities they are asking for.
        - Elizabeth noted the remediation of Bingham Park was a key reason the preliminary alignment of the greenway was selected.
    - *Car-optional GSO by 2040*
    - *East Greensboro economic development*
    - *Transit and recreation for historically marginalized neighborhoods*
    - *Providing non-car accessibility/mobility options for community residents*
- How can the greenway be designed to ensure accessibility and inclusivity for all members of the community?
    - *10 ft minimum sidepaths for as much of the greenway as possible*
    - *Continuous engagement with community*
    - *High design and maintenance standards*
    - *Commitment to construction*
    - *Safety*
    - *Continued input from community members about how the greenway would connect them to other parts of their community in addition to recreational purposes*
    - *Bike racks at key locations*
    - *Designing inter-modal connectivity at bus stops*

- Is there specific expertise or resources your department can contribute to the planning or implementation phases?
    - *Seeking implementation funds*
    - *Anything connected to transit – i.e. bus stop design, etc.*
    - *Coordination with other transportation projects*
    - *Ongoing conversations related to GCS property connectivity to the greenway can be coordinated through our planning dept. We are happy to assist!*

Next Steps + Questions

- Allison reviewed next steps for the project and shared that feedback will be integrated into development of route alternatives and decision matrix. Additional coordination with stakeholders will be conducted before landowner coordination to refine preliminary routes and identify recommended routes. An additional community survey may be conducted to get targeted feedback, and a public meeting will be held in Spring 2024.
    - Craig asked if the project team could present to the MPO's Transportation Advisory Committee. They have a meeting scheduled for January 31st, and some members may be able to help obtain support from NC A&T. Allison said the team is open to this and is planning to have more routes evaluated by that time. The team would need to know what information would be presented.
    - Gray said draft concepts for GoBORO will be presented to the public in the spring, and his team would like to connect to coordinate outreach efforts.

Cottage Grove Fall Festival Pop-Up Event Boards

EAST GREENSBORO GREENWAY FEASIBILITY STUDY

PROJECT OVERVIEW

Project Location: 4-5 mile corridor with two spurs connecting downtown to East Greensboro's recreational and cultural destinations

Western Terminus: J. Douglas Galyon Depot Multimodal Transportation Center

Southeastern Terminus: Barber Park

Key Community Connections: NC A&T University, Bennett College for Women, Historic Magnolia House, Windsor Chavis Nocho Community Complex, Greensboro Downtown Greenway

Project Partners: The project is led by the City of Greensboro with the support of NCDOT and Greensboro Urban Area Metropolitan Planning Organization.

WHAT IS A GREENWAY FEASIBILITY STUDY?

The purpose of a feasibility study is to develop a vision for future bicycle and pedestrian connectivity in the study area, and identify opportunities, constraints, and recommendations for future implementation. It will develop and analyze conceptual routes and identify a preliminary preferred route. It will also provide cost estimates and an implementation plan for future trail construction. In 2024 and beyond, more detailed design and eventually construction will be completed as funding becomes available.



PROCESS + SCHEDULE

The *East Greensboro Greenway Feasibility Study* consists of four phases: Study Conditions, Route Analysis, Study Recommendations, and Implementation & Final Study. Input from the public is key to the Project's success. Throughout the process, the City will engage the community through a Steering Committee, focused small group stakeholder meetings, meetings with landowners, and future public meetings like this one to incorporate diverse perspectives into the planning for this important project.



NEXT STEPS

Your voice matters!
Please scan the QR code to participate in a short survey that will help shape the development of route alternatives. Paper surveys are also available. Your input is important!

EAST GREENSBORO GREENWAY FEASIBILITY STUDY



KEY DESTINATIONS

SCHOOLS
- Bennett College
- NC A&T State University
- Washington Montessori Elementary
- NC A&T University Farm

PARKS
- Maplewood Cemetery
- Bingham Park
- Barber Park

OTHER FEATURES
- J. Douglas Gaylon Depot
- Historic Magnolia House
- Windsor Chavis Nocho Community Complex

ENVIRONMENTAL CONSTRAINTS

- Wetlands
- Floodplains
- Topography Challenges
- Invasive Species
- Landownership + Access

Additional existing conditions maps are available to review upon request. Please contact a project team member for help.

An Evening Under the Star Pop-Up Event Boards

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EAST GREENSBORO GREENWAY FEASIBILITY STUDY

We want to hear from you!

WHAT DOES SUCCESS LOOK LIKE FOR THE STUDY?

Please write your response on a stichy note and place it below.



WHAT IMPORTANT ISSUES ARE ASSOCIATED WITH THE CREATION OF THIS GREENWAY?

Please place a dot in the box that aligns most closely with your answer.

Transportation Choice	Safe Crossings	Signage	Equity + Inclusion
Shade + Trees	Access	Connectivity	Continous Greenway Network
Stakeholder Coordination	Neighborhood Engagement	Right-of-Way Acquisition	Meeting Study Goals

Food Lion Pop-Up Event Boards

EAST GREENSBORO GREENWAY FEASIBILITY STUDY

PROJECT OVERVIEW

Project Location: 4-5 mile corridor connecting downtown to East Greensboro's recreational, educational, and cultural destinations

Western Terminus: J. Douglas Galyon Depot Multimodal Transportation Center

Southeastern Terminus: Barber Park

Potential Community Connections: NC A&T University, Bennett College, Historic Magnolia House, Windsor-Chavis-Nocho Community Complex, Greensboro Downtown Greenway, James B. Dudley High School, Apache Park, Bingham Park, and the future Visual and Performing Arts Elementary School.

Project Partners: The project is led by the City of Greensboro with the support of NCDOT and Greensboro Urban Area Metropolitan Planning Organization.

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NEXT STEPS

Your voice matters!
Please scan the QR code to provide your feedback on proposed route alternatives. Paper surveys are also available. Your input is important!





VOTE FOR THIS ROUTE ALTERNATIVE

Place sticky dots on the map or below to vote for Route Alternative #1



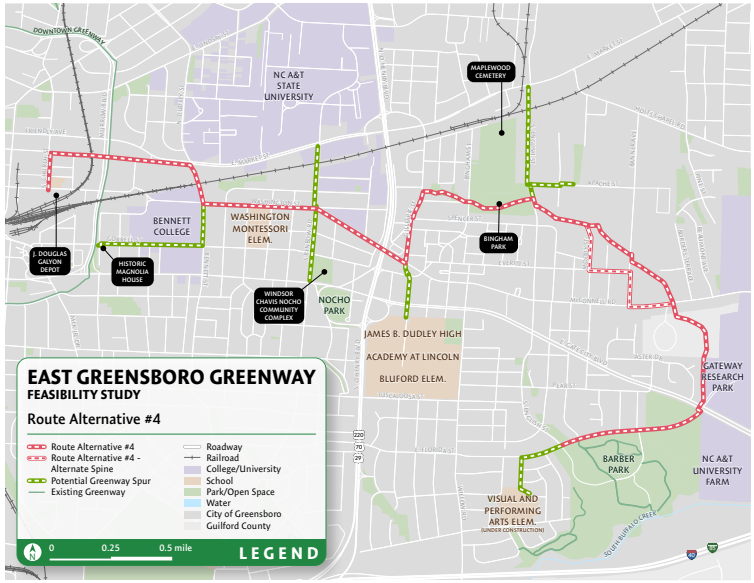
VOTE FOR THIS ROUTE ALTERNATIVE

Place sticky dots on the map or below to vote for Route Alternative #2



VOTE FOR THIS ROUTE ALTERNATIVE

Place sticky dots on the map or below to vote for Route Alternative #3



VOTE FOR THIS ROUTE ALTERNATIVE

Place sticky dots on the map or below to vote for Route Alternative #4

Route Alternatives Survey Results

Greensboro

MCADAMS

EAST GREENSBORO GREENWAY FEASIBILITY STUDY
Route Alternatives Feedback

The City of Greensboro and its partners are developing a feasibility study for the proposed East Greensboro Greenway. Please use the form below to provide your input on the route alternatives being evaluated as part of the study. Your feedback is valuable and will inform the identification of the recommended route. Thank you!

1. Which route alternative of the East Greensboro Greenway corridor do you MOST prefer, and why?
   - ☐ Route Alternative #1
   - ☐ Route Alternative #2
   - ☑ Route Alternative #3
   - ☐ Route Alternative #4

   Close to where I live

2. Which route alternative of the East Greensboro Greenway corridor do you LEAST prefer, and why?
   - ☐ Route Alternative #1
   - ☐ Route Alternative #2
   - ☐ Route Alternative #3
   - ☐ Route Alternative #4

   all are good

3. Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).
   - Route Alternative #1: 2
   - Route Alternative #2: 3
   - Route Alternative #3: 1
   - Route Alternative #4: 4

4. Please provide any additional comments or feedback

   Love it!

Greensboro

MCADAMS

EAST GREENSBORO GREENWAY FEASIBILITY STUDY
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   - ☐ Route Alternative #1
   - ☐ Route Alternative #2
   - ☐ Route Alternative #3
   - ☐ Route Alternative #4

3. Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).
   - Route Alternative #1: 3
   - Route Alternative #2: 2
   - Route Alternative #3: 1
   - Route Alternative #4: 4

4. Please provide any additional comments or feedback

   Let people know and they will get out more

Greensboro

MCADAMS

EAST GREENSBORO GREENWAY FEASIBILITY STUDY
Route Alternatives Feedback

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   - ☐ Route Alternative #1
   - ☐ Route Alternative #2
   - ☒ Route Alternative #3
   - ☐ Route Alternative #4

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   - ☐ Route Alternative #1
   - ☐ Route Alternative #2
   - ☒ Route Alternative #3
   - ☐ Route Alternative #4

3. Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).
   Route Alternative #1: _____
   Route Alternative #2: least
   Route Alternative #3: _____
   Route Alternative #4: _____

4. Please provide any additional comments or feedback

Greensboro

MCADAMS

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   - ☐ Route Alternative #3
   - ☐ Route Alternative #4

3. Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).
   Route Alternative #1: _____
   Route Alternative #2: _____
   Route Alternative #3: _____
   Route Alternative #4: _____

4. Please provide any additional comments or feedback

Greensboro

MCADAMS

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   - ☐ Route Alternative #1
   - ☐ Route Alternative #2
   - ☑ Route Alternative #3
   - ☐ Route Alternative #4

   It's within the City.

2. Which route alternative of the East Greensboro Greenway corridor do you LEAST prefer, and why?
   - ☑ Route Alternative #1
   - ☐ Route Alternative #2
   - ☐ Route Alternative #3
   - ☐ Route Alternative #4

   Parts of the path is located in the woods, and so I have to keep safety in mind.

3. Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).
   - Route Alternative #1: 4
   - Route Alternative #2: 2
   - Route Alternative #3: 1
   - Route Alternative #4: 3

4. Please provide any additional comments or feedback

   Would love to see more solutions for the homeless population.

Greensboro

MCADAMS

EAST GREENSBORO GREENWAY FEASIBILITY STUDY
Route Alternatives Feedback

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   - ☐ Route Alternative #1
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   - ☑ Route Alternative #3
   - ☐ Route Alternative #4

   It looks more simple to travel then the other paths

2. Which route alternative of the East Greensboro Greenway corridor do you LEAST prefer, and why?
   - ☐ Route Alternative #1
   - ☐ Route Alternative #2
   - ☐ Route Alternative #3
   - ☑ Route Alternative #4

   It seems longer then the other paths

3. Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).
   - Route Alternative #1: 3
   - Route Alternative #2: 2
   - Route Alternative #3: 1
   - Route Alternative #4: 4

4. Please provide any additional comments or feedback

   none love the project!

Greensboro

McAdams

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   Route Alternative #1:
   Route Alternative #2:
   Route Alternative #3:
   Route Alternative #4:

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Greensboro

McAdams

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   - [ ] Route Alternative #3
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   Route Alternative #1:
   Route Alternative #2:
   Route Alternative #3:
   Route Alternative #4:

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Greensboro

McAdams

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   - ☐ Route Alternative #2
   - ☐ Route Alternative #3
   - ☐ Route Alternative #4

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   - Route Alternative #3: 1
   - Route Alternative #4: 3

4. Please provide any additional comments or feedback

Greensboro

McAdams

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   - ☐ Route Alternative #4

   One near library is most important also access to restaurants

   Uses Downtown Greenway; S. Elm Street
   Access to Bike Shop; Barbershop important
   a lot of streets are jacked up, lack of facilities, debris; potholes

2. Which route alternative of the East Greensboro Greenway corridor do you LEAST prefer, and why?
   - ☐ Route Alternative #1
   - ☐ Route Alternative #2
   - ☐ Route Alternative #3
   - ☐ Route Alternative #4

3. Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).
   - Route Alternative #1: 2 (tie)
   - Route Alternative #2: 3
   - Route Alternative #3: 1
   - Route Alternative #4: 2 (tie)

4. Please provide any additional comments or feedback

   Potholes, debris, trash but also missing manhole covers uneven concrete. Rough spots cause bread; tree on bikes. Concern for public safety.

   Wants to see bike lanes near Farmers Market

East Greensboro Greenway Feasibility Study - Route Alternatives

61 Responses | 20:17 Average time to complete | Closed Status

1. Route Alternative #1

2. Route Alternative #2

3. Route Alternative #3

4. Route Alternative #4

5. Which route alternative of the East Greensboro Greenway corridor do you MOST prefer?

Route Alternative #1	23
Route Alternative #2	7
Route Alternative #3	16
Route Alternative #4	19



6. Why is this your MOST preferred route alternative?

50 Responses

Latest Responses

"A direct route, I am 65 years of age now, as a young kid I always walked this...

"Less cutting through neighborhoods and seems like a safer route "

"Creates a widespread route which would likely be accessible to more people,...

9 respondents (**18**%) answered **route** for this question.



7. Which route alternative of the East Greensboro Greenway corridor do you LEAST prefer?

Route Alternative #1	10
Route Alternative #2	23
Route Alternative #3	16
Route Alternative #4	10



8. Why is this your LEAST preferred route alternative?

43 Responses

Latest Responses

"Starting off heading AWAY from town"

"It covers the least area"

"Because it is the least widespread route and would have to incorporate all of...

9 respondents (**21**%) answered **Park** for this question.



9. Please rank the four route alternatives from 1 (MOST preferred) to 4 (LEAST preferred).



10. Please provide any additional comments or feedback on route alternatives for the East Greensboro Greenway Feasibility Study.

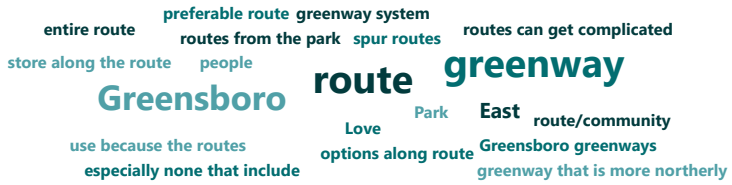
24
Responses

Latest Responses

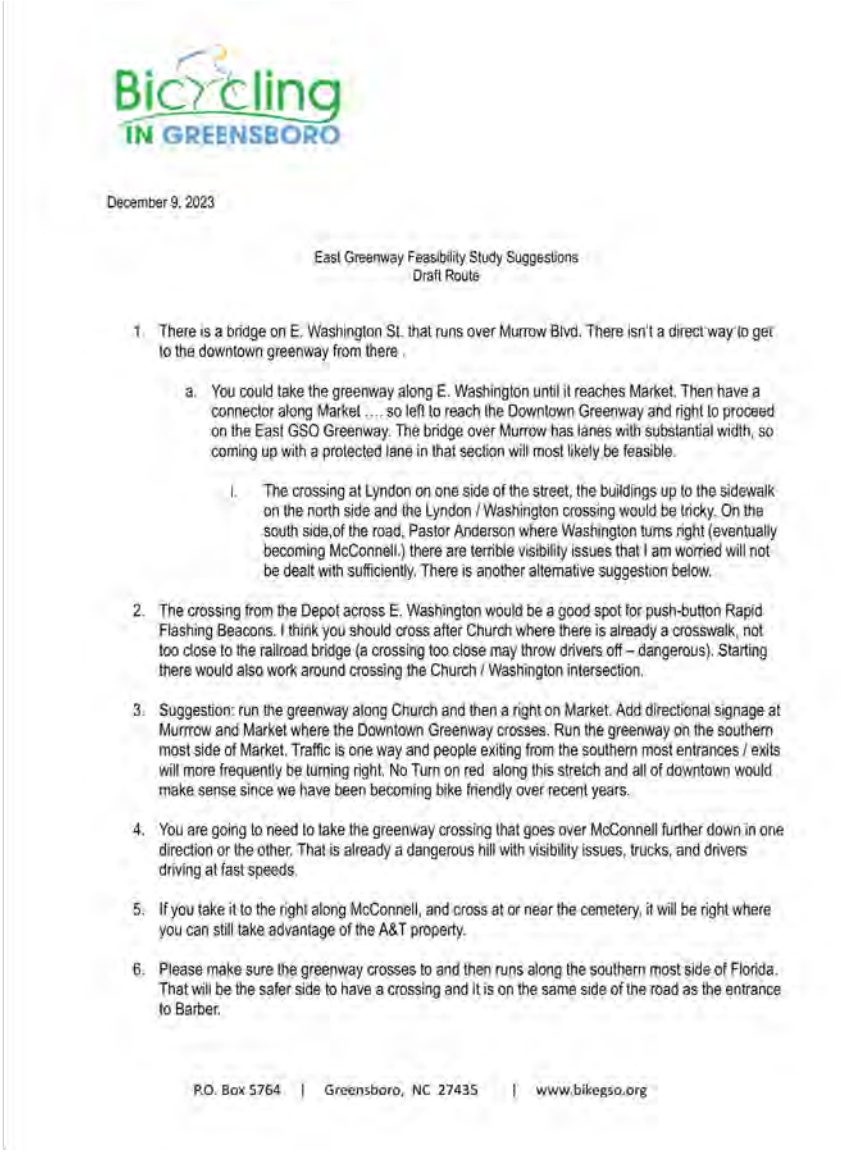
"East Greensboro could use a retail healthy store along the route "

"I love the Greensboro greenways and have been walking and biking them fo...

9 respondents (**38**%) answered **route** for this question.



Comments Received from Bicycling in Greensboro



Bicycling IN GREENSBORO

December 9, 2023

East Greenway Feasibility Study Suggestions
Draft Route

1. There is a bridge on E. Washington St. that runs over Murrow Blvd. There isn't a direct way to get to the downtown greenway from there .
    a. You could take the greenway along E. Washington until it reaches Market. Then have a connector along Market .... so left to reach the Downtown Greenway and right to proceed on the East GSO Greenway. The bridge over Murrow has lanes with substantial width, so coming up with a protected lane in that section will most likely be feasible.
        i. The crossing at Lyndon on one side of the street, the buildings up to the sidewalk on the north side and the Lyndon / Washington crossing would be tricky. On the south side,of the road, Pastor Anderson where Washington turns right (eventually becoming McConnell.) there are terrible visibility issues that I am worried will not be dealt with sufficiently. There is another alternative suggestion below.
2. The crossing from the Depot across E. Washington would be a good spot for push-button Rapid Flashing Beacons. I think you should cross after Church where there is already a crosswalk, not too close to the railroad bridge (a crossing too close may throw drivers off – dangerous). Starting there would also work around crossing the Church / Washington intersection.
3. Suggestion: run the greenway along Church and then a right on Market. Add directional signage at Murrrow and Market where the Downtown Greenway crosses. Run the greenway on the southern most side of Market. Traffic is one way and people exiting from the southern most entrances / exits will more frequently be turning right. No Turn on red along this stretch and all of downtown would make sense since we have been becoming bike friendly over recent years.
4. You are going to need to take the greenway crossing that goes over McConnell further down in one direction or the other. That is already a dangerous hill with visibility issues, trucks, and drivers driving at fast speeds.
5. If you take it to the right along McConnell, and cross at or near the cemetery, it will be right where you can still take advantage of the A&T property.
6. Please make sure the greenway crosses to and then runs along the southern most side of Florida. That will be the safer side to have a crossing and it is on the same side of the road as the entrance to Barber.

P.O. Box 5764 | Greensboro, NC 27435 | www.bikegso.org

Bicycling IN GREENSBORO

July 16, 2024

Feasibility Study Comments Following Meeting 4:
East GSO Greenway Steering Committee

1. Our Advocacy Committee's number one concern is that there has yet to be mention of a maintenance plan to be attached to this project. This is concerning for the following reasons:
    a. Safety. Root upheaval, broken pavement, broken boards along boardwalks, etc. are all issues that should be identified, prioritized and addressed promptly.
    b. Poorly maintained greenways are not as pleasant to travel on and are not as aesthetically pleasing, potentially cutting down on the number of people who use the greenway.
    c. A network of well maintained greenways may be just what is needed to encourage other communities in the future to embrace greenway construction through their neighborhoods.

    A maintenance plan would include routine inspections so that problems are identified and the steps to address them put into motion before issues become that much worse with time. Identifying issues too late in the game can make them much more expensive and timely to repair. ex: A&Y from Strawberry Rd. to the trestle bridge.

    A funding strategy will also be beneficial as a part of the plan to save time down the road when issues come up.

    And finally, ways for greenway users to communicate issues as they arise may help. I suggest considering ways to submit comments that allow pictures to be uploaded, unlike what the city currently has in place. If you choose to do this, the ways you communicate that the submittal form exists and how to use it are important. Perhaps advertising along the greenway would make sense.

2. The other comment we have has already been communicated to Elizabeth Jernigan with Parks and Rec. Our concern is that perhaps too much weight was given to the survey and not enough to the communities who will be most impacted by the project. From personal experience, commuting, particularly to work and back, is of utmost importance to many of our area's lower income community members. If the route chosen is not a direct way to get downtown, then our concern is that not as many people will use it.

    Perhaps more outreach to community members would be beneficial. We also recommend asking if they prioritize a way to get to and from work, if that was not already one of the options.

    Please let me know if you have any questions. Hope our comments are helpful.

    -Nicole Lindahl

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MEDIA COVERAGE

https://greensboro.com/news/local/government-politics/greensboro/article_0c00175a-196e-11ef-9a0b-637443e93347.html

ALERT TOP STORY

Walk this way: City staff unveil route for East Greensboro Greenway

Kevin Griffin
May 24, 2024

GREENSBORO — Southeast residents received an update on plans for the East Greensboro Greenway.

The presentation took place during a Town Hall meeting for District 1 at the Willow Oaks Community Center. District 1 is located in southeast Greensboro and is represented by Councilwoman Sharon Hightower.

The meeting included updates on topics ranging from economic development to transportation. The presentation from Parks and Recreation staff included maps showing the alignment for the proposed Greenway.

This map showed a greenway around 4.5 miles in length stretching from the J. Douglas Galyon Depot in downtown, heading east down East Market Street and then going south in the corridor around South English Street, McConnell Road and East Gate City Boulevard before ending at Barber Park.



Greensboro city staff have identified the route shown here as the preferred path for the planned East Greensboro Greenway.

“This really started out with a vision of connecting Barber Park to downtown and providing a place for active recreation while also meeting transportation needs within the community," said Elizabeth Jernigan, a senior planner for the city.

Destinations along or near the proposed route include the Downtown Greenway, N.C. A&T, Bennett College, Dudley High School and the Historic Magnolia House. The plans show some of these locations connected to the main greenway through spur routes.

Jernigan said the city is pursuing a multimillion dollar federal grant that will go toward covering design costs. She said public engagement will continue in the next phases of the project.

“While we have kind of identified the main route and connections that are a priority for the community, this is the phase that we’ll really dig into what that greenway system will look like,” she explained. “That will include the things that are important to you, things like the seating and the lighting and the safety and the crosswalks and the park-like atmosphere that we want to continue from the existing Downtown Greenway and other greenways in the city.”

By Kevin Griffin

APPENDIX E: 8.0 STRATEGIC PRIORITIZATION (SPOT) SCORING COMPONENT RESOURCES

OVERVIEW

NCDOT uses a strategic, data-driven process to develop the State Transportation Improvement Program (STIP). The process involves scoring all roadway, public transportation, bicycle, pedestrian, rail, and aviation projects on a number of criteria. Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), and the NCDOT Divisions also contribute to the final project score by assigning local priority points to projects. As of this writing, the "P7.0" prioritization process is ongoing and will be used to update the 2026-2035 STIP. The next round of prioritization for which the East Greensboro Greenway will be eligible is referred to as “P8.0” and is expected to be formally started in Fall 2024 with the goal of being used to update the 2028-2037 STIP.

HOW IT WORKS

NCDOT uses a strategic, data-driven process to develop the State Transportation Improvement Program (STIP). The process involves scoring all roadway, public transportation, bicycle, pedestrian, rail, and aviation projects on a number of criteria. Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), and the NCDOT Divisions also contribute to the final project score by assigning local priority points to projects.

Note: The information provided on the following pages is based on scoring component resources available for the current P7.0 SPOT prioritization process. As of this writing, planning for the P8.0 SPOT prioritization process has not yet formally begun, and the information presented here is shown only for reference and subject to change. Project partners should coordinate with the Greensboro Urban Area MPO and NCDOT for the most up-to-date information regarding the SPOT prioritization process as it relates to the East Greensboro Greenway.

BICYCLE + PEDESTRIAN SCORING

Bicycle and pedestrian projects are scored in a specific manner. Independent bicycle and pedestrian projects are programmed in the Division Needs category. Eligible bicycle and pedestrian projects submitted for prioritization must be included in a locally adopted plan and have a minimum project cost of $100,000. Eligible activities include ROW acquisition, design, and construction. Additionally, the STI law prohibits the use of state funding for bicycle and pedestrian projects, requiring municipalities to provide the 20% match for federally funded projects. More details on the scoring for these projects are outlined in the following pages. The scoring mechanism should be used to score the preferred alignment presented in this feasibility study.

For scoring purposes, project criteria include safety, accessibility/connectivity, demand/density, and cost effectiveness. Measure and Division Needs for each are provided in the table below.

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

To access scoring resources online, follow these two links:

Project ATLAS: https://connect.ncdot.gov/resources/Environmental/EAU/Project-Atlas/Pages/default.aspx

SPOT On!ine: https://gis13.services.ncdot.gov/SpotOn!ine/login.aspx?ReturnUrl=%2fSpotOn!ine%2fdefault.aspx

SAFETY RISK

The analysis for Safety Risk is based on all bicycle and pedestrian crashes to identify scores per risk factor, weighted to calculate total score per roadway segment. This information is geoprocessed in SPOT On!ine. It is important to note that the higher the exposure means that the risk is higher, which results in a higher score. Five safety risk factors are outlined in the table below.

RISK FACTOR	BACKGROUND	NOTES	WEIGHT
Location within an incorporated area (includes ETJ)	Overall descriptor for crash locations	Preferred over urbanized/nonurbanized; similar to land use results	**10**
Surrounding land uses	More refined context descriptor for crash locations, indicates travel	Residential/Commercial rank highest; Agriculture/Vacant, Institutional, Other lower categories	**20**
Roadway configuration	Median without positive control OR one-way may indicate longer crossing distances	Heavy emphasis on two-way, undivided roadways (over one-way or divided roadways)	**20**
Posted speed limit	Indicator for risk for severe or fatal crashes	25, 35 mph rank highest; 45, 55 mph mid-tier; 60+ mph lowest scores	**20**
Annual average daily traffic	Indicates increased risk for crash (exposure)	Highest scores to 15,000-40,000; Mid-tier scores for (2,000-6,000), (6,000-9,000), (9,000-15,000); Lowest scores for roads <2,000 or >40,000	**30**

SPOT On!ine: https://gis13.services.ncdot.gov/SpotOn!ine/login.aspx?ReturnUrl=%2fSpotOn!ine%2fdefault.aspx

SAFETY BENEFIT

Safety Benefit assesses the Specific Improvement Types (also referred to as SIT).

BICYCLE	SIT	PEDESTRIAN	SIT	SCORE
New Bicycle/Pedestrian Bridge, New Bicycle/ Pedestrian Tunnel, Rail-Trail, Shared-Use Path / Multi-Use Path	1, 2	New Pedestrian Bridge, New Pedestrian Tunnel, Rail-Trail, Shared-Use Path / Multi-Use Path	6, 7	**7**
Buffered Bicycle Lane, Contra-Flow Bicycle Lanes, Separated Bike Lane, Sidepath	2	Sidepath, Sidewalk	7	**6**
Bicycle Lane	3	Sidewalk Widening, Trail Improvement	9	**5**
Paved Shoulder	4	Crossing Island, Curb Extensions, Streetscape / Corridor Improvements	8, 9	**4**
Bicycle Detection / Actuation, Bicycle Signal, Curb Radii Revisions, Hybrid Beacon, Intersection Markings / Signage, Lighting, Mid-Block Crossing	5	Accessible Pedestrian Signals, Curb Ramp, Lighting, Marked Crosswalk, Mid-Block Crossing, Pedestrian Hybrid Beacon, Pedestrian Signal, Rectangular Rapid Flashing Beacon	8	**3**
Shared Lane Marking ("Sharrow"), Signage	4			**2**
Bicycle Corral, Bicycle Parking, Bicycle Share / Micro-Mobility Share, Bicycle Wheel Channel, Wayfinding	5	Wayfinding	8	**1**

ACCESSIBILITY / CONNECTIVITY

The purpose of Accessibility / Connectivity is to identify projects that provide access to nearby points of interest; improve connectivity between destinations; improve connectivity of bicycle/pedestrian network; and improve access and continuity of designated bicycle routes. The Division Needs are 15%, while the criteria weight for Statewide Mobility and Regional Impact are unavailable.

HOW TO MEASURE
POI # total (no cap) +
Connection # total (no cap/average) +
Route # total

POINTS OF INTEREST (POI)

POI utilizes Advancing Transportation through Linkages, Automation, and Screening (ATLAS) data and other data layers to measure the number of points of interest within a project buffer.

HOW TO MEASURE
1.5-mile buffers for bicycle projects (SITs 1-5)
0.5-mile buffers for pedestrian projects (SITs 6-9)

Project ATLAS: https://connect.ncdot.gov/resources/Environmental/EAU/Project-Atlas/Pages/default.aspx

SPECIFIC IMPROVEMENT TYPES (SIT)

The nine SITs for bicycle and pedestrian projects are listed below.

NUMBER	SIT	TYPE
1	Grade-Separated Bicycle Facility	Bicycle
2	Off-Road/Separated Linear Bicycle Facility	Bicycle
3	On-Road; Designated Bicycle Facility	Bicycle
4	On-Road Bicycle Facility	Bicycle
5	Multi-Site Bicycle Facility	Bicycle
6	Grade-Separated Pedestrian Facility	Pedestrian
7	Protected Linear Pedestrian Facility	Pedestrian
8	Multi-Site Pedestrian Facility	Pedestrian
9	Improved Pedestrian Facility	Pedestrian

POINTS OF INTEREST (POI) CATEGORIES

POI categories automatically measure the following within SPOT On!ine:

- Government buildings
- Fire/EMS
- Transit routes
- Schools (K-12, public/private), universities, colleges
- Parks (national, state, and local)
- Tourist destinations (historic districts, major sports)
- Medical (hospitals and public/private clinics)
- Places of worship
- Adult education centers
- Grocery stores, convenience stores, and pharmacies

The following POI categories are manually added by project submitters:

- Employment centers
- Tourist destinations (museums, theaters, auditoriums, historic landmarks)
- Shelters

CONNECTIVITY

Points are totaled for connections made by project to various degrees of bicycle / pedestrian infrastructure / projects. Connections are allowed at either end of a project or anywhere along a project (Not required to have connection at endpoints). One point per each connection may be assigned to existing bicycle/pedestrian infrastructure or committed bicycle/pedestrian projects. “Committed” means that the project is in the STIP or has local funds. One point (max) may be assigned to any connections to bicycle/pedestrian projects in a plan. Connections should be entered manually by project submitters. ATLAS PBIN (Pedestrian Bicycle Infrastructure Network) should be utilized as the reference layer since it displays existing and planned infrastructure.

Project ATLAS: https://connect.ncdot.gov/resources/Environmental/EAU/Project-Atlas/Pages/default.aspx

DESIGNATED ROUTES

Points are assigned if the project is improving a National/State/Regional bike route or is designated as state/federal trails. Two points are assigned if the project is on or improves a designated route. One point is assigned if the project connects to a designated route. NC State Parks State Trails and NC Bike routes are listed below for reference.

NC STATE TRAILS
Dan River
Deep River
East Coast Greenway
Fonta Flora
French Broad River
Hickory Nut Gorge
Mountains-to-Sea
Northern Peaks
Overmountain Victory
Roanoke River
Wilderness Gateway
Yadkin River

NC BIKE ROUTES
US 1 - Carolina Connector
NC 2 - Mountains-to-Sea
NC 3 - Ports of Call
NC 4 - North Line Trace
NC 5 - Cape Fear Run
NC 6 - Piedmont Spur
NC 7 - Ocracoke Option
NC 8 - Southern Highlands
NC 9 - Sandhills Sector
Lake Norman Bicycle Route (Regional)
Pottery Loop (Regional)

BUNDLING PROJECTS

Project bundling is allowed across geographies and across varying project types. This means that projects do not have to be contiguous or related. Projects can consist of multiple SITs (SIT used for submittal must be majority by cost). Projects can be within a single municipality, or across multiple governments. However, multiple governments will need to provide documentation of agreement on bundling, local matches, and project management – further requirements documentation will be created by SPOT.

Bundling will be limited by project management requirements rather than geographic limitations. Any bundled project must be expected to be under one project manager/administrative unit. Theses must be Transportation Alternative Program (TAP)-eligible entity. Bundling projects makes projects more attractive for Local Input Points (LIP) and easier to manage/let.

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