Hahira Area Traffic Studies

Final Report



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Executive Summary

The Hahira Area Traffic Studies, in collaboration with the community, delivers a Master Plan that promotes a safe and efficient mobility network while supporting desired growth and development. The Studies coordinate recommended transportation investments with public and private land use plans to promote the community's vision

The North Lowndes Park study area is growing into a regional mixed use activity center, and because of its location along I-75 has complex transportation needs. The Master Plan proposes new complete streets and trails to access the expanding activity center, while providing a framework for the community's desired development character.

Safe transportation connections for walkers, bikers, and everyone else are a priority of the Hahira Elementary School Study. The Master Plan lays out those connections to and through new neighborhoods.

In both activity centers, the Master Plan establishes multimodal mobility, safe access, greenspace conservation, mixed use centers, and pedestrian-oriented design. The plan tailors best practice in network planning and development standards to accommodate anticipated growth while preserving rural areas.

Rural and Small Town Character

The Master Plan preserves nearly 300 additional acres as greenspace when compared to the adopted Comprehensive Plan. It defines Traditional Neighborhood and Village Center Character Areas to increase density in neighborhoods and provide mixed use centers that accommodate growth while preserving rural areas. Traditional neighborhoods have interconnected streets and trails to amenities such as libraries, health facilities, parks, and schools. More homes near destinations like restaurants, offices, and services means that trips are shorter – and that small businesses are supported by the people nearby.

Interconnected Networks

The Master Plan provides safe access and connectivity to both the regional recreation activity center at North Lowndes Park and the Hahira Elementary School activity center. The plan follows best practice for block lengths and connectivity. It extends downtown's network to the west and provides a framework for growth around the park, the I-75 interchange area, and the school. In addition project to recommendations, the plan includes rightof-way preservation and access management policies.

Greenways and Trails

The plan includes a network of greenways and multiuse paths that cross I-75 along





Franks Creek or on a pedestrian bridge. The trails connect homes to schools, downtown, and services. Many trails run through linear greenspace and pocket parks.

Safety and Mobility

The Master Plan includes both new roads and operational improvements at key intersections including turn lanes, roundabouts, and Reduced Conflict U-Turns (R-CUTs) where suitable. The team developed cost estimates and funding priorities for the recommended investments.



Typical sections for new complete streets include sidewalks or multiuse paths. Buildings in walkable centers front the roadside with parking in the rear and on the street.

A Flexible Framework

Overall, the master plan infrastructure recommendations support growth through a flexible framework of roads and trails that support access and mobility within and between centers, providing for reduced delay and safe operations as the area population, jobs, and visitors increase.

This Master Plan supports the region's vision for quality of life, economic development, health and wellness, rural area preservation, and resilience.





Promoting a Shared Vision

The Hahira Area Traffic Studies are a unique opportunity to coordinate transportation investments and land use plans to promote the development character envisioned by the community for two growing activity centers surrounding North Lowndes Park and Hahira Elementary School, shown below. The studies' goals are to:

- establish a shared vision •
- optimize land use and transportation network performance •
- promote safe access
- align new transportation connections with public and private development plans
- ensure pedestrian-oriented design •

The Hahira Area Traffic Studies, in collaboration with the community, delivers a master plan that promotes a safe and efficient mobility network while supporting desired growth and development.

The North Lowndes Park study area is growing into a regional mixed use activity center, and because of its location along I-75 has complex transportation needs. The master plan proposes new complete streets and trails to access the expanding activity center, while providing a framework for community's desired the development character.

Safe transportation connections for walkers, bikers, and everyone else are a priority of the Hahira Elementary School Study. The master plan lays out those connections to and through Figure 1 Study Area Boundary new neighborhoods.



The master plan prioritizes community character and quality of life, with interconnected streets; relatively small blocks; sidewalks; bike lanes; and direct connections between neighborhoods, schools, parks, and other amenities. Greenways and trails connect activity centers, neighborhoods, parks, and natural areas. Community centered growth focuses development in activity centers like mixed-use village centers with stores, cafes, restaurants, and services to serve neighborhood residents day-to-day needs. Village centers are surrounded by rural and estate agricultural areas that are preserved. Neighborhoods have a traditional character, with front yards, porches, small squares or parks, and plentiful public greenspace. The community and stakeholders consistently supported these strategies through the planning process.

The figure below shows typical community centered developments with small blocks; sidewalks; bike lanes; and direct connections between neighborhoods, schools, parks, and other amenities.

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Stakeholder Engagement

Stakeholder Committees for each of the study areas met jointly and separately several times during the needs assessment, scenario planning, and master plan recommendations phases of the study. Committees attended eight meetings between April 2022 and February 2023. In May 2022, the team conducted a walk audit surrounding the school with several parents, Safe Route to School staff, and the School Resource Officer. Regular study updates were presented to the Valdosta Lowndes Metropolitan Planning Organization (VLMPO). The study team also interviewed several property owners, developers, realtors, and business owners, through the course of the study. Stakeholders discussed a vision for the growth of the study areas, previous plans and studies, ongoing development plans, community issues and opportunities, mobility and access, and the alternate growth scenarios. The feedback received from those conversations is reflected in the refined character areas and transportation network recommendations in this report.

Future Scenario Review

Along with stakeholders and the public, the study team developed two possible futures, a business-as-usual highway oriented plan and a community centered plan. Stakeholder Committee members, interview participants, VLMPO committee members, and the public reviewed needs assessment information as well as the two alternative future scenarios including character areas, conceptual road and greenway networks, and typical sections for two throughfare types for each scenario (streets and avenues). Varying growth and development and infrastructure strategies were reviewed and discussed. The figures below show the scenario strategies. The scenarios were presented as two frameworks for future development from which strategies could be combined and refined to form the Master Plan Concept.

In general, the robust discussion included enthusiastic support for

- Promoting Hahira's small town charm,
- significant greenspace, including preserving specific rural or agricultural areas and increasing public parks
- complete streets to promote safe and comfortable walking,
- a network of greenways/trails for recreation and access between schools, parks, downtown, homes, and commercial areas
- connecting N Lowndes Park to downtown as well as other areas east of the interstate via a pedestrian bridge or greenway along Franks Creek





Stakeholders shared these concerns:

- safety concerns at the I-75 interchange with SR 122, in particular lack of visibility
- safety concerns at the Hagan Bridge Rd and SR 122 intersection, which has a substandard angle of intersection
- concerns about congestion on SR 122, specifically at Union Rd and SR 122
- increasing congestion with residential growth and new activities at North Lowndes Park
- growth may change what they love about Hahira, especially if it is "uncontrolled"







A Sense of Place

To better understand what residents and other stakeholders envision for the future, the study team gathered feedback through a survey with fifty images that represent different infrastructure options, development styles, and community character. The responses, while qualitative, tell the study team how residents and stakeholders want the community to look and feel.



The most preferred images reflected small town main streets with walkable and mixed-use central business districts. Images of Greensboro, Georgia and Beaufort, South Carolina, shown below, were most consistently ranked as most appropriate for Hahira as it grows.



Figure 2 Most Preferred Character: Small Town



Survey respondents also selected images of greenspace, with trails and rural character, as the most appropriate. Images shown below were among the highest ranked. The responses are consistent with stakeholder feedback during individual interviews, a public open house, narrative survey responses, and interactive map comments on the two scenarios described above.



Figure 3 Most Preferred Character: Greenspace



As shown below, the images ranked as least appropriate for Hahira show large paved parking areas, suburban big box retail, wide commercial roads, an urban pedestrian bridge, and suburban residential with no variation in housing style and sparse landscaping. These are in sharp contrast to the most preferred images. Results from the Sense of Place survey shaped the development of the Master Plan Concept along with technical analysis and additional input from stakeholders and the public.



Figure 4 Least Preferred Character







Figure 5 Least Preferred Character

The Vision

The traffic study areas are both destined to be centers of community life. Both locations are desirable to develop because of the success of the Hahira area, its small town charm, great schools, accessible location, and available land. This is a key time to ask, "What do we want to be ten, twenty, and thirty years from now?"

To support the qualitative results of the visual preference survey, the team also developed a series of alternative big picture goal statements and growth descriptions for each study area. Statements included in the survey reflected initial feedback from stakeholders and property owners.

Few people responded to the shared vision survey, but those that did generally agreed with the Stakeholder Committees, residents, and property owners that have participated in the study. Overall, the following statements about community character received a high level of support:

- Our rural character is preserved.
- Our small town character is preserved.
- Our sense of place and community is preserved.
- A sense of place and community is created where growth occurs.
- Our tree canopy is preserved.
- Parks and greenspaces are accessible to everyone.

The following statements about access and mobility received a high level of support:

- There are connections to trail networks and greenspace from residential areas.
- There are sidewalks connecting residential areas to parks, schools, and activity centers.
- We are able to manage traffic congestion as the area grows.





- Alternate routes provide for efficient incident response.
- All road users can travel safely.
- People don't have to get in their cars for "short" trips (less than one mile).
- There are sidewalks and trail connections to commercial activity centers or other services.
- There are sidewalks and trail connections to job centers.

The study team asked specifically about potential safety and mobility improvements to SR 122. Overall the following statements were supported:

- Improve pavement striping and signage
- Improve road crossings
- Provide sidewalks

North Lowndes Park Study Area

The following vision statements about growth character received support for the North Lowndes Park Study Area:

- Where planned, activity centers include neighborhood market areas with stores, cafes, restaurants, and services.
- Village centers, or neighborhood activity centers, include a mix of retail, services, and offices to serve neighborhood residents' day-to-day needs.
- Design for new village center(s) reflects Hahira's downtown area today.
- Houses in traditional neighborhoods that create a sense of place by framing the sidewalk with street trees and front porches, and by providing interconnected streets, a small town square or plaza, and plentiful public greenspace.

The following statements about access and mobility received a high level of support:

- There is an off-road trail and greenway system that connects to park amenities, schools, village centers, and housing.
- Access and connectivity improvements manage special event traffic and impacts on surrounding areas.
- The village center(s) are pedestrian-oriented with walkable connections between different uses. Buildings are oriented to the roadside with parking in the rear.
- Direct connections between village center(s) and a new greenspace and trail network are provided.
- The village center's pedestrian-friendly environment is enhanced by sidewalks and trails or bike routes between residential areas and neighborhood amenities such as libraries, health facilities, parks, and schools.
- A greenway connects Hahira east of the interstate to the expanded park amenities and activity center.
- A pedestrian/bike bridge connects Hahira east of the interstate to the expanded park amenities and activity center.

Hahira Elementary School Study Area

Because the school study area is expected to continue to see residential development surrounding the school, the survey questions focused on neighborhood growth character. Overall, the following statements about community character received a high level of support:

• Housing is accessible to activities and services including schools and parks.



- Today's rural and agricultural character is preserved.
- Today's neighborhood character is preserved.
- Growth is located in traditional neighborhoods surrounded by rural and estate residential areas that are preserved.
- New housing follows traditional neighborhood development patterns, with front yards, porches, interconnected streets, sidewalks, a small town square or plaza, and plentiful public greenspace.

The following statements about access and mobility received a high level of support:

- Children are able to safely walk to school together.
- Children are able to safely bike to school together.
- Direct connections between neighborhoods and a new greenspace and trail network are provided.
- People feel safe and comfortable walking along and crossing roadways.
- Neighborhoods provide a pedestrian-friendly environment enhanced by sidewalks and trails or bike routes connecting to amenities such as libraries, health facilities, parks, and schools.

The Master Plan

Character Areas

The study team laid out proposed character areas in support of the shared vision for the area, to encourage growth that benefits residents as well as visitors while preserving the rural and small town character that residents desire. The study team recommends refining the Comprehensive Plan character areas to include Traditional Neighborhood and Village Center character areas.

The Traditional Neighborhood supports goals of placemaking, walkability, community cohesion, and preservation of both today's neighborhood character and the rural and agricultural lands surrounding growing residential areas.

Traditional neighborhoods have front yards, porches, interconnected streets, sidewalks, a small town square or plaza, and plentiful public greenspace. Neighborhoods provide a pedestrian-friendly environment enhanced by sidewalks and trails or bike routes connecting to amenities such as libraries, health facilities, parks, and schools.

The Village Center creates a transition between the relatively intense mixed use Community Activity Center focused at the interchange and the residential areas surrounding it.

Village Centers

- Are mixed use, with an emphasis on walkable residential densities and commercial uses like cafes, restaurants, and small scale retail.
- Are pedestrian-oriented with walkable connections between different uses. Buildings are oriented to the roadside with parking in the rear.
- Create a pedestrian-friendly environment enhanced by sidewalks and trails or bike routes between residential areas and neighborhood amenities such as libraries, health facilities, parks, and schools.
- Have direct connections to public greenspace via the proposed trails and greenway network.



Mixed Use and Housing Choice

The proposed Character Areas described above are pedestrian-friendly, well-connected, intentionally planned spaces. The Activity Center Character Areas defined in the adopted Comprehensive Plan promote a mixed use, walkable, character with "higher density housing". To succeed, both the newly defined and recently adopted character areas rely on housing densities above existing levels in order to support neighborhood services and amenities with a viable market -and- to preserve the rural areas surrounding new growth. The community has expressed support for walkability and access to services nearby, while desiring to minimize traffic congestion and time spent in their cars. Walkability requires a compact development pattern to ensure that destinations are within walking distance. In residential areas, this translates to density and design for the human scale.

As a point of reference, the team assessed existing residential density and zoning regulations. The Woodbridge and Lawson Farms subdivisions immediately to the west of Hagan Bridge Road and Hahira Elementary School includes roughly 220 parcels on 69 acres, at just over 3 dwelling units per acre (DUA). This is the same density as Grove Pointe, a suburban style single family subdivision near Valdosta. Current zoning categories allow for single family residential with density ranging from 2 Dwelling Units per Acre (DUA) to 4.3 DUA; the multifamily category allows for 7.2 DUA with duplexes and multifamily dwellings allowed up to 10 DUA in the R-6-M district. Additional detail on the study area's zoning is provided in the <u>Background and Existing Conditions Report</u>.

Hahira stakeholders are not unique in their desire for increased walkability and access to destinations. The National Association of Realtors biannual survey of community and transportation preference consistently shows "a substantial demand for walkability persists for Americans of all ages." And the July 2020 survey showed that both higher income and older Americans have an increased interest in walkability.

The study team, including stakeholders and committee members, has discussed the ways that increased density and diversity of housing types can promote the community's goals for both study areas. Everyone benefits from walkable nodes of intense development. A balanced approach to density brings more people to an area, creating more street activity. More activity creates a natural neighborhood watch, boosting safety.

Increasing Density Preserves Greenspace

As shown in the Comprehensive Plan, there are 650 and 240 acres of residential areas in the Park and School study areas, respectively. There are 380 acres of mixed use activity centers in the Park study area and none in the school study area (not including the institutional activity center). The Master Plan described below shows 600 and 160 acres of residential areas in the Park and School study areas, respectively. The concept shows 290 acres in mixed use activity centers in the Park study area and none in the school study area (not including the institutional activity center). The difference represents an increase of nearly 300 acres or 20% increase in greenspace in planned Park/Recreation/Conservation and Agriculture/Forestry areas versus the Comprehensive Plan. The amount of land conserved would increase even more pending policies impacting the mix of uses and overall density in each character area, especially the Activity Centers and Traditional Neighborhoods.

Increasing Density Promotes Walkability

The Master Plan Concept targeted an equal *build out* growth in dwelling units as the adopted Comprehensive Plan can accommodate, with a minimal increase in single family residential density from Suburban Areas at 3 DUA to Traditional Neighborhoods to 6 DUA. Activity Centers will need to accommodate 9-12 DUA gross density to achieve a minimum market for walkable mixed use developments. Successful neighborhood



activity centers rely on a walkshed of 18 DUA minimum to support commercial uses such as food retailers, pharmacies, and cafes. Guidance to promote walkable neighborhoods suggests that 22 DUA is the minimum net density for truly walkable neighborhoods. Of course, optimum residential density depends upon context, and there is a range of options available to the Hahira community.

Considering the regional mixed use activity center planned for the park/interchange area, a relatively high density would support the commercial activities between events at the park. Greater density would also ensure that residents are physically closer to the services in the interchange area, requiring shorter trips and producing less congestion overall. Several key recommendations for density are highlighted below from guidance documents:

In their model land development regulations for smart growth, the American Planning Association recommends densities ranging from 8 – 15 DUA (2,904 to 5,445 square feet per unit maximum lot size) to promote the walkability goals of this study. They suggest a maximum lot size of 5,000 square feet. (1) APA's model ordinances for mixed use developments suggest that the minimum lot area per dwelling unit shall be 1,000 square feet for mixed use buildings and 1,500 square feet for all other buildings (equivalent to 43 DUA and 29 DUA, respectively). (1)

Traditional neighborhoods should have a minimum single family density of 5-8 DUA *or more,* and multifamily 15-40 DUA for model mixed use developments. (2)

A small supermarket requires a minimum of 18 units per acre (or 2,420 square feet maximum lot size per unit). A density of 7 DUA or higher is needed to support a small corner store (eq. 6,222 square feet per unit lot size maximum). (3)

Residents in areas with *net* densities of 21.7 units per acre or more are more likely to walk to destinations in their neighborhood. (4)

The detailed discussion of each study area below shows that focusing growth in mixed use activity centers and neighborhoods will create capacity for more housing while preserving farmland and greenspace. The balance requires higher densities in activity centers to maintain the rural and small town character surrounding them.

Greenspace and Natural Areas

The Master Plan includes public greenspace and the preservation of rural and natural areas. Greenspace is planned in new developments to preserve natural resources, manage stormwater to protect both built and natural features, and provide public spaces for recreation. When development is located in Village Centers, Traditional Neighborhoods, and mixed use Activity Centers, space is saved for natural wetlands and greenspace between developments. Because centers are more compact than sprawling strips, the rural and agricultural areas around them are preserved. On the other hand, highway oriented development consumes much more land, requires larger paved areas for parking and dead-end streets, and emphasizes disconnected private greenspace in lawns, landscaped buffers, and detention ponds. In order to support the community's vision, greenspace should promote recreation, conservation, and preservation of the rural and agricultural heritage.





Transportation Networks

Hahira is fortunate to have access to I-75 and major state thoroughfares along with examples of wellconnected neighborhood streets. We have to be intentional to preserve that connectivity, promote the safe flow of traffic, and make sure people are both comfortable and safe on foot, on bikes, and in wheelchairs.

How we build roads and other transportation infrastructure shapes the character of our community. The transportation network is the framework for land development. When we build new road infrastructure, the market creates pressure to develop areas with increased access. New development generates more trips, which increase traffic volumes. Traffic congestion then drives demand for more road capacity. And the cycle continues. If we don't plan for this cycle, we end up with sprawl. Sprawl promotes traffic congestion, unsafe streets, and less time for the activities we care about. To create a framework for the future, the proposed street spacing and network connectivity follow best practice guidance from the Institute of Transportation Engineers and others to promote safe and efficient movement of people and goods, disperse traffic, and promote incident management and response.

Safe Streets for Everyone

For communities to thrive, people must connect to places through a complete street network that invites walking and biking. Providing a safe welcoming pedestrian environment is key to healthy neighborhoods.

With a well-connected street network, blocks are shorter and people are encouraged to walk. Walkable block sizes result in:

- shorter distances between pedestrian crossings at intersections,
- more direct, and alternate, routes for pedestrians and all traffic
- efficient incident management and response
- a dense street network that disperses traffic so that each street carries lower vehicular volumes and is more comfortable for people on foot.

Everyone benefits from walkable activity centers. A balanced approach to mixed use and housing density brings more people to an area, creating more street activity. More activity creates a natural neighborhood watch, boosting safety.

A well-connected street network promotes overall mobility for all road users by increasing the capacity of the network, as shown on the right. Everyone benefits from alternate routes, more direct routes, and more

dispersed traffic. By planning for an efficient, connected road network, we will preserve mobility as the area develops. Strategies like right-of-way preservation for priority streets and multiuse paths will ensure that everyone can access activity centers like Hahira Elementary School and North Lowndes Park as surrounding areas grow.

The master plan networks shown below are intended for planning purposes; some roads



will be designed and constructed by private developers pending market influences while others will be included in the region's plans for investment. The Implementation section below identifies network



improvements that are a priority for public investment as well as right-of-way preservation corridors to support private development that is consistent with the community's goals.

The master plan demonstrates that the downtown street network could be extended to provide a framework for new development in the interchange area in coordination with public investments. In more rural areas, the network shows connectivity on a larger scale, with direct connections to schools, parks, and other community resources.

Trails, Greenways, and Paths

The multi-use paths and greenways shown in the proposed master plan are both elements of the larger trail network described in the draft <u>Valdosta-Lowndes Comprehensive Parks and Recreation Master Plan</u>. They connect to sidewalks and multiuse paths on proposed complete streets. The Recreation Plan promotes multiuse paths and trails, greenspace, and a natural lands protection program. The county already has SPLOST funding planned for trails at North Lowndes Park. These could connect to areas surrounding the park, and to a system of paths around Hahira and all of Lowndes County. A county-wide path network is also envisioned in both the regional and Lowndes County Bicycle and Pedestrian Master Plans. Of course, pedestrian and bicycle access on sidewalks and bike lanes or bikeable streets is an important component of any trail system. When multiuse paths connect parks, schools, libraries, commercial centers, and neighborhoods, communities enjoy recreational, mobility, and health benefits.

North Lowndes Park Character Areas and Transportation Network

North Lowndes Park, located at the Highway 122 *a* 1-75 interchange, is already growing into a regional recreation center with a track, soccer fields, skate park, and a playground. There are plans for new multi-purpose and baseball/softball fields, trails, an indoor sports facility. The park will become a sports tourism destination with multi-day tournaments and visitors from surrounding states. The activity center around the park could include hotels, restaurants, retail, and new homes. All of that new activity should benefit residents and visitors alike, with new multipurpose trails connecting to the park and downtown Hahira.

Because of its location along I-75, the activity center has complex transportation needs including freight access, active transportation, and visitor access. The proposed transportation network concept shown below includes new complete streets and trails to support the expanding park activity center, while providing a framework for the community's desired development character.

A Recreation-Focused Activity Center

Surrounding the park, the proposed road network has a rough spacing of 500-600 feet as shown in the map below. This spacing follows minimum guidance for block lengths in less dense areas to provide for walkability as well as efficient access for drivers. (5) As the area builds out, additional local roads could be filled in between those shown and the road alignment could shift to accommodate proposed development. However, the overall block size and connectivity should be maintained.

As shown in the concept below, primary access to N Lowndes Park is provided by extending Morven Rd to the north, less than 1/4 mile from the interstate. The new entrance road will serve adjacent Activity Center commercial and mixed use developments and include sidewalks, a multiuse path, and other amenities to encourage park visitors to bike or walk to and from the park.



The greenways network in the vicinity of the park is planned for multipurpose trails through the preserved greenspace. The trails will allow for access to the park but also provide for active recreation and will be a destination themselves. The greenways extend across I-75 to connect to Hahira. The interstate pedestrian bridge and/or greenway along Franks Creek under I-75 is a key connection to the larger trail network as shown below.

Intersection spacing on SR 122 in the study area varies from 300 feet to over 1,000 feet. Adequately spaced access points result in separation between traffic maneuvers at each



access point, thereby reducing conflicts as drivers, pedestrians, and other road users make decisions and move through the corridor. Reducing conflicts promotes safe and efficient operations of all roads, but is essential to arterials like SR 122. Intersections and driveways should be spaced to allow drivers to slow down to stop or turn, and provide space for vehicles waiting to enter each access point. Crash trends show that as the number of driveways along a road increase, so do crash rates. Refer to the Access Management and Spacing section beginning on page 50 below for more information and recommendations on intersection spacing and permitting.





Figure 6 N Lowndes Park Study Area Recommended Transportation Network

The character areas surrounding the park, shown in Figure 12, have been developed to promote activities serving park visitors and residents alike. The Village Center provides for a transition between the Community Activity Center at the interchange and surrounding residential areas in the northeast and southwest quadrants. In the northwest quadrant, the Neighborhood Activity Center follows new proposed roads between the existing business park and the other Activity Centers and the park space along Franks Creek. The Community Activity Center might include hotels, franchise restaurants, and service stations. The Neighborhood Activity Center allows for a concentration of activities such as general retail, service commercial, professional office, and higher density housing appropriate to the mixed use nature of the area. The Village Center has middle density housing like townhouses and small scale commercial uses like cafes as well as primary access to greenspace and trails.

The figures below show proposed typical sections that include a multiuse path and sidewalk, or sidewalks on both sides of the street. As shown below, the Morven Rd extension, the collector in the activity center, includes



on-street parking, a substantial landscape buffer, and a multiuse path on one side of the road that can accommodate people on foot or on bike.



Figure 7 Proposed Typical Section for Collector Road in Activity Center with Multiuse Path

In traditional neighrbohoods, the collector may still include a multiuse path on one side of the road with a narrower buffer than in the mixed use areas. Relatively shallow front yard setbacks are encouraged to achieve the community character established in the shared vision for the master plan. The proposed typical section is shown below for resiential collectors.



Figure 8 Proposed Typical Section for Collector Road in Residential Area with Multiuse Path

Typical sections for the proposed local roads range from activity center roads with a multiuse path on one side to neighborhood streets with sidewalks on both sides of the street. The multiuse path should be separated from adjacent buildings to avoid conflicts between cyclists and people entering and leaving buildings.





Figure 9 Proposed Typical Section for Local Street in Activity Center with Multiuse Path



Figure 10 Proposed Typical Section for Local Street in Activity Center







Figure 11 Proposed Typical Section for Local Neighborhood Street in Park Study Area

Community Character and Connection

South of the park, the existing suburban neighborhoods will have new access to the linear park and greenway; they are buffered by a Village Center along Morven Road between the neighborhoods and the interchange activity center's more intense uses. A Traditional Neighborhood will accommodate expected residential growth in this quadrant, allowing for land to be preserved as Rural Residential and Agriculture/Forestry. The neighborhood features ample shared greenspace and greenways while preserving wetlands, streams, and lakes in the area. The road network in the neighborhood is shown with block sizes ranging from 330 feet to 900 feet with sidewalks on both sides. The network is intended as a framework for additional roads pending the layout of the private development. The Rural Residential area has sufficient access via Old Valdosta Rd and the proposed roads shown to accommodate the planned use without additional roads. Shiloh Rd connects into the planned neighborhood, but is not extended to SR 122, because of the existing Creekside subdivision. The plan also includes an access road parallel to Morven Rd to serve the Village Center as shown in both Figure 6 and Figure 12.

To the east of I-75, the downtown street network is extended to serve as a primary framework for additional local roads and private development in the Community Activity Center and Village Center. Roads are spaced consistent with the human scale street network in downtown, from 350 feet to 700 feet depending on existing natural and built features. Stanfill Rd extends straight west from the existing hairpin turn to provide direct access and serve as an alternate east-west connection in town, with an adjacent multiuse path. It continues across Union Rd and SR 122 to serve as alternate access to the Activity Center south of SR 122. East-west connectivity into town is limited by the existing railroad crossings.

Along SR 122, there are two planned sidewalk projects, one from Newsome St to Union Rd that has an approved concept, and a second project extending the sidewalks to the west to Morven Rd, which has been approved for funding. There is also an approved TAP project to install sidewalks on Union Rd from W Main St north to Stanfill St. The concept below shows an additional bike lane on SR 122 to allow cyclists to cross the interstate. This is a long range improvement project; in the future, the Franks Creek greenway or pedestrian bridge may better serve people crossing I-75 on bicycles. The plan below shows a multiuse path alongside SR



122 where the approved sidewalks end west of Morven Rd. This path would carry recreational cyclists from the greenway system in the park to Webb Rd.

The greenway and trail network will provide access to the Community Activity Center and downtown from the south, north, and even west of the interstate via a pedestrian bridge or underpass along Frank's Creek. The Activity Center includes shared green space connected to commercial and residential areas via the trail network. The greenspace preserves wetlands and promotes efficient stormwater management.



Figure 12 Proposed Character Areas and Transportation Network, Park Study Area





Character Areas: By the Numbers

The table below shows that the proposed Character Areas add acreage to both Agriculture/Forestry and Park/Recreation/Conservation while decreasing acreage in Activity Centers. The decrease in Industrial Activity Center acreage reflects the Development Authority's updated plans. The table also reflects the shift from Suburban Areas and Rural Residential to a mix of Traditional Neighborhood, Rural Residential and greenspace.

Table 1 Proposed Park Area Character Areas

			Percent
		Proportion	Change vs.
		of Study	Comprehensive
Character Area	Acres	Area	Plan
Agriculture / Forestry	1,212	49 .7%	11%
Rural Residential	293	12.0%	-32%
Park/Recreation/Conservation	234	9.6%	40%
Suburban Area	190	7.8%	-12%
Community Activity Center	141	5.8%	-49%
Traditional Neighborhood	113	4.7%	-
Village Center	103	4.2%	-
Industrial Activity Center	67	2.8%	-42%
Neighborhood Activity Center	42	1.7%	-58%

* Character Area not included in 2021 Comprehensive Plan

The figure below shows the tabular data graphically. In the proposed plan, nearly 60% of the study area is preserved as greenspace with a blend of uses to promote walkable destinations and small town character.



transport



Special Event Traffic

When there is a tournament, or several games, at North Lowndes Park, traffic will increase before, during, and after play. The expanded park facility is expected to host a variety of sports tournaments, including soccer, lacrosse, and softball, that will significantly increase traffic to and from the park. Anticipated trips generated by each park facility were derived using the methodologies outlined in the Trip Generation Manual, 11th Edition (Institute of Transportation Engineers). To account for potential event level traffic and the full use of all park facilities, peak hourly trips generated by all park facilities were included in the development of future traffic volumes. The trip generation for the park expansion shows that future weekend trips generated to/from the park is anticipated at 567 peak hour trips (5,946 daily). Highway Capacity Manual analysis indicates that the intersection level of service for the study area are acceptable into 2045 because of the trip distribution to the network and the performance of the roundabout at Morven Rd which will carry the majority of the park traffic. By including four access roads into the park (the service road, Sonny Rogers Memorial Dr, the new local road, and the Morven Rd extension), travelers can spread out across the activity center's network should congestion or an incident occur – and access the growing activity center to the park's south.

The character areas are designed to allow visitors to walk and bike to restaurants, hotels, and retail while attending tournaments. At the same time, those amenities will be available to Hahira residents throughout the week. New multiuse paths on the roadside and the greenways system will allow families to access the park and activity center on bike or on foot. Park information should describe the greenways and emphasize connections to downtown as they are developed.



Wayfinding is an important component of special event traffic management. Signs should guide travelers from the interchange to the park entrance on the Morven Rd extension as well as from SR 122 west of the park. The primary parking lot located on Morven Rd is easily accessed from this entrance. As the baseball fields are built, they may be accessed from Morven Rd, the new local road to the west of Franks Creek, or from the service road west of the business park. An indoor sports facility located on the site of the former rest area is likely to provide secondary parking for tournaments. Signage and landscaping should highlight the Morven Rd extension as the gateway to the park. Existing fencing on SR 122 that extends to Morven Rd should also be removed and replaced (if warranted) when sidewalks are installed as part of the ongoing TAP projects. The fences are not consistent with the character of the community activity center or the future development coming to the area.

Operations Improvements

Based on the transportation assessment, including field observations, stakeholder feedback, special event traffic, and crash history, the study team proposes several improvements at existing intersections and along the traveled way. The list below summarizes intersection improvements, which are described in this section.

Study Intersection	Recommended Intersection Improvement	
SR 122 <i>@</i> Webb Road	In conjunction with the proposed realignment of Webb Road, install a roundabout at SR 122 and Webb Road.	
SR 122 @ Sonny Rogers Memorial Drive	Install a left-turn lane on eastbound SR 122 at Sonny Rogers Memorial Drive.	
SR 122 @ Morven Road	Install a roundabout at SR 122 and Morven Road.	
SR 122 @ I-75 SB Ramp	Install a reduced conflict U-turn (RCUT) at the I-75 southbound ramps and SR 122.	
SR 122 @ I-75 NB Ramp	Install a reduced conflict U-turn (RCUT) at the I-75 northbound ramps and SR 122.	
SR 122 @ Union Road	Install a roundabout at SR 122 and Union Road.	
SR 122 (Main St) @ US 41 (Church St)	Install flashing yellow arrows at traffic signals at the intersection of SR 122 and Church Street.	

The study proposes a redesign of the intersection of SR 122 and Morven Road and improvements to the adjacent interchange at I-75 (southbound ramps). Sight distance is an issue at these intersections. It is difficult for vehicles exiting from I-75 South to see traffic approaching from Hahira on SR 122, and for motorists on Morven Road to see traffic coming from Hahira on SR 122, due to the crest on the bridge over the interstate. Likewise, it is difficult for traffic on SR 122 to see traffic entering SR 122 from I-75 and Morven Road. Because the interchange was recently redesigned, there are some limitations on what can be done in the near future. One option, shown here, is to redesign the interchange ramp intersection as an R-CUT, or a Reduced Conflict U-Turn intersection. This would remove the direct left-turn movement from the I-75 southbound ramp onto SR 122; those left-turns would be redirected to the right, to make a U-turn at a new proposed roundabout at Morven Road, and proceed east towards Hahira. In addition, the vertical profile of the intersection should be raised to help improve intersection sight distance, particularly for the southbound off-ramp approach. Another option is to install a traffic signal at the interchange. In the near-term, the volume of traffic at the interchange would not meet the threshold for GDOT to install a signal, but SGRC/VLMPO can continue monitoring traffic volumes into the future.



Figure 13 shows an example of an R-CUT design. Figure 15 and Figure 16 show the recommended operations improvements in the interchange area.



Figure 13 Example of Three-Legged R-CUT (US 17 at Brunswick Forest Parkway, NC)





SR 122 @ Webb Road

- Realign Webb Rd to intersect SR 122 at an angle closer to 90 degrees
- Convert the intersection to a single lane roundabout in the long-term.
- As an alternative to installing a roundabout, add southbound left- and westbound right-turn lanes.

SR 122 @ Sonny Rogers Memorial Drive

• Add an eastbound left turn lane. (The current configuration includes an eastbound left turn lane at the Creekside West entrance as well as westbound right and left-turn lanes.)



Figure 14 Proposed Intersection Improvements at SR 122 with Webb Rd and Sonny Rogers Memorial Dr





SR 122 @ Morven Road

• Convert the intersection to a roundabout. The roundabout should be designed as a single lane roundabout that can be expanded to multi-lane in the future if SR 122 is widened in the long-term.

SR 122 @ I-75 SB Ramps

- Convert the intersection to a Restricted Crossing U-Turn (RCUT) intersection with the downstream Uturns occurring at the Morven Road roundabout recommended above. Note that pedestrian accommodations should be carefully planned should the RCUT move forward.
- Alternative to an RCUT, monitor actual traffic volumes at the intersection for traffic signal warrants. Since a traffic signal is not warranted based on the existing traffic volumes, monitor future volumes until thresholds for a traffic signal are met per GDOT policy.
- Raise the vertical profile of the intersection to improve intersection sight distance, particularly for the southbound off-ramp approach.



Figure 15 Proposed Intersection Improvements at SR 122 at Morven Rd and I-75-Southbound Ramp



SR 122 @ I-75 NB Ramps

- Convert the intersection to an RCUT intersection with the downstream U-turns occurring at the Union Road roundabout recommended below. Note that pedestrian accommodations should be carefully planned should the RCUT move forward.
- Alternative to an RCUT, monitor actual traffic volumes at the intersection for traffic signal warrants. Since a traffic signal is not warranted based on the existing traffic volumes, monitor future volumes until thresholds for a traffic signal are met per GDOT policy.
- Raise the vertical profile of the intersection to improve intersection sight distance, particularly for the northbound off-ramp approach.

SR 122 @ Union Road

• Convert the intersection to a roundabout. The roundabout should be designed as a single lane roundabout that can be expanded to multi-lane in the if needed.



Figure 16 Proposed Intersection Improvements at SR 122 and Union Rd and I-75 North Ramps

SR 122 @ Church Street

• Install flashing yellow arrows (FYA) for the permissive only left-turn signal heads on the eastbound, westbound and southbound approaches.







Figure 17 Proposed Intersection Improvements at SR 122 and Church St





Hahira Elementary School Character Areas and Transportation Network

A large portion of the Hahira Elementary School area is greenspace, with unpaved roads. Today, this land is largely zoned to remain agricultural, but more than half of the study area could feasibly accommodate future development. Today, there are concerns about safety and congestion at the school. We all want our children to be safe getting to school. As developers create new subdivisions and roads are paved, including the paving of Coleman Dr, the pressure to grow is increasing.

Safe Access and Mobility

Safe transportation connections for walkers, bikers, and everyone else are a priority for the Hahira Elementary School Study. The master plan is a tool to layout those connections as effectively as possible and to coordinate with new residential development. As shown below, the study team recommends a connected network of roads to access the school and serve the Traditional Neighborhoods and Suburban Areas around the school. New connections between SR 122 and Coleman Dr as well as between proposed roads provide for direct access between neighborhoods, the school, and surrounding areas. The proposed greenway connects public greenspace, neighborhoods, the school, and an east-west route along Stanfill Rd. As shown, the greenway travels along a stream through a linear greenspace as well as larger parks. The transportation network recommendations are described in more detail in the sections that follow.



transport



Figure 18 Proposed Master Plan, School Study Area

Character Areas: By the Numbers

The change in school area character areas reflects a move to develop Traditional Neighborhoods at slightly higher densities than suburban patterns in order to preserve more land for Rural Residential, Parks/Recreation/Conservation, and Agriculture/Forestry. The table below shows the overall decrease in Suburban Area acreage. The map shows Traditional Neighborhood areas surrounding the school Activity Center, with access to public greenspace and greenways. The greenways would provide access between the school and new and existing homes. A proposed Rural Residential area north of the school transitions between the Traditional Neighborhood and Agriculture/Forestry. The decrease in Established Residential corrects the subdivisions currently being developed south of the school, which have been mapped as Suburban Areas for the Master Plan.


Table 3 Proposed School Area Character Areas

			Percent
		Proportion	Change vs.
	Proposed	of Study	Comprehensive
Character Area	Acres	Area	Plan
Agriculture / Forestry	337	58.7 %	8%
Suburban Area	67	11.6%	-67 %
Traditional Neighborhood *	61	10.6%	-
Park/Recreation/Conservation	57	9.9 %	-
Institutional Activity Center	24	4.2%	1%
Rural Residential	17	2.9 %	-
Established Residential	12	2.2%	-63%

* Character Area not included in 2021 Comprehensive Plan

The figure below shows that nearly 70% of the study area has been preserved as greenspace. The slight increase in residential density in Traditional Neighborhoods versus Suburban Areas allows for more greenspace and rural areas versus the Comprehensive Plan, while accommodating the same number of dwelling units at build-out.





School Area Network Recommendations

Surrounding the school, the proposed road network has a rough spacing of 600-1,000 feet. This spacing provides for minimum best practice for major block lengths in less dense areas to provide for walkability as well as efficient access for drivers. (6) As the area builds out, additional local roads should be filled in between those shown and the road alignment could shift to accommodate proposed development. However, the overall block size should be designed not to exceed 600 feet (preferably 200 to 400 feet) with direct routes for pedestrians. (5) This block size is consistent with the character of adjacent neighborhoods. The figure below shows the proposed greenways and the road network including recommended sidewalks and roadside multiuse paths.

As the area builds out with neighborhoods surrounding the school, the proposed minor collector will connect Coleman Dr and SR 122, serving as an alternate route to Val Del Rd and Old US 41. In order to promote safety as well as access to the school, the study team recommends realigning the existing collector, Hagan Bridge Road, to a right-angle intersection with SR 122. The figure below shows this realignment conceptually. The proposed local roads provide access from residential areas to the school and parks, and connect directly to collectors and arterials. The Operations Improvements section below provides detailed intersection recommendations.

The greenways network provides access to the school and planned or preserved greenspace, including the linear park. The greenway trails and side paths connect to the school but also provide for active recreation for the surrounding residents.







The map above shows conceptually how greenways can be complemented by multiuse trails and sidewalks. Walkability is also provided by the road network itself. Local roads have sidewalks on either side, as shown in the typical section below. The study team recommends that collectors have a sidewalk on one side and a multiuse path on the other.





Note: Street trees and lamps to alternate along the one side of the roadway.





Note: Street trees and lamps to alternate along one side of the roadway.

Figure 20 Proposed Typical Section for Collector Road in School Study Area with Multiuse Path





School Attendance and Travel Patterns

Today, the highest concentration of public school students in the Hahira Elementary School attendance zone is southwest of the school. Given future development trends, new residential growth is most likely immediately surrounding the school, to the west on SR 122, to the north of the school along US 41 (west of US 41), and in the southeast of the attendance zone surrounding McMillan Road at Staten and Skipper Bridge Roads. The figure below shows these residential growth areas (as identified for the 2045 long range transportation plan) within the school attendance zone.

Pickup and drop-off traffic is likely to access the school from Val Del Rd to the newly paved Coleman Dr as the areas to the southeast develop. Access to the school site from the east is therefore important to overall travel flow in the area. There will also be increased traffic from the west along SR 122, following Hagan Bridge Rd or one of the new proposed roads south to the school from SR 122. The proposed road network will distribute pickup and drop-off traffic while providing new access to the school from both the north and the east.







Figure 21 Proposed Hahira Elementary School Access



Figure 22 Alternate Proposed Hahira Elementary School Access

School Access Options

Because of the uncertainty of future development surrounding the school, the study proposes two alternative access plans for the school, both of which can be phased in pending property owner feedback and cooperation. In either alternative, right-of-way should be preserved for access to the school from the north and east if the surrounding agricultural areas develop. The map to the left shows the long term Master Plan road network. Note that the Hagan Bridge Rd realignment as well as new local road connections to the north would promote access to SR 122 from the school. If the area develops, the new minor collector serves as a spine in the area offering several alternative routes, including direct access to SR 122. In the long term, there is direct access from Coleman Dr via roads to the east of the school, where parents and caregivers could travel to the school driveway and loop back to the south, or exit to the west along a new access road that links to Claudia Dr.

The second figure to the left shows an alternate access concept, with a new local road along the edge of the current fields connecting to SR 122. The new local road would require that the Hagan Bridge Rd intersection be removed in order to provide safe intersection spacing on SR 122. As in the master plan concept, additional access could be provided as the area develops, pending layout of the proposed development.



Operations Improvements

Based on the transportation assessment, including field observations, stakeholder feedback, and crash history, the study team proposes several improvements at existing intersections and along the traveled way. The table below summarizes intersection improvements, which are described in this section.

Table 4 Proposed Operations Improvements in the School Study Area

Study Intersection	Recommended Intersection Improvement
SR 122 and Coppage Rd/Stanfill St	Correct the skew angle at this intersection. Install left and right turn lanes on SR 122 eastbound and westbound.
SR 122 @ N/S Hagan Bridge Road	Install a roundabout at SR 122 and Hagan Bridge Road in conjunction with the proposed realignment of S Hagan Bridge Road and SR 122.
S Hagan Bridge Road @ Coleman Drive	Install a mini-roundabout at S Hagan Bridge Road and Coleman Drive.
S Hagan Bridge Road <i>@</i> Grace Street	Install a right-turn lane on southbound S Hagan Bridge Road at Grace Street.
S Hagan Bridge Road @ Claudia Drive	Install a left-turn lane on southbound S Hagan Bridge Road at Claudia Drive
Claudia Drive @ S Hagan Bridge Road	Install a left-turn lane on westbound Claudia Drive at S Hagan Bridge Road
S Hagan Bridge Road @ Brian Mainor Drive	Install a left-turn lane on southbound Hagan Bridge Rd at Brian Mainor Dr. *
S Hagan Bridge Road @ Brian Mainor Drive	Install a right-turn lane on northbound S Hagan Bridge Road at Brian Mainor Drive.

* The recommended left-turn lane is only warranted if two-way traffic is restored on Hagan Bridge Rd during pickup and drop-off.

S Hagan Bridge Rd

The proposed typical section shown below for S Hagan Bridge Road consists of two lanes (one in each direction) and a new 10-12 foot multiuse path with 6-foot planting strip on the east side, adjacent to the Hahira Elementary School property. The west side of the roadway would largely remain the same, with the existing 6-foot sidewalk and 20-foot buffer adjacent to the existing homes.



Figure 23 Proposed S Hagan Bridge Rd Typical Section, Looking North from Brian Mainor Rd

The near term recommendations on S Hagan Bridge Rd documented in a separate memo include School Zone signage, wayfinding guidance for pickup and drop-off routing, improved crosswalk striping, and



retroreflective barriers where used. In addition, the City may consider installing a mid-block crossing with rectangular rapid flashing beacons (RRFBs) where children are designated to cross the road (currently Claudia Dr). On mornings and afternoons, a controlled crossing would supplement crossing guards and police officers who are guiding students across S Hagan Bridge Road. During other times, the pedestrian crossing would create a safer environment overall.



State Route 122 at S Hagan Bridge Road and at Coppage Road and Stanfill Street

Currently, the intersections of SR 122 with S Hagan Bridge Road and with Coppage Road/Stanfill Street are at skew angles, creating sight distance issues for vehicles at the intersections. Motorists turning right or left from Coppage Road/Stanfill Street, and S Hagan Bridge Road have difficulty seeing oncoming traffic on SR 122. Similarly, motorists on SR 122 have difficulty seeing traffic that is turning right or left from S Hagan Bridge Road and Coppage Road/Stanfill Street. To mitigate these issues, it is proposed to realign E Coppage Road and E Stanfill Street to intersect SR 122 at right angles. In addition, left-turn lanes could be added to both approaches along SR 122 at Coppage Road. South of SR 122, S Hagan Bridge Road would be relocated to the east and re-aligned to intersect SR 122 at an angle closer to 90 degrees. The shifted alignment of S Hagan Bridge Road/N. Hagan Bridge Road would be converted to a roundabout.

Proposed improvements at these intersections are shown in Figure 3. Note that the realignment is shown for illustrative purposes only and has not been designed.

Converting conventional intersections to roundabouts has numerous safety and operational benefits. A roundabout reduces the number of potential conflict points between vehicles. Vehicles must slow down to navigate a roundabout, reducing the severity of a collision, should a crash occur. Slowing vehicles is particularly a benefit for motorists traveling westbound along SR 122, as the intersection design calms traffic and alert motorists that they are entering the City of Hahira.







Figure 3 SR 122 at S Hagan Bridge Rd and SR 122 at Coppage Rd and Stanfill St

S Hagan Bridge Road at Grace Street

At this intersection, it is proposed that a right-turn lane be installed along southbound S Hagan Bridge Road. This will help southbound traffic to keep flowing during school pickup and drop-off times and will help accommodate additional turning movements at this intersection that are anticipated as new developments are constructed.

S Hagan Bridge Road at Claudia Drive

At this intersection, it is proposed that a left-turn lane be installed along southbound S Hagan Bridge Road along with a left-turn lane along westbound Claudia Drive. This will help facilitate turning movements and minimize queuing. The turn lanes will also provide options for potential future new circulation patterns at Hahira Elementary School, which may be implemented if additional access roads are constructed north and south of the school property.

S Hagan Bridge Road at Brian Mainor Drive

At this intersection, it is proposed that a left-turn lane be installed along southbound S Hagan Bridge Road and a right-turn lane along northbound S Hagan Bridge Rd. This will help facilitate turning movements onto Brian Mainor Drive during school pickup and drop-off hours and minimize queuing on southbound S Hagan Bridge Road.





Figure shows proposed improvements along South Hagan Bridge Road.

Figure 4 South Hagan Bridge Rd

S Hagan Bridge Road at E Coleman Drive

It is proposed that this intersection be converted to a single-lane mini roundabout. As new developments are constructed east of the intersection, and as E Coleman Drive is paved, more traffic is anticipated at this intersection. A mini roundabout will help to facilitate the additional turning movements while also calming traffic in the area. In particular, the design will help to calm traffic traveling along eastbound Coleman Drive, and alert drivers that they are entering the City of Hahira and are in the vicinity of a school.

Mini roundabouts are generally designed to allow passenger vehicles to follow the curvature of the roadway and remain on the pavement. Larger vehicles, such as school buses and emergency vehicles, however, may not be able to navigate the radius of the roundabout. For this reason, the mini roundabout at the intersection should be constructed with a mountable center island, which will allow larger vehicles to navigate the intersection.

Proposed improvements at S Hagan Bridge Road and Coleman Drive are shown in Figure 5.





Figure 5 S Hagan Bridge Rd at Coleman Dr

Multimodal Accommodations at Roundabouts

The lower vehicle speeds and fewer conflict points make roundabouts an ideal intersection treatment for pedestrians and cyclists. A sidewalk or multi-use path would be installed on the roundabout approaches, similar to conventional intersections, and pedestrian crosswalks would be placed in advance of the roundabout entry/exit points for vehicles. Bicycle lanes are not recommended within the circulatory path of a roundabout. If a multi-use path is installed on the roundabout approach, then a bicycle may stay on the path and dismount to cross the intersection legs using the pedestrian sidewalks. If there is no multi-use path, and bicycles are traveling in the roadway with vehicular traffic, then the bicycles may proceed through the circulatory lanes of the roundabout, obeying the same traffic rules as vehicles with regard to yielding to other vehicles or bicycles.



Source: Roundabouts with Pedestrians & Bicycles - A Safe Choice for Everyone (FHWA)



Implementation

Priority Public Investments

The study team reviewed potential roadway improvements and has proposed priority investments that will improve access to and within the activity centers. Note that the priorities are flexible, and should be adjusted as development proposals are made and refined.

Criteria that determined project ranking include:

- Provides Alternate Route to Major Road
- Increases Access to an Activity Center(s)
- Increases Network Connectivity
- Promotes Alternative Transportation
- Promotes Access to Downtown Commercial Area
- Promotes Access to Activity Centers from Residential Areas
- Promotes Access to Public Greenspace from Residential Areas
- Promotes Access to Schools, Libraries, Hospitals or Other Community Facilities
- Includes FHWA safety countermeasure

Figure 24Error! Reference source not found. shows the recommended project tiers derived from relative scores. Based on the master plan concept, the Hagan Bridge Road realignment is the top priority for the school study area. Long term, an additional connection from SR 122 to Coleman Dr via the collector to the east of the school is a priority for regional mobility. Local road access south to Coleman Dr and to the north via a new connection from Claudia Drive are key to distributing traffic to and from the school and may be feasible sooner than the collector. The phasing of road investments will depend upon landowner and developer plans for the study area. Right-of-way should be preserved for access to the school from the north and south as the surrounding agricultural areas develop.

Complementary operational improvements including the northbound right-turn lane on Hagan Bridge Rd at Brian Mainor Dr are also a near term priority. Adding a westbound left turn lane on Claudia Dr at Hagan Bridge Rd will also facilitate pickup and drop-off traffic. Pedestrian improvements including improved crossings, signage, and wayfinding are also a near term priority.

The figure below shows primary, secondary, and local access alternatives that should be considered for public funding in the school study area.





Figure 24 Proposed Infrastructure Priorities in the School Study Area

In the North Lowndes Park study area, the primary access to and from the park will be via the Morven Rd extension. This new roadway also provides a spine for the future activity center surrounding the park. Secondary access to the park via a service road between the agricultural land and the Business Park may also be critical for first responders as well as park staff. An additional local access road just west of Franks' Creek will serve future development and provide a secondary access route.

To the east of I-75, the extension of the downtown street network provides a framework to establish the character of this activity center as the area grows. The Stanfill St realignment provides primary access across the railroad, as does the new east-west local road extending from N Lawson St. The north-south local spine from Stanfill St south to W Park St provides primary access between new developments, SR 122, and downtown Hahira. The secondary access roads provide the connectivity and block scale appropriate to the small town character of Hahira while offering alternate east-west connections as well as a backage road along the interstate. The third and fourth tier of roads (labeled "Local Access" and "Pending Private Development")



complete the network, but have significant flexibility in their alignment pending development proposals for the northeast and southeast quadrants.

The residential areas proposed for the southwest quadrant could connect to existing neighborhoods via narrow access roads should the residents desire increased connectivity. At a minimum, the neighborhoods should provide multiple access points to ensure efficient distribution of traffic as well as alternate routes for first responders. The network shown demonstrates that best practice connectivity can be achieved in a suburban setting; that connectivity promotes the community's goals for safety as well as access and walkability.



Figure 25 Proposed Infrastructure Priorities in the Park Study Area



Project Descriptions and Costs

The Master Plan includes proposed new roads, improvements to existing roads, and operations improvements at key intersections. The table below lists proposed capacity improvements (new local roads and collectors) by tier for projects in tiers 1-3. The table shows total costs including engineering, utilities, right-of-way, and construction. Tier 1 new roads are those that should be considered for public funding, including the current Transportation Sales Tax project list. Projects are not ranked within the recommended tier. Note that project costs are for planning purposes. The appendices include cost estimates by line item as well as maps of the proposed improvements with project labels.





Table 5 Project List with Planning-Level Cost Estimates

Project	From	То	Description	Total Estimated	Proposed Tier
Stanfill St Poalignmont*	W/Stapfill St	W/Stanfill St	Construct a new two-lane local road with 8-10'	Cost (K)	1
Stannii St Realignment	vv Starinit St	vv Starmit St	sidewalks and a 6' buffer on each side.	\$2,410	1
Morven Rd Extension	SR 122	Sonny Rogers Memorial Dr	Extend Morven Road as a new two-lane local road with an 8-10' sidewalk on one side and 12-14' multiuse path on the other side, with 9-11' buffers.	\$6,784	1
Hagan Bridge Realignment	S Hagan Bridge Rd	N Hagan Bridge Rd	Re-align Hagan Bridge Road from north of Grace Street to E. Stanfill Street to fix the existing skew angle at SR 122. Include sidewalks on each side.	\$3,296	1
W Lawson St Extension	Union Rd	Newsome St	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$6,368	1
HES_Collector	Coleman Dr	SR 122	Construct a new two-lane collector road with an 8- 10' sidewalk on one side and 12-14' multiuse path on the other side, with 6' buffers.	\$9,440	1
ACNW_Local4	SR 122	ACNW_Local24	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$3,857	1
ACSE_Local4	W Park St	SR 122	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$2,368	1
Webb Rd Realignment	Webb Rd	SR 122	Re-align Webb Road just north of SR 122 to fix the existing skew angle.	\$752	1
Brian Mainor Ext	Brian Mainor terminus	HES_Local3	Extend Brian Mainor Drive as a new two-lane local road with an 8' sidewalk on one side and 12' multiuse path on the other side, with 6-9' buffers.	\$1,512	1
AC_NE_Local4	W Stanfill St	SR 122	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$2,656	2
AC_NE_Local5	W Stanfill St	SR 122	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$3,072	2
ACNW_Local1	Morven Rd Ext	SR 122	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$9,392	2
ACNW_Local24	ACNW_Local3	Morven Rd Ext	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$1,496	2
ACNW_Local25	ACNW_Local1	Sonny Rogers Memorial Dr	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$1,088	2
ACSE_Local1	W Main St Ext	SR 122	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$3,696	2
ACSE_Local22	ACSE_Local1	ACSE_Local4	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$2,464	2
Blakley St Extension	W Park St	W Main St	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$992	2



Table 5 Project List with Planning-Level Cost Estimates

Project	From	То	Description	Total Estimated Cost (K)	Proposed Tier
AC_NE_Spine	Stanfill Rd dogleg	SR 122	Construct a new two-lane local road with an 8-10' sidewalk on one side and 12-14' multiuse path on the other side, with 9-11' buffers.	\$5,888	2
W Main St Extension	ACSE_Local1	Union Rd	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$1,392	2
Coppage Rd Realignment and Paving	Drew Circle	E Stanfill St	Realign Coppage Rd as a new two-lane local road 8-10' sidewalks and a 6' buffer on each side.	\$4,528	2
HES_Local2	Claudia Dr	Coppage Rd Ext W	Construct a new two-lane local road with 8-10' sidewalks and a 6' buffer on each side.	\$3,362	2
HES_Local21	S Hagan Bridge Rd	HES_Local3	Construct a new two-lane local road with 8-10' sidewalks and a 6' buffer on each side.	\$2,192	2
HES_Local3	Coleman Dr	Coppage Rd Ext W	Construct a new two-lane local road with 8-10' sidewalks and a 6' buffer on each side.	\$6,929	2
AC_NE_Local2	W Stanfill St	SR 122	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$2,432	3
ACNW_Local2	Morven Rd Ext	Park	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' huffer on each side	\$2,368	3
ACSE_Local5	W Main St	SR 122	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$592	3
TNSW_Collector	Old Valdosta Rd	Morven Rd	Construct a new two-lane collector road with an 8- 10' sidewalk on one side and 12-14' multiuse path on the other side, with 6' buffers.	\$10,832	3
TNSW_Local4	TNSW_Collector	Tillman Branch Rd	Construct a new two-lane local road with 8-10' sidewalks and a 6' buffer on each side.	\$1,040	3
VCSW_Local1	Morven Rd	Morven Rd	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$6,384	3
TNSW_Local23	Old Valdosta Rd	TNSW_Local3	Construct a new two-lane local road with 8-10' sidewalks and a 6' buffer on each side.	\$4,240	3
TNSW_Local3	TNSW_Collector	Morven Rd	Construct a new two-lane local road with 8-10' sidewalks and a 6' buffer on each side.	\$2,896	3
VCSW_Local21	VCSW_Local1	terminus	Construct a new two-lane local road with 8-10' sidewalks and a 9-11' buffer on each side.	\$1,168	3
Brian Mainor Ext	HES_Local3	HES_Local4	Construct a new two-lane local road with an 8' sidewalk on one side and 12' multiuse path on the other side, with 6-9' buffers.	\$5,720	3
E Main St Ext	S Hagan Bridge Rd	HES_Collector	Extend E. Main Street as a new two-lane local road 8-10' sidewalks and a 6' buffer on each side.	\$5,296	3
HES_Local5	Brian Mainor Dr	Reynoldia Subdivision	Construct a new two-lane local road with 8-10' sidewalks and a 6' buffer on each side.	\$720	3

* This project has a concept under development with a separate, more detailed, cost estimate.



Comprehensive Plan and Zoning Updates

The next joint Comprehensive Plan update is scheduled for adoption in 2026. The Master Plan proposes two new character areas, described above: Traditional Neighborhood and Village Center. Character areas within the study areas are also remapped to increase greenspace in Park/Recreation/Conservation and Agriculture/Forestry while decreasing Suburban, Activity Center, and some Residential areas. As a next step, the City of Hahira and Lowndes County could pursue an amendment to the Comprehensive Plan incorporating these recommended changes.

Perhaps more immediate than the Comprehensive Plan maps, the zoning in the study areas is inconsistent with the shared vision expressed throughout this study. Current zoning doesn't reflect the mixed use nature or density of either the Comprehensive Plan or the Master Plan activity center character areas. The majority of residential areas are zoned for R-21 (2 Dwelling Units per Acre, or DUA) with a maximum density of 7.2 DUA in a limited area (+/- 4 acres in the school study area). As discussed in the Mixed Use and Housing Choice section above, a density of 6 or greater DUA in Traditional Neighborhoods and 8-22 DUA (gross) in the Village, Neighborhood, and Community Activity Centers will support both the walkability and greenspace preservation goals of the community. In the Park study area, most of the activity center land is zoned Light Manufacturing. Zoning amendments should be adopted in line with master plan land use and infrastructure recommendations. In addition to correcting the park's zoning, implementing the Master Plan recommendations would require either a Planned Development or the establishment of mixed use zoning districts consistent with the Master Plan Character Area goals.

One important option to consider is an overlay district for the study areas (or subareas) that specifies maximum block size within the best practice range, mixed use goals including density targets and incentives, site layout consistent with the character area descriptions, and access management requirements on SR 122 (described below).

Other Policy Considerations

In addition to land use policy that promotes walkability, safety and mobility can be preserved on the transportation system by following both the connectivity and block size best practices outlined above. Adjacent to downtown, that is 350 to 700 feet maximum block lengths; in neighborhoods, 900 ft is suitable with adequate space for additional local roads spaced at 200-600 ft maximum. These block sizes are consistent with existing commercial and residential areas adjacent to the Master Plan area.

With sufficient local road connectivity, managing direct access to major roads will promote safe and efficient travel by reducing conflict points. The section below proposes access management guidelines that limit the driveway or intersection spacing on SR 122 to a safe minimum while providing access to developments from the local road network. Additionally, a right-of-way preservation program should be adopted to promote transparency for landowners and developers in the study area while ensuring minimal connectivity.

Access Management and Spacing

GDOT issues guidance on access spacing (for driveways, public roads, and side streets) on state roads. GDOT states that "Spacing of driveways should be at least equal to the distance traveled, at the posted speed limit, during the normal perception and reaction time plus the distance traveled as the vehicle decelerates to a stop. Each driveway or intersection also requires storage space for vehicles waiting to enter. The distance between



intersections should be great enough to provide this storage, allowing each intersection to have its functional boundary separated from those of the next intersection. Crash data also indicate that as the number of driveways along a roadway increases so do accident rates." GDOT's minimum driveway spacing for roads with a 45 mph posted speed is 230 feet without consideration of the distance needed to accommodate queuing distance for turning vehicles. This is therefore an absolute minimum. (7)

As documented in both GDOT and Transportation Research Board (TRB) federal standards in the *Access Management Manual*, driveway spacing should accommodate safe maneuvers including turning and stopping from travel lanes. Adequately spaced connections result in separation between functional areas at each connection, which is essential for safe and efficient operation of major arterials. (8)

TRB recommends that strategic arterials such as SR 21 restrict or deny direct property access, and permit right turns only to and from access connections. (8) (See Exhibit 13-2.) No access should be provided within the functional area of intersections. "Ideal Downstream Functional Distance" based on acceleration for a 45 mph speed is 740 ft. (Exhibit 14-11) (8), (9) Ideal downstream functional distance based on decision sight distance to stop for a 45 mph travel on an urban road is 800 ft. (Exhibit 14-12) (8) Note that the speed refers to travel speed, not speed limit. So, these are minimal distances with the understanding that traffic generally will travel higher than the posted speed. Further, "The larger of the distances– acceleration distance versus decision sight distance–should be used to determine the downstream functional distance." (8) Minimum access connection spacing based on travel speed not speed limit. A more practical distance may be based on 55 mph traffic, which is 530 ft for right turn intersection sight distance. (See Exhibit 15-20) (8) For additional detail, see Transportation Research Circular 456. (10) Table 6 shows access spacing standards from a range of national and state guidance, including GDOT.

While none of the recommended roads that intersect with SR 122 violate the minimum spacing specified by GDOT, roadway intersections within the range of 230-530 ft should be designed to minimize impact on SR 122 travel conditions; through movements across SR 122 as well as left-turns should be restricted at those minor roads. Because of the overall level of connectivity in the local road network, those movements can be accommodated with minimal delay at nearby major intersections.

Driveways accessing SR 122 should be limited and access should be provided from the local roads.



Table 6 Access Spacing Recommendations

Source	Basis	Spacing
GDOT Table 3-1 ¹	Minimum Driveway Spacing with or without Right Turn Lane (RTL)	230 ft (45 mph posted speed)
GDOT Table 3-1 (Prior to 2016)	Minimum Driveway Spacing	 369 ft (45 mph posted speed w/ RTL) 230 ft (45 mph posted speed w/o RTL)
GDOT Table 4-8	Minimum Right Turn Deceleration Lengths	200 ft (40 mph travel speed) 275 ft (45 mph travel speed) 325 ft (50 mph travel speed) 350 ft (55 mph travel speed)
TRB Exhibit 14-11	Ideal Downstream Functional Distance Based on Acceleration	740 ft (45 mph speed) 950 ft (50 mph speed) 1,200 ft (55 mph speed)
TRB Exhibit 14-12	Decision Sight Distance to Stop	800 ft (45 mph travel speed) 910 ft (50 mph) 1,030 ft (55 mph)
TRB Exhibit 15-13	Unsignalized Access Spacing Based on Adjacent and Independent Connections	1,045 ft (45 mph posted speed) Exclusive of queue spacing
TRB Exhibit 15-15	Unsignalized Access Spacing Based on Upstream Functional Intersection Distance	410 ft Impact Method 435 ft Deceleration method (45 mph posted speed)
TRB Exhibit 15-19	Stopping Sight Distance for Unsignalized Access Connection	360 ft (45 mph travel speed) 425 ft (50 mph) 495 (55 mph) On level grade
TRB Exhibit 15-20	Minimum Unsignalized Access Spacing Based on Intersection Sight Distance for Passenger Cars for Right Turns	430 ft (45 mph travel speed) 480 ft (50 mph travel speed) 530 ft (55mph travel speed)
TRB Exhibit 15-25	Minimum Distance based on Collision Avoidance	350 ft (45 mph travel speed)

1. Per GDOT, "Requirements for the length of right and left turn lanes will dictate driveway spacing as shown in Table 4-8 and Table 4-9, and may increase the minimum allowable spacing shown in Table 3-1." (7)

Transparency for Property Owners

The Master Plan recommends a road network that establishes best practice for safe and efficient access and mobility in the study area. The team recognizes that development proposals will influence the ultimate layout and implementation timeframe of the network. A key consideration of the master plan is to provide transparency for property owners and developers alike. The master plan is a flexible framework for future development. While primary access routes are likely to be programmed as new road projects in the region's sales tax project list or the Transportation Improvement Program, other roads may be best implemented as public-private partnerships, or included in private plans via right-of-way preservation agreements for future connections.





Funding Programs

VLMPO Long Range Transportation Plan and Transportation Improvement Program

The next regional Metropolitan Transportation Plan (MTP) is due for adoption in 2025. That will include an update of regional projects recommended for federal transportation funding programs as well as a list of projects for local funding via the Transportation Sales Tax. The region's latest MTP allocated nearly \$500M in state and federal transportation funds to capital projects for the 25 year planning timeline (2020 to 2045). The MTP also estimates that about \$ 87M will be available for capital projects from the regional T-SPLOST, or Transportation Investment Act (TIA). The \$87M TIA estimate only extends for the ten years of the program in the Valdosta-Lowndes Metropolitan Area. Should voters elect to renew the TIA tax through 2045, the MTP estimates nearly \$369 M for projects in the region. Note that the official TIA revenue projection will be generated by the State Economist during the current process to draft a TIA referendum for the next ten year period.

Local and Regional Sales Tax

Local revenues for transportation infrastructure include local Special Purpose Local Option Sales Tax (SPLOST), local general funds, TIA regional transportation sales tax funds, and other local sources. The regional TIA process is beginning in the Spring of 2023, with a project list to be developed sometime in the summer.

While the Vision2O45 MTP included an access road to North Lowndes Park on the unfunded project list, the study team strongly recommends that this project move forward for consideration for TIA funding due to its regional significance as an access route to an emerging mixed use activity center and recreation destination for visitors and residents, as well as its overall support of regional goals expressed in the joint Comprehensive Plan and other documents.

The Lowndes County SPLOST for the 2020-2024 period also includes funding for projects in the City of Hahira and the County. SPLOST funds include \$500K for the City for transportation improvements. There are Lowndes County recreation funds included in the SPLOST referendum for trails accessing North Lowndes Park as well as the park expansion at \$13.2 Million. The Valdosta-Lowndes County Parks and Recreation Master Plan anticipates initiating a trails program in FY 2025-2030.





A Plan for the Future

Plans like this Master Plan guide growth by promoting development consistent with today's small town character. Development character impacts how people choose to travel and the need for transportation infrastructure. The proposed development patterns that promote efficient infrastructure investments include:

- cluster development in activity centers and villages,
- preserve the rural and small town character,

What does the Master Plan Accomplish?

Coordinates public and private investments in infrastructure and open space.

Makes walking and biking safe and comfortable for most trips, including a greenway network. Reduces traffic congestion and delay.

Supports activity centers at North Lowndes Park and Hahira Elementary School, promoting economic development and quality of life.

Increases future greenspace by 20% (about 300 acres) compared to the Comprehensive Plan. Creates pocket parks, linear greenspace, and public squares.

Provides a flexible framework for future growth.

- encourage economic growth along with efficient infrastructure in walkable mixed use centers surrounded by more rural areas and single family neighborhoods,
- promote mixed use villages to bring schools and shopping closer to families and jobs closer to workers,
- ensure that daily activities require fewer and shorter trips,
- save public revenue through efficient infrastructure delivery,
- promote building placement as well as parking requirements and layout, that encourage foot traffic in commercial areas by placing on-street parking and sidewalks next to buildings.

Through this study, we're asking "What do we want to be ten, twenty, and thirty years from now?" And it's a key time to develop actionable plans to achieve that vision. Systems of trails, natural lands protection, and green infrastructure promote the vision. Recreational greenspace encourages active living. And designating large areas as Agriculture/Forestry ensures that rural character is preserved. Extending Hahira's street network as the area develops will provide a framework for small town character while promoting walkability. And Activity Centers create a sense of place. Overall, the master plan infrastructure recommendations support



growth through a flexible framework of roads and trails that support access and mobility within and between centers, providing for reduced delay and safe operations as the area population, jobs, and visitors increase.

This Master Plan supports the region's vision for quality of life, economic development, health and wellness, rural area preservation, and resilience.





References

1. Morris, Marya. *Smart Codes: Model Land-Development Regulations*. Chicago : American Planning Association, 2009. Planning Advisory Service. Report Number 556.

2. Ohm, Brian W., LaGro, James A. and Strawser, Chuck. A Model Ordinance for a Traditional Neighborhood Development. Madison : University of Wisconsin, 2001.

3. Metropolitan Transit Development Board. *Designing for Transit.* Springfiels : US Department of Commerce, 1993.

4. Hack, Gary. Business Performance in Walkable Shopping Areas. s.l. : Robert Wood Johnson Foundation, 2013.

5. ITE. Designing Walkable Urban Thoroughfares: A Context Sensitive Approach. Washington DC : ITE, 2010.

6. FHWA. Planning Process Statewide Transportation Planning. *Highway Functional Classifications*. [Online] 2017.

https://www.fhwa.dot.gov/planning%20/processes/statewide/related/highway_functional_classification s/section03.cfm#:~:text=The%20spacing%20of%20Minor%20Arterial,see%20Table%203%2D2)..

7. GDOT. Regulations for Driveway & Encroachment Control Manual. Atlanta : State of Georgia, 2023.

8. Williams, Kristine, et al. *Access Management Manual.* Transportation Research Board. Washington, DC : National Academy of Sciences, 2014. 978-0-309-29541-3.

9. AASHTO. A Policy on Geometric Design of Highways and Streets. Washington, DC : AASHTO, 2011. 6th ed.

10. Committee on Access Management. *Transportation Research Circular 456: Driveway and Street Intersection Spacing.* Washington, DC : TRB, National Research Council, 1996.

11. Georgia Department of Transportation. *Regulations for Driveway and Encroachment Control.* Atlanta : State of Georgia, 2021.





Appendices

Project Costs and Maps

The maps in this section show projects by proposed tier and study area, with detailed cost tables. Cost estimates are based on unit costs and are for planning purposes. Unit costs were derived from FDOT cost estimating guidance or previous construction estimates for similar projects. As discussed above, project rankings are flexible pending proposed development in most cases.







Figure 26 Park Area Capacity Projects



Table 7 Park Area Capacity Project Cost Estimates by Tier

Tier	Project	From	То	Total Estimated Cost (K)	Estimated Construction Cost (K)	Engineering (K)	Right-of- Way (K)	Utilities (K)	Engineering Inspection (IK)	Contingency (K)
1	Stanfill St Realignment	W Stanfill St	W Stanfill St	\$2,416	\$1,510	\$151	\$227	\$151	\$76	\$302
1	ACNW_Local4	SR 122	ACNW_Local24	\$3,857	\$2,740	\$274	\$103	\$55	\$137	\$548
1	ACSE_Local4	W Park St	SR 122	\$2,368	\$1,480	\$148	\$222	\$148	\$74	\$296
1	Morven Rd Extension	SR 122	Sonny Rogers Memorial Dr	\$6,784	\$4,240	\$424	\$636	\$424	\$212	\$848
1	W Lawson St Extension	Union Rd	Newsome St	\$6,368	\$3,980	\$398	\$597	\$398	\$199	\$796
1	Webb Rd Realignment	Webb Rd	SR 122	\$752	\$470	\$47	\$71	\$47	\$24	\$94
2	ACNE_Local4	W Stanfill St	SR 122	\$2,656	\$1,660	\$166	\$249	\$166	\$83	\$332
2	ACNE_Local5	W Stanfill St	SR 122	\$3,072	\$1,920	\$192	\$288	\$192	\$96	\$384
2	ACNW_Local1	Morven Rd Ext	SR 122	\$9,392	\$5,870	\$587	\$881	\$587	\$294	\$1,174
2	ACNW_Local24	ACNW_Local3	Morven Rd Ext	\$1,496	\$1,080	\$108	\$16	\$22	\$54	\$216
2	ACNW_Local25	ACNW_Local1	Sonny Rogers Memorial Dr	\$1,088	\$680	\$68	\$102	\$68	\$34	\$136
2	ACSE_Local1	W Main St Ext	SR 122	\$3,696	\$2,310	\$231	\$347	\$231	\$116	\$462
2	ACSE_Local22	ACSE_Local1	ACSE_Local4	\$2,464	\$1,540	\$154	\$231	\$154	\$77	\$308
2	Blakley St Extension	W Park St	W Main St	\$992	\$620	\$62	\$93	\$62	\$31	\$124
2	AC_NE_Spine	Stanfill Rd dogleg	SR 122	\$5,888	\$3,680	\$368	\$552	\$368	\$184	\$736
2	W Main St Extension	ACSE_Local1	Union Rd	\$1,392	\$870	\$87	\$131	\$87	\$44	\$174
3	ACNE_Local2	W Stanfill St	SR 122	\$2,432	\$1,520	\$152	\$228	\$152	\$76	\$304
3	ACNW_Local2	Morven Rd Ext	Park	\$2,368	\$1,480	\$148	\$222	\$148	\$74	\$296
3	ACSE_Local5	W Main St	SR 122	\$592	\$370	\$37	\$56	\$37	\$19	\$74
3	TNSW_Collector	Old Valdosta Rd	Morven Rd	\$10,832	\$6,770	\$677	\$1,016	\$677	\$339	\$1,354
3	TNSW_Local4	TNSW_Collector	Tillman Branch Rd	\$1,040	\$650	\$65	\$98	\$65	\$33	\$130
3	VCSW_Local1	Morven Rd	Morven Rd	\$6,384	\$3,990	\$399	\$599	\$399	\$200	\$798
3	TNSW_Local23	Old Valdosta Rd	TNSW_Local3	\$4,240	\$2,650	\$265	\$398	\$265	\$133	\$530
3	TNSW_Local3	TNSW_Collector	Morven Rd	\$2,896	\$1,810	\$181	\$272	\$181	\$91	\$362
3	VCSW_Local21	VCSW_Local1	terminus	\$1,168	\$730	\$73	\$110	\$73	\$37	\$146





Figure 27 School Area Capacity Projects



Table 8 School Area Capacity Project Cost Estimates by Tier

Tier	Project	From	То	Total Estimated Cost (K)	Estimated Construction Cost (K)	Engineering (K)	Right-of- Way (K)	Utilities (K)	Engineering Inspection (K)	Contingency (K)
1	Brian Mainor Ext	Brian Mainor terminus	HES_Local3	\$1,512	\$1,080	\$108	\$O	\$54	\$54	\$216
1	Hagan Bridge Realignment	S Hagan Bridge Rd	N Hagan Bridge Rd	\$3,296	\$2,060	\$206	\$309	\$206	\$103	\$412
1	HES_Collector	Coleman Rd	SR 122	\$9,440	\$6,090	\$609	\$731	\$487	\$305	\$1,218
2	Coppage Rd Realignment and Paving	Drew Circle	E Stanfill St	\$4,528	\$2,830	\$283	\$425	\$283	\$142	\$566
2	HES_Local2	Claudia Dr	Coppage Rd Ext W	\$3,362	\$2,190	\$219	\$296	\$110	\$110	\$438
2	HES_Local21	S Hagan Bridge Rd	HES_Local3	\$2,192	\$1,600	\$160	\$0	\$32	\$80	\$320
2	HES_Local3	Coleman Rd	Coppage Rd Ext W	\$6,929	\$4,470	\$447	\$536	\$358	\$224	\$894
3	Brian Mainor Ext	HES_Local3	HES_Local4	\$5,720	\$3,690	\$369	\$554	\$185	\$185	\$738
3	E Main St Ext	S Hagan Bridge Rd	HES_Collector	\$5,296	\$3,310	\$331	\$497	\$331	\$166	\$662
3	HES_Local5	Brian Mainor Dr	Reynoldia Subdivision	\$720	\$450	\$45	\$68	\$45	\$23	\$90
4	HES_Local4	Coleman Rd	Barfield Ln	\$8,352	\$5,220	\$522	\$783	\$522	\$261	\$1,044
4	HES_Local22	Lawson Farms Rd	Reynoldia Subdivision	\$592	\$370	\$37	\$56	\$37	\$19	\$74

The maps and table below show Operations Improvements by tier, with project cost estimates included. Note that operations improvements rankings may change based on adjustments to school pickup and drop-off circulation as well as development proposals.





Figure 28 Operations Improvements in Park Area



Figure 29 Operations Improvements in School Area

sgrc

transpo

STUDIO



Table 9 Operations Improvements and Cost Estimates

Tier	Project	Description		ed ction	ring	f-Way	(K)	ring on (K)	ency
			Total Estimated Cost (K)	Estimat Constru Cost (K)	Enginee (K)	Right-oi (K)	Utilities	Enginee Inspecti	Conting (K)
1	SR 122 @ Union Rd	Install a roundabout at S. Hagan Bridge Rd and Union Rd.	\$4,800	\$3,000	\$300	\$450	\$300	\$150	\$600
1	SR 122 @ Morven Rd	Install a roundabout at SR 122 and Morven Rd.	\$4,800	\$3,000	\$300	\$450	\$300	\$150	\$600
1	S. Hagan Bridge Rd <i>@</i> Grace St	Install a right-turn lane on southbound S. Hagan Bridge Rd at Grace St.	\$96	\$60	\$6	\$9	\$6	\$3	\$12
1	S Hagan Bridge at Brian Mainor Dr RTL	Install a right-turn lane on northbound S. Hagan Bridge Rd at Brian Mainor Dr.	\$96	\$60	\$6	\$9	\$6	\$3	\$12
1	S. Hagan Bridge Rd <i>@</i> Claudia Drive	Improve the crosswalk across S. Hagan Bridge Rd at Claudia Dr with thicker lines, or paint/restripe with bold colors to make it highly visible to pedestrians and motorists.	\$3	\$O	\$O	\$O	\$O	\$O	\$O
1	North and south of school zone limits	Install taller school zone signage in advance of the school speed zones, and consider adding flashing lights to better alert drivers.	\$0.5	\$O	\$O	\$O	\$O	\$O	\$O
2	SR 122 @ Hagan Bridge Rd	Install a roundabout at SR 122 and Hagan Bridge Rd in conjunction with the proposed re- alignment of S. Hagan Bridge Rd and SR 122.	\$4,800	\$3,000	\$300	\$450	\$300	\$150	\$600
2 *	S. Hagan Bridge Rd <i>@</i> Claudia Dr	Install a left-turn lane on westbound Claudia Drive at S. Hagan Bridge Rd	\$96	\$60	\$6	\$9	\$6	\$3	\$12
3	SR 122 (Main St) @ US 41 (Church St)	Install flashing yellow arrows at traffic signals at the intersection of SR 122 and Church St.	\$160	\$100	\$10	\$15	\$10	\$5	\$20
3	SR 122 @ I-75 NB Ramp	Install a reduced conflict U-turn (RCUT) at the I-75 northbound ramps and SR 122. **	\$320	\$200	\$20	\$30	\$20	\$10	\$40
3	SR 122 @ I-75 SB Ramp	Install a reduced conflict U-turn (RCUT) at the I-75 southbound ramps and SR 122. **	\$320	\$200	\$20	\$30	\$20	\$10	\$40
4	S Hagan Bridge Rd <i>@</i> Coleman Dr	Install a mini-roundabout at S. Hagan Bridge Rd and Coleman Drive.	\$2,400	\$1,500	\$150	\$225	\$150	\$75	\$300
4	SR 122 @ Webb Rd	In conjunction with the proposed re-alignment of Webb Rd, install a roundabout at SR 122 and Webb Rd.	\$4,800	\$3,000	\$300	\$450	\$300	\$150	\$600
4	SR 122 <i>@</i> Sonny Rogers Memorial Dr	Install a left-turn lane on eastbound SR 122 at Sonny Rogers Memorial Drive.	\$96	\$60	\$6	\$9	\$6	\$3	\$12



Tier	Project	Description	Total Estimated Cost (K)	Estimated Construction Cost (K)	Engineering (K)	Right-of-Way (K)	Utilities (K)	Engineering Inspection (K)	Contingency (K)
4*	S. Hagan Bridge Rd <i>@</i> Claudia Dr	Install a left-turn lane on southbound S. Hagan Bridge Road at Claudia Drive.	\$96	\$60	\$6	\$9	\$6	\$3	\$12
4*	S. Hagan Bridge Rd <i>@</i> Brian Mainor Dr	Install a left-turn lane on southbound Hagan Bridge Rd at Brian Mainor Dr.	\$96	\$60	\$6	\$9	\$6	\$3	\$12
4*	Coppage Rd/Stanfill St	Install left turn lanes on SR 122 in both the eastbound and westbound directions.	\$192	\$120	\$12	\$18	\$12	\$6	\$24
*	North of Grace Street and south of Coleman Drive	Add signage north of Grace Street and south of Coleman Drive that through-movements are prohibited during morning drop-off and afternoon pickup times.	\$0.5	\$O	\$0	\$0	\$0	\$0	\$0

* Pending mid- and long-term school pickup and drop-off circulation patterns ** R-CUT costs do not include adjustments to the vertical profile at the interchange intersections to improve sight distance

The maps and tables that follow show proposed greenways in each study area, labeled by segment. The tables indicate potential tiers for implementation and include cost estimates.





Figure 30 Park Area Greenways, NW Quadrant





Figure 31 Park Area Greenways, SW Quadrant





Figure 32 Park Area Greenways, NE and NW Quadrants


Table 10 Multimodal Improvement Projects by Tier with Cost Estimates, Park Area

Tier	Project	From	То	Total Estimated Cost (K)	Estimated Construction Cost (K)	Engineering (K)	Right-of-Way (K)	Utilities (K)	Engineering Inspection (IK)	Contingency (K)
1	SR 122 Multimodal Improvements (TAP)	Morven Rd	Newsome St	\$1,632	\$1,020	\$102	\$153	\$102	\$51	\$204
1	Park Access Path	SR 122	Park Loop	\$832	\$520	\$52	\$78	\$52	\$26	\$104
1	Park Loop Path			\$800	\$500	\$50	\$75	\$50	\$25	\$100
1	NE Quad Spine Path	SR 122	N Church St	\$448	\$280	\$28	\$42	\$28	\$14	\$56
2	SR 122 Multimodal Improvements	Webb Rd	Morven Rd extension	\$688	\$430	\$43	\$65	\$43	\$22	\$86
2	Interstate Crossing w Pedestrian Bridge	Morven Rd Ext	John David Rd	\$8,000	\$5,000	\$500	\$750	\$500	\$250	\$1,000
2	Interstate Crossing w Underpass	Morven Rd Ext	John David Rd	\$512	\$320	\$32	\$48	\$32	\$16	\$64
2	Stanfill Rd East Path	Union Rd	Park	\$704	\$440	\$44	\$66	\$44	\$22	\$88
2	Sonny Rogers Memorial Dr Sidewalks	Sonny Rogers Memorial Dr	Morven Rd Ext	\$304	\$190	\$19	\$29	\$19	\$10	\$38
2	Sonny Rogers Memorial Dr Sidewalks (aligns w planned Morven Rd Ext)	Sonny Rogers Memorial Dr	Park	\$487	\$350	\$35	\$0	\$14	\$18	\$70
3	Lake SW Path	Morven Rd	SR 122	\$704	\$440	\$44	\$66	\$44	\$22	\$88
3	Old Valdosta Path	SR 122	Lake SW 2 Path	\$544	\$340	\$34	\$51	\$34	\$17	\$68
3	Stanfill Rd West Path	Union Rd	Park Loop	\$448	\$280	\$28	\$42	\$28	\$14	\$56
3	Union Rd N Path	SR 122	John David Rd	\$848	\$530	\$53	\$80	\$53	\$27	\$106
3	Union Rd S Path	Brookridge Dr	SR 122	\$1,040	\$650	\$65	\$98	\$65	\$33	\$130
4	Lake SW 2 Path	Old Valdosta Rd	Lake SW Path	\$304	\$190	\$19	\$29	\$19	\$10	\$38
4	Lake SW 3 Path	Old Valdosta Rd	Lake SW Path	\$400	\$250	\$25	\$38	\$25	\$13	\$50
4	NE Quad Park Path	Wetlands Loop		\$128	\$80	\$8	\$12	\$8	\$4	\$16



Figure 33 School Area Greenways

transport



Table 11 School Area Greenways by Tier with Cost Estimates

Tier	Project	From	То	Total Estimated Cost (K)	Estimated Construction Cost (K)	Engineering (K)	Right-of-Way (K)	Utilities (K)	Engineering Inspection (K)	Contingency (K)
1	Brian Mainor sidepath	Hagan Bridge Rd	Brian Mainor Extension	\$112	\$70	\$7	\$11	\$7	\$4	\$14
1	Hagan Bridge Rd sidepath	Realigned section	Brian Mainor Dr	\$87	\$60	\$6	\$0	\$6	\$3	\$12
2	Hahira Elementary Path	Coleman Rd	Coppage Rd	\$544	\$340	\$34	\$51	\$34	\$17	\$68
2	N Hahira Elementary Path	Hahira Elementary Path	North school access	\$112	\$70	\$7	\$11	\$7	\$4	\$14
3	Coleman Loop	Brian Mainor Dr	Coleman Rd	\$720	\$450	\$45	\$68	\$45	\$23	\$90



Public and Stakeholder Engagement Online Public Engagement Tools

Along with two Public Open Houses, the team employed several online tools to gather public feedback, as well as educate the citizens on the study and the planning process.

A public website was developed in ArcGIS StoryMap platform: <u>Hahira Area Traffic Study</u>. The Hahira Area Traffic Study website includes several pages:

- Why Plan Now?
- What Opportunity Do We Have?
- How Do Roads Shape Our Community?
- What's in a Plan?
- What Is Your Vision?
- What Are the Benefits?
- Plans and Studies

The Hahira Area Traffic Study website was viewed over 500 times by stakeholders and citizens throughout the planning process.

During the first phase of public engagement, the *What Is Your Vision*? section of the website contained two online surveys. The <u>Sense of Place</u> survey gathered feedback on several images that represented different infrastructure options, development styles, and community character. The <u>Vision</u> <u>Statement Survey</u> collected public feedback on big picture goals.

Also, during the first phase of public and stakeholder engagement, the team developed an online mapping tool for the public to comment on two juxtaposed development patterns: Community-Centered Scenario and Highway-Oriented Scenario. The public online mapping tools could be accessed via the *What Is Your Vision*? Section of the Hahira Area Traffic Study website.

The Highway-Oriented online map collected the following public comments:



Figure 34 Highway-Oriented Scenario Public Comments Online Mapping

Table 12 Highway-Oriented Scenario Public Comments

Public Comment	<u>Summary</u>	Description	Address
Sidewalks	sidewalks to the school	sidewalks to the school	Hahira, Georgia
Natural Resource. Keep It.	pond	pond and wetland	5600-5898 Colman Rd, Hahira, Georgia, 31632
I don't like this! Change it.	Stanfill St dogleg	Stanfill St needs to be straightened out. These turns are dangerous.	407-555 W Stanfill St, Hahira, Georgia, 31632
I like this! Keep it	Depot and square	good space for public events like the Honeybee Festival	220 W Main St, Hahira, Georgia, 31632
Sidewalks	Sidewalk to park	Hwy 122 needs sidewalks	770 Union Rd, Hahira, Georgia, 31632



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Map data © OpenStreetMap contributors, CC-BY-SA | SGRC, Transport Studio

COMMUNITY-CENTERED SCENARIO HOME MAP GALLERY PROFILE + 9 Legend Find address or place -Q Search Features by Key V I like this! Keep it. V I don't like this! Change it. 🕂 Community Resource. Keep It 🔽 🔘 Natural Resource. Keep it. 🕇 Other Ideas Sidewalks Bike Lane or Bike Path Greenway or Trail V 6 Roads Rural/Agricultural 🔽 📄 Traditional Neighborhood 🕇 Mixed Use Village Center 🕂 Park/Recreation/Greenspace 🕂 Other Ideas

The Community-Centered online map collected the following public comments:

Figure 35 Community-Centered Scenario Public Comments Online Mapping





Table 13 Community-Centered Scenario Public Comments

Public Comment	<u>Summary</u>	Description	Address		
I like this! Keep it.	Stanfill st	Straighten out the curves	407-555 W Stanfill St, Hahira, Georgia, 31632		
I like this! Keep it. greenway		It would be great to bike to and from the park on a trail.	I-75 N, Hahira, Georgia, 31632		
I like this! Keep it.	Pine forest and farmland	Keep this rural	8105 Smith Rd, Hahira, Georgia, 31632		
Other Ideas	Indoor recreation facility	It would be nice to have pickleball, volleyball, basketball, and a gym	31632, Hahira, Georgia		
Sidewalks	sidewalk	Hwy 122 - add sidewalks	GA-122, Hahira, Georgia, 31632		
Sidewalks	Sidewalk	ADD S Hagan Bridge Rd sidewalk	512 S Hagan Bridge Rd, Hahira, Georgia, 31632		
Sidewalks	sidewalk	ADD sidewalk on Hwy 122	519 E Main St, Hahira, Georgia, 31632		
Park/Recreation/Greenspac e	Multipurpose/soccer	Fields that are ready to open soon!	31632, Hahira, Georgia		
Park/Recreation/Greenspac e	Baseball/softball fields	pinwheel of five fields planned here	31632, Hahira, Georgia		
I like this! Keep it.	Greenway	We need more pedestrian/biking infrastructure	7495 Union Rd, Hahira, Georgia, 31632		
I like this! Keep it.	grid	We need more grid layouts and less cul-de-sacs	31632, Hahira, Georgia		
I don't like this! Change it.	Mixed use	To reduce dependence on cars, I think the area between downtown and I-75 should be mixed with retail along Hwy 122 and residential behind it with greenspace/walkable streets connecting them.	762-976 US-41, Hahira, Georgia, 31632		
I like this! Keep it.	hunting Land	Woods	31632, Hahira, Georgia		
Bike Lane or Bike Path bike Lanes		Bike Lanes	31632, Hahira, Georgia		
Bike Lane or Bike Path	bike lane	bike lane	31625, Barney, Georgia		
Bike Lane or Bike Path	bike lanes	bike lanes	31632, Hahira, Georgia		
I like this! Keep it.	bike lanes or a trail	biking to the park would be great	6557-6699 Union Rd, Hahira, Georgia, 31632		

Additional stakeholder and public input was solicited on the final proposed concepts - The Master Plan Concept. The following are the public comments that were collected on the proposed Master Plan Concept:

transport



Figure 36 Master Plan Public Comments Online Mapping



Table 14 Master Plan Public Comments

Public Comment	Summary	Description	Address
Roads	less prop	less prop	31632, Hahira, Georgia
Roads	keep double loop from H Bridge / B Manor	keep double loop from H Bridge / B Manor for parents. keep Bus / Staff in & out on Claudia	301-499 Claudia Dr, Hahira, Georgia, 31632
Roads	Stanfill Rd realignment	project currently proposed	300-372 W Stanfill St, Hahira, Georgia, 31632
I don't like this! Change it.	don't need this stub to w main st	house has access from W Main	602 E Main Street Ext, Hahira, Georgia, 31632
Roads	connect neighborhoods	road	7501-7599 Tillman Branch Rd, Hahira, Georgia, 31632
Greenway or Trail	connect to trail	for recreate and exercise	Hahira, Georgia

Stakeholder Committee Presentations

The Stakeholder Committees met eight times, either jointly or by study area, between April 2022 and February 2023. Stakeholder Committee meetings were held April 25, May 15-16, Sep 8-9, Nov 28, Jan 18, Feb 16. Public Open Houses were held October 20, 2022 and February 16, 2023. Committee members also attended the Open House events. The section that follows includes presentations to the committees.