Trail Feasibility Case Study
Gainesville-Hall MPO
Gainesville, Georgia

Joseph Boyd, AICP
Gainesville-Hall Metropolitan Planning Organization (GHMPO)

- Approximate population of 200,000
- Located 45 miles northeast of Atlanta
- All of Hall County and the western third of Jackson County
- Established in 2003
Gainesville, Georgia

POULTRY CAPITAL of the WORLD
Existing Facilities

- Approximately 15 miles of paved multi-use trails at beginning of study
- Both urban and rural area trails
Previous Work
Conducting a Study (or Studies)

- GHMPO met individually with local jurisdiction staff during creation of FY 2018 UPWP
- Common theme was expansion of bicycle/pedestrian paths
- Create connections between downtowns, schools, universities, parks, and business centers
- Hall County, Flowery Branch, Oakwood, and Gainesville all expressed interest in a Trail Study
- Was decided by GHMPO committees that two concurrent but stand-alone studies be produced:
  - Gainesville Trail Study
  - South Hall Trail Study
- Funding was applied for and awarded in the fall of 2017 with each jurisdiction contributing to a local match
Consultant Team Chosen

- RFP was issued and proposals were received from eight firms
- Selection committee consisting of MPO and local jurisdiction staff chose Alta Planning + Design to conduct the studies
- Studies began in January 2018
Trail Study Project Management Team (PMT)

• Each jurisdiction appointed member(s) to the PMT
• Met every two months throughout the study
• Provided final say on routing alternatives
Determining Trail Feasibility

- Connect future users to destinations and places
- Examine available public lands and facilities
- Determine shared corridor use opportunities
- Inventory existing green and grey infrastructure
- Mind construction costs and budgets
- Consider trail development constraints such as permitting & environmental impacts
- Prioritize safety, economic development, public input, user experience, and the environment
- Meet local community needs and desires
- Consider trail amenities
Final Scopes Determined
Stakeholder/Community Involvement

- Stakeholder Engagement Plan
- Stakeholder Interviews
  - Elected officials, Georgia DOT, CSX/Norfolk Southern Railroad, local businesses, community groups related to bike/ped, schools, etc.
- Community Intercept Events
- Public Open Houses
- Community Online Survey
What are the Gainesville and South Hall trail studies?

In 2017, the Gainesville-Hall Metropolitan Planning Organization, in partnership with City of Gainesville, City of Oakwood, City of Flowery Branch, and Hall County, received transportation funding through the Federal Highway Administration’s Metropolitan Planning Organization’s (MPO) Fund. The grant covers planning funds for two trail corridor studies.

Building on efforts by community volunteers and local government, the Gainesville and South Hall Trail studies are examining the feasibility of two trail corridors that provide a coordinated vision for active transportation investment and recreational outlet in Gainesville and southern Hall County. The study is developing project recommendations that maximize walking and bicycling potential in high demand areas by connecting those areas with high-quality, comfortable, and safe trails.

Gainesville and South Hall County are home to 30 miles of trails, approximately 5 miles paved and 24 miles unpaved. This trail study aims to expand the network and increase connectivity by adding 25 miles of paved trails to Hall County.

FOR MORE PROJECT INFORMATION, PLEASE VISIT Gainesville-AltaProjects.Net
OR CONTACT: JOSHD BOYD, GHMPO PROJECT MANAGER, AT JBOYD@HALLCOUNTY.ORG

Flyers for the Public Open House
Study Findings
Gainesville...by the numbers

**POPULATION**

Population of **37,906**

- 15% growth
  - % population growth between 2010 and 2016

- 6% projected growth
  - % projected population growth by 2021

**DEMOGRAPHICS**

- 42% of the population is Hispanic

- 68% of the population is White

- 16% of the population is Black

**COMMUTE**

- 23 minutes
  - Average commute time

- 2.0% of people who walk to work

- 0.1% of people who bike to work

**HEALTH**

- 4.1 score
  - Rank on the Community Health Needs Index that ranges between 1 and 5. A higher score indicates greater need.

- 6 census tracts
  - Identified as food deserts

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1. US Census Bureau American Community Survey 2016 5-year estimates
2. Northwest Georgia Medical Center 2016 Community Needs Assessment Survey
Gainesville is home to 37,906 people. This population grew 15% 2010-2016, and is expected to grow another 6% by the year 2021.

Poverty
In Gainesville, Hispanic and Black residents are disproportionately affected by poverty. Approximately 37% of Hispanics and 38% of Black residents live below the poverty line whereas only 29% of the overall city population lives in poverty.

Education
Overall, Gainesville residents vary in their educational attainment. Most Hispanic residents do not have a high school diploma. For Black residents, most at least graduated high school, and nearly 40% have some higher education.

Only 2% of commuters travel on foot or via bike. Single-occupancy vehicle commuters represent 73% of commuters.

One limitation to this data is that it excludes non-commuting trips like picking up groceries or going to dinner.

Non-commuting trips account for 84% of all trips.

For Gainesville residents, the average commute is 23 minutes.

Existing Active Transportation Network

The existing network of sidewalks, bike lanes, and trails is characterized by strong nodes, but lack of connectivity. The map to the right shows relatively good sidewalk coverage in the City of Gainesville, town centers, and within some neighborhoods. There are also continuous sidewalks along Friendship Rd and Winder Hwy, two major arterials. The only dedicated bike lanes are along Atlanta Hwy, about one tenth of a mile in length, between Frontage Rd and Poplar Springs Rd.

The network also includes roughly 13 miles of paved trail, and over 23 miles of unpaved trails. The unpaved trails include a sophisticated and extensive network of mountain bike trails. The paved trail segments include the Rock Creek Greenway, the Midtown Greenway, Chicopee Trail, and the sidepath along Friendship Road.
Land Use

Land use classifications for parcels within South Hall are shown on the facing map. The study area is primarily zoned residential and agricultural. Industrial uses are also prominent, particularly along the multiple railroad lines that extend through the center of the county. Commercial uses are interspersed throughout the county, concentrating in downtown areas such as Gainesville and Flowery Branch. Highly-trafficked corridors like McEver Rd, Browns Bridge Rd, Atlanta Hwy and Spout Springs Rd. serve primarily as commercial zones as well.

Overall, land uses are highly separated with only a few areas zoned mixed use. Trail networks between these various, separated land uses can provide more connectivity. Trails serve as connections between otherwise separated neighborhoods, commercial districts, employment centers, schools, and parks. These connections between land uses provide residents the opportunity to use alternative forms of transportation to reach destinations.
Environmentally Sensitive Areas

South Hall possesses incredible environmental resources. The County contains parts of Lake Lanier and is thus located within the Lake Lanier watershed. The area has a system of creeks and streams feeding into the lake. Water ecosystems in urbanized areas like Gainesville, Oakwood, Flowery Branch, and Buford are particularly vulnerable to pollution and other stressors.

The map to the right identifies these sensitive areas, specifically wetlands and floodplains. Both of these natural features serve vital environmental functions. Wetlands are unique ecosystems inundated by water. They store and purify water and serve as critical habitat for unique plant and animal species. Floodplains act as a buffer between riparian corridors and adjacent land and buildings.

Developing on floodplains poses flood risk to the project but also increases flood risk to the adjacent areas outside the flood zone. The severe risk category indicates areas incredibly prone to flooding. A 100-year floodplain identifies areas that are highly likely to flood during a 100-year storm, or a storm that has a 1% chance of occurring in any given year. 500-year floodplains signify areas at risk of flooding during a 500-year storm, or one that has a 0.2% chance (1 in 500 chance) of occurring in a given year.

Because of these vital functions, both wetlands and floodplains are considered environmentally sensitive areas. Development on wetlands also requires further analysis and permitting. Therefore, it is important to identify these areas because trail development can require additional documentation and have lasting impacts on these vital natural resources.

The map also shows conservation use property. Conservation use assessments grant property tax breaks to those who own agricultural, forested, or environmentally sensitive land. The favorable tax treatment incentivizes landowners to protect environmental resources on their land rather than redeveloping it. There are several South Hall properties assessed as conservation use, indicating that these are environmentally sensitive resources. In addition to private land, public parks often serve conservation purposes. For example, the Chicopee Woods Nature Preserve protects over 1,400 acres of old growth forest. Trail development through these conservation lands might provide a unique experience, but also impact these sensitive areas.
Easements

Easements grant the right to use another’s property without having to purchase property in fee. The map on the facing page shows South Hall’s utility easements. Identifying these existing publicly-held easements is a key strategy to developing trail networks. Specifically, utility easements, including sewer and power lines, provide trail development opportunities on often underused space. Utility companies typically locate their services along continuous, linear spaces; these long corridors are often incredibly suitable for trails. Furthermore, developing trails along utility easements can be cost-effective. Easements alleviate the need to purchase the full ownership rights of property, and therefore are more cost-effective. South Hall has numerous sewer and utility easements between Gainesville and Oakwood that prove useful in establishing trail alignments.

South Hall has many easements that could be dual-purpose utility and active transportation corridors, such as this sewer easement near Old Flowery Branch Rd.

[Map showing utility easements with legend: Sewer Lines, Utility Easements, Sewer Easements, Parks]
Opportunities and Constraints

Fieldwork, GIS mapping, and input from the public and Project Management Team helped to identify existing opportunities and constraints for trail development within South Hill. This section presents an overview of the key assets that would support a local trail system and the challenges that will need to be addressed for successful implementation.

1. Flat Creek restoration project underway.

2. Sidewalk on west side of Industrial Blvd would require property acquisition along corridor; owners currently using the space for parking.

3. East side of Industrial Blvd has relatively few driveways and intersections. Buffer between rail and road roughly 40’ min.

4. Loggins St corridor allows direct connection to Pumour Dr sidewalk from Aviation Blvd.

5. No pedestrian accommodations at existing at-grade rail crossing across Aviation Blvd.

6. Land use challenges around this portion of Flat Creek.
Final Recommendations

- A recommended final route was created
- Offered some alternatives within the final recommendation
Hilton Sidepath

The Hilton Sidepath provides an important link between the Aviation Blvd. and Industrial Blvd. The segment begins at the south end of Aviation Blvd. with several safety modifications to the intersection of Francis Ave. There is ample space within the existing traffic islands to include a median refuge island to convey use to the north side of Aviation Blvd. before crossing Industrial Blvd. Coordination with the railroad is required to modify the at-grade crossing to accommodate a shared use path. Where the proposed trail crosses driveways along the commercial and industrial use, coordination is recommended with property owners, especially where operations may be interfering with public right-of-way.

**Proposed**

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<th>12'</th>
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<td>Shoulder Buffer</td>
<td>Travel Lane</td>
<td>Shoulder Lane</td>
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| 10% (50’ Road ROW) |

**Existing**

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<td>Buffer</td>
<td>Railroad Corridor</td>
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</table>

| 139° (50’ Road ROW) |

**Hilton Sidepath**

1. Provide median refuge and intersection enhancements to increase safety.
2. Work with HR to develop at-grade crossing modification, including controlled access fencing and pedestrian gates.
3. Work with commercial property owners to extend trail north along the west side of Industrial Blvd. along the shoulder to Mimosa St.
4. Trail extends along north side of Hilton Dr.
5. For more information on the Airport Connector Trail, see the GFWPO Gainesville Trail Study (2018).

**Property Type**

<table>
<thead>
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<th>PROPERTY TYPE</th>
<th>LENGTH (FT)</th>
<th>% OF PHASE</th>
<th>AFFECTED PARCELS</th>
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<tr>
<td>Private Land</td>
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Approximate length: 0.96 miles
Estimated Cost: $2.5M
Meeks Sidepath

Meeks Dr. provides an important north/south connection between Mountain View Rd. and Tumbling Creek. The segment begins on Mountain View Rd. across from the Hoppensburg Trailhead. A mid-block crossing is proposed on Mountain View Rd. to convey trail use on the south side of the roadway, within public right-of-way. At Meeks Dr., the trail will extend south, along the eastside of the roadway. Meeks Dr. is a low volume road and trail construction will occur within roadway right-of-way to minimize easement acquisition. Just before the Murfey Mill Rd. intersection, the trail will extend slightly south off road before connecting with the Balboa Creek corridor. The Meeks Sidepath is proximate to UNG and may support active transportation commuters who work at or attend the university.

Proposed

Existing

Meeks Sidepath

1. Mid-block crossing with rectangular rapid flash beacon (RRFB) at Mountain View Rd.
2. Install trail along the east side of Meeks Dr.
3. Trail intersection, TYP. (see design guidelines)
4. Connections to UNG support active transportation choices

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<tr>
<th>PROPERTY TYPE</th>
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Approximate length: 1,122 miles
Estimated Cost: $2,126M
Thurmon Tanner North Sidepath

The North Sidepath connects Oakwood north to UNG. This very important connection will provide active transportation choices for residents who work or attend UNG and may live nearby in Oakwood. The trail will extend along the west side of the parkway until Mundy Mill Rd, where a separated overpass is proposed to connect to the university. The trail will use existing walking and biking routes on UNG campus to connect through to Tumbling Creek trails.

Thurmon Tanner North Sidepath

1. Existing pedestrian lighting will need to be relocated
2. Demolish existing sidewalk and construct 12-foot wide sidewalk
3. Approximately 180-foot pedestrian overpass across Mundy Mill
4. Work with UNG to determine precise routing and shared use/sidewalk widening

PROPERTY TYPE | LENGTH (FT) | % OF PHASE | AFFECTED PARCELS
--- | --- | --- | ---
Utility Easement | 5 | 0.1% | N/A
ROW | 3370 | 64.8% | N/A
Public Parcels | 1080 | 17.6% | 0
Private Land | 1068 | 17.4% | 4

Approximate length: 1.16 miles
Estimated Cost: $3.93M
The Cherokee Bluffs Trail is located at the southern most area of the South Hall study area. The segment will connect to existing sidewalk along Friendship Rd., expediting off-road connections adjacent to Vulcan Materials quarry. The county will need to work closely with Vulcan Materials to obtain easements where trail extends across the quarry, ensuring no operations are interrupted and users are completely separated from quarry access. The trail extends along Hog Mountain Rd. to avoid extended interruption of operations at the quarry before it connects back to Blackjack Rd. It then crosses at-grade to connect users to Cherokee Bluffs Park.

**Cherokee Bluffs Trail**

1. Provide proper wayfinding signage to direct trail users
2. Obtain easements from Vulcan Materials; consider opportunities for partnership with Vulcan Materials in areas along quarry
3. 30" culvert is recommended at stream
4. Several drainage improvements will be necessary throughout the Vulcan property
5. Boardwalk will be required to extend across wetland area
6. In some locations fencing will need to be relocated or rebuilt to maintain site security and to accommodate the trail
7. Install rectangular rapid flash beacon (RRFB) at Blackjack Rd. access from Cherokee Bluffs Park
8. Trail will extend on the north side of Blackjack after crossing at park

**PROPERTY TYPE** | **LENGTH (FT)** | **% OF PHASE** | **AFFECTED PARCELS**
--- | --- | --- | ---
Utility Easement | 0 | 0% | N/A
ROW | 3,717 | 30.7% | N/A
Public Land | 0 | 0 | 0
Private Land | 8,490 | 69.3% | 13

Approximate length: 2.3 miles
Estimated Cost: $4.4M
Proposed Trailheads

Trailheads provide essential access to the trail network and can include many amenities in one location: automobile parking, bicycle parking, restrooms, drinking fountains, trash and recycle receptacles, dog waste stations, bicycle repair stations, and wayfinding and informational signage. Major trailheads include restrooms, parking areas for vehicles and trailers, maps and kiosks, and sign posts for the trail and its features. Minor trailheads usually include a map or kiosk of the trail network, connections to adjacent sidewalks or bicycle facilities, and shared parking.

It is important to optimize existing public lands or adjunct land uses that may be suitable for trailheads to benefit cost and develop partnerships with relevant use. Coordination with landowners, GDOT, and local development plans and ordinances will be required. For South Hall trails, several trailhead areas were identified as potential improvement areas for trailheads or increased access and visibility.

Example trailhead for the Park to Playa Trail in Los Angeles County.
Prioritization

Introduction
The prioritization of planned priority trail corridors is essential to rational and orderly growth of the regional trail system. The project team has developed a suggested set of measurable prioritization criteria to score each planned priority trail corridor. The prioritization criteria reflect the needs and aspirations of the community as expressed through the public engagement process and includes additional factors critical to project planning and network development, such as availability of public lands, maintenance resources and capacities, and planned infrastructure investments.

This corridor prioritization process begins with an introduction to and explanation of the criteria used to measure the effectiveness of each corridor, then summarizes the results of the prioritization exercise. The section concludes with a further examination of ten planned priority trail corridors to identify projects that can be developed within the limited financial resources available in each of the corridors. Another consideration that must be taken into account in this process goes beyond just prioritization, and to phasing based on the ability for corridors to move forward, such as corridors that require easement acquisition.

Prioritization Methodology
This prioritization methodology synthesizes a wide range of goals that have emerged throughout the planning process. It provides a quantitative, objective process for prioritizing each trail segment based on how strongly it helps GP-IMO, the County, and its local municipalities achieve their goals.

The data-driven scoring process applies 22 criteria to all 20 priority trail corridors to capture the full value of each corridor based on eight important themes, which include safe connections, regional coordination/impact, connectivity, and project readiness. This process is objective in nature and is dependent on spatial analysis of GIS-based data to assign value to each corridor. The methodology for this data-driven, value-based scoring process is described below.

1. SAFE CONNECTIONS
1.1. Roadway Crossing Frequency
This prioritization criterion is based on the number of roadway and driveway crossings. Fewer at-grade crossings of roadways creates fewer conflict points between trail users and motor vehicles. Scores are calculated on a per-mile basis.

1.2. Roadway Crossing Frequency
- Number of crossings per mile falls into the highest third of all trail segments
- Number of crossings per mile falls into the middle third of all trail segments
- Number of crossings per mile falls into the lowest third of all trail segments

1.3. Feeling of Safety (Security)
This prioritization criterion reflects the ability of a corridor to feel safe due to natural surveillance. Natural surveillance of a space provides peripheral observation of and for community members, allowing trail users to feel as though they are being looked after by their neighbors. This feeling of safety typically correlates with the traffic of adjacent streets.

1.4. Feeling of Safety (Security)
- There is no natural surveillance along corridor
- There is some natural surveillance along corridor
- There is natural surveillance throughout the corridor

1.5. Low Stress Facility
This category reflects how much separation there is between traveling vehicles and trail users.

1.6. Low Stress Facility
- Trail has a buffer less than 20’ from roadway
- Trail has a buffer greater than 20’ from roadway
- Trail is independent of roadway eight-off-way

1.7. Need for crossings improvements
This prioritization criterion is based on the need for at-grade intersection and mid-block crossings improvements. These improvements may affect feasibility and cost. Scores are calculated on a per-mile basis.

1.8. Need for crossing improvements
- Major improvements required (e.g., new signals, geometry reconfiguration)
- Only minor improvements required (ADA upgrades, signal modifications)
- Intersections are adequate as they exist currently

2. CONNECTIVITY
2.1. Proximity to Neighborhoods
This category identifies which alignment provides the best access to neighborhoods along the trail.

2.2. Proximity to Neighborhoods
- No existing neighborhood connections
- Trail runs adjacent to, but does not connect directly to a neighborhood
- Trail provides direct connection into a neighborhood

2.3. Proximity to Parks
For people bicycling and walking, trails can serve as vital connectors to and between local and regional parks. This scoring category measures whether or not the trail provides a direct, or somewhat direct connection to a park.

2.4. Proximity to Parks
- No existing park connections
- Trail runs adjacent to, but does not connect directly to a park
- Trail provides direct connection into a park

2.5. Proximity to Schools
Trails can also provide needed access to schools for children and families. This category measures whether or not the trail provides a direct, or somewhat direct connection to a school.
3. PROJECT READINESS

3.A. Previously Proposed Trail
This category acknowledges whether or not the alignment has been included in other recent planning documents for GHMPO, Hall County, the City of Gainesville, the City of Oakwood, or the City of Flowery Branch. Points were allocated as described below.

3.A. Previously Proposed Scoring
- Alignment has not appeared in previous planning documents
- Partial trail alignment is included in a previous plan
- Full trail alignment is included in a previous plan

3.B. Rail Crossing Treatment
The need to provide a rail crossing treatment may complicate trail implementation, particularly along active rail lines. Rail crossings require more permitting and safety precautions. For this category, there are two possible scores instead of three.

3.B. Rail Crossing Treatment Scoring
- Trail includes an at-grade rail crossing
- Trail does not include an at-grade rail crossing

3.C. Right-of-Way Acquisition
Some corridors may follow utility easements or other public right-of-way, and therefore alleviate the need to purchase property in fee. This criteria measures the percentage of corridor alignment located on utility easements, public right-of-way, or publicly owned parcels.

3.C. Right-of-Way Acquisition Scoring
- Alignment completely within private land
- Alignment in both private and public land
- Alignment fully contained in public land

3.D. Cost
Cost can be a major factor for the development of trail projects. This category rates each corridor based on estimated cost per mile.

3.D. Corridor Cost Scoring
- Per mile cost falls in the most expensive third compared to all other segments
- Per mile cost falls in the middle third compared to all other segments
- Per mile cost falls in the least expensive third compared to all other segments

4. SCENIC VALUE

4.A. Proximity to Natural Resources
Through the public input process, community members expressed their desire for trail types that provided access to natural resources, in particular riparian (stream/river) corridors, which support biodiversity. This category uses proximity to streams and rivers to develop a natural resources score for each trail corridor.

4.A. Proximity to Natural Resources Scoring
- Trail does not intersect or run parallel to a riparian corridor
- Trail intersects or briefly follows a riparian corridor
- Trail completely follows a riparian corridor

5. ENVIRONMENTAL IMPACTS

5.A. Wetlands
While wetlands can provide a unique user experience, trail development can have lasting impacts on these sensitive natural resources. For this category, there are two possible scores representing the presence or absence of wetlands along the trail alignment.

5.A. Wetlands Scoring
- Trail will require wetlands permitting
- Trail will not require wetlands permitting

5.B. 100-Year Floodplain
Similar to wetlands, floodplains serve a vital environmental function. Trail development through floodplains requires extra documentation and permits to ensure the floodplain’s continued functionality as a buffer between riparian corridors and adjacent land and buildings. For this category, there are two possible scores representing the presence or absence of the 100-year floodplain along the trail alignment.

5.B. Floodplains Scoring
- Trail does intersect the 100-year floodplain
- Trail does not intersect the 100-year floodplain

6. EQUITY AND COMMUNITY VALUE

6.A. Trail Access
Trailheads and access points increase the permeability of trails and provide multiple locations for adjacent residents, nearby employees, and area visitors to get on and off the trail. This category measures the number of existing and future trailheads, potential trail access points, and parking facilities, calculated on a per-mile basis.

6.A. Trail Access Scoring
- Less than one trailhead or access point per mile
- One to two trailheads or trail access points per mile
- More than two trailheads or trail access points per mile

6.B. Access to Healthy Foods
Trails can improve community access to grocery stores, particularly communities with limited access to vehicles. This category measures the proximity of the trail to supermarkets.

6.B. Access to Healthy Foods Scoring
- More than 1 mile from a grocery store
- Between 1/2 mile and 1 mile from a grocery store
- Less than a 1/2 mile to a grocery store

6.C. Limited Vehicle Access
Trails increase the mobility of communities that have limited access to vehicles. According to the American Community Survey, Limited Vehicle Access Communities are those in which 5% or more of households do not have access to a car. Because this figure represents the median value for Hall County, any
community that exceeds 5% limited vehicle access and is not adjacent to the trail receives a lower score.

6.C. Limited Vehicle Access Scoring
- Trail does not connect or run adjacent to a community with limited vehicle ownership
- Trail runs near or adjacent to an area with limited vehicle ownership
- Trail provides direct connections to a limited vehicle ownership community

7. ECONOMIC IMPACT POTENTIAL
7.A. Adjacent Redevelopment
Trails have long been understood to spur and sustain economic growth. Corridors adjacent to redevelopment can ensure the success of the project by supporting the trail and its users. This score is based on the context of surrounding land use. Typically, dense industrial areas with underutilized parcels or structures have high potential for redevelopment.

7.A. Adjacent Redevelopment Scoring
- No redevelopment nearby
- Some redevelopment potential
- High amount of redevelopment potential or already in progress nearby

7.B. Employment Centers
Connecting trails to employment centers can create opportunities for walking and bicycling to work, as well as provide adjacent businesses and employees with healthy, accessible recreation options. The greatest amount of connectivity is provided through direct connections to employment centers.

7.B. Employment Center Scoring
- Offers limited connection to employment centers
- Offers the average amount of connection to employment centers
- Offers the greatest amount of connection to employment centers

7.C. Connectivity to Downtown Cores
By connecting trails to downtown cores, people can choose to walk and bike to local businesses. For many commercial areas, trail development can serve as an economic booster by providing a valuable amenity that attracts people to the area. The greatest amount of connectivity is provided through direct connections to downtown cores.

7.C. Connectivity to Downtown Cores
- Offers limited connection to downtown cores
- Offers the average amount of connection to downtown cores
- Offers the greatest amount of connection to downtown cores

Composite Prioritization Results

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<th>Priority Tiers</th>
<th>Existing Paved Trails</th>
<th>Existing Unpaved Trails</th>
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<tr>
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<td>Tier 3</td>
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**ORGANIZATIONAL FRAMEWORK FOR IMPLEMENTATION**

**Hall County Board of Commissioners**
Recognize the value of trails by adopting this plan, thereby supporting quality of life for all in Hall County.

**GHMPO**
Coordinate with Hall County and municipal partners as leveraging funding opportunities through the FAST Act and TIP process. Incorporate this Plan’s projects into long-range transportation plans.

**Private Sector Partners**
Meet with project leadership & coordinate on key recommendations.

**Hall County Planning & Development**
Consider trail development policies & assist with public outreach for trail projects.

**Hall County Parks and Leisure**
Coordinate implementation of the Park’s Action Plan, working directly with private partners.

**GDOT District 1**
Technical support and review for trail-county strategies and trails and is GDOT right-of-way.

**Regional Partners**
Continue support, coordination, & advocacy for trails.
- Atlanta Regional Commission
- East Cobb Greenway Alliance
- Georgia State Parks
- Chattahoochee Riverkeeper
- Tread & Grit Bicycles
- Healthcare Providers & Advocates
- Sierra Club
- GA Power
- Business Community
- USA & Other Academic Partners
- Neighboring Jurisdictions

**Hall County GIS Division**
Maintain GIS database of trails that are existing, proposed, and in development.

**Long Range Planning Division**
Adjust long-range plans to reflect ongoing and planned trail development, update the planning ordinance and subdivision regulations to support trails.

**Development Review Division**
Review plans and designs to evaluate proposals for trails in new developments.

**Hall County Public Works Department**
Provide continuity from planning to implementation of trail projects, including land acquisition.

**Consultants**
Assist in project management by providing guidance on project development, and by providing trail design and construction services.

**Hall County Traffic Engineering Division**
Coordinate installation of traffic control devices and neighborhood traffic calming with trail projects and trail crossings.

**Local Residents and Civic Organizations**
Help build public support for trails and trail funding.

**Municipal Partners**
- Coordinate with Hall County and GHMPO to leverage local trail projects
- Provide GHMPO access to Hall County GIS Division for trail projects in development, and completed trail projects
- Provide public awareness and use of local and regional trails through local and regional marketing and economic development opportunities
- After priority goals are completed, collaborate with Hall County and other partners on a comprehensive regional marketing strategy and branding marketing strategy for greenways

**Amend county and local development ordinances and technical standards**
- Hall County Planning & Development
- Municipal Partners
- County and local development ordinances should be considered for amendment to ensure that, as developments are planned and reviewed, the recommend ed greenway trail corridor identified in this plan is protected. This would entail amending development regulations to have developers set aside land for trails whenever a development proposal overlaps with these proposed routes, as adopted. Local governments should also consider requirements and tools like dedicating easements, connections to adjacent land uses, requiring credits, and offering some form of recognition to developers who go above and beyond the requirements for trail development.

**Revise sewer, stormwater, and utility easement policies**
- Hall County Planning and Zoning
- Hall County Planning Commission
- Local Planning Boards
- All new sewer, stormwater, and utility easements should be considered for allowing public access as a matter of right. Such a consideration should allow for access that does not require landowner approval for each parcel, ease easement overlaps. As trails are developed, also review applicable existing easements for similar revision considerations.

**Develop a corporate sponsorship policy**
- GHMPO
- Local Private Sector Partners
- For a comprehensive sponsorship policy example, see that of Portland Parks and Recreation: www.portlandoregon.gov/parks/chi/attachment/155510. For a sponsorship brochure example, see that of the ‘Mountains to Sound Greenway’ http://mountainstosoundgreenway.org/mtsg-events-calendar/_way-365-sponsorship-brochure

**Develop a coordinated operations & maintenance plan**
- GHMPO
- Hall County Planning and Zoning
- Municipal Partners & Organizational agencies where facilities cross jurisdictional boundaries or where pooled efforts can reduce costs. See the maintenance section of this chapter for more information about best practices for operations and maintenance.

**IMPLEMENTATION ACTION STEPS**

<table>
<thead>
<tr>
<th>#</th>
<th>Task</th>
<th>Lead Agency</th>
<th>Support</th>
<th>Details</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Present Plan to Board of Commissioners for adoption</td>
<td>Planning Consultants</td>
<td>Hall County Planning &amp; GHMPO</td>
<td>The plan should be presented to the board in Fall 2019. Focus on the health and economic benefits of greenways and key trail recommendations. Adjustments will be made during implementation. Be sure to include commitments to funding the plan.</td>
<td>Short Term (2019)</td>
</tr>
<tr>
<td>2</td>
<td>Meet with GHMPO to develop and coordinate on key recommendations</td>
<td>GHMPO &amp; GDOT District 1</td>
<td>GDOT Staff + Pedestrian Coordinator</td>
<td>This plan and the recommended trail routes should be officially recognized by GDOT. For example, GDOT should identify this project as a part of the overall network of trails. Effort should be made between state and local partners to include parallel trail facilities on planned future roadways and roadway reconstruction projects, especially where they appear on adopted plans.</td>
<td>Short Term (2018)</td>
</tr>
<tr>
<td>3</td>
<td>Amend county and local development ordinances and technical standards</td>
<td>Hall County Planning &amp; Development</td>
<td>Municipal Partners</td>
<td>County and local development ordinances should be considered for amendment to ensure that, as developments are planned and reviewed, the recommended greenway trail corridor identified in this plan is protected. This would entail amending development regulations to have developers set aside land for trails whenever a development proposal overlaps with these proposed routes, as adopted. Local governments should also consider requirements and tools like dedicating easements, connections to adjacent land uses, requiring credits, and offering some form of recognition to developers who go above and beyond the requirements for trail development.</td>
<td>Short Term (2018)</td>
</tr>
<tr>
<td>4</td>
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</tr>
<tr>
<td>5</td>
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<td>Local Private Sector Partners</td>
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<td>Short Term (2019)</td>
</tr>
<tr>
<td>6</td>
<td>Develop a coordinated operations &amp; maintenance plan</td>
<td>GHMPO</td>
<td>Hall County Planning and Zoning</td>
<td>Municipal Partners &amp; Organizational agencies where facilities cross jurisdictional boundaries or where pooled efforts can reduce costs. See the maintenance section of this chapter for more information about best practices for operations and maintenance.</td>
<td>Short Term (2019)</td>
</tr>
</tbody>
</table>
Trail Design Best Practice

Design Needs of Trail Users

Trail users include pedestrians (including those using mobility devices and pushing strollers), and cyclists. By understanding the unique characteristics and needs of all trail users, a facility designer can provide quality facilities and minimize user risk.

Types of Pedestrians

Pedestrians have a variety of characteristics and the trail network should accommodate a variety of needs, abilities, and possible impairments.

Age is one major factor that affects pedestrians’ physical characteristics, walking speed, and environmental perception. Children have low eye height and walk at slower speeds than adults. They also perceive the environment differently at various stages of their cognitive development. Older adults walk more slowly and may require assistive devices for walking stability, sight, and hearing.

Table 10: Pedestrian Characteristics by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>Learning to walk</td>
</tr>
<tr>
<td></td>
<td>Requires constant adult supervision</td>
</tr>
<tr>
<td></td>
<td>Developing peripheral vision and depth perception</td>
</tr>
<tr>
<td>5-8</td>
<td>Increasing independence, but still requires supervision</td>
</tr>
<tr>
<td></td>
<td>Poor depth perception</td>
</tr>
<tr>
<td>9-13</td>
<td>Susceptible to “bumping” in roadways</td>
</tr>
<tr>
<td></td>
<td>Insufficient judgment</td>
</tr>
<tr>
<td></td>
<td>Sense of inanerability</td>
</tr>
<tr>
<td>16-18</td>
<td>Improved awareness of traffic environment</td>
</tr>
<tr>
<td></td>
<td>Insufficient judgment</td>
</tr>
<tr>
<td>19-40</td>
<td>Active, aware of traffic environment</td>
</tr>
<tr>
<td>41-65</td>
<td>Slowing of reflexes</td>
</tr>
<tr>
<td>65+</td>
<td>Difficulty crossing street</td>
</tr>
<tr>
<td></td>
<td>Vision loss</td>
</tr>
<tr>
<td></td>
<td>Difficulty hearing vehicles approaching from behind</td>
</tr>
</tbody>
</table>

Figure 8: Pedestrian Dimensions
Shared Use Paths in Active Rail Corridors

Rails-with-Trails projects typically consist of paths adjacent to active railroads within railroad right-of-way. It should be noted that some constraints could impact the feasibility of rail-with-trail projects. In some cases, space needs to be preserved for future planned freight, transit or commuter rail service.

Typical Application
- Along active rail corridors

Design Features
- Shared use paths in active rail corridors should meet or exceed general design standards. If additional width allows, wider paths, and landscaping are desirable.
- If required, fencing should be a minimum of 5 feet in height with higher fencing near sensitive areas such as switching yards. Wherever feasible, provide transparent fencing. Setbacks from the active rail line will vary depending on the speed and frequency of trains, and available right-of-way.

Fencing between trail and tracks will likely be required

Separation greater than 20’ will result in a more pleasant trail user experience and should be pursued where possible.

Neighborhood Accessways

Neighborhood accessways provide residential areas with direct bicycle and pedestrian access to parks, trails, greenspaces, and other recreational areas. They most often serve as small trail connections to and from the larger trail network, typically having their own right-of-way and easements.

Typical Application
- Neighborhood accessways should be designed into new subdivisions. For existing subdivisions, neighborhood and homeowner association groups are encouraged to identify locations where such connects would be desirable.

Design Features
- Neighborhood accessways should remain open to the public.
- Trail pavement shall be at least 8 feet wide to accommodate emergency and maintenance vehicles; meet ADA requirements and be considered suitable for multi-use.
- Trail widths should be designed to be less than 8 feet wide only when necessary to protect large mature native trees over 18” in caliper, wetlands or other ecologically sensitive areas.
- Access trails should slightly meander whenever possible.
Boardwalks

Boardwalks are typically required when crossing wetlands or other sensitive natural areas. A number of low-impact support systems are also available that reduce the disturbance within wetland areas to the greatest extent possible.

**Typical Application**

- Boardwalks should be constructed of composite decking that forms the top layer of the boardwalk. The composite decking, made from recycled material, has gained popularity in recent years since it lasts much longer than wood, particularly when exposed to wet conditions. An alternative to composite or wood decking is to constructing the boardwalk of concrete.

**Design Features**

- A boardwalk width should be a minimum of 10 feet when no rail is used. A 12 feet width is preferred in areas with average anticipated use and whenever rails are used.
- When the height of a boardwalk exceeds 30¢, railings are required.
- If access by vehicles is desired, boardwalks should be designed to structurally support the weight of a small truck or a light-weight vehicle.

**Design Needs of Runners**

Running is an important recreation and fitness activity commonly performed on shared use paths. Many runners prefer softer surfaces (such as rubber, base earth or crushed rock) to reduce impact. Runners can change their speed and direction frequently. If high volumes are expected, controlled interaction or separation of different types of users should be considered.

**Design Needs of Strollers**

Strollers are wheeled devices pushed by pedestrians to transport babies or small children. Stroller models vary greatly in their design and capacity. Some strollers are designed to accommodate a single child, others can carry 3 or more. Design needs of strollers depend on the wheel size, geometry and ability of the adult who is pushing the stroller.

Strollers commonly have small pivoting front wheels for easy maneuverability, but these wheels may limit their use on unpaved surfaces or rough pavement. Curb ramps are valuable to these users. Lateral overturning is one main safety concern for stroller users.
• Planned trails – 34.5 miles
• Entire network length – 50 miles
Where To Next?

• SPLOST
• Grants (state & federal)
• Local Jurisdictional Lead
• Future Development
• Adopt into RTP
Lessons Learned

• Never Too Much Outreach
• Involve Champions Early
• Reach Out To Impacted Groups Directly
• Flexibility is Key
Links to Study Documents

Gainesville Trail Study
February 2019

South Hall Trail Study
February 2019
Thank You!

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