

East Georgia Multi-County Transportation Study
Greene, Jasper, Morgan and Putnam Counties

**Morgan County Multi-Modal
Transportation Plan**

August 2007

HNTB



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Preface

This document serves as a guide to the County's transportation needs, in the form of a Long Range Transportation Plan (LRTP), through the horizon year, 2030. LRTPs are required to have a planning horizon of 20 or more years. This time frame provides a basic structure and overall goal for meeting the long-term transportation needs for the County. Since many factors influencing the development of the LRTP, such as demographics, forecast revenue, and project costs, change over time, long range transportation plans should be updated at least every five years.

The Transportation Plan is a useful tool that empowers a County to act on its current and expected needs. GDOT programs projects for all 159 counties in the state of Georgia, and it is extremely helpful to them to know the true needs of each county. The Transportation Plan follows an accepted process that documents existing and future needs. These needs are then addressed by potential improvements which are prioritized.

The Transportation Plan is a living document, that should be revisited as the County changes and development occurs. Typically Transportation Plans are updated every three to five years. The current Transportation Plan was based on existing data and forecasts developed with the best information available. It is expected that the inputs into this original planning process, particularly public comment and opinion; population forecasts; development forecasts; and, the distribution of population and employment within the county will change over time in response to changing realities through the study area. A critical mass of new information should provide a stimulus to the update the plan and refine the planning process. The following key components of the Transportation Plan should be reviewed and updated as necessary:

- Transportation Plan Goals;
- Population Forecasts;
- Employment Forecasts;
- Distribution of Population and Employment;
- Needs;
- Projects;
- Costs; and,
- Funding.

Updating the Transportation Plan acknowledges changes to 20-year growth forecasts, ongoing refinements in travel demand forecasting, updated revenue forecasts, and other factors influencing the development and outcome of the Plan and its recommendations.

The outcome of the Transportation Plan is a prioritized list of improvements that meet the transportation goals and objectives of the County. This list is recognized by planning partners as the most important projects for the County – and correspondingly is the focus of funding and implementation efforts. It is important to recognize that these priorities are not static. As the inputs to the planning process change so will the priorities. Re-prioritizing all projects every year does not make sense – nothing would get constructed if priorities

changed on a year to year basis. Typically, even with updated information core priorities remain unchanged over a number of years.

The interested resident should utilize the Plan in several ways to actively contribute to the planning process and quality of life within the County:

1. Review the documented input from the public involvement process and provide additional comment when conditions change;
2. Review the list of prioritized projects to understand where the County will be investing its limited transportation resources;
3. Understand that the improvements recommended in the Plan relate to deficiencies identified through the planning process – the Plan has an established methodology for assessing need and determining improvements;
4. Use the Plan as a mechanism to provide input to the County to reflect changing realities within the County;
5. Understand the goals for the Transportation Plan and hold the County and other planning partners accountable for achieving the established outcomes.

The planning partners (County, Regional Development Center, GDOT and others) also make use the Plan for key activities including:

1. Clear documentation and technical analysis to support the need for transportation investment using proven analytical methods and analysis tools and approaches;
2. An understanding of County priorities for transportation investment;
3. A role to assist with development of a Special Purpose Local Option Sales Tax (SPLOST) Program;
4. A framework for continuous transportation planning activities; and,
5. A mechanism for ensuring active dialogue of transportation issues and opportunities.

A transportation plan is made more effective by an informed public that actively contributes to the planning process.

1.0 Introduction

Growth in Greene, Jasper, Morgan, and Putnam Counties has resulted in increased travel demand through the 4-County Region. The Georgia Department of Transportation (GDOT) Office of Planning, in conjunction with these four Counties, initiated the East Georgia Multi-County Transportation Study to develop a Long Range Transportation Plan (LRTP) to serve the 4-County Region through the planning horizon, 2030. Currently, the transportation planning function for the Counties is provided by GDOT through coordination with each County. The Multi-County Transportation Study is built upon existing work efforts to date, and provides a mechanism for guiding transportation decision-making as development pressures increase through the 4-County Region.

Although this Multi-County Transportation Study involved four counties, a transportation plan was developed for each County individually. Additionally, an Executive Summary was developed that included the entire 4-County study area. This allowed each of the Counties to understand what was recommended within the 4-County Region. This document focuses specifically on Morgan County.

The purpose of this technical memorandum was to identify existing and future operating conditions for the multi-modal transportation system and then identify multi-modal improvements and prioritize project implementation for Morgan County. As part of this effort, a travel demand model was developed for the 4-County Region to represent the transportation network of the study area and to assist with analysis of future operating conditions.

HNTB coordinated with GDOT, Greene, Jasper, Morgan, and Putnam Counties, local cities, and other partners in the planning, development, review, and approval of potential improvements. Additionally, a comprehensive and interactive public involvement program was conducted. This ensured that alternative transportation improvements were not only coordinated with various governments, but afforded individual citizens and interested groups the opportunity to provide their input in developing and evaluating potential improvements to each County's transportation network.

Ultimately, study efforts produced a LRTP that provides for the efficient movement of people and goods within and through the study area through the study horizon year (2030). Interim analysis was conducted for the year 2015. As part of this effort, existing and future operating conditions were documented for the following modes: roadways, bicycle and pedestrian facilities, freight, transit, railways, and airports.

1.1 Study Purpose

The purpose of the LRTP is to identify long-range transportation needs, determine resources to meet those needs, and outline a framework of projects that meet the transportation needs of a community to the extent allowed by existing and future resources. While the 4-County Region is not within a Metropolitan Planning Organization (MPO) service area, the transportation plan development process followed the guidelines

established for MPO's. This more rigorous process established a strong framework for transportation planning and decision-making. The format of the LRTP, and the process by which it was developed, is prescribed by federal legislation known as the Safe, Accountable, Flexible, Efficient, Transportation Equity Act – A Legacy for Users (SAFETEA-LU).

LRTPs are required to have a planning horizon of 20 or more years. This time frame provides a basic structure and overall goal for meeting the long-term transportation needs for the community. Since many factors influencing the development of the LRTP, such as demographics, forecast revenue, and project costs, change over time, long range transportation plans should be updated at least every five years.

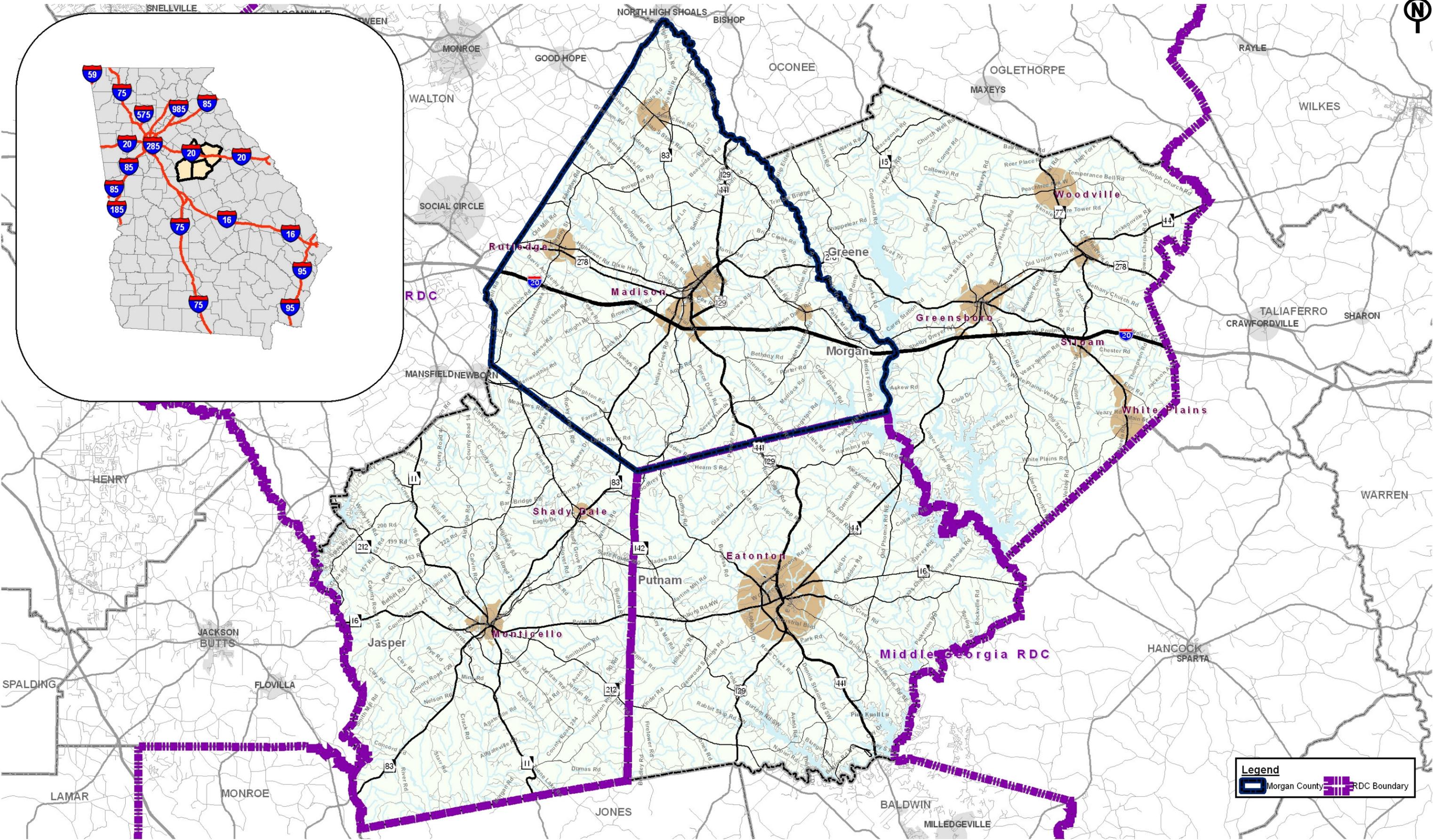
1.2 Study Area Description

The study area is located along the I-20 corridor in northeast Georgia, east of Atlanta. In recent years, communities located in the I-20 corridor from South Carolina to Alabama have recognized the economic importance of the corridor in attracting manufacturing, distribution, logistics, and warehousing operations and the associated residential, commercial, and office development that supports these valuable businesses.

Greene, Jasper, Morgan and Putnam Counties cover a land area of just over 1,453 square miles. Morgan County covers approximately 350 square miles. According to the University of Georgia, the area features many appealing points of interest and is significant to the State's natural and built environments as well as its cultural and historic assets, creating unique impacts on its transportation system.

- Morgan County was the 32nd County formed in Georgia (1807), named after the Revolutionary War General Daniel Morgan.
- Morgan County is home to some of the finest antebellum homes in the state. Holiday Travel magazine named Madison "The Prettiest Small Town in America". These have helped make it one of the top tourist destinations in the state.
- Morgan County is bordered on the east by Lake Oconee – the second largest lake in Georgia. Lake Oconee has contributed to the recent population and employment growth in the area and represents a large "second home" population for Metro Atlanta residents.
- Just north of Rutledge is Hard Labor Creek State Park. This park offers swimming, hiking, fishing and equestrian facilities featuring over 20-miles of riding trails. The park also offers a public 18-hole golf course.

Morgan County is part of the Northeast Georgia RDC (NEGRDC). There are four municipalities in Morgan County – Bostwick, Buckhead, Madison, and Rutledge. The study area is displayed in Figure 1.2.



Legend

- Morgan County
- RDC Boundary

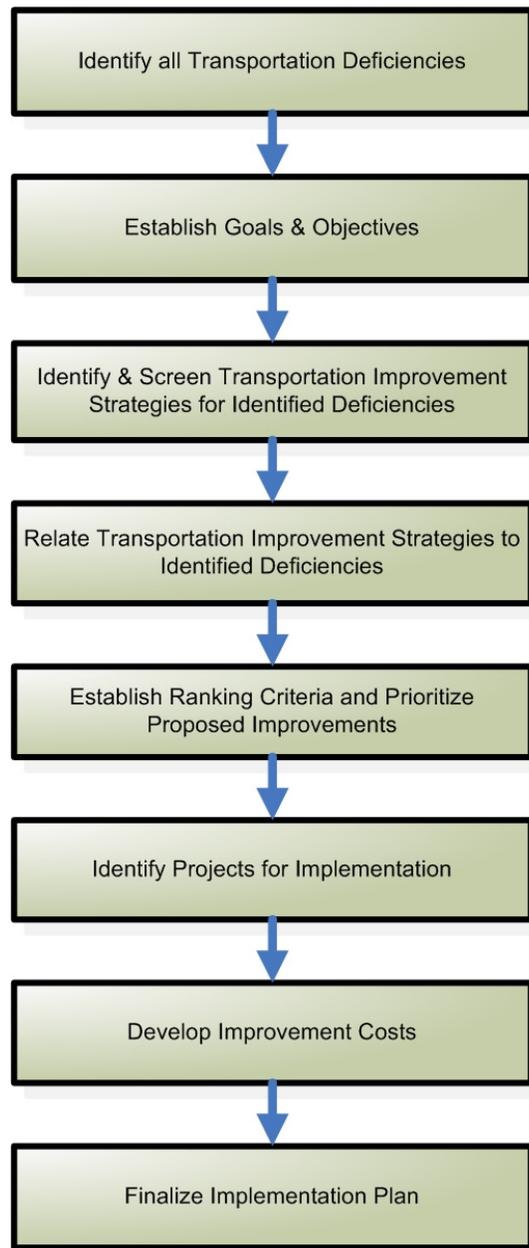
Study Area
East Georgia Multi-County Transportation Study

1.3 Study Process

The following activities generally represent the transportation plan development process: data collection and development of analysis tools and methodologies; analysis of existing and future conditions; development of improvement strategies; and, ultimately, project cost development and prioritization.

Figure 1.3 displays a flow chart depicting the study process.

**Figure 1.3
Study Process**



2.0 Public and Stakeholder Involvement

The purpose of the public involvement program is to inform the public and to include them in the decision-making process. Public concerns were brought to the forefront so that they could be discussed and resolved. This approach engaged the end users (i.e. the residents and business owners of the four Counties) in the identification, development, evaluation, and selection of transportation improvements. The ultimate goal of the Public Involvement effort was to build consensus for the recommended short-term and long-term improvements identified through the transportation planning process.

A public involvement program that results in active participation and interaction throughout the process has a good chance of attaining community consensus. An effective, well-planned, and organized public involvement program helps anticipate and lessen negative perceptions and can build towards acceptance of the study results. The Study Team implemented a public involvement program that utilized consensus-building techniques throughout the study process.

Area stakeholders, individual citizens, and interested groups were given multiple opportunities to become involved in the planning process. Citizens with an interest in the study were informed of the study's progress and provided various forums to contribute input into the decision-making process, including public workshops, study advisory groups, meeting notices, newspapers, newsletters, and web site updates. Through the public involvement process, the Study Team was able to identify improvements that met the needs of stakeholders and residents of Morgan County. A complete summary of public involvement activities for the East Georgia Multi-County Transportation Plan is provided in the Public Involvement Report.

2.1 Summary of Activities

Involving the public in the decision-making process was essential for developing consensus or acceptance among the community it is intended to serve. Throughout the process, the public was invited to provide information, offer alternatives, and present their interests and concerns. As stakeholders who live and travel through the study area, citizens were able to provide insightful input to technical and non-technical issues relevant to the plan development.

Several forums were available for citizens to voice their opinions, concerns, and ideas. Two open house workshops were conducted as part of the study. These workshops ensured that public input was reflected accurately for the evaluation and recommendation of the proposed transportation improvements. Each public workshop was used to encourage consensus among citizens, County staff, and area municipalities, as to the planned improvements for the County's multi-modal transportation network.

2.2 Public Information Workshops

A brief presentation was given at each of the public workshops to support facilitation activities and informal review of display materials with the public. The Study Team was available for one-on-one discussions at all of the workshops. In addition, public comment forms were available for citizens to officially record their comments. As appropriate, HNTB developed responses to all comments and coordinated these responses with GDOT.

Based on input from the project Steering Committee, it was determined that two public workshops were appropriate for this study. These workshops took place from 6:00 PM to 8:00 PM on a weekday night with an attempt to avoid any conflicts with any other significant community events or meetings. The Old Senior Center, an annex to Morgan County's Courthouse, was identified for hosting public workshops. This facility is centrally located in the County and provided adequate space for the workshops.

Workshop #1 (Overview of Existing and Future Operating Conditions)

This workshop provided an overview of the study process; documented data collection activities; reviewed existing and future operating conditions; and, identified deficiencies in the transportation system. This workshop also included a formal presentation, followed by an open house period to solicit public input, identify issues and concerns, and to aid the Study Team in evaluation of existing and future deficiencies.

Workshop #2 (Present Preliminary Long Range Transportation Plan)

This workshop presented preliminary improvement recommendations for major deficiencies and the findings to date, including a preliminary project prioritization methodology for public review and comment. A formal presentation of the study results was followed by an open house period to solicit public input on the draft study recommendations.

2.3 Study Advisory Group Meetings

In addition to the public workshops, Study Advisory Group (SAG) meetings were held to solicit stakeholder feedback at key junctures throughout the study. Morgan County selected its SAG participants including representatives from the business community, planning staff, elected officials and emergency management staff. Members of the SAG are listed below:

- Chuck Jarrell - Morgan County, Planning Director;
- Allison Moon - Morgan County, Senior Planner;
- Michael Lamar - Morgan County, County Manager;
- Monica Callahan - City of Madison, Planning Director;
- JoAnna Hayes - City of Madison, Planner;
- David Nunn - City of Madison, City Manager;
- Anson Gock - Northeast Georgia RDC;
- Randy Singleton - Morgan County Code Enforcement Officer;
- Charles Baldwin - Citizen;
- Mack Bohlen - Commission Chairman;

- Johnny Jordan - Morgan County Road & Bridges Supervisor;
- Spencer Knight - Rutledge Mayor;
- Steve Bryant - Buckhead Mayor;
- John Bostwick - Bostwick Mayor;
- Tom Dupree - Madison Mayor;
- Brian Lehman – Planning Commission Member;
- Lowry Hunt – Madison Council Member; and,
- David Land – Citizen.

This group met a total of three times throughout the study excluding the project kick-off meeting to discuss issues and opportunities and review study progress to date. Meeting dates and locations are documented below:

- Old Senior Center – October 24, 2006;
- Old Senior Center – February 13, 2007; and,
- Old Senior Center – June XX, 2007.

2.4 Program Evaluation

It was important to document and evaluate the effectiveness of the Multi-Modal Transportation Study Public Involvement Plan. The following data was documented:

- Number of newsletters distributed;
- Number of open house attendees; and,
- Number of public comments received.

Feedback from GDOT and SAG members was evaluated to determine the effectiveness of the Public Involvement Plan. Post workshop reviews yielded no changes to the public involvement program. Table 2.4 displays the public workshop participation information.

Table 2.4
Public Workshop Participation

Meetings	Date	Location	# of Newsletters	# of Attendees	# of Comments
Public Workshop #1	09-Nov-06	Old Senior Center	175	9	1
Public Workshop #2	06-Mar-07	Old Senior Center	180	40	6

3.0 Demographic Information

A review of US Census data shows that Morgan County has experienced population growth at a modest level during the past 20 years. Table 3.0 presents select demographic data to illustrate the characteristics of the population living in Morgan County, its households, and other socio-economic factors. Dialogue with County Staff revealed that many new residents in the County relocated from the Atlanta metro area to live in a more rural area. However, historically employment has not shifted to Morgan County. The ratio of residents (15,457) to jobs (7,414) is approximately two to one based on the 2000 Census information. This places increased demand on the transportation system linking County residents to jobs in Atlanta, Macon, Athens, and other employment centers.

The demographic overview of the County documents: historic population growth, future population, environmental justice, and existing employment.

Table 3.0
Year 2000 General Demographic Characteristics

Demographic	Morgan County
Total Population	15,457
Median Age	36.8
Households	5,558
Average Household Size	2.75
Total Housing Units	6,128
Occupied Housing Units	5,558 (90.7% of total)
Owner-Occupied Housing Units	4,310 (70.3% of total)
Renter-Occupied Housing Units	1,248 (20.4% of total)
School Enrollment (Age 3+)	3,886 (25.1% of total)
Percent High School Graduate or Higher	74.0%
Total Disabled Population (Age 5+)	2,963
Percent of Population in Same House in 1995	59.3%

Source: 2000 US Census

Over two-thirds of the residents (10,587) of Morgan County live outside of the cities. The following shows the population of each city for the year 2000:

- Bostwick – 322;
- Buckhead – 205;
- Madison – 3,636; and,
- Rutledge – 707.

The County's disabled population matches the statewide average of 19%. The US Census Bureau defines disability as:

“A long-lasting physical, mental, or emotional condition. This condition can make it difficult for a person to do activities such as walking, climbing stairs, dressing, bathing, learning, or remembering. This condition can also impede a person from being able to go outside the home alone or to work at a job or business.”

Dialogue with stakeholders revealed that the study area's population is aging and is attracting an older population. As Morgan County continues to attract retirement residential land uses, the need will increase for a transportation system that accommodates the aging population.

3.1 Historic Population Growth

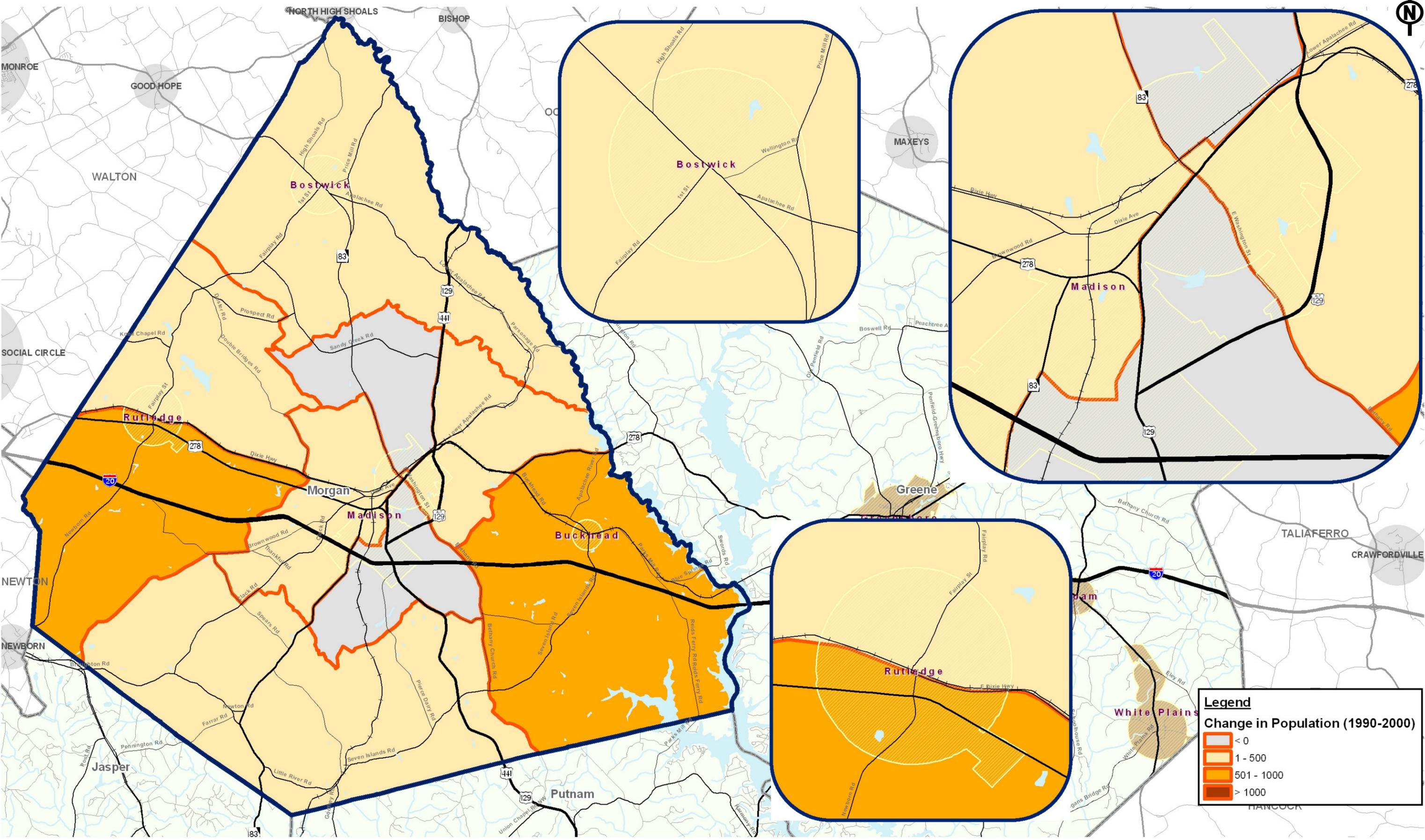
Table 3.1 illustrates the growth trends for Morgan County and Georgia from 1900 to 2000. Information in Table 3.1 shows that the area has had low historical growth compared to the growth trend for the State of Georgia between 1980 - 2000. The population for Morgan County is expected to increase throughout most of the County through the study horizon year of 2030.

Table 3.1
Historical Population Profile

County	1900	1920	1940	1960	1980	2000	Percent Change 1980 - 2000
Morgan	15,813	20,143	12,713	10,280	11,572	15,457	33.6%
Georgia	2,216,331	2,895,832	3,123,723	3,943,116	5,462,982	8,186,453	50.0%

Source: 2000 US Census

Figure 3.1 shows the change in population from 1990 to 2000 in Morgan County for each Census Block Group. The greatest change has occurred in the vicinity of Lake Oconee and the western portion of the County around I-20.



Legend
Change in Population (1990-2000)

- < 0
- 1 - 500
- 501 - 1000
- > 1000

Change in Population (1990-2000)
East Georgia Multi-County Transportation Study

Figure No: 3.1

3.2 Future Population

Morgan County has received a moderate amount of growth over the past 20 years (26.5%). This growth trend is expected to continue as the area continues to attract people and business owners who enjoy a rural lifestyle while having good access to nearby amenities in the Atlanta, Macon, and Athens urban areas. Several developments of regional impact (DRIs) have been proposed - particularly residential and multi-use developments. Table 3.2 displays the projected growth, provided by the Morgan County Comprehensive Plan, for Morgan County through the horizon year of 2030.

Table 3.2
Projected Population

	2000	2005	2010	2015	2020	2025	2030
Projected Population	15,457	17,630	20,890	23,550	27,530	34,680	35,750

Source: Morgan County Comprehensive Plan

Reviewing Morgan County's Comprehensive Plan reveals that over the next 30 years the County is projected to more than double in population. It is important to recognize this growth and the substantial demand for a quality transportation system and transportation services that accompanies the population increase.

3.3 Environmental Justice

Environmental justice (EJ) is intended to acknowledge minority and low-income populations and ensure that these groups are not disproportionately impacted as a result of transportation improvement recommendations. The US DOT Order on Environmental Justice and Executive Order 12898 defines EJ populations as persons belonging to any of the following groups:

- Black;
- Hispanic;
- Asian American;
- American Indian or Alaskan Native; and,
- Low-Income – a person whose household income (or in the case of a community or group, whose median household income) is at or below the US Department of Health and Human Services poverty guidelines.

It is important to look at the distribution and concentration of minority and low-income populations to determine potential EJ impacts. The intent of EJ analysis is to locate these populations and to involve them early and continuously through the decision making process, as well as use data to analytically assess if there would be a disproportionate

impact on traditionally underrepresented communities. The following sections document the location of minority and low-income populations.

Minority Populations

The minority populations for Morgan County were analyzed using the 2000 Census data. This census data was reviewed by Census Block Group, and shows concentrations of minority populations located north and east of Madison. The average minority population figure for the County is 31% while the statewide average is 34.9%. The minority Census Block Groups are displayed in Figure 3.3.1.

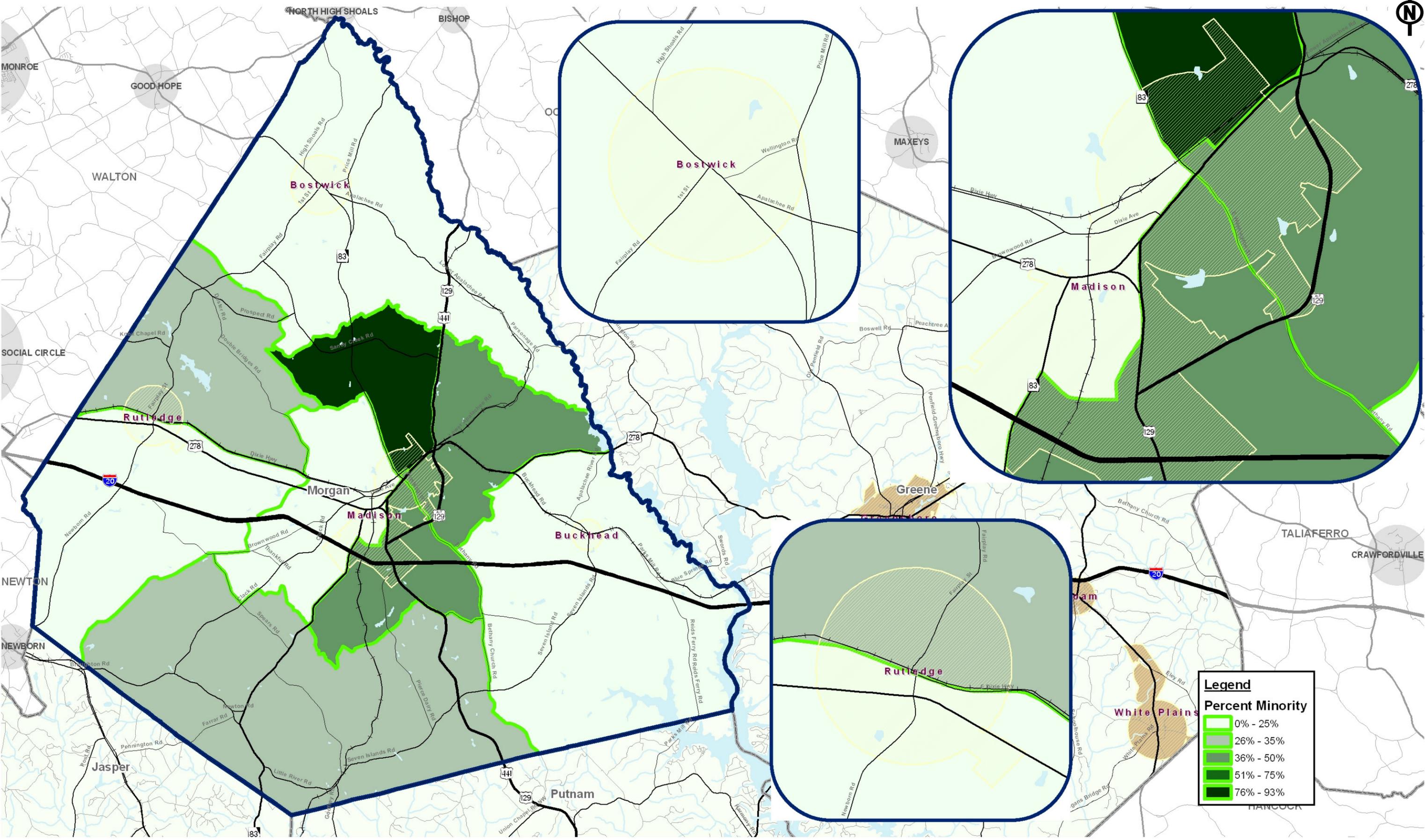
Low-Income Populations

The second component for EJ, poverty level, was also analyzed using the 2000 Census data. This census data was reviewed by Census Block Group, and shows concentrations of low-income populations located north of Madison. The average number of residents below the poverty line in the County is 11% while the statewide average is 13.0%. The low-income census blocks are displayed in Figure 3.3.2.

It is helpful to analyze the low-income population areas with respect to the location of minority population areas. Interest is drawn to areas with high populations for both of these categories. Figure 3.3.3 combines the minority and low-income population data and presents it in a single graphic.

Disadvantaged populations were identified as part of this analysis and extra efforts were made to include these groups in the planning process. These areas include north and east of Madison. These areas were evaluated to ensure that transportation improvements would benefit and not disproportionately impact these areas in a negative manner. The following tasks were conducted for the identified low-income and minority populations:

- Coordinated with the SAG to identify leaders within these communities;
- Posted notice for workshops in these communities;
- Analyzed recommended projects to ensure that disproportionate impacts did not accrue to these communities; and,
- Analyzed recommended projects to ensure that mobility benefits accrued to these communities – including bicycle and pedestrian amenities.



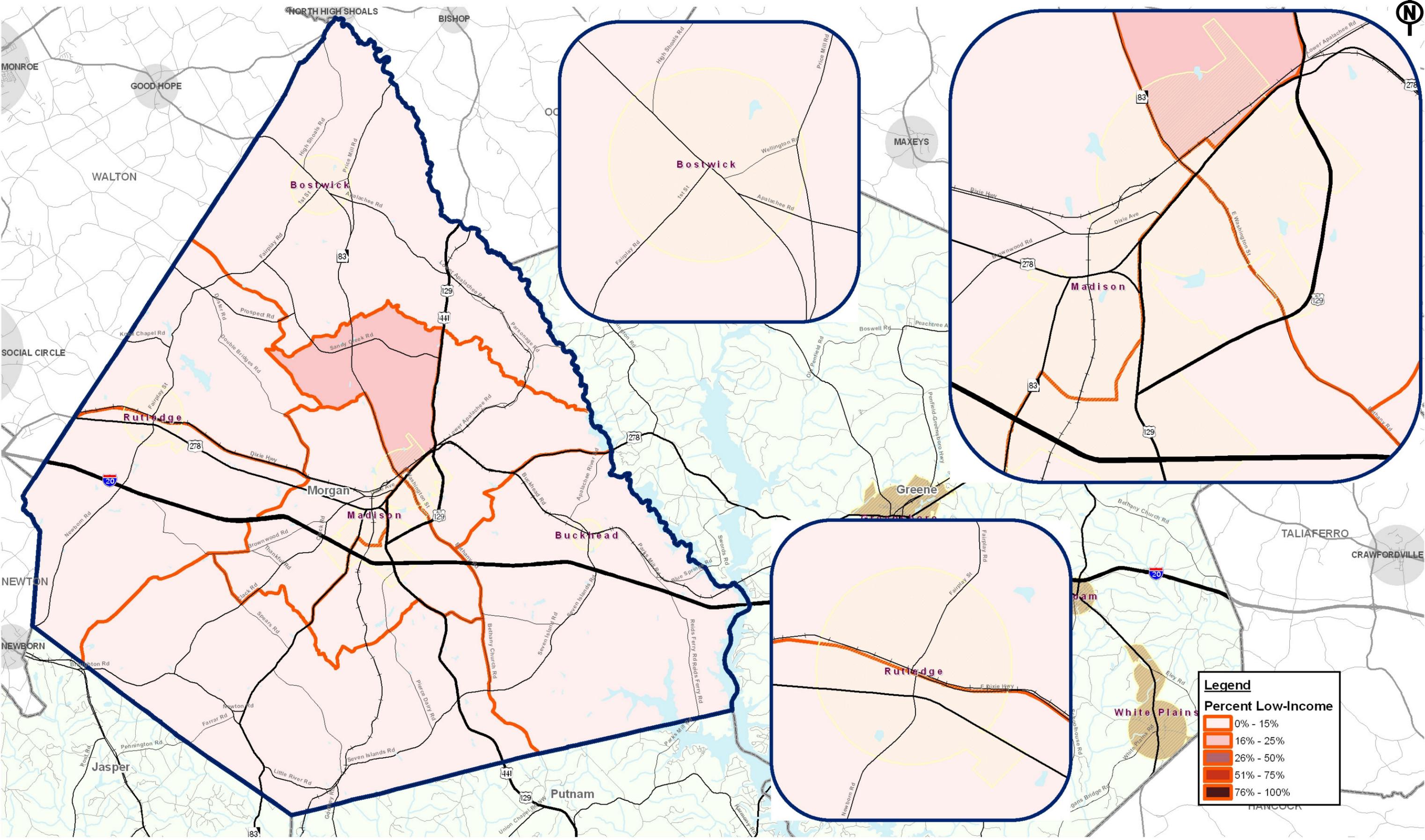
Legend

Percent Minority

- 0% - 25%
- 26% - 35%
- 36% - 50%
- 51% - 75%
- 76% - 93%

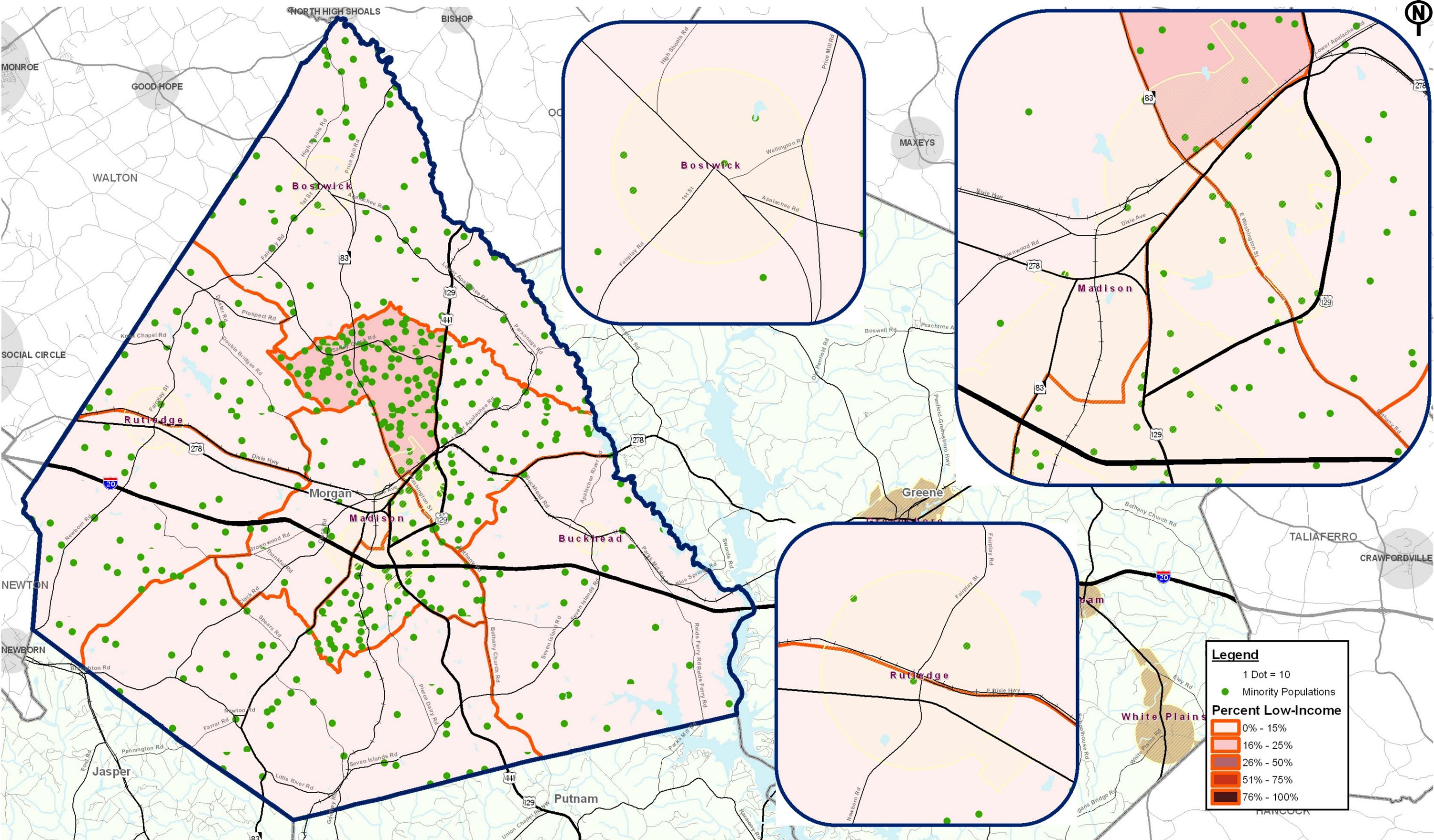
Minority Population Locations
East Georgia Multi-County Transportation Study

Figure No: 3.3.1



Low-Income Population Locations
East Georgia Multi-County Transportation Study

Figure No. 3.3.2



Overlay of Minority & Low-Income Populations
East Georgia Multi-County Transportation Study

3.4 Employment Data

In Morgan County, manufacturing is the largest employment sector providing nearly one-fourth of the total jobs. Other important sectors are education, health and social services, and retail trade. Among the major employers in the County are Georgia Pacific Company (400 employees), Avado Brands, Inc. (250 employees), Townsend Tree Service (250 employees), Bard Manufacturing Co. (200 employees), and Pennington Seed Inc. (150 employees). The number, type, and location of jobs in the County have direct implications to the types of transportation facilities needed by business operators and employees in the area. Table 3.4.1 shows the major categories of jobs and industries located in Morgan County.

**Table 3.4.1
Existing Industry Jobs**

Industry Type	Morgan County
Agriculture, Forestry, Fishing, Hunting, and Mining	280
Construction	688
Manufacturing	1,658
Wholesale Trade	210
Retail Trade	875
Transportation, Warehousing, and Utilities	399
Information	131
Finance, Insurance, Real Estate, and Rental and Leasing	295
Professional, Scientific, Management, Administrative, and Waste Management Services	425
Education, Health, and Social Services	1,095
Arts, Entertainment, Recreation, Accommodation and Food Services	593
Other Services	376
Public Administration	389
TOTAL	7,414

Source: 2000 US Census

The County's per capita income (\$18,823) in 1999 was lower than Georgia's statewide average of \$27,324 and the national average of \$28,546.

Transportation mobility for workers in Morgan County is an important consideration for the Plan. Not surprisingly, most workers (94.3%) in the County rely on highway-based

transportation for commute trips, either by driving alone or carpooling. Less than two percent (1.8%) of workers in the County walk or commute to work by other means and four percent (3.8%) work at home. Table 3.4.2 illustrates the breakdowns in commuting modes for Morgan County.

**Table 3.4.2
Existing Work Commute Patterns**

Work Commute	Morgan County		Georgia
	Population	Percentage	Percentage
Total Workers (Age 16+)	7,278	100%	100%
Drove Alone	5,638	77.5%	77.5%
Carpooled	1,162	16.0%	14.5%
Transit/Taxi	3	0.0%	2.3%
Biked or Walked	134	1.8%	1.9%
Motorcycle or Other Means	61	0.8%	1.0%
Worked at Home	280	3.8%	2.8%
Mean Travel Time to Work (mins.)	25.0		27.7

Source: 2000 US Census

The County's journey to work data corresponds closely to the statewide averages for the various modes of travel. The mean travel time to work is slightly lower than the statewide average (27.7 minutes). This competitive advantage was cited by County Staff as one reason why the County has become increasingly attractive to people and business owners who enjoy a rural lifestyle while having good access to nearby amenities in the Atlanta urban area as well as proximity to Athens and Macon.

4.0 Land Use and Development

Based on Morgan County's Comprehensive Plan the existing and future land use patterns for the County continue to show a substantial percentage of land devoted to residential and agricultural land uses. Development is projected to occur along I-20 and in the vicinity of Lake Oconee.

4.1 Existing Land Use Characteristics

To assess the impact of existing land use on the transportation system the following types of areas were identified for the County: major residential areas; key activity centers; key employment centers; and, primary travel corridors.

Major Residential Areas

- Cities of Bostwick, Buckhead, Madison and Rutledge
- Lake Oconee

Key Activity Centers

- Cities of Bostwick, Buckhead, Madison and Rutledge
- Madison Municipal Airport
- Lake Oconee

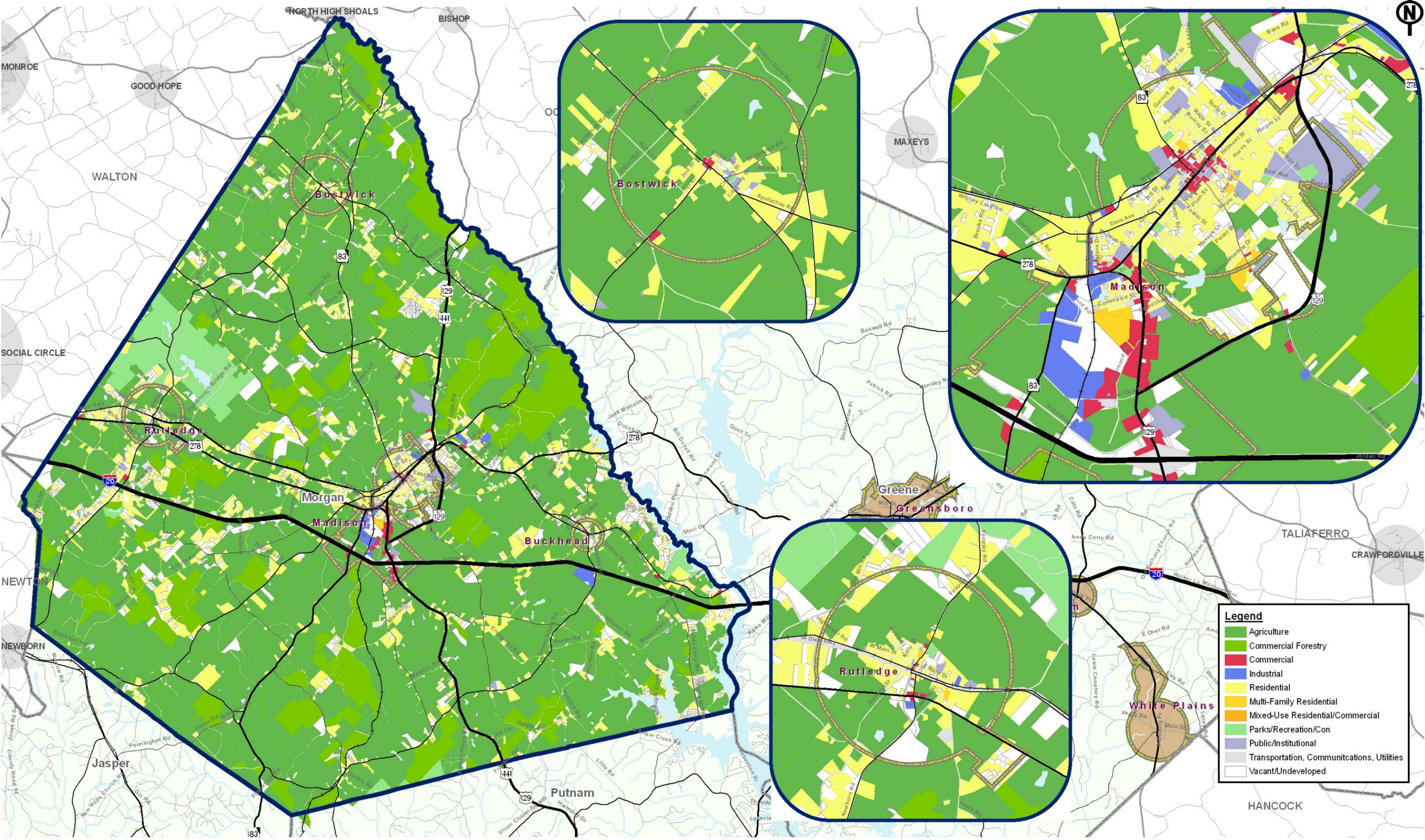
Key Employment Centers

- Cities of Bostwick, Madison and Rutledge
- Interchange areas along I-20 at SR 83, US 441 and Seven Island Road

Primary Travel Corridors

- I-20
- US 278
- US 129/US 441
- SR 83
- SR 77
- CSX and Norfolk Southern Rail lines

The existing land use map is presented in Figure 4.1.



Existing Land Use
East Georgia Multi-County Transportation Study

Figure No: 4.1

4.2 Future Land Use Characteristics

It is important to document future land use characteristics because this information is essential in the evaluation of future operating conditions on the County's transportation network. The future land use plan identifies the desired location of population and employment through the horizon year of the study. These two variables are the key inputs into the travel model to forecast future travel volumes and related deficiencies.

For the purposes of this study, it was important to work with the Future Land Use Map contained in the County's Comprehensive Plan. This map identifies where growth is likely to occur in the County through the horizon year of the study. By clearly identifying where growth is allowed to occur in the County, it is possible to more accurately represent travel demand on the roadway network and future year travel conditions.

The Future Land Use Map designates most of the County for rural land uses. The County has plans for growth but much of the County is zoned as agricultural or has no zoning designation. The following growth areas were identified:

Residential

- Cities of Bostwick, Buckhead, Madison and Rutledge
- Lake Oconee
- Stanton Springs

Intensive Agricultural

- A majority of the County is zoned for Agriculture

Commercial Uses

- Cities of Bostwick, Buckhead, Madison and Rutledge
- Interchange areas along I-20 at SR 83, US 441 and Seven Island Road

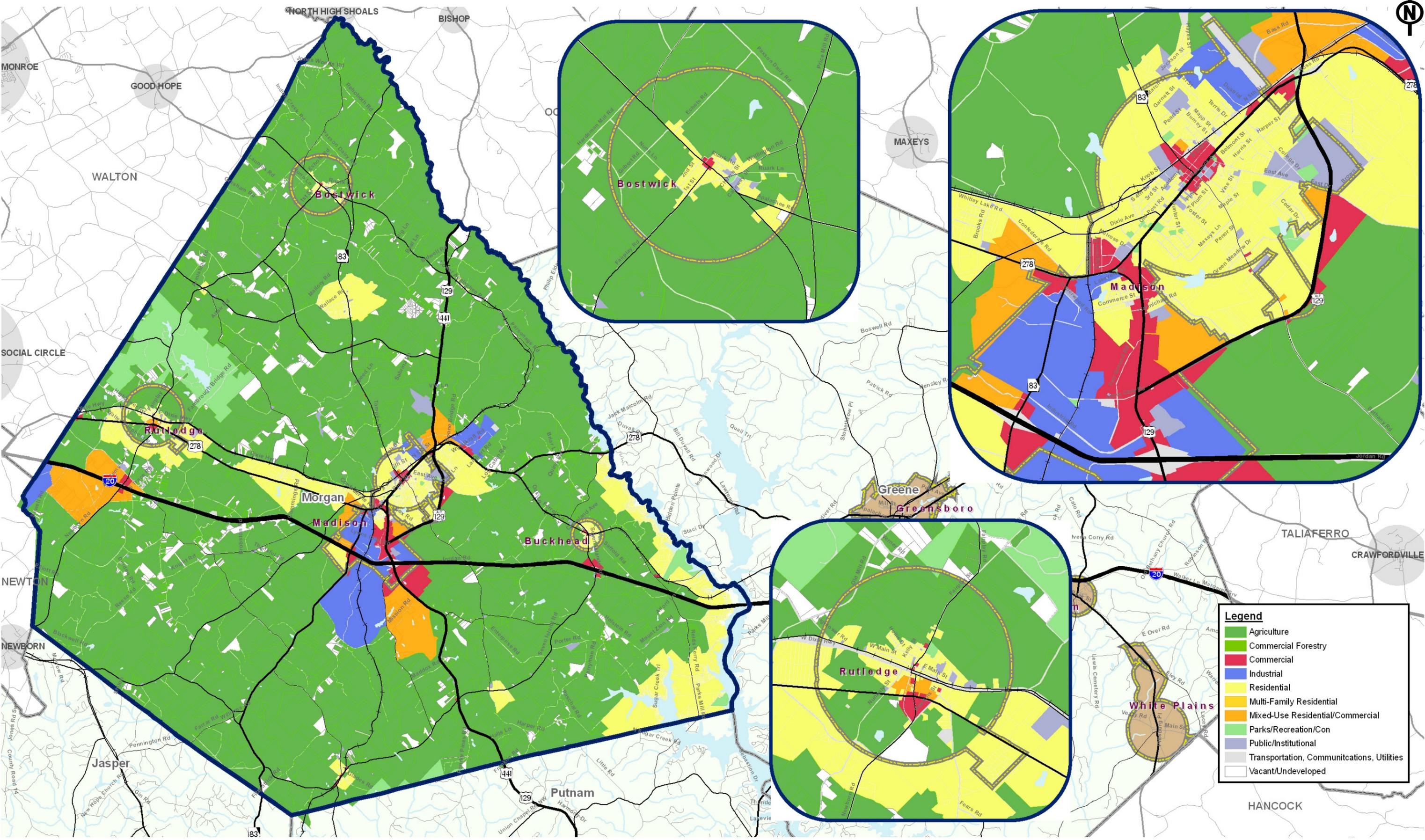
Industrial Uses

- Cities of Bostwick, Buckhead, Madison and Rutledge

Parks/Recreation/Conservation

- Lake Oconee
- Hard Labor Creek State Park

Additionally, there have been approximately 12 DRIs recently conducted within the County. This demonstrates the high level of activity currently being planned for the County. The future land use map is presented in Figure 4.2.



Future Land Use
East Georgia Multi-County Transportation Study

Figure No: 4.2

5.0 Previous Studies

An effective Transportation Plan coordinates with other planning efforts to ensure continuity between planning documents and to ensure that goals and related projects for the transportation system are consistent with the established community vision. It is important to recognize that this Plan is not the first transportation planning effort for the County. GDOT continually conducts planning efforts throughout the state – this study will build on these efforts. The following planning studies and programs were reviewed and key results summarized:

- GDOT's State Transportation Improvement Program and Six Year Construction Work Program;
- GDOT's Statewide Bicycle and Pedestrian Plan;
- GDOT's Statewide Interstate System Plan;
- Northeast Georgia Regional Bicycle and Pedestrian Plan; and,
- Morgan County's Comprehensive Plan;

5.1 GDOT's State Transportation Improvement Program & Six Year Construction Work Program

In addition to current studies, there are several planned and programmed multi-modal improvements in Morgan County. Programmed improvements, for the purpose of this study, refer to projects with a construction phase included in the State Transportation Improvement Program (STIP) within the first three years of the planning horizon – 2006, 2007, and 2008 with a dedicated funding source identified. Planned projects refer to projects with a construction phase included in the last three years of the Six Year Construction Work Program (CWP). The following list highlights the general types of planned and programmed improvements for the County:

- Bridge Rehabilitation / Replacement;
- Bicycle and Pedestrian Enhancements;
- Roadway Widening;
- New Roadways;
- Intersection Improvements; and,
- Railroad Crossing Enhancements.

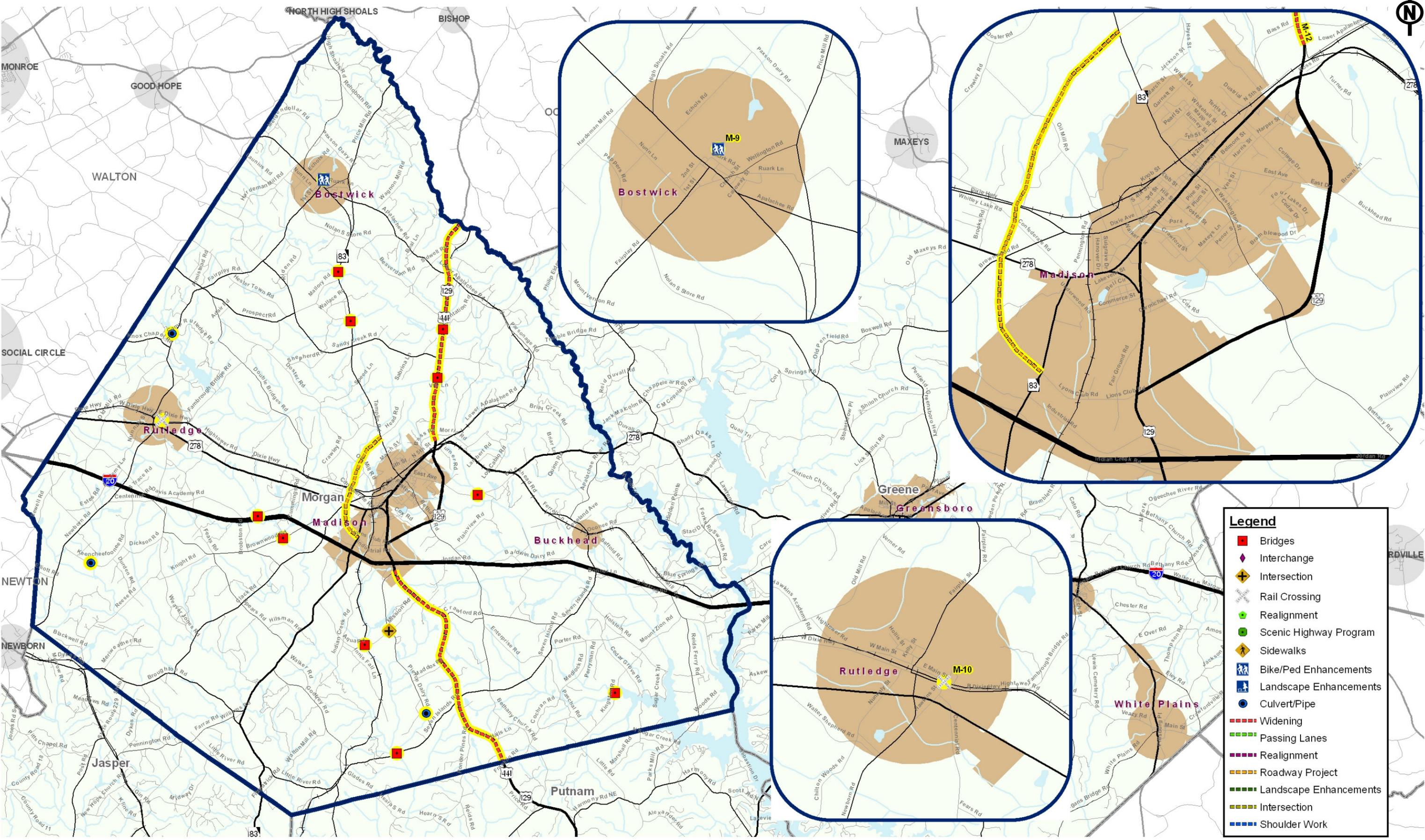
The STIP and CWP were reviewed for projects within and impacting the County and these projects are displayed in Table 5.1. Additionally, these projects are mapped in Figure 5.1. Programmed projects were carried forward and included in the existing conditions network for analysis of future (beyond 2008) transportation scenarios.

Table 5.1
2006 – 2008 STIP & 2006-2011 CWP

Map Id	Project Id	Prime Work Type	Description	Program	Construction Date
M-1	1222	Bridges	US 441 @ Hard Labor Creek & Big Sandy Creek	CWP	LR
M-2	2735	Bridges	Aqua Rd @ Little Indian Creek 5.7 mi south of Madison	STIP	2008
M-3	5312	Roadway Project	SR 83 Bypass (west of Madison)	CWP	2013
M-4	6432	Bridges	Seven Islands Rd @ Big Indian Creek & Overflow	STIP	2009
M-5	7392	Bridges	Buckhead Rd @ North Sugar Creek	CWP	LR
M-6	7393	Bridges	Kingston Rd @ Little Sugar Creek	CWP	LR
M-7	7394	Bridges	Brownwood Rd @ Big Indian Creek	CWP	LR
M-8	7395	Bridges	Davis Academy Rd @ Big Indian Creek	CWP	LR
M-9	8182	TE-Bike/Ped Facility	Bostwick Streetscape	CWP	2007
M-10	8257	RRX Warning Device	Hawkins Ave @ CSX #279621U	CWP	Lump
M-11	222570-	Widening	US 441 from Putnam County Line to north of Pierce Dairy Rd	STIP	2010
M-12	222560	Widening	US 441 from Madison Bypass to just north of Apalachee River (Oconee)	CWP	LR
M-13	245400-	Bridges	SR 83 @ Little Sandy Creek 4.6 mi south of Bostwick	STIP	2010
M-14	245401-	Bridges	SR 83 @ Big Sandy Creek 3 mi south of Bostwick	STIP	2010
M-15	S006956	Intersection Improvements	Aqua Rd & Mission Rd @ Pierce Dairy Rd	CWP	PRECST
M-16	S008175	Culvert	Keencheefoonee Rd @ Hunnicut Creek	CWP	PRECST
M-17	S008176	Culvert	Pierce Dairy Rd @ Big Indian Creek Tributary	CWP	PRECST
M-18	S008213	Pipe	Fairplay Rd @ Hard Labor Creek Tributary	CWP	PRECST

Source: GDOT Department of Planning

Some of the planned projects may have a dramatic effect on the movement of traffic in the County. For example, the Madison Bypass could help traffic through the downtown area by providing additional connectivity.



Legend

- Bridges
- ◆ Interchange
- + Intersection
- + Rail Crossing
- Realignment
- Scenic Highway Program
- ◆ Sidewalks
- ◆ Bike/Ped Enhancements
- ◆ Landscape Enhancements
- Culvert/Pipe
- Widening
- Passing Lanes
- Realignment
- Roadway Project
- Landscape Enhancements
- Intersection
- Shoulder Work

GDOT's Planned & Programmed Projects
East Georgia Multi-County Transportation Study

Figure No: 5.1

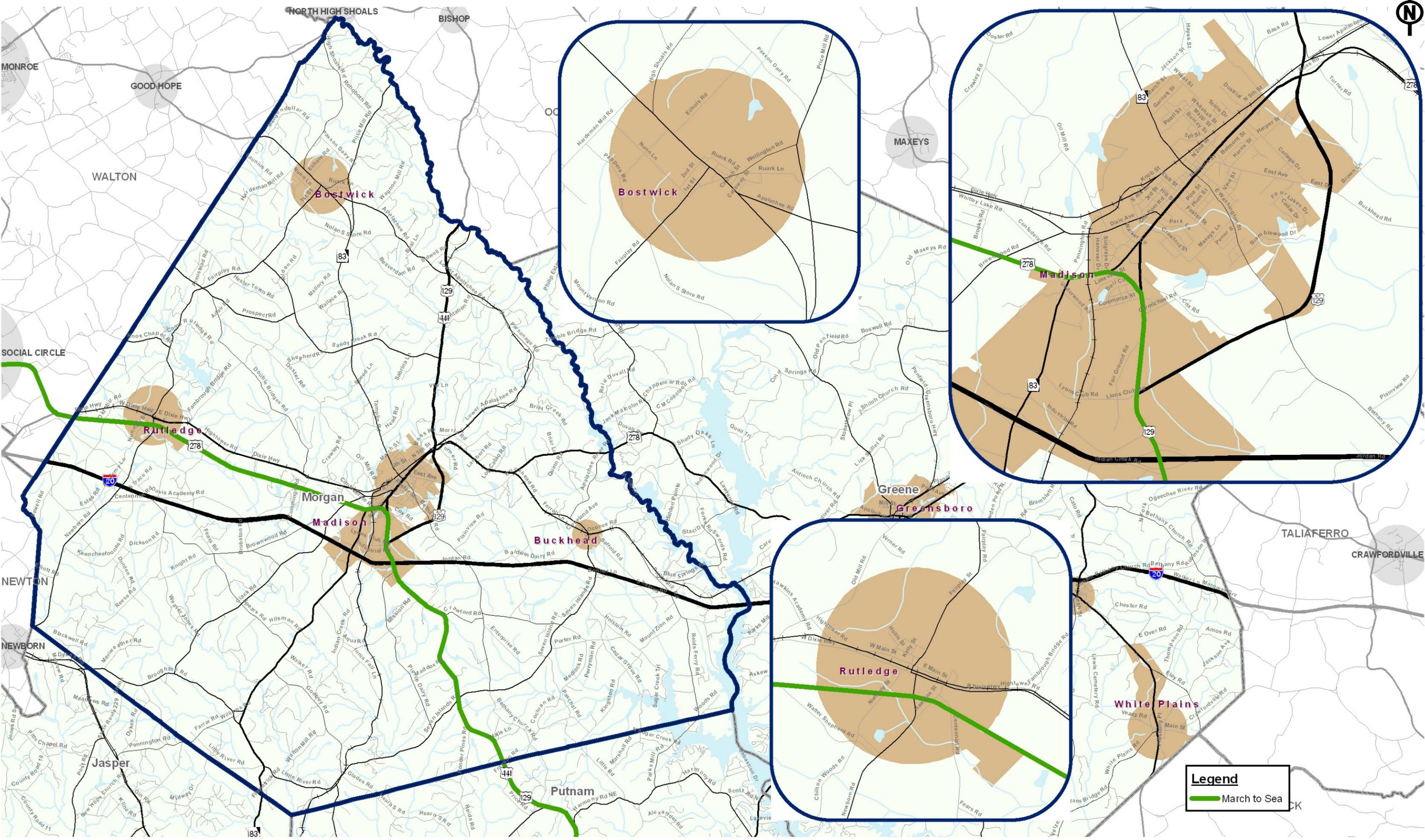
5.2 GDOT's Statewide Bicycle & Pedestrian Plan

GDOT's Bicycle and Pedestrian Plan (GABPP) was approved in August 1997 and focuses on developing a statewide primary route network. The network contains 14 routes totaling 2,943 miles. A statewide advisory committee consisting of staff from GDOT, the Federal Highway Administration, Metropolitan Planning Organizations, Regional Development Centers, the Association of County Commissioners of Georgia, the Georgia Municipal Associations, local planning departments, bicycle clubs, and other state agencies evaluated each proposed corridor and defined routes. The goals developed as part of that study include:

- Promote non-motorized transportation as a means of congestion mitigation;
- Promote non-motorized transportation as an environmentally friendly means of mobility;
- Promote connectivity of non-motorized facilities with other modes of transportation;
- Promote bicycling and walking as mobility options in urban and rural areas of the state;
- Develop a transportation network of primary bicycle routes throughout the state to provide connectivity for intrastate and interstate bicycle travel; and,
- Promote establishment of US numbered bicycle routes in Georgia as part of a national network of bicycle routes.

Several factors were used in evaluating routes, including: accident history; total traffic volumes and truck volumes; speeds; shoulder and travel lane width; pavement condition; network connectivity; access to cities and to major points of interest; aesthetics; and the presence of potentially hazardous spot conditions. Bicyclists were considered the primary users of this route network; however, pedestrian friendly designs are used in urban areas and paved shoulders are constructed on rural sections.

GDOT's Statewide Bicycle and Pedestrian Plan was reviewed to identify proposed facilities through Morgan County. Route 35, March to the Sea, is a designated route totaling 428 miles from Rossville to Savannah. 21-miles of this route are located within Morgan County. The portion of the corridor located in Morgan County enters from Walton County to the west on SR 12, traveling into Madison, and then south on US 129/US 441 into Putnam County. Figure 5.2 shows the portion of the March to Sea route located in the vicinity of Morgan County.



5.3 GDOT's Statewide Interstate System Plan

Sponsored by GDOT, the Statewide Interstate System Plan was designed to evaluate Georgia's Interstate System, identify necessary improvements, and produce a comprehensive and prioritized program of projects to meet increasing traffic demands and ensure future statewide mobility. The study, completed in the summer of 2004, is organized into three phases and focuses primarily on the interstates outside the Atlanta metro area. Review of the Interstate System Plan reveals no proposed improvements along the interstate system (I-20) in Morgan County.

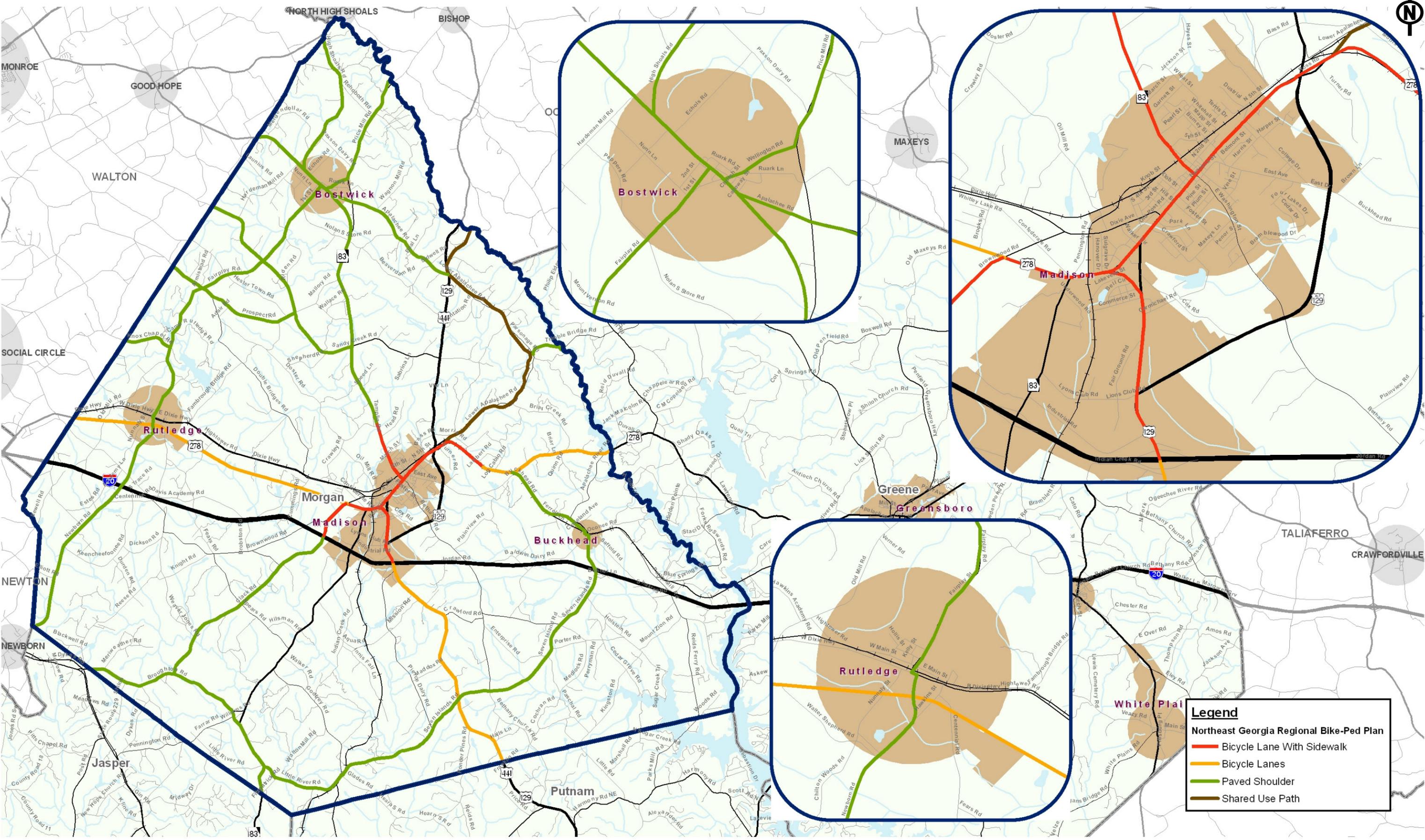
5.4 Northeast Georgia Regional Bicycle and Pedestrian Plan

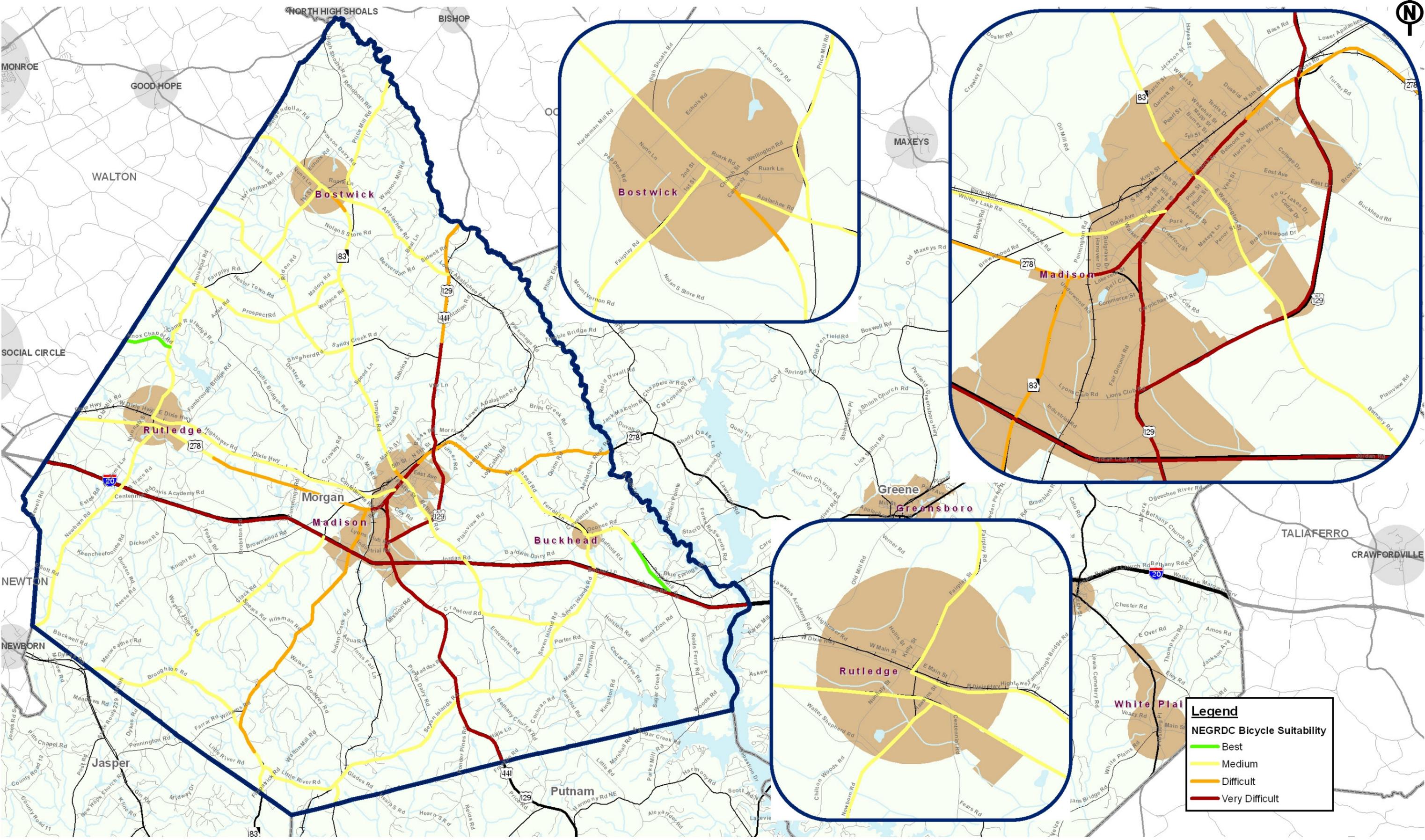
The NEGRDC, with funding support from GDOT, developed the *Northeast Georgia Regional Bicycle and Pedestrian Plan*. The plan was completed in April 2005 and focuses to establish a system of streets, roads, and highways designed to provide a safe, convenient, and accessible environment for bicycles and pedestrians. Further, the plan intends to provide opportunity for integration of bicycle and pedestrian facilities into the existing transportation framework and to enhance the natural environment, improve public health, and improve the quality of life in the Northeast Georgia region. As part of this effort the following goals were created:

- Promote and encourage bicycling and walking as a means of transportation, healthy living, and environmental preservation;
- Create a safe, convenient, and accessible network of bicycle and pedestrian facilities that meets the needs of a wide range of users;
- Integrate bicycle and pedestrian transportation issues into land use decisions; and,
- Actively seek funding resources from local, state, and federal agencies, as well as private sources, for planning, constructing, and maintaining a regional bicycle and pedestrian network.

The Bicycle and Pedestrian Plan includes several types of routes for Morgan County such as bike lanes, paved shoulders, sidewalks and shared use paths. The routes total 116.5 miles in Morgan County. Recommendations from the *Northeast Georgia Regional Bicycle and Pedestrian Plan* are presented in Figure 5.4.1.

Additionally, the *Northeast Georgia Regional Bicycle and Pedestrian Plan* identifies the suitability of major roadways in the twelve-county Northeast Georgia Region for bicycling considering traffic volume, posted speed limit, shoulder width, volume of truck traffic, and roadway functional classification. Figure 5.4.2 illustrates the findings in Morgan County ranging from "Very Difficult" to "Medium" regarding cycling conditions on the existing roadways in the County.





NEGRDC's Bicycle Suitability Map
East Georgia Multi-County Transportation Study

5.5 Morgan County Comprehensive Plan

The Morgan County Comprehensive Plan was updated and completed in 2004. The Comprehensive Plan was developed to guide the growth of the County through 2024. To the greatest extent possible, the transportation planning effort is being developed with respect to land use issues and opportunities in Morgan County. It is important to review the Comprehensive Plan because of the critical linkage between land use and transportation. Table 5.5 presents key findings in the Comprehensive Plan.

Table 5.5
Summary of Morgan County Comprehensive Plan

Key Data/Trends	Description		
Population	RDC Estimates (W&P)		US Census Estimates
	1980:	11,630	11,572
	1990:	12,946	12,883
	2000:	15,468	15,457
	2005:	15,955	N/A
	2010:	16,509	20,890
	2015:	17,081	23,550
Commute Patterns	Living and working in Morgan:	63.03%	
	Living in Morgan and working in Greene:	5.24%	
	Living in Morgan and working in Jasper:	2.29%	
	Living in Morgan and working in Putnam:	7.05%	
	Living in Morgan and working elsewhere:	22.39%	
Largest Employers in 2000	Morgan County Board of Education (480 employees)		
	Georgia Pacific Corporation (400 employees)		
	Wellington Leisure Products Inc. (350 employees)		
Land Uses		2000	2025
	Agriculture/Forestry:	78.50%	79.74%
	Residential (single family and mobile homes):	8.42%	13.46%
	Public/Institutional:	0.38%	0.61%
	Transportation/Communications/Utilities:	2.60%	2.74%
	Commercial:	0.27%	0.43%
	Industrial:	0.32%	0.51%
	Parks/Recreation/Conservation:	2.78%	4.45%
Undeveloped:	6.55%	N/A	

Key Data/Trends	Description
<p><i>Growth Areas in the County</i></p>	<p style="text-align: center;">Residential Uses</p> <ul style="list-style-type: none"> • 8% of the land use in Morgan County is residential. • Majority of development is low density and estate density single family homes. <p style="text-align: center;">Intensive Agricultural (Poultry Farms, etc.)</p> <ul style="list-style-type: none"> • Most prevalent use in Morgan County is agriculture. • Agriculture has declined 9.4%, losing over 15,000 acres. <p style="text-align: center;">Commercial Uses</p> <ul style="list-style-type: none"> • Majority of commercial and industrial establishments are located within the Madison city limits. • Increased commercial occurring along transportation corridors in the central part of the County, mainly along I-20. <p style="text-align: center;">Industrial Uses</p> <ul style="list-style-type: none"> • Industrial land is primarily located in the incorporated communities with additional development along I-20, along US 441, and Lower Apalachee Rd. <p style="text-align: center;">Parks/Recreation/Conservation</p> <ul style="list-style-type: none"> • Hard Labor Creek State Park • B.F. Grant and Redlands Wildlife Management Areas • Lake Oconee
<p><i>Planning Issues in Cities</i></p>	<ul style="list-style-type: none"> • Agriculture is the predominant land use in all incorporated areas of the County; Bostwick, Buckhead, Madison, and Rutledge.
<p><i>Land Use Issues</i></p>	<ul style="list-style-type: none"> • A strong distinction between preservation of the rural landscape and areas designated for growth should remain in place. • The potential for “suburban sprawl” exists as the regional growth of metro Atlanta extends.
<p><i>Transportation-Related Goals, Objectives, and Strategies</i></p>	<ul style="list-style-type: none"> • Paving 80 miles of dirt roads in the County. • Replacing 40-50 year-old bridges. • Installing signage, sidewalks, and signals on County routes.

6.0 Assessment of Transportation Facilities

Extensive data was collected for the transportation facilities within Morgan County. This data collection effort included inventorying existing roadways, bicycle and pedestrian facilities, transit, freight, bridges, traffic collisions, rail, and airport services. The following sections provide an overview of the existing transportation system. This information will form the basis for evaluating its performance and determining potential future improvements.

Based on the existing conditions inventory and assessment, an analysis of operating conditions was conducted for the following elements:

- Public Transportation;
- Freight Transport;
- Airport Facilities;
- Bicycle and Pedestrian Facilities;
- Bridges;
- Safety;
- Roadway Characteristics;
- Roadway Operating Conditions; and,
- Citizen and Stakeholder Input.

This analysis documents the baseline operating conditions for each element of the transportation system and forms the foundation for development of improvement recommendations.

6.1 Public Transportation

Morgan County provides public transportation through the Rural Public Transportation Program, or 5311 Program. The 5311 Program was developed to fund public transportation in non-urbanized areas, providing aid for infrastructure purchases and operation costs. Its goal is to enhance access to health care, shopping, education, employment, public services and recreation for people in these areas, and to develop and promote the use of transit by the public.

Morgan County provides transit service with four 11-passenger vans, two of which are equipped with wheel chair lifts. Vans can be reserved 24 hours in advance by anyone in the County who is over eighteen years of age. The fare for a one-way trip inside the Madison city limits is \$1.25 and outside Madison is \$1.50. Hours of operation are Monday through Friday from 8 a.m. until 4 p.m.

The County also provides transportation for seniors, mentally challenged persons, and citizens served by the Department of Family and Children Services, all funded by the Department of Human Resources (DHR) through the NEGRDC. A breakdown of all transportation services by program funding is shown in the Table 6.1.1 below.

Table 6.1.1
Morgan County Percent Transit Trips by Funding

	GDOT 5311 Rural Transportation Program	DHR/NEGRDC Seniors	DHR/NEGRDC Disabled	DHR/NEGRDC Family and Children Services
2006 (January to July)	31%	52%	16%	<1%

Source: Morgan County Planning Department

Service statistics for Morgan County's transit program for year-to-date 2006 are presented in Table 6.1.2 below.

Table 6.1.2
Morgan County Rural Transit Program Service Statistics

Service Statistics - 2006 (January to July) All Vehicles	
Average Total Miles per Month	9,790
Average Total Hours of Service per Month	661
Average Number of One-Way Passenger Trips per Month	1,726
Average Number of Trips per Vehicle per Day	21

Source: Morgan County Planning Department

A breakdown of ridership by race is shown in Table 6.1.3.

Table 6.1.3
Morgan County Rural Transit 2006 Ridership Statistics

White	Black	Hispanic	Indian	Asian	Other
32%	68%	0%	0%	0%	0%

Source: Morgan County Planning Department

The rural vans provide transportation to a variety of destinations, including medical, employment, educational, shopping, and recreational centers. The percentage of trips provided between January and July, 2006 to each destination type is shown in Table 6.1.4.

Table 6.1.4
Morgan County Rural Transit 2006 Destination Statistics

Medical	Employment	Nutrition	Social & Recreation	Education	Shopping & Personal
7%	16%	24%	25%	17%	11%

Source: Morgan County Planning Department

Planning for additional services needs to consider future population projections for seniors, the disabled, and low-income residents, all of whom are primary users of the transit system. Table 6.1.5 presents the US Census projections for elderly population for Morgan County.

Table 6.1.5
US Census Population Projections

	2000		2010		2025	
	Number of Persons	Percent of County	Number of Persons	Percent of County	Number of Persons	Percent of County
Total Population	15,457	—	17,400	—	20,313	—
Population 65 years of age or older	1,934	12.5%	2,173	12.5%	2,530	12.4%

Source: US Bureau of the Census

Morgan County's percentage of population age 65 and over (12%+) exceeds the Georgia statewide average of 9.6%. The data also indicates that the overall number of population age 65 and older will increase within the next 20 years to 2,530 persons. Planning for future services needs to consider the projected growth in number of elderly individuals.

In the year 2000, approximately 23% of Morgan County's households had income below \$20,000 per year according to the US Census. Moreover, the population of persons with a disability, age 21 and over, was 2,647, or 17.1% of the County's total population. The significant percentage of population in these two groups further supports the need for the rural transit program to provide access to jobs and educational opportunities, medical, recreational, social, and nutritional activities.

The current scope of the 5311 Program is adequate to meet the needs of Morgan County residents. The County, however, has identified a need to provide better transportation options for school-aged individuals to and from recreational facilities and other programs. These services will not be provided under the 5311 Program, and their provision is based upon the availability of County funding.

6.2 Freight Transport

The identification of freight corridors and preservation of freight mobility is a key component of the Morgan County Multi-Modal Transportation Plan. There are currently four roadways in Morgan County that are designated as truck routes and two active rail lines. The following section summarizes the existing freight activity and facilities in Morgan County.

CSX Railroad operates up to 15 trains per day along 12 miles of rail through Morgan County on a route which runs between Atlanta, Augusta, and Savannah. The line runs through Madison where CSX is able to place loaded and empty cars. The track transports about 15 million gross ton miles per mile of track per year (MGTM/M). This measure of rail traffic density provides an indication of the relative use of the rail system and demand for service along a particular track section. By comparison, some of Georgia's most heavily used mainlines transport more than 30 MGTM/M per year.

A branch line of the Norfolk Southern Railroad also runs through Morgan County. Twelve miles of track and two to four trains per week operate within the County on this Athens to Macon route. The rail traffic density for this section is 1 MGTM/M. Approximately eight miles of abandoned Norfolk Southern track are also located in the northern portion of the County.

Morgan County is one of Georgia's largest rail origination points for lumber and wood products. Over 366,000 tons of these commodities are transported out of the County to destinations outside of the state each year. In addition, the County is the termination point for lumber and wood products, with over 100,000 tons transported into the County from locations outside of Georgia. The location of rail lines in Morgan County is an economic development asset for attracting new industries to the area.

Additional products transported through the County via rail include intermodal containers, coal, and pulp and paper products. Morgan County, however, is not a point of origination or termination for these commodities, meaning that they typically move through the County after originating in other counties or that they are moving through Morgan County to reach other destinations in or out of the state.

There are 86 railroad crossings in Morgan County. Forty-four are on the CSX line and 42 on the Norfolk Southern line. Seventy-five of the 86 crossings are at-grade, eight are underpasses and three are overpasses.

The Federal Rail Administration, Office of Safety Analysis, reports 37 rail crossing accidents in Morgan County between 1975 and 2005. Nine accident reports have been filed for incidents at the Jefferson Street crossing for this time period. Three accidents have been recorded at the North Avenue crossing. Seven accidents have occurred since 2000. These are shown in greater detail in the Table 6.2.

Table 6.2
Morgan County Railroad Crossing Accident Data (1995 to 2005)

Crossing ID	Location	City	Date of Incident	Highway User Involved	Position	Injuries
279609M	CR 27	Madison	03/11/05	Auto	Moving over crossing	Crossing user injured
279607Y	Cemetery	Madison	11/27/04	Van	Moving over crossing	No injuries
279605K	Jefferson St	Madison	02/23/03	Auto	Moving over crossing	No injuries
279592L	Oconee Rd	Buckhead	08/07/03	Auto	Stopped on crossing	No injuries
279621U	Hawkins St	Rutledge	04/10/02	Truck-trailer	Moving over crossing	Rail employee injured
279605K	Jefferson St	Madison	12/28/01	Auto	Moving over crossing	No injuries
279605K	Jefferson St	Madison	09/08/00	Truck-trailer	Moving over crossing	No injuries

Source: Federal Railroad Administration – Highway-Rail Grade Crossing Accident/Incident Report, 2006

Additionally, the County reports three recent rail derailments on rail lines between Rutledge and Madison.

The SAG reported several additional issues with crossings in Morgan County and these are summarized below.

- The at-grade rail crossings cause roadway congestion in the County and limit the effectiveness of north/south travel routes. All of the crossings between Rutledge and Madison are at-grade, and Madison has only one grade separated crossing. The County would therefore like to limit the construction of new at-grade crossings.
- The rail companies need to better maintain their sites.
- There are issues with train parking in Buckhead and in Madison.
- Trucks experience difficulties with the at-grade crossing on Fairplay Street, which is the main crossing in Rutledge.
- The grade separated crossing on Old Buckhead Road has only an eight foot clearance.
- There are four sub-standard crossings along Dixie Highway.
- There is only one crossing to a new development - Heidi Trail and Apalachee Woods Trail.

There is currently one rail improvement project programmed in GDOT's Construction Work Program for Morgan County. Project #8257 will improve the CSX crossing at Hawkins Avenue (Crossing #279621U) with a railroad crossing warning device.

Surface Freight Movement

The primary surface freight movement in Morgan County is occurring on I-20, US 441, and SR 83. In order to better understand the movement of freight in Morgan County, local industries were surveyed to determine the average number of trucks entering and exiting their facilities on a daily basis as well as the predominant route the freight traffic uses coming to and departing from their facilities. This information along with truck traffic counts entering and exiting the County will be calculated to ensure that freight movement is accounted for in the transportation planning process. Figure 6.2 displays the freight and rail facilities in the County.

6.3 Airport Facilities

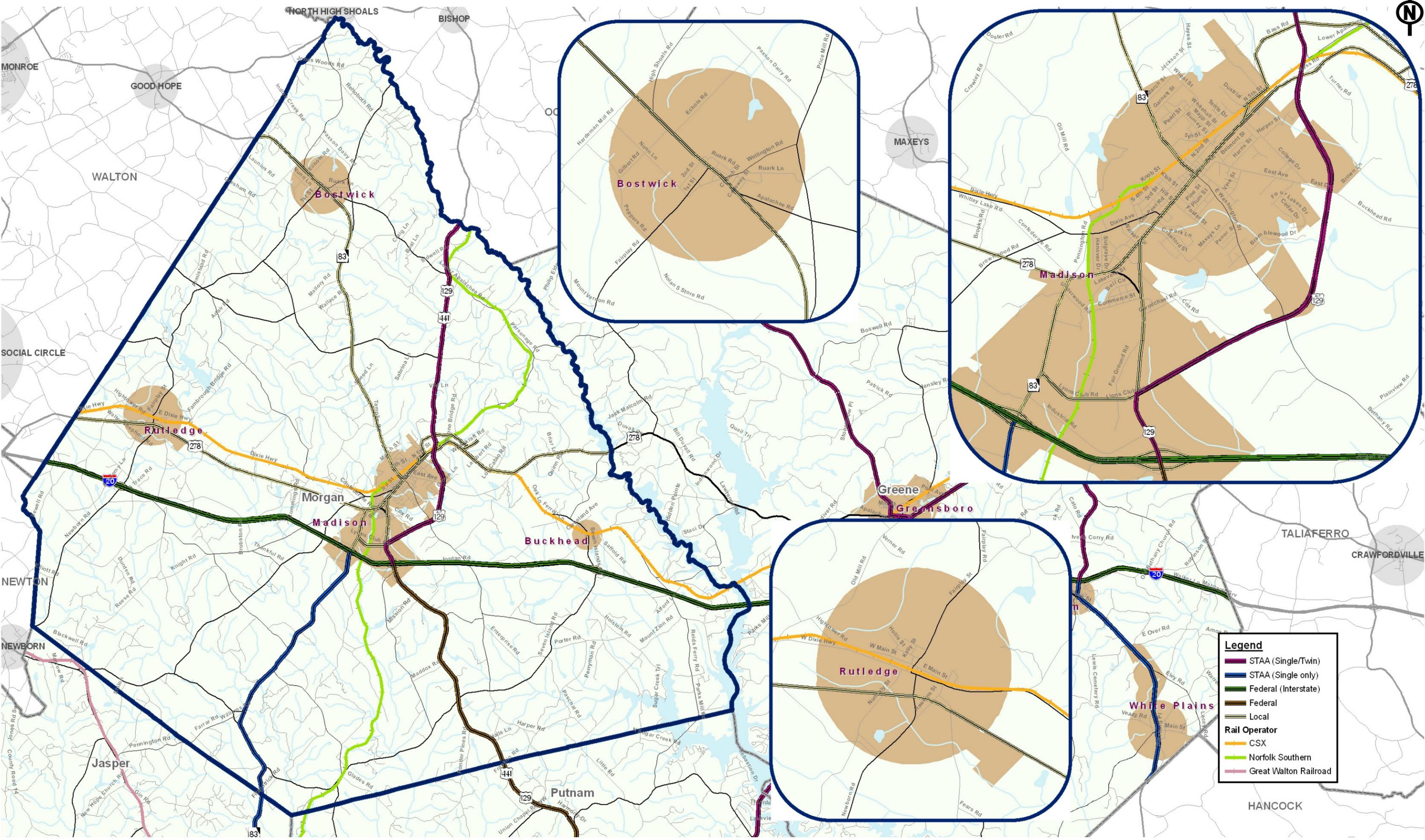
Morgan County has one airport, the Madison Municipal Airport, which is located two miles northeast of downtown Madison off of US 441. The airport is situated on 70 acres and is owned and operated by the City of Madison. The airport is classified as a Level I airport – Minimum Standard General Aviation Airport, by the state of Georgia classification system. Airports are classified based on runway length and width, lighting systems, visual aids, approach systems, general aviation facilities, and services. All of the following information about the airports in the study area is taken from GDOT's 2006-2007 Aviation Directory or GDOT's 2003 General Aviation System Plan.

The nearest commercial aviation airport is Athens Ben Epps Airport which provides service to Charlotte and other regional locations. Additionally, Hartsfield-Jackson International Airport is located south of Downtown Atlanta via I-20. It is approximately 70 miles west, or about an hour's drive, of the study area. The Augusta Regional Airport is located about an hour and half drive east of the study area along I-20.

Madison Municipal Airport has one runway, Runway 14/32, which measures 3,806 feet long by 75 feet wide. The runway is equipped with medium-intensity runway lighting, a precision approach path indicator, and a GPS non-precision approach to Runway 14. Other equipment includes a rotating beacon, lighted wind cone, and a segmented circle.

Currently the airport has approximately 3,250 aircraft takeoffs and landings per year, averaging 10 operations per day. The airport accommodates a variety of general aviation related activities including business aviation, recreational flying, agricultural spraying, ultra-lights, and experimental aircraft. Business and corporate aviation accounts for approximately 50% of this activity. The recent upgrade to widen the runway from 50 to 75 feet allows the facility to accommodate a greater range of aircraft.

Current landside facilities and services include a limited-service fixed business operation and a fuel concession that provides AvGas and Jet A fuel. The airport has a 2,000 square foot terminal/administration building which was built in 1983 and a 400 square foot pilot's lounge which houses a flight service computer. Other facilities include six multiple hangars, 10 auto parking spaces, 12 apron parking spaces, flight instruction, and pilot-controlled lighting for the runway. There are currently 15 aircraft based at the air field, and the airport is supported by two maintenance staff.



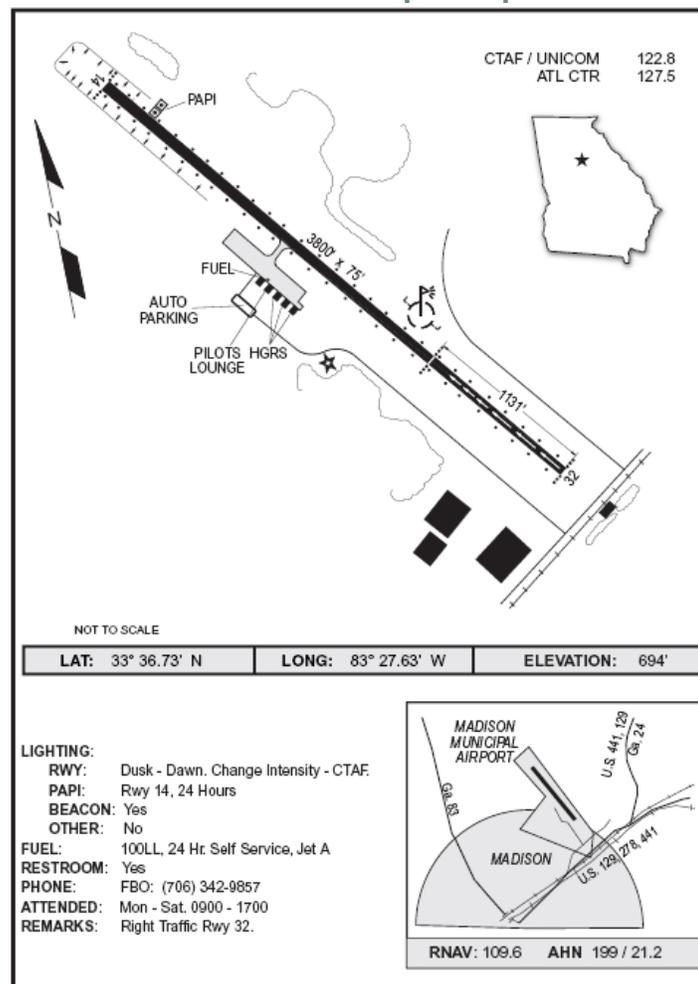
Freight Transportation Facilities
East Georgia Multi-County Transportation Study

A new Airport Layout Plan (ALP) is currently nearing completion and plan review by the Federal Aviation Administration (FAA). The ALP provides a “blueprint” for the airport for the next ten years. The Plan stipulates that the airport remain in its present location and focuses on the need to upgrade the facility to meet Level I standards, for which it is currently deficient. These improvements include extending the runway by 194 feet to reach the standard 4,000 feet, constructing taxiway turnarounds, installing additional medium-density runway lighting and precision approach path indicators, and providing adequate hangar, terminal, and parking to accommodate based and transient aircraft activity.

The airport serves an important function for the City and County’s rapidly growing tourist population as well as for corporate traffic and developers. Its closeness in proximity to industrial uses near Madison also benefits economic activity in the area.

Figure 6.3 shows a schematic layout of the Madison Municipal Airport. Table 6.3 presents the Capital Improvement Program for 2007 to 2011 which will likely soon be updated with the airport’s forthcoming ALP.

Figure 6.3
Madison Municipal Airport



Source: Georgia Department of Transportation

Table 6.3
Madison Municipal Airport Capital Improvement Program

Fiscal Year	Description	Federal Cost	State Cost	Local Cost	Total Cost
2007	Environmental Assessment for Runway Extension	\$142,500	\$3,750	\$3,750	\$150,000
	Land Acquisition – Airport Extension	\$522,500	\$13,750	\$13,750	\$550,000
	<i>Annual Total:</i>	<i>\$665,000</i>	<i>\$17,500</i>	<i>\$17,500</i>	<i>\$700,000</i>
2008	Design – Runway Extension (194'), Parallel Taxiway, Lighting	\$142,500	\$3,750	\$3,750	\$150,000
	<i>Annual Total:</i>	<i>\$142,500</i>	<i>\$3,750</i>	<i>\$3,750</i>	<i>\$150,000</i>
2009	Construction Runway Extension & Parallel Taxiway – Site Prep	\$1,757,500	\$46,250	\$46,250	\$1,850,000
	<i>Annual Total:</i>	<i>\$1,757,500</i>	<i>\$46,250</i>	<i>\$46,250</i>	<i>\$1,850,000</i>
2010	Construction Runway Extension & Parallel Taxiway – Paving	\$760,000	\$20,000	\$20,000	\$800,000
	Runway Rehabilitation	\$332,500	\$8,750	\$8,750	\$350,000
	Install PAPI's on Runway 32	\$23,750	\$625	\$625	\$25,000
	<i>Annual Total:</i>	<i>\$1,116,250</i>	<i>\$29,375</i>	<i>\$29,375</i>	<i>\$1,175,000</i>
2011	Construct Access Rd, Apron, Tie Down Area	\$783,750	\$20,625	\$20,625	\$825,000
	Construct Terminal Building	\$0	\$0	\$250,000	\$250,000
	Relocate Fuel Farm	\$0	\$0	\$250,000	\$250,000
	<i>Annual Total:</i>	<i>\$783,750</i>	<i>\$20,625</i>	<i>\$520,625</i>	<i>\$1,325,000</i>
	Grand Total:	\$4,465,000	\$117,500	\$617,500	\$5,200,000

Source: Georgia Department of Transportation

6.4 Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities are an important part of a multi-modal transportation system designed to efficiently move people. It is important to consider that everyone is a pedestrian at one point in almost every trip, even if the primary mode of travel for a trip involves a personal vehicle or transit. Sidewalks are an important element along roadways near local activity centers such as schools, commercial centers, and public recreation areas, all of which attract significant pedestrian and vehicular traffic. Crosswalks at roadway intersections in areas with pedestrian activity can be utilized to minimize conflicts

between motor vehicles and pedestrians. Fortunately, bicycle and pedestrian planning is already well underway in Morgan County with assistance from the Northeast Georgia RDC.

Morgan County has many recreational attractions that inspire the need for alternative forms of transportation to enable residents and tourists to enjoy all the County has to offer. Several examples of these attractions are historic Madison and surrounding communities, Hard Labor Creek State Park, Camp Daniel Morgan, Apalachee Lookout, Hill Park, Walton Park, Moon Hunt Camp, and Swords Boat Ramp. Additionally, there is a planned 60 acre recreation facility along Fears Road. These attractions will be considered when developing recommendations for additional facilities to foster bicycle and pedestrian connectivity.

The sidewalk network in Morgan County is very sparse. The City of Madison maintains an adequate sidewalk network throughout most of the City. Madison also has a policy requiring all new developments to provide five-foot sidewalks. Through GDOT's Transportation Enhancement (TE) Program, the City of Madison has also improved the streetscape along US 441 from I-20 to Cox Road. Rutledge and Buckhead have minimal sidewalks. Bostwick will implement new sidewalks along Fairplay Road and streetscape improvements southwest of town in 2007.

Additionally, one of Georgia's State Bicycle routes travels through Morgan County. Route 35 - March to the Sea, is a designated route totaling 428 miles from Rossville to Savannah. This route was previously mapped in Figure 4.3. The portion running through Morgan County enters from Walton County to the west on SR 12, traveling into Madison, and then south on US 129 into Putnam County. The presence of a state bicycle route in the County creates an opportunity for the development of connecting routes to better connect bicyclists to destinations within Morgan County. The Bike Ride Across Georgia (BRAG) periodically stages events in Morgan County creating a heightened awareness to cycling in the County.

According to GDOT's crash database, from 2003 to 2005, there were eleven reported bicycle and pedestrian related crashes in Morgan County. None of these crashes resulted in a fatality. Five of the pedestrian crashes occurred in downtown Madison in proximity to the SR 83 (Washington Street) and US 441 (Main Street) intersections. A review of the information in the crash database did not identify system contributing causes.

Existing Recommendations

The *Northeast Georgia Regional Bicycle and Pedestrian Plan* identifies the suitability of major roadways in the twelve-county Northeast Georgia Region for bicycling considering traffic volume, posted speed limit, shoulder width, volume of truck traffic, and roadway functional classification. Figure 5.4.2 previously illustrated the findings in Morgan County ranging from "Very Difficult" to "Best" regarding cycling conditions on the existing roadways in the County. Two routes in Morgan County were identified as "Best" for cycling: Parks Mill Road from Oconee Road south to I-20 and Knox Chapel Road from Fairplay Road west to the Walton County Line. The routes listed below were identified as "Best" or "Medium" indicating the most favorable of the routes examined in the County:

- Knox Chapel Road from Fairplay Road west to the Walton County Line;

- Parks Mill Road from Oconee Road south to I-20;
- Parks Mill Road from Oconee Road west into Madison;
- Little River Road /Seven Island Road from Monticello Road east to Parks Mill Road in Buckhead;
- Bethany Road from Bethany Church Road east to Seven Island Road;
- Bethany Church Road from Bethany Road north to US 278;
- SR 83 from US 278 north to the Walton County Line;
- Apalachee Road from Price Mill east to US 129;
- Price Mill from Apalachee north to the Oconee County Line;
- Fairplay Road from Sandy Creek Road north to SR 83;
- Sandy Creek Road from SR 83 west to the Walton County Line;
- Fairplay Road from Prospect Road south through Rutledge to the Jasper County Line;
- Dixie Highway from US 278 in Madison west to the Walton County Line;
- Broughton Road from the Japer County line east to Monticello Road; and,
- Clack Road from Broughton Road to Brownwood Road.

The Northeast Georgia Regional Bicycle and Pedestrian Plan outlines recommendations for future improvements to the transportation system to better accommodate bicyclists and pedestrians. Table 6.4 shows these recommended improvements as previously presented in Figure 5.4.1.

Table 6.4
Proposed NEGRDC Bicycle and Pedestrian Facility Improvements

Location	Description
Brownwood Rd from US 278 to Clack Rd	Bicycle Lane with Sidewalk
Clack Rd from Brownwood Rd to I-20	Bicycle Lane with Sidewalk
SR 24 Spur from US 278 to US 441	Bicycle Lane with Sidewalk
SR 83 from US 278 to Doster Rd	Bicycle Lane with Sidewalk
US 129/US 441 from US 278 to I-20	Bicycle Lane with Sidewalk
US 278 from Brownwood Rd to Lambert Rd	Bicycle Lane with Sidewalk
US 129/US 441 from I-20 to Putnam County Line	Bicycle Lanes
US 278 from Brownwood Rd to Walton County Line	Bicycle Lanes
US 278 from Lambert Rd to Greene County Line	Bicycle Lanes
Apalachee Rd from US 441 to SR 83	Paved Shoulder
Broughton Rd from Jasper County Line to SR 83	Paved Shoulder
Buckhead Rd from US 278 to Seven Island Rd	Paved Shoulder
Clack Rd from I-20 to Broughton Rd	Paved Shoulder
Fairplay Rd from US 278 to SR 83	Paved Shoulder
SR 83 from Doster Rd to Walton County Line	Paved Shoulder
SR 83 from Broughton Rd to Jasper County Line	Paved Shoulder
High Shoals Rd from SR 83 to Walton County Line	Paved Shoulder
Knox Chapel Rd from Fairplay Rd to Walton County Line	Paved Shoulder

Location	Description
Little River Rd from SR 83 to Seven Island Rd	Paved Shoulder
Newborn Rd from US 278 to Newton County Line	Paved Shoulder
Price Mill Rd from Apalachee Rd to Oconee County Line	Paved Shoulder
Prospect Rd from Sandy Creek Rd to Walton County Line	Paved Shoulder
Sandy Creek Rd from SR 83 to Walton County Line	Paved Shoulder
Seven Island Rd from Little River Rd to Buckhead Rd	Paved Shoulder
Trimble Bridge Rd from Apalachee Rd to Greene County Line	Paved Shoulder
Railroad from US 278 to Oconee County Line	Shared Use Path

Source: *Northeast Georgia Regional Bicycle and Pedestrian Plan*

Additional Considerations

In addition to the recommendations outlined in the recently prepared *Northeast Georgia Regional Bicycle and Pedestrian Plan*, several further concerns have been identified for consideration when evaluating the needs and future conditions in Morgan County. The following issues of local concern will be evaluated in the development of the multi-modal plan:

- Additional bicycle signage is needed throughout the County;
- Pedestrian and vehicular coordination in downtown Madison needs to be improved;
- Dixie Highway is heavily used by cyclists; and,
- County desire for a 'Riverwalk' in the eastern portion of the County.

Also, locations such as schools, major recreational sites, and activity centers within the County should also be considered for bicycle and pedestrian improvements. Morgan County has five schools:

- Morgan County Primary School in Madison;
- Morgan County Elementary School in Madison;
- Morgan County Middle School in Madison;
- Morgan County High School in Madison; and,
- Morgan County Crossroads School in Madison.

A site for a new elementary school has been selected just east of Rutledge along Dixie Highway. There will likely be access points to Dixie Highway and US 278. As the potential for new bicycle and pedestrian facilities are being evaluated, these locations will be considered as primary locations that would be desirable for improved bicycle and pedestrian access.

To help reduce overall costs of implementing a bicycle and pedestrian network, new facilities should be implemented concurrent with subdivision development and roadway resurfacing, widening, or utility upgrade improvements. Recommendations for development of a countywide system for bicyclists and pedestrians will focus on connectivity with the existing designated bicycle routes, system of sidewalks, neighborhood streets, and pathway connections. Select planned improvements, listed below, included in

the GDOT's Construction Work Program will be evaluated to ensure that any opportunities for the inclusion of bicycle or pedestrian facilities in the project scope are considered.

- #1222 – Bridge on US 441 at Hard Labor Creek and Big Sandy Creek
- #2735 – Bridge on Aqua Road at Little Indian Creek 5.7 miles south of Madison
- #5312 - Roadway project along SR 83 west of Madison Bypass
- #6432 – Bridge on Seven Island Road at Big Indian Creek and Overflow
- #7392 – Bridges on Buckhead Road at North Sugar Creek
- #7393 – Bridges on Kingston Road at Little Sugar Creek
- #7394 – Bridges on Brownwood Road at Big Indian Creek
- #7395 – Bridges on Davis Academy Road at Big Indian Creek
- #8182 - Bostwick Streetscape in Morgan County
- #222570 - Widening of US 441 from Putnam County Line to north of Pierce Dairy Road
- #222560 - Widening of US 441 from Madison Bypass to just north of Apalachee River (Oconee)
- #245400 – Bridges on SR 83 at Little Sandy Creek 4.6 miles south of Bostwick
- #245401 – Bridges on SR 83 at Big Sandy Creek 3 miles south of Bostwick
- #S006956 - Intersection improvement at Aqua Road / Mission Road and Pierce Dairy Road
- #S008155 - Sidewalk and drainage at intersection of SR 83 and SR 24
- #S008607 - Resurface and maintenance along two County Roads
- #S008608 - Resurface and maintenance along Church Street in Bostwick
- #S008609 - Resurface and maintenance along Three Streets in Madison
- #S008610 - Resurface and maintenance along Fairplay Road in Rutledge

Public outreach identified bicycle and pedestrian enhancements as a desired quality of life improvement in selected areas including downtown areas and around schools. Field observations were conducted to identify existing deficiencies in the pedestrian and bicycle networks. There are areas where sidewalks have been provided, but in a limited manner that inhibits their usefulness by breaking up the sidewalks with a gap of unfinished surface. Another deficiency common to all areas is the lack of pedestrian accommodation at intersections. Several locations lack pedestrian signals, crosswalk striping, or both.

There may be opportunities for new multi-use trails linking town centers, recreational areas, schools, and other locations. Transportation improvements to the pedestrian, bicycle, and trail networks should be considered in the appropriate areas and corridors to better meet the needs of pedestrians and bicyclists in Morgan County.

Bicycle System Elements

Once a location for improved bicycle connectivity is determined, the type of improvement must also be considered. Factors such as lane width, vehicle speed, sight distance, frequency of intersections, pavement surface quality, and hazard removal need to be considered in the facility selection and design process. In addition to facility selection and design, bicycle systems should be designed to ensure the security of bicycles at typical

bicyclist destinations. Primary destinations such as schools, public recreation areas, commercial businesses, and restaurants should include bicycle racks or lockers for securing bicycles.

There are four primary types of bicycle facilities: bike paths, bike routes, bike lanes, and bike shoulders. A description of each type of facility along with design considerations are listed below. Transportation Planners and Engineers should refer to AASHTO's Guide for the Development of Bicycle Facilities when selecting and designing bicycle facilities.

- **Bike Paths** - A bike path is a special pathway designated for the exclusive use of bicycles where cross flows by pedestrians and motorists are minimized. A bike path is usually buffered from vehicular roadways through the use of a landscaped strip or physical barrier. It is also usually grade separated but may have at-grade crossings. Bike paths are identified through proper signing and also may have pavement markings.

The paved width and the operating width of the bicycle path are primary design factors. Under most conditions, a paved width for a two-directional shared (bicycles and pedestrians) path is 10 feet. In rare instances, a reduced width of 8 feet may be adequate. Under certain conditions including anticipated high use or the need for maintenance vehicle use, a paved width of 12 feet is required. A minimum of 2-foot width graded area should be maintained adjacent to both sides of the paving.

- **Bike Routes** - A bike route is a roadway identified as a bicycle facility by guide signage only. There are no special lane markings and bicycle traffic shares the roadway with motor vehicles. There are several reasons for designating signed bike routes. A route may be signed if it provides continuity to other bicycle facilities such as bike lanes or bike paths. A route may be signed if it is a common route for bicyclists through a high demand corridor or if the route is preferred for bicycling due to low motor vehicle traffic or paved shoulder availability. Route signage may be preferred if the route extends along local neighborhood streets and collectors leading to an internal destination such as a park, school, or commercial district.

Bicycle routes should be plainly marked and easy for the bicyclist to interpret. The route should provide through and direct travel in bicycle-demand corridors. Traffic control devices (stop signs and signals) should be adjusted to accommodate bicyclists on the route. Street parking should be removed where possible to increase the safety of the rider. A smooth surface should be provided and maintained. Wide curbs are desirable on designated bike routes.

- **Bike Lanes** - A bike lane is a designated strip usually located along the edge of the paved area outside the travel lanes or between the parking lane and the outside motor vehicle through lane. Bike lanes should be one way facilities and carry bike traffic in the same direction as adjacent motor vehicle traffic. On one way streets, bike lanes should typically be placed on the right side of the street. Bike lanes are identified by "Bike Lane" markings on the pavement and other pavement markings

or signs deemed appropriate to give adequate guidance to users of the facility. Bicyclists usually have exclusive use of a bike lane for travel, but must be aware of cross flows by motorists at driveways and intersections and also by pedestrians.

For roadways with no curb and gutter, the minimum bicycle lane width is 4 feet. If parking is permitted, the bike lane should be placed between the travel lane and the parking area and should have a minimum width of 5 feet. If a curb and gutter is present, the minimum width from the face of the curb to the bike lane stripe should be 5 feet if the gutter pan is smooth for bicycle travel. Four feet of maneuverable surface is always necessary.

- **Bike Shoulders** - Bike shoulders are paved shoulders that are smooth and sufficiently wide enough for use by bicyclists. Paved shoulders are used by bicyclists if they are relatively smooth, sufficiently wide enough, and kept clean of debris. Adding or improving paved shoulders often can be the best way to accommodate bicyclists in rural areas. Paved shoulders also provide valuable maneuvering room and reduce potential motor vehicle conflicts for slow-moving bicycles traveling up a hill.

Ideally, a paved bicycle shoulder should be at least 4 feet wide. However, where 4 feet cannot be accommodated, any shoulder is better than none. Rumble strips used to alert motorists that they are driving on the shoulder are not recommended on bike shoulders in the travel path of the cyclist. If rumble strips are placed on the shoulder, there should be additional shoulder adequate for bicycle travel in order to designate a shoulder as a bike shoulder. A bike shoulder is multi-faceted in that it can serve more than one function (i.e. it can serve as a temporary parking lane, an emergency lane, or a bus stop as well as an area for cyclists to travel within).

Pedestrian System Elements

There are also several considerations when selecting the type of pedestrian facility to implement. Along local streets in residential areas, sidewalks with a four-foot clear width should be used. Five-foot clear width sidewalks should be used along collector streets, and six-foot clear width should be used along arterials. In commercial areas with high pedestrian and vehicular volumes, sidewalks of six or more feet should be considered. In order to maintain clear sidewalk widths, obstructions such as traffic signs, utility poles and supports should be placed outside the specified 4 to 6 foot sidewalk width. Grades on sidewalks should be limited to 6 to 8 percent in order to allow a consistent walking pace and ease of wheelchair use. Handicapped accessible ramps should be provided at driveways and intersections to provide accessibility to the system for everyone.

The following criteria are provided as a basis for determining when sidewalks should be considered:

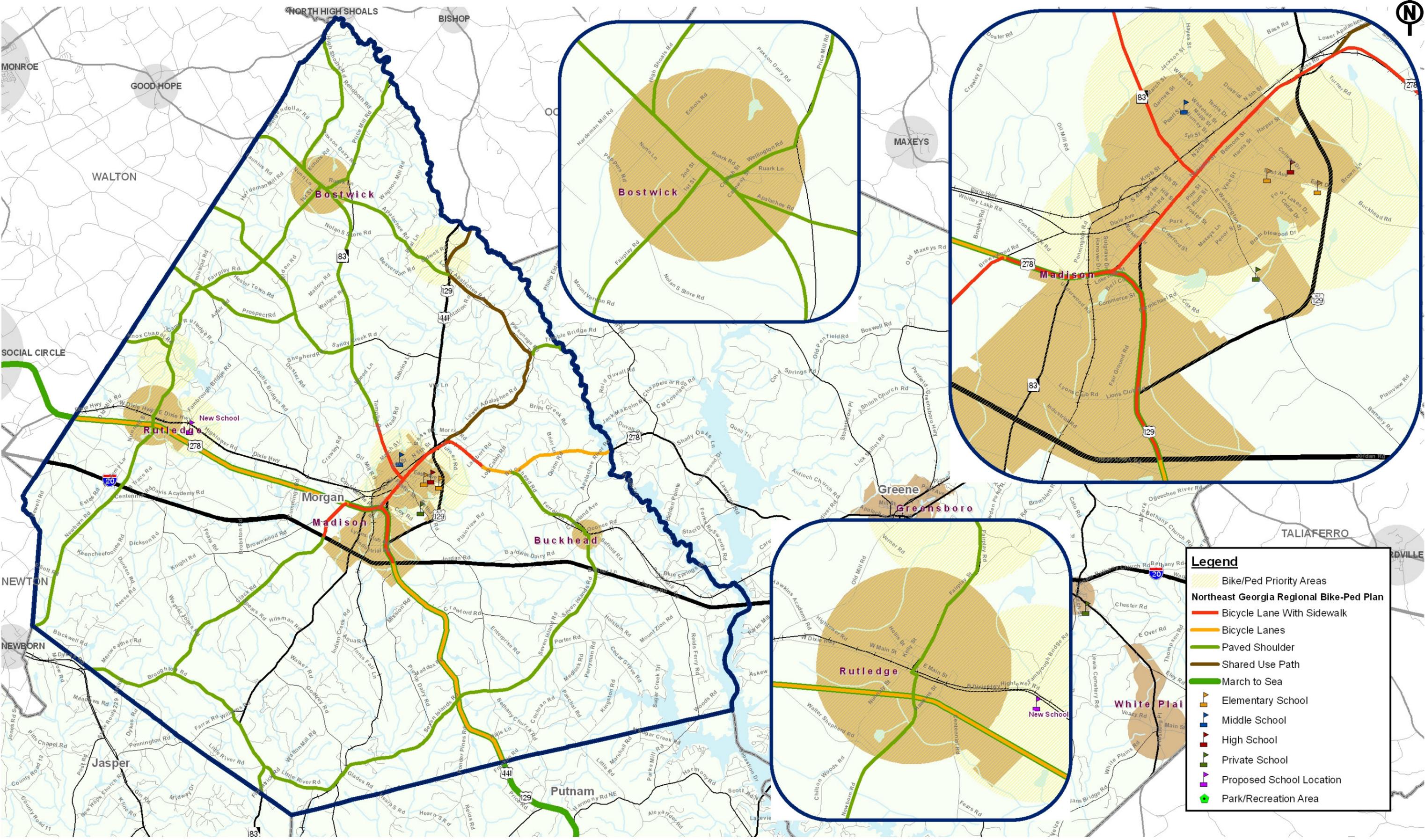
- When streets are within ½ mile of a school;
- When a street is classified as a collector or arterial;
- When health and safety are threatened due to pedestrian/vehicular traffic conflicts;

- When sidewalks would provide system continuity between existing pedestrian destinations;
- When parks, playgrounds, libraries, or other attractors of small children are not served by sidewalks;
- When there is an existing, frequently traveled, unpaved path along a roadway; and,
- When sidewalks would provide an easy and safe route for pedestrians to gain access to public transportation.

Priorities for enhancing bicycle and pedestrian facilities are based on proximity to schools, libraries, and activity centers. The goal is to provide a bicycle and pedestrian network to serve the local and regional needs of the communities. Criteria were developed to identify and prioritize potential bicycle and pedestrian enhancements beyond those established in the RDC's Bicycle and Pedestrian Plan. Key bicycle and pedestrian prioritization criteria include:

- Proximity to Schools and other public facilities;
- Infill – Connecting existing pieces of the sidewalk network;
- Connectivity – Access between major bicycle and pedestrian origins and destinations;
- Roadway Expansion – Where roads are reconstructed or constructed along new alignments, provide sidewalks as appropriate;
- As new development occurs, encourage development to provide adequate right of way for bicycle and pedestrian facilities;
- Consistency with the GDOT Statewide Bicycle and Pedestrian Plan; and,
- Consistency with the Northeast Georgia Bicycle and Pedestrian Plan.

The bicycle and pedestrian priority areas are mapped in Figure 6.4.



Legend

- Bike/Ped Priority Areas
- Northeast Georgia Regional Bike-Ped Plan**
- Bicycle Lane With Sidewalk
- Bicycle Lanes
- Paved Shoulder
- Shared Use Path
- March to Sea
- Elementary School
- Middle School
- High School
- Private School
- Proposed School Location
- Park/Recreation Area

Bicycle & Pedestrian Priority Improvement Areas
 East Georgia Multi-County Transportation Study

6.5 Bridges

One of the critical concerns for the County was bridge conditions. The County's bridges were evaluated to determine the need for potential improvement. Deficient bridges pose a major obstacle to a fully functional road network due to load limits or other restrictions. The study area was reviewed to identify all bridges and assess the need for potential improvements.

To facilitate the completion of this effort GDOT provided bridge condition reports for each bridge within the study area. A general measure of the condition of each bridge is the sufficiency rating. The sufficiency rating is used to determine the need for maintenance, rehabilitation or reconstruction of a bridge structure. Consultation with structural/bridge engineers shows that generally a bridge with a sufficiency rating above 75 should maintain an acceptable rating for at least 20 years with adequate maintenance. Structures with a sufficiency rating of 75 or lower have a useful life of less than twenty years and will require major rehabilitation or reconstruction work during the study horizon. All bridges with a sufficiency rating of fifty (50) or lower were identified as potentially deficient.

The study area was reviewed to identify all bridges within Morgan County and document a sufficiency rating. Currently, 97 bridges exist within the County. Table 6.5 displays the collected information.

Table 6.5
Bridge Inventory

Road	Feature	Sufficiency Rating
Oil Mill Rd	Norfolk Southern Railroad (733141J)	15.76
Newborn Rd	Little River	18.07
Seven Island Rd*	Big Indian Creek Overflow	25.94
Seven Island Rd*	Big Indian Creek	26.63
Kingston Rd*	Little Sugar Creek	26.98
Lower Apalachee Rd	Norfolk Southern Railroad (733130W)	31.79
Aqua Rd*	Little Indian Creek	34.81
Athens Hwy*	Hard Labor Creek	35.53
Brownwood Rd*	Big Indian Creek	36.54
Enterprise Rd	Little Sugar Creek	37.19
Athens Hwy	Apalachee River	38.86
Walton Mill Rd	Little River Tributary	38.91
Athens Hwy*	Big Sandy Creek	41.45
Davis Academy Rd*	Big Indian Creek	41.50
Bostwick Hwy*	Little Sandy Creek	44.19
Bostwick Hwy*	Big Sandy Creek	44.19
Keencheefoonee Rd	Hunnicut Creek	45.38
Buckhead Rd*	North Sugar Creek	49.16

Road	Feature	Sufficiency Rating
High Shoals Rd	Jacks Creek	52.22
Parks Mill Rd	I-20	56.07
I-20 (EB Lane)	CR 214 - North Sugar Creek	57.36
Old Mill Rd	I-20	61.15
Bethany Rd	I-20	63.57
Clack Rd	Little River	65.38
Clack Rd	Big Indian Creek	67.54
Monticello Hwy	Big Indian Creek	68.01
Fairplay Rd	Hard Labor Creek	68.28
I-20 (EB Lane)	Oconee River Overflow	69.12
I-20 (WB Lane)	Oconee River Overflow	69.12
Fairplay Rd	Still Branch	69.27
Double Bridge Rd	Hard Labor Creek	69.70
I-20 (WB Lane)	CR 214 - North Sugar Creek	70.06
I-20 (EB Lane)	Big Indian Creek	72.49
I-20 (WB Lane)	Big Indian Creek	72.49
Monticello Hwy	Little River	72.89
Sewell Church Rd	I-20	73.52
US 278	CSX Railroad (279602P)	73.55
Brownwood Rd	I-20	75.12
Little River Rd	Little River	75.34
McNair Ln	Big Indian Creek Tributary	75.55
Fears Rd	I-20	76.28
Clack Rd	I-20	76.47
Price Mill Rd	Apalachee River	76.92
Indian Creek Rd	Big Indian Creek	77.94
Sandy Creek Rd	Big Sandy Creek	78.18
I-20 (WB Lane)	Oconee River	78.62
Farrar Rd	Gap Creek	80.86
Barrows Grove Rd	Sugar Creek	81.07
Wagnon Mill Rd	Jacks Creek	84.40
Newborn Rd	Shoal Creek	84.62
I-20	Sugar Creek	84.74
I-20	Sugar Creek Tributary	84.81
Mt Zion Rd	Sugar Creek	86.24
I-20 (EB Lane)	Norfolk Southern Railroad (733146T)	87.15
Doster Rd	Hard Labor Creek	87.61
Price Mill Rd	Jacks Creek	87.61
Lower Apalachee Rd	Hard Labor Creek	87.81
Hardeman Mill Rd	Turkey Creek Tributary	87.99
Fambrough Bridge Rd	Hard Labor Creek	88.42
I-20 (EB Lane)	Oconee River	89.95

Road	Feature	Sufficiency Rating
Bostwick Hwy	Mile Branch	91.43
Monticello Hwy	Little Indian Creek	91.77
Newborn Rd	Hunnicut Creek Tributary	92.25
Newborn Rd	Hunnicut Creek	92.32
Plainview Rd	North Sugar Creek	92.46
Athens Hwy	CSX and Norfolk Southern Railroad	94.23
I-20 (WB Lane)	Norfolk Southern Railroad (733146T)	94.86
I-20	Hunnicut Creek	95.75
I-20	Hunnicut Creek	95.75
I-20 (EB Lane)	Big Indian Creek Tributary	95.83
I-20 (WB Lane)	Big Indian Creek Tributary	95.83
I-20	Little Indian Creek	95.83
Eatonton Road	Norfolk Southern Railroad (733155S)	96.59
Jefferson Davis Memorial Hwy	Apalachee River	96.90
Jefferson Davis Memorial Hwy	Apalachee River	96.90
Fairplay Rd	Big Sandy Creek	97.50
Seven Island Rd	I-20	98.01
SR 24 Bypass - US 441 Bypass	Horse Branch	98.83
Fairplay Road	Rocky Creek	99.16
SR 83	I-20	99.18
Bostwick Hwy	Hard Labor Creek	99.19
Hawkins Academy Rd	Rocky Creek	99.44
Bethany Rd	Sugar Creek	99.45
Bethany Ch Rd	Little Sugar Creek	99.50
Little River Rd	Gap Creek	99.60
Sandy Creek Rd	Little Sandy Creek	99.73
Reese Rd	Halgers Creek	99.78
Apalachee River Rd	Goose Creek	99.78
Seven Islands Rd	Little Sugar Creek	99.82
Seven Islands Rd	Sugar Creek	99.82
Fears Rd	Rawlings Branch	99.83
Newborn Rd	Rice Creek	99.87
Sandy Creek Rd	Little Creek	99.88
Sandy Creek Rd	Big Sandy Creek	99.91
Reese Rd	Little River	99.98
Weaver Jones Rd	Pole Ridge Creek	99.99
SR 24	I-20	100.00

Source: GDOT

* These bridges are currently part of the 2006–2008 STIP or 2006-2011 CWP

Based on the sufficiency rating, a majority of the bridges are in good condition and not in need of any major maintenance or upgrade activities. There are eighteen (18) bridges that

have a sufficiency rating below 50 and are potentially in need of maintenance and rehabilitation.

- Oil Mill Road at Norfolk Southern Railroad
- Newborn Road at Little River
- Seven Island Road at Big Indian Creek Overflow
- Seven Island Road at Big Indian Creek
- Kingston Road at Little Sugar Creek
- Lower Apalachee Road at Norfolk Southern Railroad
- Aqua Road at Little Indian Creek
- Athens Highway at Hard Labor Creek
- Brownwood Road at Big Indian Creek
- Enterprise Road at Little Sugar Creek
- Athens Highway at Apalachee River
- Walton Mill Road at Little River Tributary
- Athens Highway at Big Sandy Creek
- Davis Academy Road at Big Indian Creek
- Bostwick Highway at Little Sandy Creek
- Bostwick Highway at Big Sandy Creek
- Keencheefoonee Road at Hunnicut Creek
- Buckhead Road at North Sugar Creek

The Aqua Road bridge over Little Indian Creek, Seven Island Road bridge over Big Indian Creek and its overflow, and SR 83 (Bostwick Highway) over Little Sandy Creek and Big Sandy Creek are all part of the 2006-2008 STIP. Additionally, there are seven bridges listed in the 2006-2011 CWP.

Additionally, there are nineteen (19) bridges that have a sufficiency rating below 75 and should be considered candidates for maintenance and rehabilitation within the next 20 years. The following bridges have a sufficiency rating below 75.

- High Shoals Road at Jacks Creek
- Parks Mill Road at I-20
- I-20 (EB Lane) at CR 214/North Sugar Creek
- Old Mill Road at I-20
- Bethany Road at I-20
- Clack Road at Little River
- Clack Road at Big Indian Creek
- Monticello Highway at Big Indian Creek
- Fairplay Road at Hard Labor Creek
- I-20 (EB Lane) at Oconee River Overflow
- I-20 (WB Lane) at Oconee River Overflow
- Fairplay Road at Still Branch
- Double Bridge Road at Hard Labor Creek
- I-20 (WB Lane) at CR 214/North Sugar Creek

- I-20 (EB Lane) at Big Indian Creek
- I-20 (WB Lane) at Big Indian Creek
- Monticello Highway at Little River
- Sewell Church Road at I-20
- US 278 at CSX Railroad (279602P)

The candidate bridges for maintenance and rehabilitation are mapped in Figure 6.5.

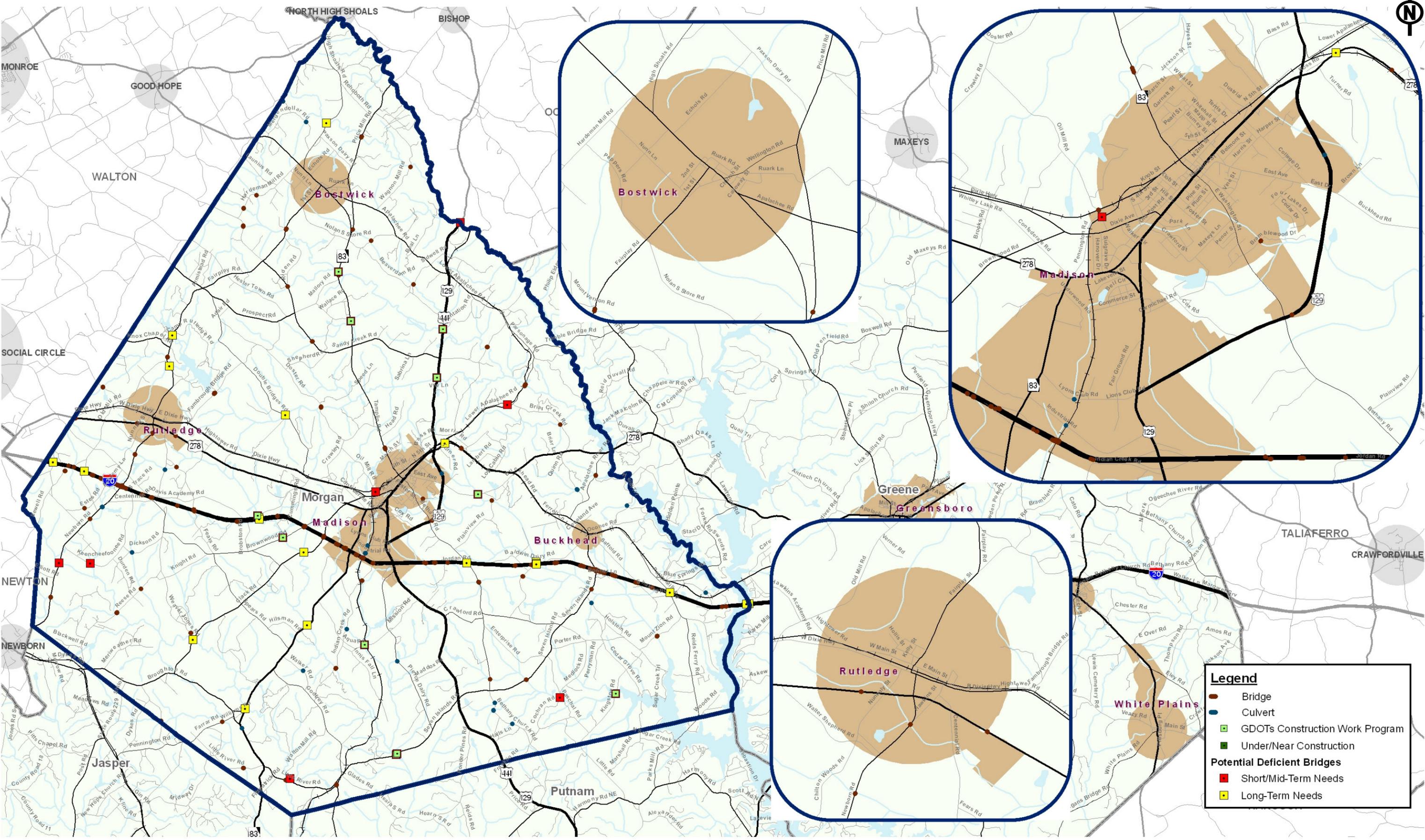
6.6 Safety

The latest three years of available vehicular crash data from GDOT (2003, 2004, and 2005) was collected and analyzed for Morgan County. The crash data was used to determine roadway locations with potential safety deficiencies throughout the study area. Morgan County experienced a total of 927 crashes with 338 injuries and 22 fatalities during the three-year period. A majority of the fatalities (45%) were concentrated on I-20. Additionally, SR 83 had four fatalities during the analyzed time period.

When analyzing the crash data, it was determined that a threshold of 10 crashes over the three-year period (averaging over three crashes per year) would serve to identify “high crash” locations for planning purposes. This provided the ability to pinpoint locations that may potentially have safety issues. Table 6.6 displays the intersections with the highest amount of crashes in the County.

Table 6.6
High Crash Segments

Roadway	Intersection	Crashes	Fatalities	Injuries
US 278 (Atlanta Hwy)	SR 83 (Pennington Rd)	31	0	8
US 441	Madison Bypass	26	1	8
US 278 (S Main St)	US 441 (Eatonton Rd)	25	0	11
US 278/US 441 (S Main St)	SR 83 (E Washington St)	16	0	2
US 441 (Eatonton Hwy)	Pierce Dairy Rd	13	0	5
US 441 (Eatonton Rd)	Walker Cir	11	0	5
Madison Bypass	Bethany Rd	10	0	4

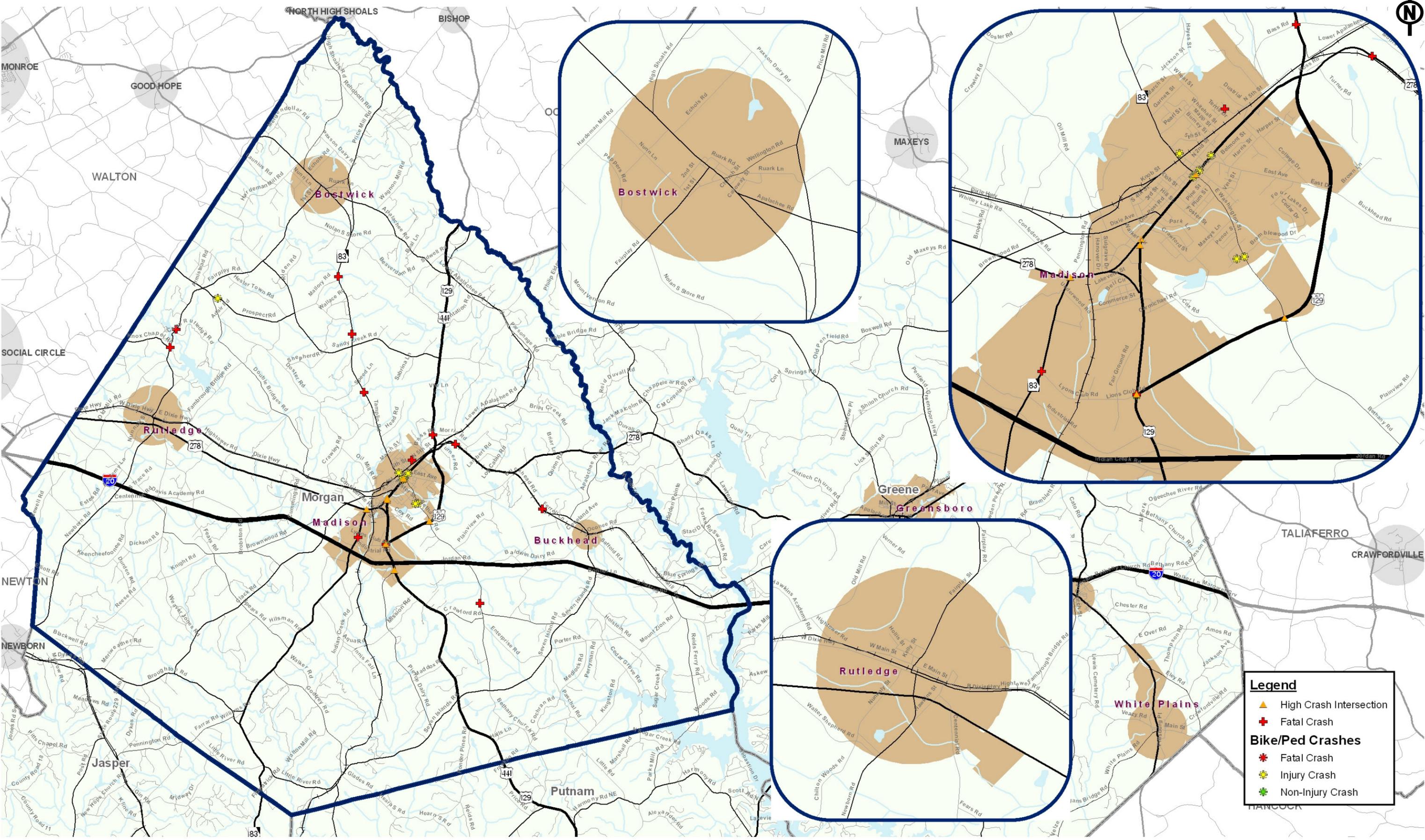


Bridges for Potential Maintenance or Rehabilitation

In addition to the high crash locations, an area of focus and concern was the location of fatal crashes. The locations listed below experienced at least one (1) fatality crash during the three-year analysis period. Interstate crashes were excluded from this analysis.

- CR 146 between Ferrell Lane and Oak Lane
- Bass Road at Athens Highway
- Fairplay Street at Camp Rutledge Road
- Bethany Road between milepost 2.9 and 3.4
- PR 212 at Fairplay Road
- SR 12 at Woodkraft Road
- SR 24 between Madison Bypass and Commerce Street
- SR 83 at Lions Club Road
- SR 83 between milepost 16 and 16.5
- SR 83 at Prospect Road
- SR 83 at Mallory Road
- CS 505-09 at Bill Ups Street

Segments with potential safety issues include a section of SR 83 between Doster Road and Mallory Road and a section of Fairplay Road between Oil Mill Road and Prospect Road. Figure 6.6 shows intersections with more than 10 crashes over the three year analysis period as well as fatality and pedestrian related crash locations.



High Crash Intersections & Fatality Locations
 East Georgia Multi-County Transportation Study

6.7 Roadway Characteristics

This section reviews various conditions of the roadways in Morgan County. The data is provided from GDOT's most recent Roadway Conditions (RC) Database. The following data was reviewed to facilitate the study process:

- Functional Classification;
- Road Lanes;
- Roadway Surface Type; and,
- Roadway Shoulders.

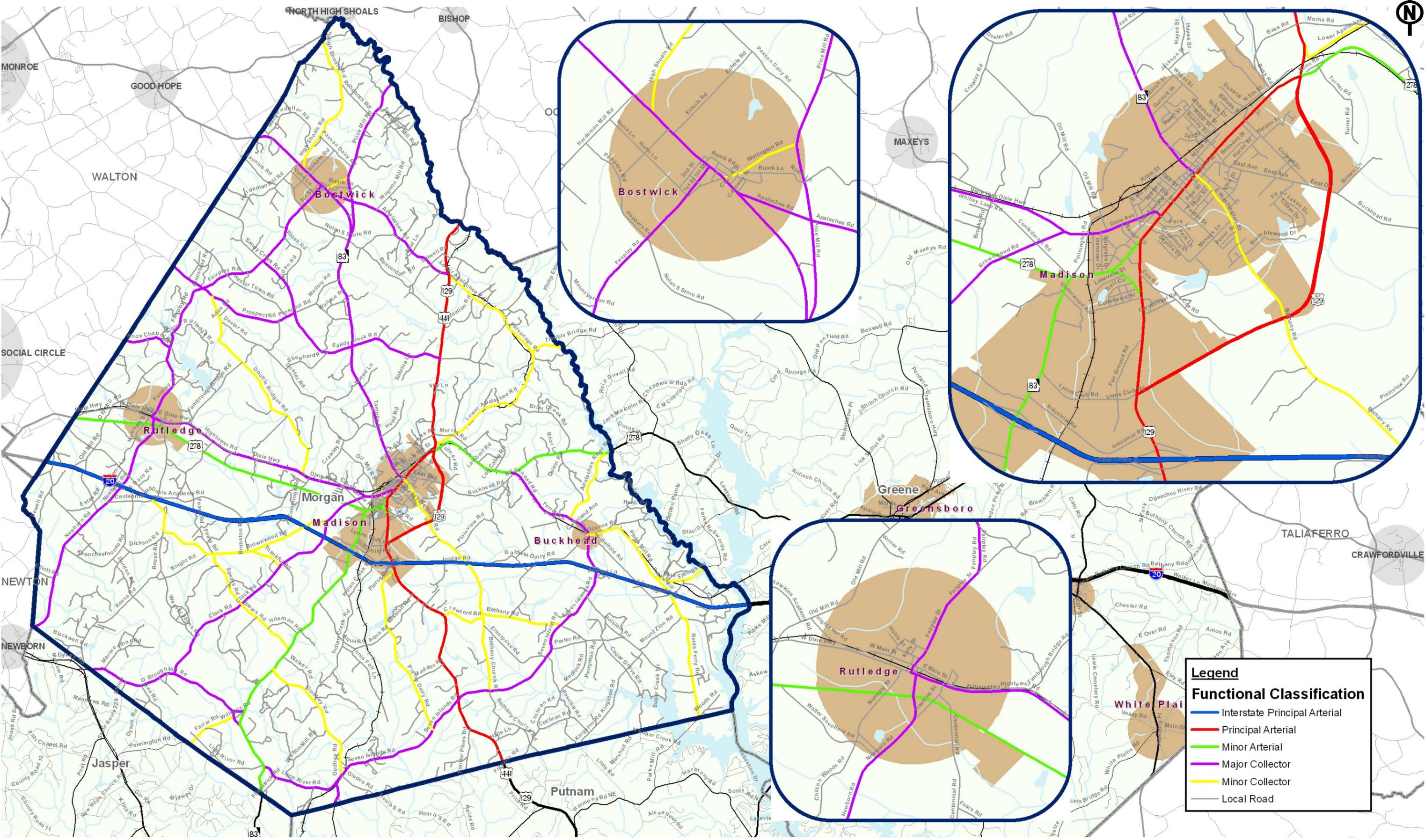
6.7.1 Functional Classification

Roadways are grouped into functional classes according to the character of traffic they are intended to serve. There are four highway functional classifications: expressway/freeway, arterial, collector, and local roads, and these can be defined as:

- **Expressway/Freeway** - Provides the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.
- **Arterial** - Provides the next highest level of service at moderate to high speeds, with some degree of access control. Arterials are typically classified as major arterial and minor arterial.
- **Collector** - Provides a lower level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials. Collectors are typically classified as major collector and minor collector.
- **Local** - Consists of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.

Morgan County has over 24 miles of expressway/freeway, all of which are I-20. There are also approximately 59 miles of arterial facilities in the study area and 514 miles of collectors and local streets. Figure 6.7.1 displays the functional class of roadways in Morgan County.

Table 6.7.1 displays the mileage and vehicle miles traveled (VMT) for the different roadway classifications in Morgan County. The County is served by multiple State Roads, (approximately 16% of the lane miles) which handle a majority of the traffic (77%). This closely matches the statewide average of 16% State Roads; however, with a statewide average of 63% total traffic on state roads, Morgan County exhibits an above average dependency on state roads. To ensure future mobility, it will be important to evaluate and identify needed improvements to the State Road system through close coordination with GDOT.



Legend

Functional Classification

- Interstate Principal Arterial
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local Road

Functional Classification
East Georgia Multi-County Transportation Study

Figure No: 6.7.1

**Table 6.7.1
Existing Mileage and Vehicle Miles Traveled**

County	State Roads		County Roads		Local Roads		Total	
	Miles	VMT	Miles	VMT	Miles	VMT	Miles	VMT
Morgan	94	1,045,066	438	287,467	43	22,701	575	1,355,235
State	18,084	190,346,464	83,549	89,443,319	14,669	23,508,912	116,303	303,298,695

Source: GDOT

6.7.2 Road Lanes

Another important attribute reviewed from GDOT's RC Database is the number of lanes provided on each road. The roads in Morgan County predominately serve traffic in both directions. Additionally, the majority of the roads in the County are 2-lane facilities. The dependency on a largely 2-lane roadway network may become strained in the future as traffic levels increase. Section 6.8 will analyze the existing and future forecasted traffic on the current roadway network and determine potential deficiencies.

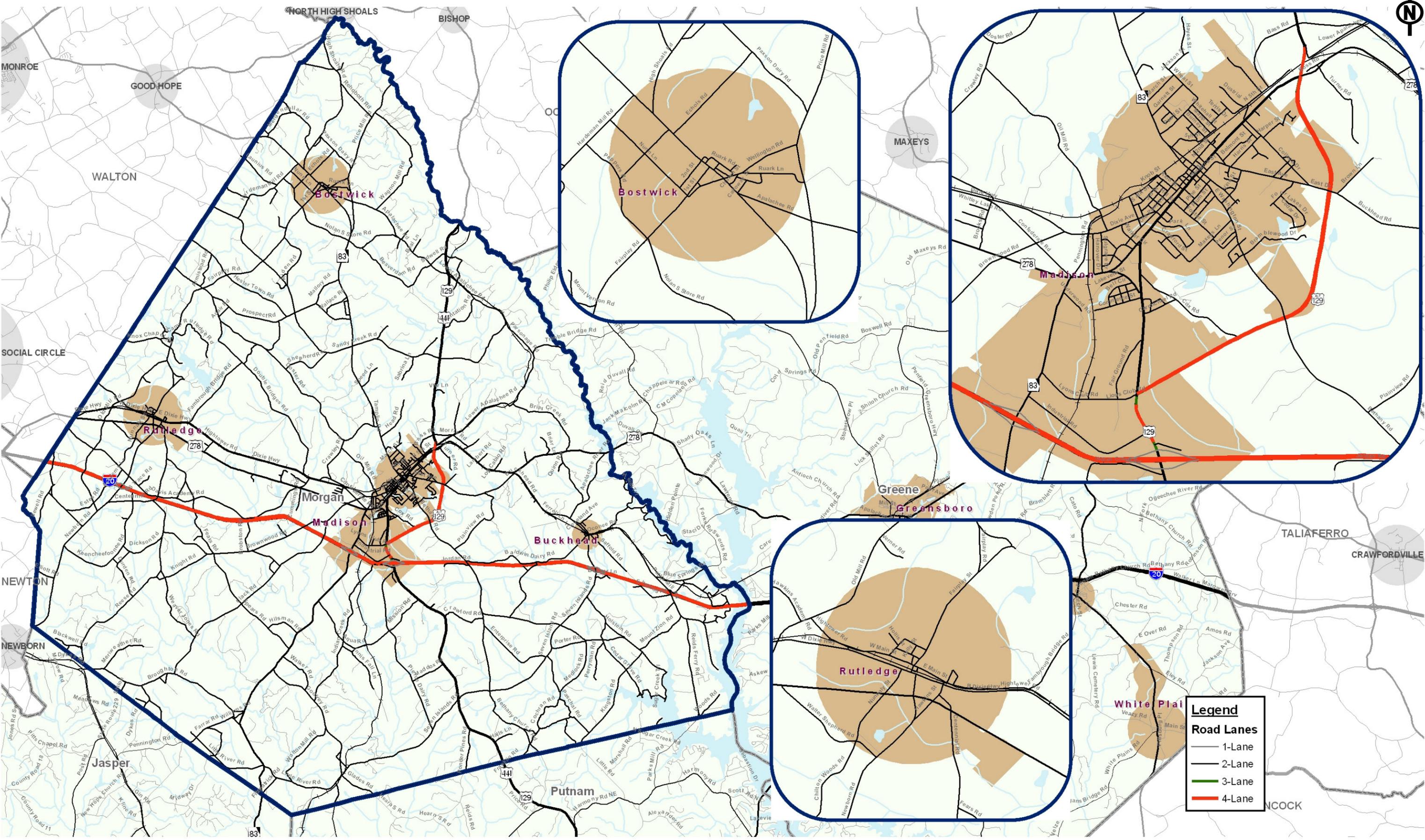
Figure 6.7.2 displays the number of lanes on the roads in Morgan County.

6.7.3 Roadway Shoulders

The final attribute reviewed from GDOT's RC Database is roadway shoulder. For this analysis, both the shoulder type and shoulder width were reviewed to determine segments of roadways in need of potential upgrade. A wide variety of shoulder widths and types are present throughout Morgan County. The objective of this analysis is to determine areas where the shoulder is potentially deficient. Insufficient shoulder width can contribute to travel speed reductions, potential impact safety and influence bicycle and pedestrian usage. The following guidelines were used to determine potential shoulder deficiencies:

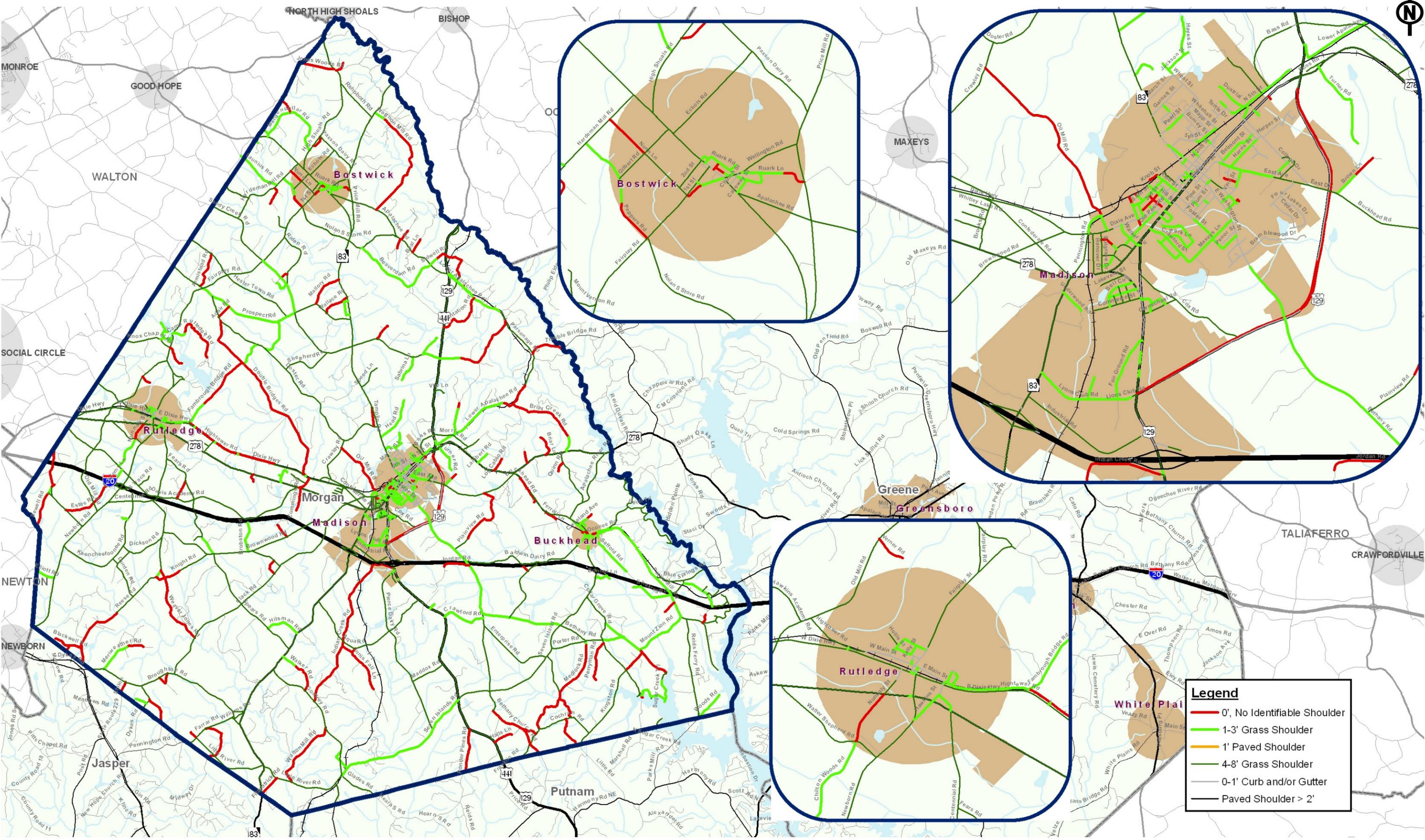
- No shoulder or an unidentifiable shoulder;
- Grass shoulder less than 4 feet; and,
- Paved Shoulder less than 2 feet.

Figure 6.7.3 displays the roadway shoulder type and widths according to GDOT's RC Database for the County. Roadway segments with potential deficient shoulders will become candidates for recommended upgrades.



Roadway Lanes
East Georgia Multi-County Transportation Study

Figure No: 6.7.2



Roadway Shoulders
East Georgia Multi-County Transportation Study

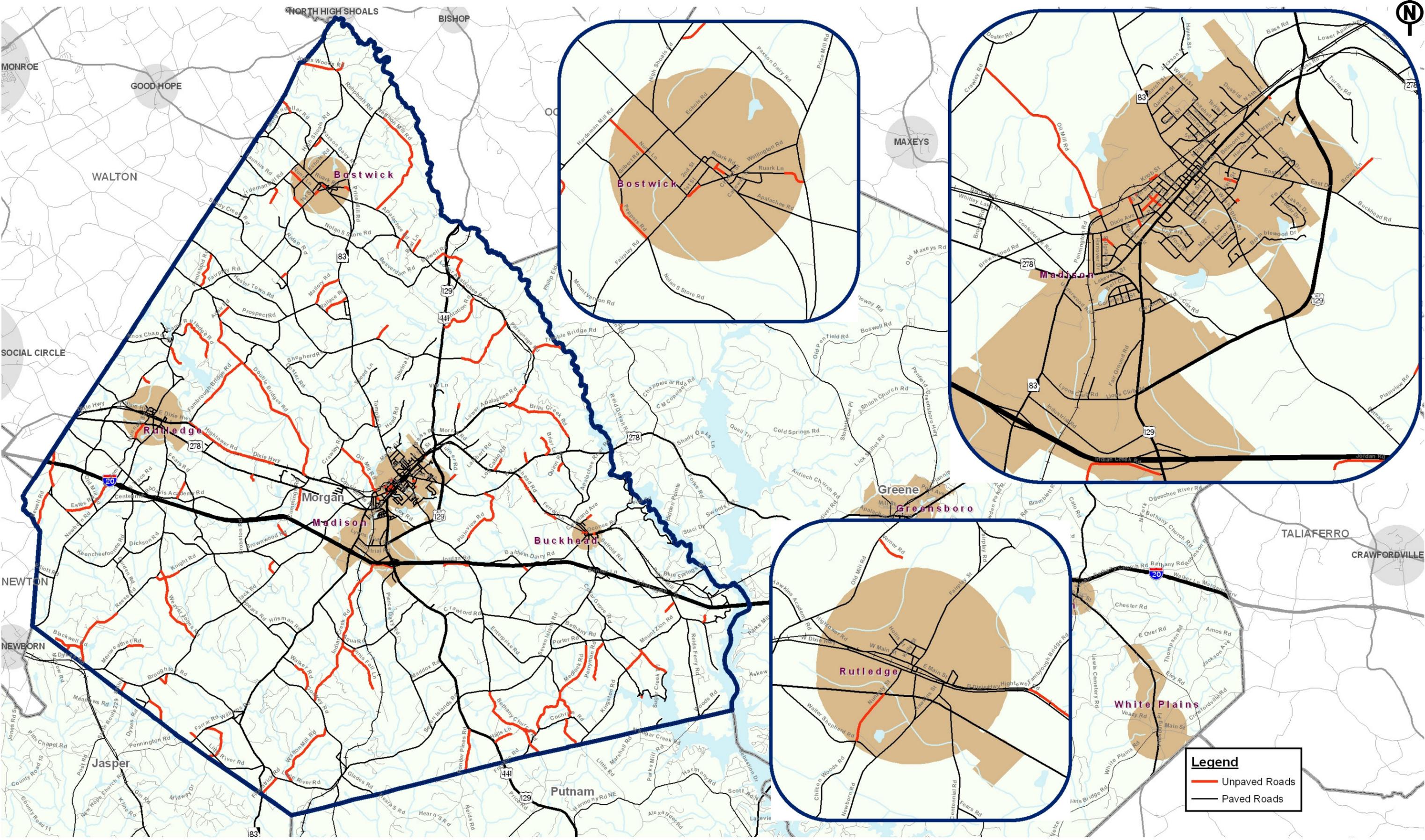
Figure No: 6.7.3

6.7.4 Roadway Surface Type

Another important attribute reviewed from GDOT's RC Database is roadway surface type. Roadway surface dramatically affects the capacity, useful life, and safety of a particular facility. The list below details the surface types used in study area.

- Paved Roads
 - High Rigid - Portland cement concrete pavements with or without bituminous surface if less than one inch.
 - High Flexible - Mixed bituminous penetration road on a rigid or flexible base with a combined (surface and base) thickness of seven inches or more. Includes any bituminous concrete, sheet asphalt, or rock asphalt.
 - Mixed Bituminous Penetration - Low type (less than seven inches combined thickness surface and base). Surface is one inch or more.
 - Mixed Bituminous Pavement - A road, the surface course of which is one inch or more in compacted thickness composed of gravel, stone, sand, or similar material, mixed with bituminous material under partial control as to grading and proportions.
 - Bituminous Surfaced Treated - An earth road, a soil-surfaced road, or a gravel or stone road to which has been added by any process a bituminous surface course with or without a seal coat, the total compacted thickness which is less than one inch. Seal coats include those known as chip seals, drag seals, plant mix seals, and rock asphalt seals.
- Unpaved Roads
 - Gravel or Stone Road - A road, the surface of which consists of gravel or stone. Surfaces may be stabilized.
 - Graded and Drained - A road of natural earth aligned and graded to permit reasonable convenient use by motor vehicles and drained by longitudinal and transverse drainage systems (natural and artificial) sufficient to prevent serious impairment of the road by normal surface water, with or without dust palliative treatment or a continuous course of special borrow material to protect the new roadbed temporarily and to facilitate immediate traffic service.

There are several roads in Morgan County that are dirt or gravel. It may be appropriate to upgrade and pave some of these facilities to provide better connectivity throughout the study area. Figure 6.7.4 displays the roadway surface type according to GDOT's RC Database for the study area.



Roadway Surface Type
East Georgia Multi-County Transportation Study

Figure No: 6.7.4

6.8 Roadway Operating Conditions

A travel demand model was developed to assist in the evaluation of existing and future travel conditions through the 4-County Region. More detailed information regarding the model and model development process is presented in the *Model Development Technical Memorandum*. The key output from the travel demand model is volume to capacity ratio for each roadway segment. The volume to capacity ratios correspond to a level of service based on accepted methodologies from the 2000 Highway Capacity Manual. Existing (2005) and future (2030) operating conditions for the study are summarized in the following sections.

Prior to documenting operating conditions it is useful to summarize level of service. Level of service (LOS) is a qualitative measure of traffic flow describing operating conditions. Six levels of service are defined by the Federal Highway Administration (FHWA) in the Highway Capacity Manual for use in evaluating roadway operating conditions. They are given letter designations from A to F, with LOS A representing the best operating conditions and F the worst. A facility may operate at a range of levels of service depending upon time of day, day of week or period of the year. A qualitative description of the different levels of service is provided below.

- **LOS A** – Drivers perceive little or no delay and easily progress along a corridor.
- **LOS B** – Drivers experience some delay but generally driving conditions are favorable.
- **LOS C** – Travel speeds are slightly lower than the posted speed with noticeable delay in intersection areas.
- **LOS D** – Travel speeds are well below the posted speed with few opportunities to pass and considerable intersection delay.
- **LOS E** – The facility is operating at capacity and there are virtually no useable gaps in the traffic.
- **LOS F** – More traffic desires to use a particular facility than it is designed to handle resulting in extreme delays.

The recommended approach to determine deficient segments in Morgan County was to analyze the volume of traffic on the roadway segments compared to the capacity of those segments, also known as the volume to capacity (V/C) ratio. For daily operating conditions, any segment identified as LOS D or worse was considered deficient.

The following thresholds were used to assign a level of service to the V/C ratios for rural facilities based on GDOT standards:

- $V/C < 0.35$ = LOS C or better;
- $0.35 > V/C < 0.55$ = LOS D;
- $0.55 > V/C < 1.00$ = LOS E; and,
- $V/C > 1.00$ = LOS F.

6.8.1 Existing Operating Conditions

The existing conditions scenario results derived from the 4-County travel demand model were used to determine deficient roadway segments in Morgan County. Deficient segments were determined by analyzing the volume of traffic on the roadway segments compared to the capacity of those segments. The corresponding V/C ratios were related to LOS. The minimum acceptable LOS for daily roadway operating conditions is LOS C based on GDOT standards.

The existing analysis shows that eight segments currently operate at or below LOS D under daily conditions. Table 6.8.1 displays the deficient roadway segments with the LOS for daily operating conditions. Figure 6.8.1 displays the existing LOS for Morgan County.

Table 6.8.1
Existing (2005) Deficient Segments

Roadway	From	To	Volume ⁽¹⁾	V/C	LOS
Seven Island Rd	Apalachee River Rd	I-20	4,212	0.45	D
SR 83	Doster Rd	US 441	5,090	0.52	D
SR 83	I-20	Broughton Rd	4,634	0.38	D
US 278	SR 83	US 441	5,988	0.39	D
US 278	US 441	US 441 Bypass	6,476	0.46	D
US 441	Oconee County Line	Lower Apalachee Rd	8,688	0.46	D
US 441	US 278	Lyons Club Rd	6,596	0.36	D
US 441	I-20	Putnam County Line	8,988	0.45	D

(1) - Two-way volumes

It can be seen that generally the majority of roadways in Morgan County operate at an acceptable LOS during daily conditions. As traffic volumes continue to increase, it is likely that some of these roadways will degrade to an unacceptable LOS. Additionally, the following roadway segments are approaching LOS D and/or have smaller links associated with them that are currently operating below LOS C:

- SR 83 from 1st Street to High Shoals Road;
- SR 83 from Nolans Store Road to Sandy Creek Road; and,
- Monticello Road from US 278 to I-20.



Legend

- GDOT Traffic Counts
- Existing LOS
- LOS A-C
- LOS D
- LOS E
- LOS F
- - - Connector
- Interstate/Ramp

Existing Daily Deficient Segments
East Georgia Multi-County Transportation Study

Figure No: 6.8.1

6.8.2 Future Operating Conditions

Future operating conditions were evaluated for the years 2015 and 2030, the study interim and horizon years respectively. In order to develop and evaluate future travel conditions an existing plus committed (E+C) network was developed based on the existing network with the addition of committed projects identified in GDOT's Construction Work Program. Table 6.8.2 displays the capacity enhancing projects that were considered committed for Morgan County.

**Table 6.8.2
Committed Capacity Projects**

Project Id	Prime Work Type	Description	CST
222570-	Widening	US 441 from Putnam County Line to north of Pierce Dairy Rd	2011
S006956	Intersection Improvements	Aqua Rd & Mission Rd @ Pierce Dairy Rd	PRECST

The evaluation of the future travel conditions provides an opportunity to determine how well the E+C roadway network will serve 2015 and 2030 population and employment in Morgan County. It is useful to point out that the long-term projections for population and employment are the least reliable. This is not due to any inaccuracies with projection techniques but simply because it requires the judgment of stakeholders to assign population and employment throughout the study area. This in turn impacts estimates of traffic demand. These long term results should be considered preliminary and when the transportation plan is updated every 3 to 5 years, the projects should be amended as necessary.

The 2015 analysis shows that eight segments can be expected to operate at or below LOS D under daily conditions. Table 6.8.2.1 displays the 2015 roadway segments operating at an unacceptable LOS.

**Table 6.8.2.1
2015 Deficient Segments**

Roadway	From	To	Volume ⁽¹⁾	V/C	LOS
Seven Island Rd	Apalachee River Rd	I-20	4,782	0.50	D
SR 83	High Shoals Rd	Nolans Store Rd	3,924	0.37	D
SR 83	Nolans Store Rd	US 278	4,326	0.42	D
SR 83	US 278	I-20	8,356	0.53	D
SR 83	I-20	Jasper County Line	5,388	0.44	D
US 441	US 278	I-20	11,806	0.48	D
US 278	Brownwood Rd	US 441 (S)	7,104	0.46	D
US 278	US 441 (S)	US 441 (N)	8,014	0.57	E

(1) - Two-way volumes

Additionally, the following roadways segments are approaching LOS D and/or have short links associated with them that are currently operating below LOS C:

- US 441 from Sandy Creek Road to US 278;
- Parks Mill Road from Seven Island Rd to Swords Road; and,
- US 441 from I-20 to Putnam County Line.

Figure 6.8.2.1 presents the 2015 daily deficient segments along the existing plus committed roadway network.

The 2030 analysis shows that 21 segments can be expected to operate at or below LOS D under daily conditions. Table 6.8.2.2 displays the 2030 roadway segments operating at an unacceptable LOS.



2015 Daily Deficient Segments
 East Georgia Multi-County Transportation Study

Figure No 6.8.2.1

**Table 6.8.2.2
2030 Deficient Segments**

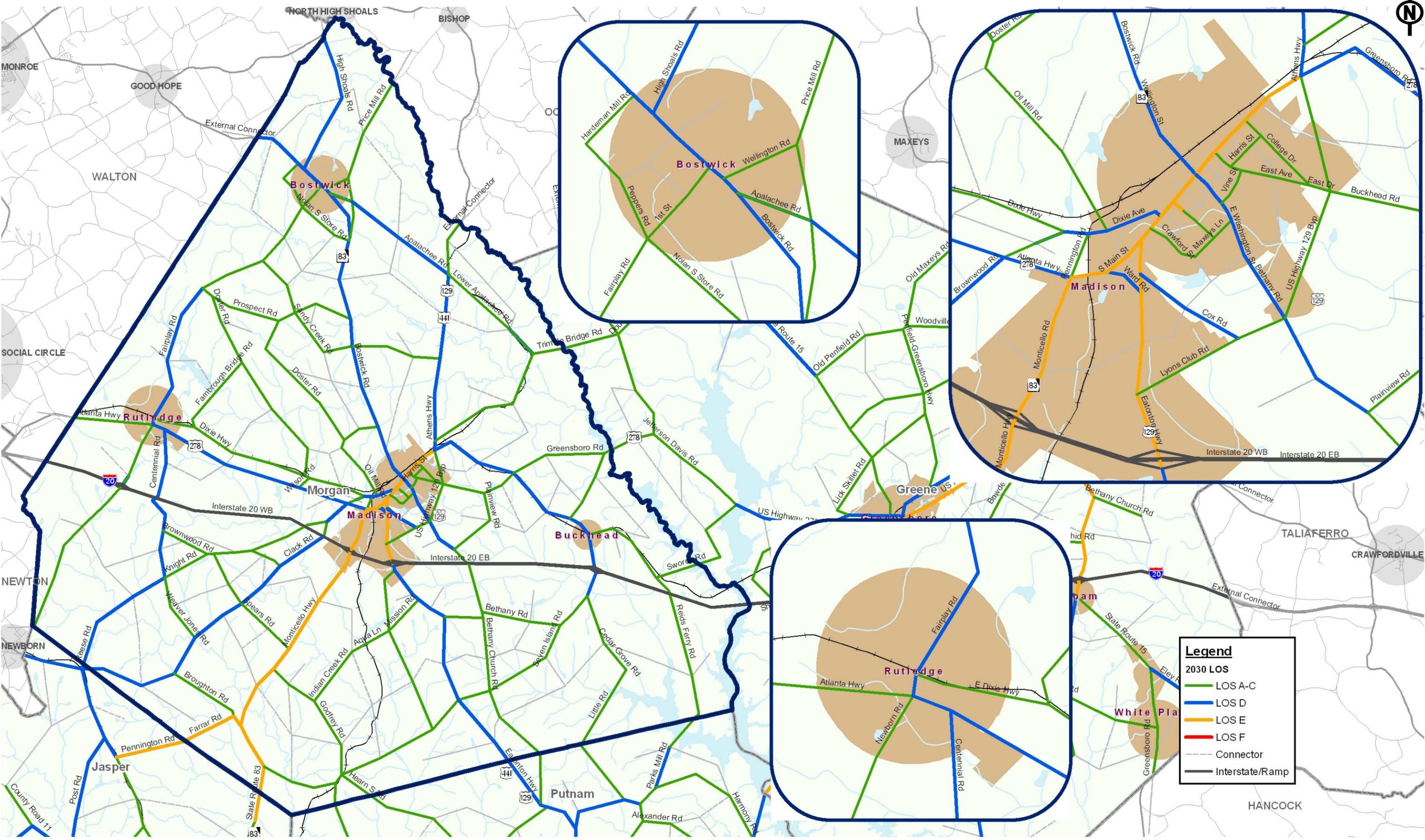
Roadway	From	To	Volume ⁽¹⁾	V/C	LOS
Apalachee Rd	SR 83	US 441	4,532	0.44	D
Buckhead Rd / Seven Island Rd	US 278	Cedar Grove Rd	4,730	0.50	D
Centennial Rd / Brownwood Rd / Weaver Jones Rd	US 278	Wallace Grove Rd	3,132	0.39	D
Clack Rd / Broughton Rd	I-20	Jasper County Line	4,038	0.41	D
Cox Rd	US 441	US 441 Bypass	3,554	0.40	D
Dixie Hwy	Brownwood Rd	US 278	5,458	0.52	D
E Washington St / Bethany Rd	US 278	Plainview Rd	3,822	0.37	D
Fairplay Rd	Prospect Rd	US 278	4,014	0.38	D
Farrar Rd	Broughton Rd	Jasper County Line	4,330	0.55	E
High Shoals Rd	Walton County Line	SR 83	3,962	0.41	D
SR 83	Walton County Line	Price Mill Rd	4,326	0.40	D
SR 83	Nolans Store Rd	US 278	4,690	0.45	D
SR 83	US 278	I-20	11,298	0.72	E
SR 83	I-20	Jasper County Line	7,542	0.63	E
US 441	Apalachee Rd	US 278	8,814	0.45	D
US 441	US 278	I-20	15,762	0.62	E
US 441	I-20	Putnam County Line	18,502	0.47	D
US 278	Fairplay Rd	US 441	7,114	0.49	D
US 278	US 441	US 441 Bypass	10,002	0.73	E
US 278	US 441 Bypass	Buckhead Rd	5,730	0.40	D
Wallace Grove Rd / Reese Rd	Weaver Jones Rd	Jasper County Line	2,886	0.37	D

(1) - Two-way volumes

Additionally, the following roadways segment is approaching LOS D and/or has short links associated with them that are currently operating below LOS C:

- Parks Mill Road from Seven Island Road to Swords Road

Figure 6.8.2.2 presents the 2030 daily deficient segments along the existing plus committed roadway network.



2030 Daily Deficient Segments
East Georgia Multi-County Transportation Study

6.9 Citizen and Stakeholder Input

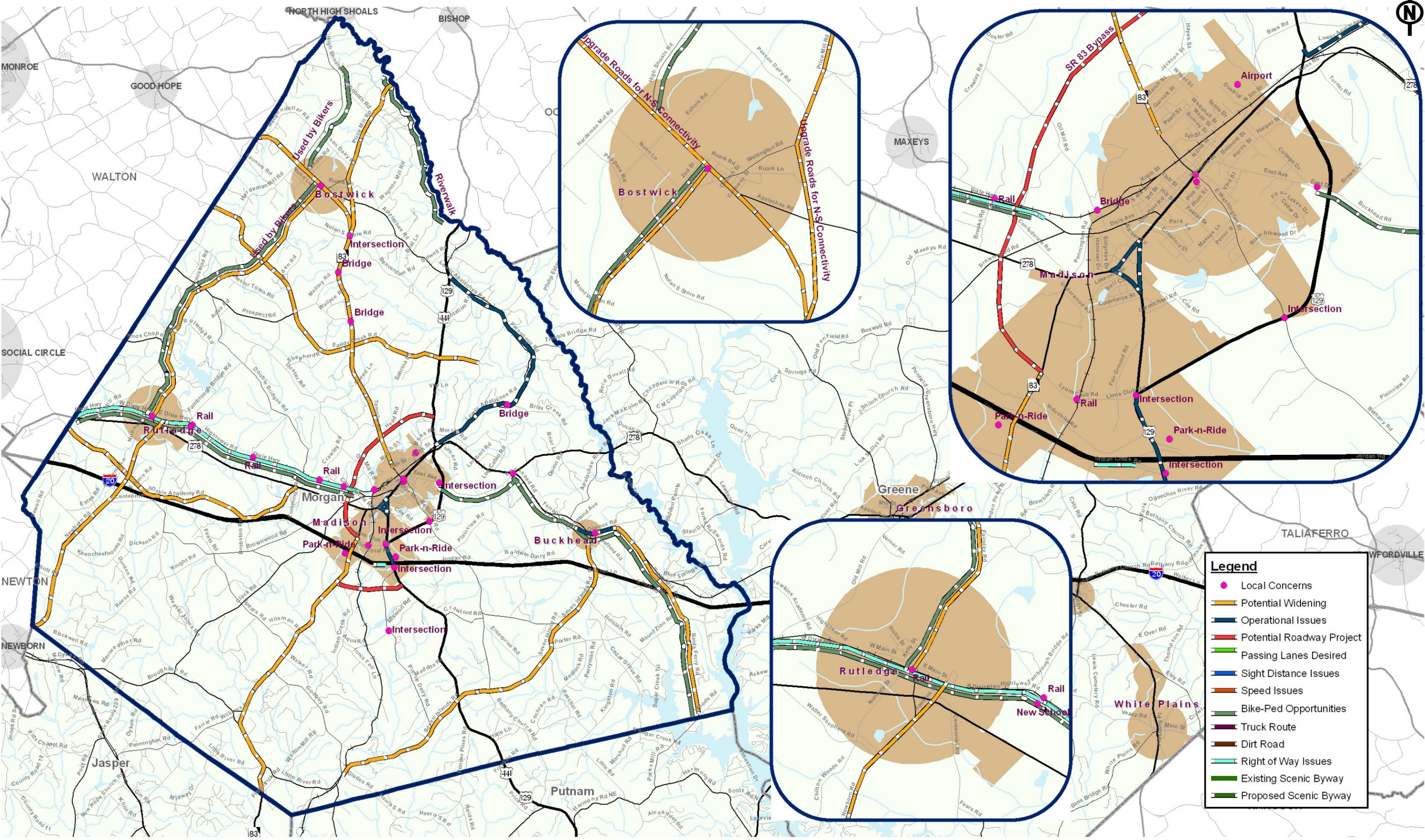
It was important to understand deficiencies as perceived by citizens and key stakeholders in addition to those identified through technical analysis. In combination, technical analysis, and, citizen and stakeholder input should clearly define transportation issues and opportunities in Morgan County. The Study Team met individually with the County, City and key stakeholders to discuss their issues and concerns. Additionally, comment cards were used to collect thoughts and ideas from local citizens during the Public Workshops and throughout the study process. Table 6.9 summarizes the general themes expressed by citizens and stakeholders relative to transportation issues, opportunities, and needs.

Table 6.9
Citizen & Stakeholder Input

Transportation & Land Use
<ul style="list-style-type: none"> • Need a bypass for SR 83 west of Madison • Need a bypass for SR 83/US 441 north of Madison • Part of Indian Creek Rd is in I-20's right of way
Roadway and Operational Improvements
<ul style="list-style-type: none"> • Lower Apalachee Rd from US 441 to US 278 • Improve Seven Island Rd and Sandy Creek Rd – major east-west facilities • Other major corridors – Davis Academy Rd, Price Mill Rd, Fairplay Rd, Newborn Rd, Parks Mill Rd, and Reids Ferry Rd
Intersection Improvements
<ul style="list-style-type: none"> • Fairplay Rd and SR 83 – sight distance problems • US 278 – US 441 – SR 24 Spur – forms a triangle, all three intersections perform poorly and have potential safety issues • Bethany Rd and US 441 Bypass – intersection experiences delays and high crashes • Traffic light at Bethany Rd and US 441 Bypass • Price Mill Rd and SR 83 – sight distance issues • Old Buckhead Rd and US 441 Bypass – additional traffic associated with schools • Little's Rd and Harmony Rd (Putnam County) • Aqua Rd/Mission Rd at Pierce Dairy Rd – realign intersections with each other • Lions Club Rd and US 441
Maintenance
<ul style="list-style-type: none"> • Most roads are only 18 to 20' wide • Trucks tear up roads, bridges and drainage systems
Bicycle and Pedestrian
<ul style="list-style-type: none"> • New school along Dixie Hwy in Rutledge • Dixie Hwy, High Shoals Rd and Buckhead Rd are used by bikers • Desire for 'Riverwalk' in eastern portion of County • Potential areas for rails-to-trails • Better traffic control in Madison to include pedestrians
Public Transportation
<ul style="list-style-type: none"> • Mainly medical and shopping trips • Commuter rail service to Atlanta • Park and Ride Lots along I-20

Freight & Rail
<ul style="list-style-type: none">• Trucks an issue in downtown areas• Trains parking on tracks in Buckhead and sometimes in Madison – blocks traffic• Fairplay St is a bad crossing for trucks, it is also the main crossing in Rutledge• Dixie Hwy has right of way issues with rail line• Old Buckhead Rd crossing only has 8' of clearance• Madison only has one grade separated crossing• Only one crossing to access new development along Heidi Trail and Apalachee Trail• No longer bridges at Old Mill Rd and Lower Apalachee Rd• Need better safety features at rail crossings• Truck issues on Bethany Rd• Warning lights needed at railroad crossing on Lions Club Rd
Aviation
<ul style="list-style-type: none">• Desire to upgrade runway to meet Level I minimum standards

Figure 6.9 displays the citizen and stakeholder comments.



Citizen & Stakeholder Input
East Georgia Multi-County Transportation Study

Figure No: 6.9

7.0 Goals and Objectives

Goals and Objectives are the building block components of the long range planning process. They guide the development of the LRTP by providing a basis for evaluating Transportation Plan improvements by reflecting the intentions that the Plan is meant to achieve. It is necessary to establish long-range goals and objectives to guide the Transportation Plan development process for Morgan County. The goals represent the general themes and overall directions that Morgan County, GDOT, and the local planning authorities envision for the County. The objectives provide additional specificity and focus for each associated goal. Combined, they provide the policy framework for development and implementation of the Transportation Plan.

7.1 Background

Goals and Objectives should be consistent with relevant federal, state, and local plans and legislation. With the passage of SAFETEA-LU, eight factors must now be considered when a Metropolitan Planning Organization (MPO) develops a LRTP. **It is understood that Morgan County is not within an MPO service area; however, the guidelines for MPO's were followed to provide a strong framework for transportation decisions.** Specifically, the LRTP must be designed to:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and,
- Emphasize the preservation of the existing transportation system.

7.2 Methodology

The goals and objectives were developed based on a review of relevant planning documents including the Morgan County Comprehensive Plan and the GDOT Statewide Transportation Plan. Additionally, through input obtained at various public workshops, development of the goals and objectives was also tailored to reflect the vision of County residents and business owners.

Table 7.2, excerpted from the "SAFETEA-LU Users Guide," shows how LRTP policies and Transportation Improvement Program (TIP) evaluation criteria are related. There can be

different ways of evaluating projects for the same SAFETEA-LU planning factors, depending on whether systems or individual projects are being evaluated.

Table 7.2
Applying the SAFETEA-LU Planning Factors

Factor	Long Range Considerations	Project Selection Criteria	Sample Projects
1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency	<ul style="list-style-type: none"> • Intermodal facilities • Rail and port access • Public/private partnerships • Land use policies • Economic development • Energy consumption 	<ul style="list-style-type: none"> • Community integration • Long-term, meaningful employment opportunities • Accessibility • Modal connectivity • Infrastructure impacts 	<ul style="list-style-type: none"> • Demand management • System preservation • Planned community development • Transit-oriented design
2. Increase the safety of the transportation system for motorized and non-motorized users	<ul style="list-style-type: none"> • Community access • Social equity • System upgrades 	<ul style="list-style-type: none"> • Number of crashes • Number of rail grade crashes • Bicycle and pedestrian crashes 	<ul style="list-style-type: none"> • Sidewalks • Rail crossing upgrades • Traffic calming • Dedicated right-of-way for different modes
3. Increase the security of the transportation system for motorized and non-motorized users	<ul style="list-style-type: none"> • Accessibility • Reliability 	<ul style="list-style-type: none"> • Crashes • Potential for security hazard • Access to critical infrastructure • Access to power sources • Access to reservoirs • Access to population centers 	<ul style="list-style-type: none"> • System access and security • Bridge security
4. Increase the accessibility and mobility of people and for freight	<ul style="list-style-type: none"> • Multi-modal considerations • Transit accessibility and level of service 	<ul style="list-style-type: none"> • Prevention of bottlenecks • Segmentation prevented • Intermodal connectivity • Community-based economic development 	<ul style="list-style-type: none"> • System maintenance • Intermodal facilities • Planned Communities • Mixed use zoning • Transit-oriented development • Land use controls

Factor	Long Range Considerations	Project Selection Criteria	Sample Projects
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns	<ul style="list-style-type: none"> • Air and water quality • Energy consumption • Livability of communities --social cohesion, physical connection, urban design, and potential for growth 	<ul style="list-style-type: none"> • Environmental impact • Emissions reductions • Waterway preservation • Preservation and conservation of resources 	<ul style="list-style-type: none"> • Demand management • Scenic and historic preservation • Planned community development • Transit services • Transit-oriented development
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	<ul style="list-style-type: none"> • Intermodal transfer facilities • Rail access roads • Container policies • Freight policies/needs 	<ul style="list-style-type: none"> • Intermodal connectivity • Accessibility for people and freight • Congestion relief 	<ul style="list-style-type: none"> • Intermodal facilities • Modal coordination with social services
7. Promote efficient system management and operation	<ul style="list-style-type: none"> • Life cycle costs • Development of intermodal congestion strategies • Deferral of capacity increases 	<ul style="list-style-type: none"> • Use of existing system • Congestion impacts • Community and natural impacts • Maintenance of existing facilities 	<ul style="list-style-type: none"> • Traffic, incident and congestion management programs
8. Emphasize the preservation of the existing transportation system	<ul style="list-style-type: none"> • Maintenance priorities • Demand reduction strategies • Reasonable growth assumptions • Alternative modes 	<ul style="list-style-type: none"> • Maintenance vs. new capacity • Reallocates use among modes • Reflects planning strategies 	<ul style="list-style-type: none"> • Management System development • Maintenance of roads, bridges, highways, rail • Traffic calming • Take-a-lane HOV • Enhancement of alternative modes

Source: SAFETEA-LU Users Guide

7.3 Consistency with Other Planning Documents

In addition to SAFETEA-LU, goals and objectives should also be consistent with other state and local plans, such as local comprehensive plans and regional policy plans. In this way, the goals and objectives of the LRTP support the planning efforts of local governments and agencies. In particular, emphasis was placed on the Comprehensive Plan for Morgan County. Key transportation related goals, objectives and strategies from Morgan County's most recently adopted Comprehensive Plan include:

- Provide transportation network that anticipates future needs while maintaining existing transportation capabilities.

7.4 Goals and Objectives

Using existing plans, meetings with County and GDOT staff and input received from the general public, the following Goals and Objectives were established to guide the transportation decision-making process for Morgan County.

GOAL 1.0 Implement and Promote Context Sensitive Design

Objective 1.1 Improve the quality of transportation decision-making by incorporating context sensitive solution principles in all aspects of planning and the project development process.

Objective 1.2 The County shall encourage each member unit of government (with responsibility) to properly utilize context sensitive design principles when evaluating improvements to transportation facilities including streets, sidewalks, trails, and other modes.

GOAL 2.0 Strategic Investments to Provide Connectivity and Accessibility throughout the Country

Objective 2.1 In coordination with the County and municipalities, develop a cooperative program to maintain existing transportation facilities in the County - capitalizing on the recommendations of the Transportation Plan.

Objective 2.2 All transportation engineering studies and designs shall consider life cycle costs of capital investments.

Objective 2.3 Existing and future roadway deficiencies, based on level of service standards, shall be mitigated through a continuous roadway or transportation system improvement program.

Objective 2.4 As development is permitted, review the impact to the transportation system to ensure mobility is protected as parcel level development occurs.

Objective 2.5 Update the Long Range Transportation Plan a minimum of every five years to evaluate and provide for future needed transportation system links within the County.

GOAL 3.0 Maintain Connection between Land Use and Transportation Decisions

Objective 3.1 The Long Range Transportation Plan shall be reviewed annually in conjunction with the annual project priority listing to evaluate the impact of any changes in the future land use element of the local

government Comprehensive Plans, approved during the previous year, on the overall transportation system.

Objective 3.2 Identify intermodal roadway linkages between major travel destinations such as airports and population concentrations that are operating, or will operate, below acceptable minimum levels of service and develop transportation and land use strategies to overcome these conditions.

Objective 3.3 Coordinate transportation and land use decision making to encourage viability of alternative modes.

GOAL 4.0 Preserve and Enhance the Character of the Existing Communities in the County

Objective 4.1 Consider the overall social, land use compatibility, economic, energy, and environmental effects when making transportation decisions.

Objective 4.2 Encourage local governments to develop a Transportation Corridor Management Plan (Right-of-Way or Thoroughfare Plan Map) that coordinates with local government Comprehensive Land Use Plan and the Long Range Transportation Plan.

Objective 4.3 Maximize the use of existing transportation facilities through the use of Transportation System Management (TSM), Transportation Demand Management (TDM), and Access Management strategies.

Objective 4.4 Identify corridors that contain outstanding intrinsic resources: cultural, historical, archeological, recreational, scenic and social. Maximize the impacts and benefits of these resources through the identification, promotion and enhancement possibilities allowed through a scenic byway designation.

Objective 4.5 Strive to nominate critical corridors for scenic byway designation.

GOAL 5.0 Enhance the Quality of Life in Downtown Areas through Transportation Investment

Objective 5.1 Landscape transportation rights-of-way with native and/or "low-impact" vegetation on shoulders and medians, in order to conserve water, reduce pesticide use, conserve energy, and reduce costs by minimizing maintenance requirements.

- Objective 5.2 Reduce transportation related accidents, injuries, and deaths through regular analysis of high crash locations and identification of safety related funding streams.*
- Objective 5.3 Ensure that funding is established for bicycle and pedestrian improvements identified in the Long Range Transportation Plan.*
- Objective 5.4 Develop and review annually the Transit Development Plan (TDP) and Transportation Disadvantaged Service Plan (TDSP) to provide for public transit and Paratransit.*
- Objective 5.5 Consider transportation investments and land use management strategies that remove or discourage heavy trucks from cutting through downtown areas.*

Table 7.4 shows how the 2030 Goals and Objectives address the Federal guidelines as presented in SAFETEA-LU.

Table 7.4
L RTP Goals and Objectives
Compared to SAFETEA-LU Planning Factors

Objective	SAFETEA-LU Planning Factors							
	Economic	Safety	Security	Accessibility	Environment	Intermodalism	Efficiency	Preservation
1.1	✓			✓		✓		✓
1.2		✓	✓			✓		✓
2.1	✓	✓	✓				✓	✓
2.2	✓						✓	
2.3		✓	✓	✓			✓	✓
2.4	✓			✓			✓	✓
2.5	✓		✓	✓			✓	
3.1				✓		✓	✓	
3.2	✓			✓		✓	✓	
3.3	✓			✓		✓	✓	
4.1	✓	✓	✓		✓		✓	
4.2	✓		✓				✓	✓
4.3	✓			✓				✓
4.4	✓				✓			✓
4.5	✓				✓			✓

Objective	SAFETEA-LU Planning Factors							
	Economic	Safety	Security	Accessibility	Environment	Intermodalism	Efficiency	Preservation
5.1					✓		✓	
5.2	✓	✓	✓					
5.3	✓	✓		✓		✓		
5.4	✓						✓	✓
5.5	✓	✓	✓				✓	✓

Note: The eight Planning Factors are listed in their entirety on page 66.

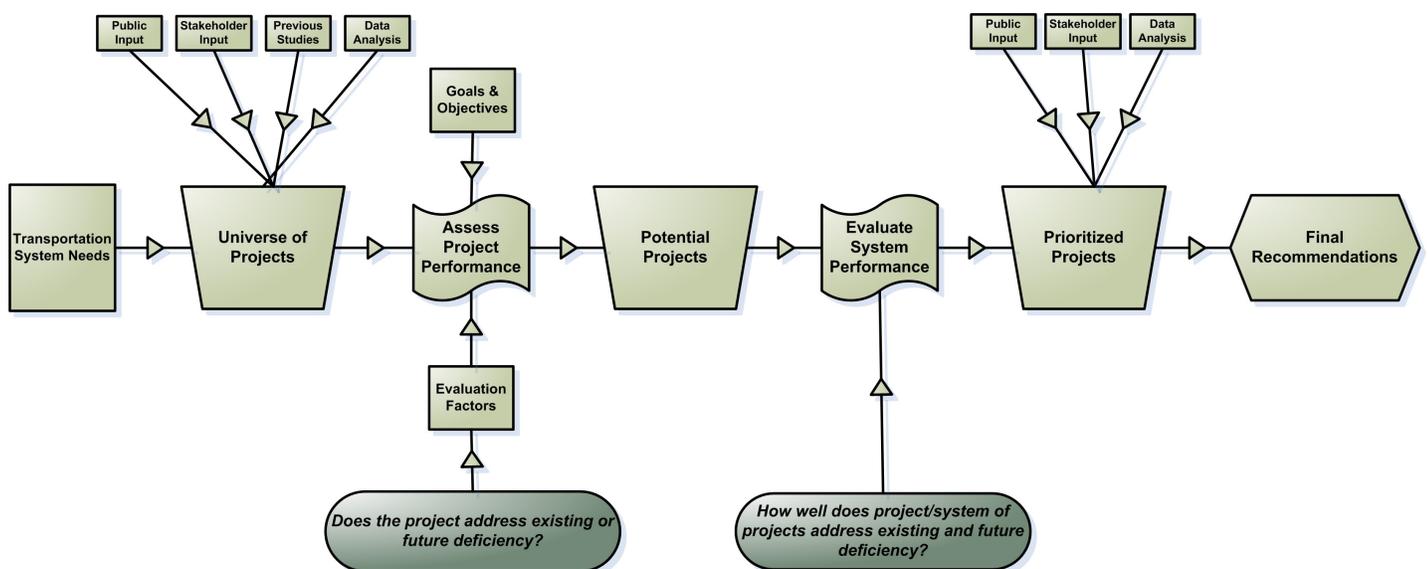
The Goals and Objectives were determined to be consistent with the needs and vision for the County, based on input from GDOT, Morgan County, and the public. The study's Goals and Objectives adhere to the SAFETEA-LU planning factors and can be used as the foundation for ranking or choosing among individual projects.

8.0 Improvement Development Process

After the existing and future conditions were evaluated, strategies were developed to address identified deficiencies. Improvements were developed for each element of the transportation system:

- Deficient Roadways;
- Bicycle and Pedestrian;
- Public Transportation;
- Freight;
- Aviation; and,
- Citizen and Stakeholder Input.

The following sections document the potential improvements in detail, ultimately producing preferred improvements for Morgan County's transportation system which are documented in Section 10. The figure below illustrates the improvement development process.



8.1 Deficient Roadways

With the aid of the travel demand model, which was developed as part of this study, future travels volumes were forecasted and operating conditions analyzed. This analysis revealed that the existing plus committed (E+C) roadway network generally serves Morgan County well through the year 2015. From the 2030 operational analysis it was revealed that several roadways begin to perform below the acceptable level of service.

Based on the operational analysis results presented in Section 6.8, the following roadway segments are recommended for upgrade:

- US 441 from US 441 Bypass to north of Apalachee River (Oconee County);
- SR 83 from US 278 to I-20;
- SR 83 from I-20 to Jasper County;
- US 278 from US 441 to US 441 Bypass; and,
- Dixie Highway from Walton County to Pennington Road.

Additionally, review of the existing roadway typical sections, conducted in Section 6.7, revealed several of the facilities in the County do not meet the ideal typical section of 12-foot lanes with 2-foot paved shoulders. Key corridors were selected based on traffic volumes and input from the SAG. These corridors include:

- Lower Apalachee Road from US 441 to US 278;
- Seven Island Road from Glades Road to US 278;
- Sandy Creek Road from Fairplay Road to US 441;
- Davis Academy Road from Walton County to US 278;
- Price Mill Road from SR 83 to Oconee County;
- Fairplay Road from Dixie Highway to SR 83;
- Newborn Road from Dixie Highway to Newton County;
- Parks Mill Road from US 278 to end;
- Apalachee Road from Price Mill Road to US 441;
- Buckhead Road/Seven Island Road from Greensboro Road to I-20;
- Bethany Road from Bramblewood Drive to Seven Island Road;
- Bethany Church Road from Bethany Road to Seven Island Road;
- Pierce Dairy Road from US 441 to Seven Island Road;
- Godfrey Road from SR 83 to Seven Island Road;
- Spears Road from Brownwood Road to SR 83;
- Brownwood Road from Spears Road to Old Dixie Highway;
- Reese Road/Knight Road from Brownwood Road to Jasper County;
- Briar Creek Road from Lower Apalachee Road to US 278;
- Old Mill Road from Fairplay Road to Newborn Road;
- Cochran Road from US 441 (Putnam County) to Kingston Road; and,
- Double Bridges Road from Prospect Road to Dixie Highway.

8.2 Bicycle and Pedestrian Improvements

The evaluation of existing bicycle and pedestrian systems in the County revealed the presence of a well developed sidewalk network in downtown Madison connected to residential and activity centers nearby. The sidewalk system in Bostwick, Buckhead, and Rutledge was determined to be in need of development in the downtown areas with connectivity to nearby residential and activity centers. Where the sidewalk system is developed, there remain gaps in connectivity between residential areas and schools, parks, and libraries. Some gaps were also identified in commercial areas where people may desire to walk between businesses or from their homes to businesses. The network adjacent to each of the elementary, middle, and high schools and established commercial

areas was examined carefully to identify locations where sidewalk placement would be beneficial.

The designated bicycle network is currently non-existent in Morgan County. The NEGRDC recently developed a Bicycle and Pedestrian Plan for Morgan County. During the development of the plan, RDC staff worked with an advisory committee to determine detailed locations for bicycle facilities. Along with newly identified sidewalk segments identified through this study, the bicycle facilities identified in the Northeast Georgia Bicycle and Pedestrian Plan have been incorporated into this plan.

The sidewalk improvements in Madison are targeted in the vicinity of the elementary, middle, high schools, and public library near the schools. In Bostwick, Buckhead, and Rutledge, the focus of the sidewalk network development was directed towards connecting downtown areas to nearby residential and recreation areas. The bicycle network is aimed at connecting the various cities in Morgan County to each other, to recreational destinations within and near the County, and to other proposed bicycle networks outside the County.

Madison

There are several schools within the city limits of Madison and are as follows:

- Morgan County Primary School in Madison;
- Morgan County Elementary School in Madison;
- Morgan County Middle School in Madison;
- Morgan County High School in Madison; and,
- Morgan County Crossroads School in Madison.

Recommendations:

- Construct sidewalks along both sides of Wheat Road from Whitehall Street to Garnett Street.
- Construct sidewalks along both sides of Garnett Street from SR 83 to Wheat Road.
- Construct sidewalks along both sides of SR 83 from Garnett Street to Pearl Street.
- Construct sidewalk along north side of East Avenue from Harris Street to Morgan County Library.
- Construct sidewalks along both sides of Moreland Avenue from East Avenue to College Drive.
- Provide pedestrian crosswalks at the intersection of Harris Street and College Drive.
- Provide pedestrian crosswalks at the intersection of Harris Street and East Avenue.
- Provide pedestrian crosswalks at the intersection of Madison by the Creek Subdivision and School.

Rutledge

Sidewalks in Rutledge are either in poor condition or are non-existent.

Recommendations

- Replace sidewalk along south side of East Main Street from Hawkins Street to Fairplay Street.
- Construct sidewalk along south side and replace sidewalk along north side of West Main Street from Fairplay Street to the new subdivision.
- Construct sidewalks along both sides of Fairplay Road from Main Street to Williams Street.
- Replace sidewalk along west side of Newborn Road from Dixie Highway to US 278.

Bostwick

The existing sidewalk system in Bostwick ranges from fair to poor condition. Many of the existing sidewalks could be replaced.

Recommendations

- Construct sidewalks along both sides of SR 83 from 2nd Street to Callaway Street.
- Construct sidewalks along both sides of Wellington Road from Ruark Lane to SR 83.

Buckhead

The existing sidewalk system in Buckhead ranges from fair to poor condition. Many of the existing sidewalks could be replaced.

Recommendations

- Construct sidewalk along south side and replace sidewalk along north side of Buckhead Road/Chivers Avenue from Parks Mill Road to Park.

Additional Bicycle Needs

While the majority of the County is rural, there are key locations, such as schools and parks outside of the city limits, where bicycle transportation is a desirable alternative mode. Improving bicycle transportation, specifically, the continuity of the bicycle transportation network was a topic discussed by several attendees of the public workshops.

Recommendations:

- Widen High Shoals Road from SR 83 to Walton County to include extra pavement for bicyclists.
- Widen Buckhead Road from US 441 Bypass to Parks Mill Road to include extra pavement for bicyclists.
- Widen Parks Mill Road from Buckhead Road to Harmony Road (Putnam County) to include extra pavement for bicyclists.
- Widen Fairplay Road from Rutledge to Bostwick to include extra pavement for bicyclists.

8.3 Public Transportation Improvements

Morgan County operates the Section 5311 Rural Transportation Program to transport the County's residents to a variety of shopping, medical, educational, employment and social destinations using a fare-based, demand-response system. The County also has a service

contract with the Georgia Department of Human Resources (DHR) to transport seniors, the disabled, and Department of Family and Children Services (DFCS) clients utilizing the 5311 rural transportation vans. In 2006, the DHR seniors' transportation services accounted for 52% of the total ridership. Fare-paying passengers (5311 program) accounted for 31% of trips while the DHR disabled and DFCS trips accounted for the remaining 17% of trips.

Demand for transportation services for seniors will continue to increase in Morgan County in coming years. The total number of persons age 65 and over is projected to increase from 1,936 persons in 2000 to 3,623 persons in 2024, an 87% increase, and seniors are expected to comprise nearly 20% of the County's total population. (Morgan County's Comprehensive Land Use Plan 2004-2024)

Despite the success of the 5311 program in Morgan County, there are likely individuals within the County who still need transportation to work or school, to medical services, and to other destinations, who are not eligible for DHR services and for whom the 5311 program is not feasible. The on-demand service is not always an ideal option for those requiring transportation on a daily basis, such as to a job or to school. Van operating hours may not be coordinated with work schedules, and daily reservations must be made for service. The location of a job may be outside of the city limits, making it more expensive (\$1.25 within Madison, \$1.50 outside the city), or outside of the service area entirely. Morgan County vans do not cross county lines for public transportation, further limiting access to medical services, education, jobs, and shopping and recreation in nearby counties.

An important planning activity is currently underway which will help Morgan County evaluate and enhance its services. DHR, in conjunction with the GDOT, is developing a Public Transit - Coordinated Human Services Plan for each DHR region. By federal statute, the plan will be required prior to future funding for projects under the following federal programs:

- Section 5310 – Elderly Persons and Persons with Disabilities, a program whose goal is to improve mobility for elderly individuals and individuals with disabilities;
- Section 5316 – Job Access and Reverse Commute, a program that offers job access and reverse commute services to provide transportation for low income individuals who may live in the city core and work in suburban locations; and
- Section 5317 – New Freedom, a new program under SAFETEA-LU which provides transportation for the disabled that goes beyond those required by the Americans with Disabilities Act.

The overall goal of the coordinated planning process is to identify the need for and gaps in transportation services and to recommend strategies/projects to address the need. The plans must be locally developed, coordinated, and include participation by the public as well as transportation and human services providers. The Georgia DHR Region Five Plan, which includes Morgan County, is expected to be completed by May of 2007.

Park and Ride Facility

GDOT provides park and ride facilities through its Rideshare Program in locations where there is a need for commuter options. Morgan County's Comprehensive Land Use Plan 2004-2024 reports that, in 2000, the majority of workers residing in Morgan County work in Morgan County (63%) while 37% commute outside the county. Most of the employment migration is into Newton, Clarke, and Walton Counties, accounting for nearly half of commuting trips. Rockdale and Putnam Counties account for another 15% while 18% commute into the Atlanta metropolitan area. The nearest park and ride facility is in Newton County, located at I-20 and US 278, approximately 10 miles west of Madison. This facility is currently at capacity and is in the process of being expanded from 55 spaces to 110 spaces. The SAG expressed an interest in a park and ride facility in Morgan County to accommodate the residents who commute to over 16 different counties every day. A facility closer to the Madison/I-20 corridor would provide more convenient commuter options for residents of Morgan County.

Recommendations:

- Morgan County needs to actively participate in the ongoing coordinated human services planning process being led by the DHR Region Five Coordinator (Peggy Hackett 706-227-5306). According to DHR, targeting the needs of and gathering data about the general public will be difficult without participation/communication from the counties.
- The coordinated human services planning process, described above, will address needs to be met by the aforementioned programs. The County needs to actively participate in this planning process to ensure that the transportation needs of all of its residents are identified, not just those whose needs can be met by one of these programs.
- The coordinated plan will also likely identify needs and make recommendations regarding the 5311 Rural Transportation Program. Morgan County should re-evaluate its 5311 program to address the public not being served and to examine options to provide service across county lines.
- The SAG has expressed interest in a regional transit service that would accommodate public transportation to surrounding counties. Although the 5311 program does permit vans to cross county lines, many county-operated programs do not transport residents beyond county lines due to scheduling and cost constraints. Greene, Jasper, Morgan, Putnam, and other interested counties need to instigate exploratory planning initiatives for this with GDOT.
- Work with the GDOT District Office to assess the need and potential location for a park and ride facility in the Madison area along I-20 to accommodate carpooling, vanpooling, corporate van services, and in the future, regional bus service. Potential locations are I-20 and SR 83 and I-20 and US 441.

8.4 Freight & Rail Improvements

CSX and Norfolk Southern both operate rail lines in Morgan County, with a minimum of 17 trains per day traversing 36 miles of track. The Buckhead area, in particular, experiences a

high frequency of trains passing through the city. Morgan County has a total of 86 railroad crossings, 44 on the CSX line and 42 on the Norfolk Southern line. The vast majority, 75 of 86 crossings, are “at grade,” with eight underpasses and three overpasses.

Highway-rail crossings which are “at grade” pose risks because the train always has the right of way. These crossings require traffic control devices (passive and active) to permit reasonably safe and efficient operation of both the rail and traffic. Passive devices are signs and pavement markings that are not activated by trains. Types of passive devices include:

- Highway-Rail Grade Crossing Crossbuck Signs, the white crisscrossed sign with RAILROAD CROSSING in black lettering. These are required in each highway approach to every highway-rail grade crossing, either alone or in combination with other traffic control devices.
- Stop and Yield Signs, formerly recommend with crossbucks only where two or more trains operate daily, but now recommended along with crossbucks for all crossings. A YIELD sign should be the default choice, with a STOP sign required when an engineering study deems conditions necessary for a vehicle to make full stop. Factors to be considered include:
 - The line of sight from an approaching highway vehicle to an approaching train;
 - Characteristics of the highway, such as the functional classification, geometric conditions, and traffic volumes and speed;
 - Characteristics of the railroad including frequency, type and speed of trains, and number of tracks;
 - Crossing crash history; and,
 - Need for active control devices.

Active traffic control devices are controlled by the train operator and give warning of the approach or presence of a train. Types of active traffic control devices include:

- Flashing-Light Signals, two red lights in a horizontal line flashing alternately at approaching highway traffic.
- Cantilever Flashing Light Signals, additional one or two sets of lights mounted over the roadway on a cantilever arm and directed at approaching highway traffic. Supplemental to the standard flashing light, used frequently on multi-lane approaches, high speed, two lane highways, roads with a high percentage of trucks or where obstacles obstruct visibility of standard flashing lights.
- Automatic Gates, consisting of a drive unit and gate arm. Supplemental to flashing and cantilever lights.
- Additional Flashing Light Signals, used for additional approaches to active highway rail grade crossings. These lights can be mounted on existing flashing light masts,

extension arms, additional traffic signal masts, cantilever supports, and in medians or other locations on the left side of the road.

- Active Advance Warning Signs with Flashers, a train activated advance warning sign, considered at locations where sight distance is restricted on the approach to a crossing and the flashing light signals can not be seen until an approaching driver has passed the decision point. Two amber lights can be placed on the sign to warn drivers in advance of a crossing where the control devices are activated. The continuously flashing amber caution lights can influence driver speed and provide warning for stopped vehicles ahead.
- Active Turn Restriction Signs which display 'No Right Turn' or 'No Left Turn' on a parallel street within 50 feet of the tracks, at a signalized highway intersection.
- Barrier devices, which are median separation devices to prohibit crossing gate violations.

The GDOT, Office of Traffic Safety and Design, maintains an inventory of the State's railroad crossings and a priority list for those requiring improvements. Local governments are encouraged to report crossings within their jurisdictions which appear to be unsafe, deficient in their current traffic control devices, candidates for closure, or in need of an upgrade. GDOT will schedule a field review to conduct a Highway Rail Engineering Analysis of the crossing in question, evaluating a number of criteria, including:

- The maximum number of passenger trains per day;
- Maximum number of freight trains per day;
- Distance to alternate crossings;
- Accident history of the crossing for the immediately preceding five year period;
- Type of warning device present at the crossing;
- The horizontal and vertical alignment of the roadway;
- The average daily traffic volume in proportion to the population of the jurisdiction;
- The posted speed limit over the crossing;
- The effect of closing/altering the crossing for persons utilizing it (hospitals and medical facilities; federal state and local government services such as court, postal, library, sanitation, and park facilities; commercial, industrial and other areas of public commerce);
- Any use of the crossing by trucks carrying hazardous material, vehicles carrying passengers for hire, school buses, emergency vehicles, public or private utility vehicles; and,
- Other relevant factors such as clearing sight distance, traversing the crossing, high profile or "hump" crossings, land locked property, at-grade crossing signalized with bells, lights, and proximity to other crossings.

Upon review, if traffic control devices are found to be deficient, GDOT will assign a priority and program an improvement project to correct the deficiency.

An examination of existing rail crossing accident data coupled with input from the SAG and the public brings to light concern areas with rail crossings in the County. A high frequency of trains, lack of signalization, timely access in emergency situations, train standing, and problematic crossings are some of the deficiencies found. As a result, several Morgan County crossings have been identified as requiring further examination by the GDOT Railroad Crossing Program Manager. Each of these is discussed below.

Jefferson Street (Crossing #279605K)

The Jefferson Street crossing has experienced the highest number of accidents in the County. The crossing is characterized by three parallel tracks, a building which causes serious sight distance limitations, and minimal passive control devices (crossbucks).

Recommendation:

- Review crossing with GDOT to determine if flashing light signals and gates are warranted.



Accidents have occurred at the Jefferson Street crossing.

McHenry Road (Crossing #279611N, 279612V)

The west crossing off of Dixie Highway has experienced accidents and the SAG identified this crossing as being deficient. Residents have requested a “Quiet Zone” application for this location.

Recommendation:

- Review crossing with GDOT to determine if a traffic control device upgrade is warranted. Determine if County consensus exists to submit a rail “Quiet Zone” application to CSX.



McHenry (west) crossing off of Dixie Highway lacks active traffic control devices.



McHenry (east) crossing off of Dixie Highway has flashing signals and gates.

Lions Club Road (Crossing #733144E)

This crossing has a sight distance problem (brush) heading north looking east. There are inefficient stop signs on both approaches.

Recommendation:

- Review crossing with GDOT to determine if a flashing light signal or gate is warranted.



Lions Club Road crossing has limited sight distance.

Hawkins Road (Crossing #279621U)

This crossing has experienced a number of accidents. CWP Project #8257 will improve the crossing by installing flashing signals and gates.

Recommendation:

- To improve safety prior to the CWP project, install a STOP or YIELD sign at both approaches.



Hawkins Road crossing to be upgraded with active traffic control devices in the future.

Fairplay Street (Crossing #279622B)

This crossing is equipped with gates and flashing signals. Trucks often become “stuck” on this crossing.

Recommendation:

- Review crossing with GDOT for possible upgrades to improve crossing clearance and safety for large trucks.



Eighteen-wheel trucks have difficulty crossing the railroad at Fairplay Street.

Oconee Road (Crossing #279591E)

The east crossing is at an extreme angle with the crossing.

Recommendation:

- Review closing this crossing with GDOT and CSX as it is possible to cross Oconee Road to the west. Conduct analysis to ensure that closure does not compromise access to the Heidi Trail and Apalachee Trail communities east of Buckhead.



The Oconee Road (east) crossing may be a candidate for closure.

Oconee Road (Crossing #279592L)

The west crossing offers an alternative to the Oconee Road east crossing, if closed.

Recommendation:

- Review with GDOT to determine if flashing signals and/or gates are warranted.



Oconee Road (west) crossing may warrant active traffic control devices.

Buckhead Road (Crossing #279593T)

Crossing has old flashing light signals, possibly in need of replacement or maintenance.

Recommendation:

- Review crossing with GDOT to determine if new flashing signals and possibly gates are warranted. Install STOP sign northbound on Buckhead Road at approach.



Crossing at Buckhead Road is possibly in need of maintenance.

Old Buckhead Road (Crossing #279597V)

Railroad overpass has inadequate 9-1/2 foot clearance over Old Buckhead Road, posing a clearance problem for trucks.

Recommendation:

- Review conditions and possible upgrades with GDOT and Railroad as design standards for clearance range from 18 to 23 feet.



Old Buckhead Road overpass has limited clearance for trucks.

Commuter and Intercity Rail

The Georgia Rail Passenger Program (GRPP) proposes two passenger rail options which will be accessible to Morgan County residents. An intercity rail service is proposed between Atlanta, Madison and Augusta which will operate three daily trains each way, stopping in each city. In addition to this, a commuter train from Atlanta to Madison is also planned. This train will make stops in Newton, DeKalb, and Fulton Counties. Multi-modal train stations will be constructed in Madison and in Augusta to accommodate both of these services. The 2006 timeline shows service to Madison being implemented by 2017 and extended to Augusta by 2019.

Recommendations:

- Participate in appropriate planning activities with GDOT, the Georgia Passenger Rail Authority (GRPA), and the Georgia Regional Transportation Authority (GRTA) for the multi-modal train station in Madison and the implementation of rail service.
- Expand transit services to provide/enable/encourage use of the passenger rail service by county citizens. Provide methods to facilitate transportation (via vans, buses, vanpools, carpools, etc.) between households to the multi-modal terminal and to park and ride facilities.

Overall Recommendations

- Crossings described above should be reported to the GDOT Railroad Crossing Program Manager at the following:

Key Phillips
Railroad Crossing Program Manager
Georgia Department of Transportation
Office of Traffic Safety and Design
Phone – 404-635-8120
Fax – 404-635-8116

The Crossing Program Manager will schedule a field review to conduct a Highway Rail Engineering Analysis of each crossing in question.

- Limit construction of any new “at grade” rail crossings. The County has a high number of these crossings which pose risks for vehicular and pedestrian accidents.
- GDOT offers local government incentive payments for at-grade rail-highway crossing closures, a provision of U.S. Code 23, section 130 (SAFETEA-LU section 1401(d)). The amount of the incentive grant may be up to \$7,500 to local governments for the permanent closure of public-at-grade crossings if matched by the railroad involved, for a total incentive of \$15,000. The local government receiving the incentive payment must use the portion received from the State for transportation safety improvements. Types of safety improvements include:
 - Grading, paving and drainage improvements associated with crossing removal;
 - Guardrail, barricades and barrier wall;
 - Traffic signals;
 - Highway signs;
 - Turn lanes;
 - Pavement markings;
 - Sidewalks;
 - Emergency vehicles primarily responding to highway incidents;
 - Emergency equipment (i.e. “Jaws of Life”);
 - Sirens and flashing lights for emergency response vehicles;
 - Radar guns; and,
 - Sponsorship of a community driver’s education class.
- Report train standing problems to the Federal Railroad Administration at:

61 Forsyth Street, SW – Suite 16T20
Atlanta, Georgia 30303-3104
Phone – 404-562-3800
Hot Line – 1-800-724-5993
www.fra.dot.gov

- Utilize available programs to address crossings with safety concerns and crossing violations.

The Georgia Operation Lifesaver Program is a national, non-profit education and awareness program dedicated to ending tragic collisions, fatalities and injuries at highway-rail grade crossing and on railroad rights of way. The organization promotes safety through:

- Education for drivers and pedestrians to make safe decisions at crossings and around railroad tracks;
- Active enforcement of traffic laws relating to crossing signs and signals; and
- Continued engineering research and innovation to improve the safety of railroad crossings.

Free programs are presented to schools, businesses, civic organizations, school bus drivers, professional drivers, law enforcement and emergency responders.

Georgia Operation Lifesaver Program
P.O. Box 76526
Atlanta, Georgia 30358
Phone – 770-393-2711
Fax – 770-393-3751
georgiaol.org

8.5 Aviation Improvements

The Madison Municipal Airport is classified as a Level I Airport - Minimum Standard General Aviation Airport, yet is lacking facilities to meet this classification. In late 2006, the City began work on an updated Airport Layout Plan (ALP) which provides a blueprint for the airport for the next twenty years. The draft ALP stipulates that the airport remain in its present location and focuses on the need to upgrade the facility to meet the Level I standards. These improvements include extending the runway by 1,194 feet to reach the standard 5,000 feet, constructing parallel taxiway turnarounds, installing additional medium-density runway lighting and precision approach path indicators, and providing adequate hangar, terminal, and parking to accommodate based and transient aircraft activity.

The draft ALP is in the final stages of completion and will then undergo a review/approval process by the City. The first task that then must be done is to conduct an environmental assessment for the runway extension and begin land acquisition for the runway and future taxiway. The Madison Municipal Airport is currently housed on 70 acres and owns two easements, a four-acre parcel over the railroad, and a six-acre parcel off the approach end of Runway 14. In order to expand the runway and terminal area, an additional 80 acres will need to be acquired. Much of the needed land is vacant and for sale.

The airport serves an important function for the City and County's rapidly growing tourist population as well as for corporate traffic and developers. Its closeness in proximity to industrial uses near Madison also benefits economic activity in the area.

Recommendations

- The updated draft ALP proposes improvements to the Airport which allow it to meet Federal Aviation Administration (FAA) standards (for which, in some areas, it is currently deficient) and projected demand for the next twenty years. The runway extension is vital to the safety and efficiency of the airfield, and its design should meet the demand of Group II aircraft, which includes most small general aviation aircraft as well as some jets and turboprops. Recommendations from the updated ALP (once approved and adopted) should be implemented to ensure that the Airport meets Level I airport standards.

8.6 Citizen and Stakeholder Input

Throughout the course of the study public comment and stakeholder input contributed significantly to the development of projects for improving travel conditions through Morgan County. Projects identified by the public and stakeholders are documented in Table 8.6.

All comments received from the public are important and care was taken to evaluate each recommendation for inclusion in the plan. If the recommendation addressed issues beyond the scope of the plan, these were forwarded to the appropriate agency to address. Similarly, some recommendations could not be supported with technical planning or engineering justifications – these instances are noted and these recommendations were flagged for reevaluation as the Plan is periodically updated in the future.

Table 8.6
Suggested Improvements

#	Comment or Concern	Comment Type	Response	Recommended for Inclusion in Plan
1	Need a bypass for SR 83 west of Madison	Roadway Project	This project is currently in GDOT's CWP	Yes
2	Need a bypass for SR 83/US 441 north of Madison	Roadway Project	This project is a recommended improvement	Yes
3	Fairplay Rd and SR 83 – sight distance problems	Geometric	This intersection is recommended for improvement	Yes
4	Price Mill Rd and SR 83 – sight distance issues	Geometric	This intersection is recommended for improvement	Yes
5	Lower Apalachee Rd from US 441 to US 278	Operational	This roadway is being recommended for improvement	Yes
6	Improve 7 Island Rd and Sandy Creek Rd – major east-west facilities	Operational	These roadways are being recommended for improvement	Yes
7	Other major corridors – Davis Academy Rd, Price Mill Rd, Fairplay Rd, Newborn Rd, Parks Mill Rd, and Reids Ferry Rd	Operational	These roadways are being recommended for improvement	Yes
8	US 278 – US 441 – SR 24 Spur – forms a triangle, all three intersections perform poorly and have safety issues	Operational	These intersections are recommended improvements	Yes

#	Comment or Concern	Comment Type	Response	Recommended for Inclusion in Plan
9	Bethany Rd and US 441 Bypass – intersection experiences delays and high crashes	Operational	This intersection is recommended for improvement	Yes
10	Old Buckhead Rd and US 441 Bypass – additional traffic associated with schools	Operational	This intersection is recommended for improvement	Yes
11	Little's Rd and Harmony Rd (Putnam County)	Intersection	This intersection is recommended for improvement	Yes
12	Aqua Rd/Mission Rd at Pierce Dairy Rd – realign intersections with each other	Intersection	This project is currently in GDOT's CWP	Yes
13	Lions Club Rd and US 441	Intersection	This intersection is recommended for improvement	Yes
14	Traffic Light need at Bethany Rd and Bypass	Intersection	This intersection is recommended for improvement	Yes
15	Most roads are only 18 to 20' wide	Maintenance	Several roadways are being recommended for improvement as part of this study	Yes
16	Trucks tear up roads, bridges and drainage systems	Maintenance	Improvements such as the SR 83 Bypass will help address this issue	Yes
17	Part of Indian Creek Rd is in I-20's right of way	Right of Way	A new alignment is recommended for this roadway	Yes
18	Dixie Highway has right of way issues with rail line	Right of Way	There are no widening improvements for Dixie Highway, however operational improvements are being recommended	Yes
19	No longer bridges at Old Mill Rd and Lower Apalachee Rd	Bridge	These bridges are recommended improvements	Yes
20	New school along Dixie Hwy in Rutledge	Bike-Ped	Bike-Ped improvements are recommended in this area	Yes
21	Dixie Hwy, High Shoals Rd and Buckhead Rd are used by bikers	Bike-Ped	Bicycle improvements are recommended along these roads	Yes
22	Desire for 'Riverwalk' in eastern portion of County	Bike-Ped	No specific recommendations are being made, however several bicycle and pedestrian improvements are being recommended	No
23	Potential areas for rails-to-trails	Bike-Ped	It was determined that there are no locations with rails-to-trails opportunities	No
24	Better traffic control in Madison to include pedestrians	Bike-Ped	The plan includes recommendations for both vehicles and pedestrians in Madison	Yes
25	Commuter rail service to Atlanta	Transit	This is being investigated as part of another study	No
26	Park and Ride Lots along I-20	Transit	Park and Ride lots are recommended at I-20 and SR 83 and I-20 and US 441	Yes
27	Trucks an issue in downtown areas	Freight	Improvements such as the SR 83 Bypass will help address this issue	Yes
28	Truck Traffic issues on Bethany Rd	Freight	Improvements such as the SR 83 Bypass will help address this issue	Yes
29	Trains parking on tracks in Buckhead and sometimes in Madison – blocks traffic	Rail	This is beyond the scope of this project. The appropriate agencies will be notified	No
30	Fairplay St is a bad crossing for trucks, it is also the main crossing in Rutledge	Rail	This crossing is a recommended improvement	Yes
31	Old Buckhead Rd crossing only has 8' of clearance	Rail	Recommendations for improvement are a part of this plan	Yes
32	Madison only has one grade separated crossing	Rail	The SR 83 Bypass recommendation may include grade separation with the railroad	Yes
33	Only one crossing to access new development along Heidi Trail and Apalachee Trail	Rail	Rail crossing improvements are recommended for this area	Yes
34	Need better safety features at rail crossings	Rail	Several crossings have recommended improvements	Yes
35	Warning Lights at railroad crossing on Lions Club Rd	Rail	This crossing is a recommended improvement	Yes
36	Desire to upgrade runway to meet Level I minimum standards	Airport	This project is currently in GDOT's CWP	Yes

9.0 Improvement Recommendations

Morgan County has received moderate growth over the last two decades. This growth is expected to accelerate and the transportation infrastructure of the County needs to be maintained and enhanced to accommodate this growth. County needs for transportation improvements are supported by the deficiencies identified in Section 6.0. These deficiencies include:

- Public Transportation;
- Freight Transport;
- Airport Facilities;
- Bicycle and Pedestrian Facilities;
- Bridges;
- Safety;
- Roadway Characteristics; and,
- Roadway Operating Conditions.

Several transportation improvements were identified in Section 8.0, which address these deficiencies. This section will identify the recommended improvements and the estimated costs associated with these improvements.

9.1 Estimated Costs

A necessary element of the LRTP is estimating the costs associated with the numerous recommended improvements. An estimated cost needs to be associated with each project to aid the County in planning for, and funding of, recommended improvements. GDOT is currently updating their cost information; however the Atlanta Regional Commission (ARC) recently completed a costing tool. This costing tool presents cost estimates for both urban and rural conditions and was the tool used to develop costs for this study. The rural cost estimates were used for the proposed projects in Morgan County.

The estimated costs were generated for planning purposes and may vary from actual costs. **The cost of right of way was omitted from the cost estimate due to the high variation associated with this cost.** Therefore, the estimated costs can be expected to be considerably less than actual costs. Additional variations in cost could be the result of several factors, such as, design, utility relocation or environmental impacts. Typical roadway cost estimates can be found in Table 9.1.

Table 9.1
ARC Construction Cots

Project Name	Construction Costs	
	with Median (\$/Lane Mile)	without Median (\$/Lane Mile)
Roadways		
Surface Street Widening	\$1,960,000	\$1,740,000
Surface Street Upgrade		\$680,000
Surface Street New	\$2,720,000	\$2,450,000
Intersections	Const Cost per Each	
Arterial to Arterial	\$2,300,000	
Arterial to Collector	\$1,900,000	
Collector to Local	\$1,400,000	
Traffic Signal Upgrade	\$160,000	
Interchanges & Grade Separations	Const Cost per Each	
Compressed Diamond	\$11,800,000	
Single Point Urban	\$20,200,000	
Diamond	\$10,200,000	
Half Diamond	\$6,100,000	
Grade Sep - 4 lanes	\$7,300,000	
Grade Sep - 2 lanes	\$4,700,000	
Non-Vehicular Elements	Const. Cost per Mile	
Multi-Use Trail (10 ft)	\$590,000	
Sidewalk (2 @ 5 ft)	\$190,000	
Park Ride Lot	\$1,000	per space

Source: ARC Costing Tool

A review of recent GDOT bridge costs revealed that bridges are generally being constructed for approximately \$140 per square foot. This value was used to estimate the cost for improving the deficient bridges in Morgan County.

These estimates were used to develop costs for the recommended improvements presented in Section 9.2 (Table 9.2). These costs should be considered preliminary in nature and taken with appropriate care. **Costs do not include right of way.** More detailed engineering studies are required to identify highly accurate cost estimates.

Over the past several years construction material costs have increased dramatically throughout the United States. Some typical GDOT pay items have increased over 60% in the last few years. Much of this cost increase can be attributed to the demand for construction materials in the Gulf Coast area and Iraq. As one of the most variable components of the LRTP, it is important that costs are revisited on a regular basis to ensure accuracy. In recognition of this situation, GDOT is in the process of evaluating all project costs in the Construction Work Program and establishing guidelines for cost updates.

9.2 Summary of Recommended Improvements

Based on the analysis completed as part of this study, a listing of recommended projects was created for Morgan County. This information is presented in Table 9.2. This listing includes:

- Capacity Improvements and New Roadways;
- Operational Improvements
- Minor Roadway Widening (increasing travel lane widths and/or shoulders);
- Intersection and Geometric Improvements;
- Bridge Improvements;
- Bicycle and Pedestrian Improvements;
- Airport Improvements;
- Rail Improvements; and,
- Transit Improvements.

For each recommendation several informational elements were produced including: facility; limits; existing and improved configuration; comments; source; improvement type; need; anticipated benefit; phasing; cost and potential funding sources. For successful implementation of these projects it is recommended that additional detailed engineering studies be conducted to determine the most appropriate design, cost and phasing of the particular project. Additionally, successful project implementation will require identified funding mechanisms, political support, and public recognition of the project need and benefit.

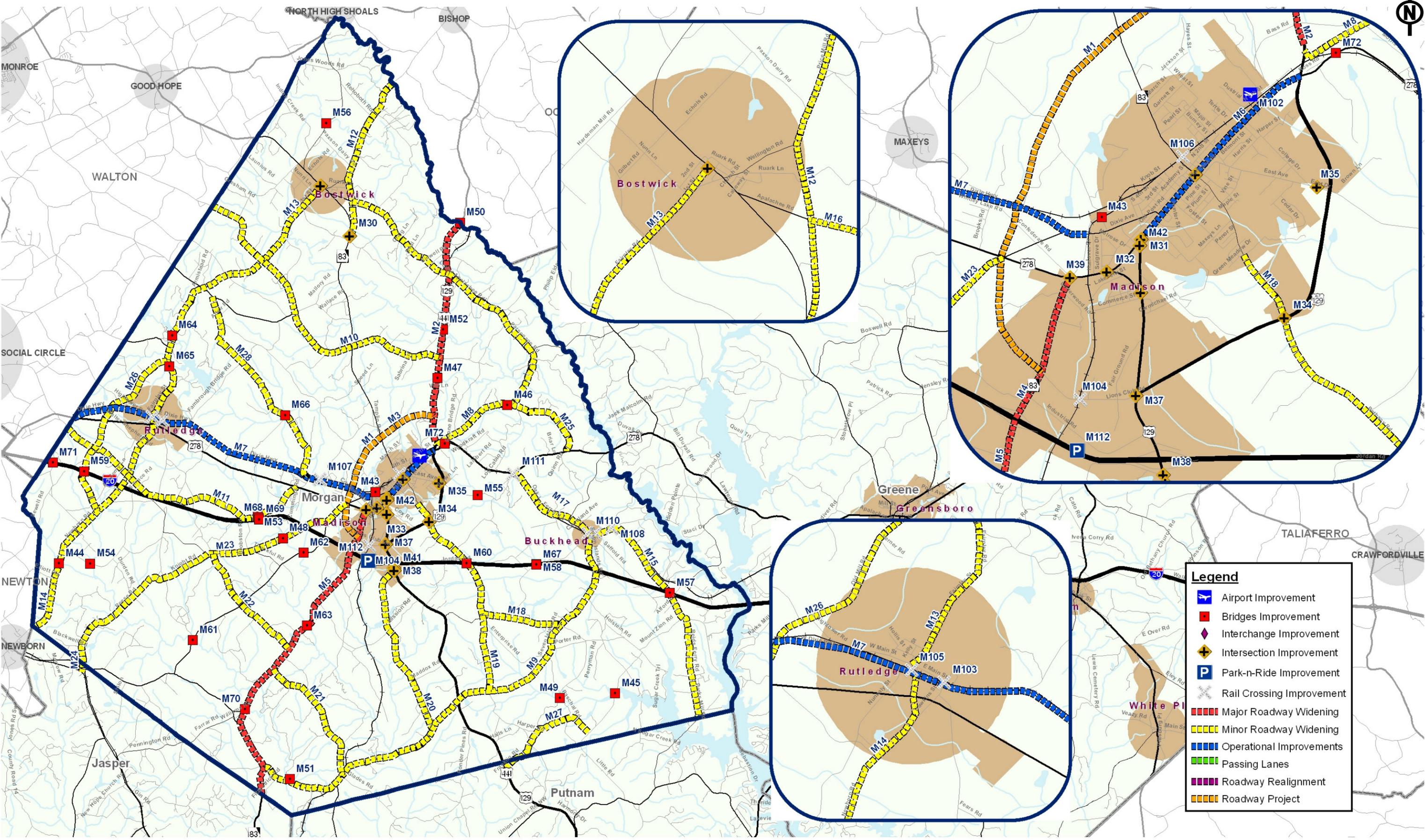
Recommended roadway improvements are mapped in Figure 9.2.1 and recommended bicycle and pedestrian improvements are mapped in Figure 9.2.2

Table 9.2
Recommended Improvements

Project Ref. No.	Facility	Segment Limits		Existing Configuration	Improved Configuration	Notes/Comments	Source	Improvement Type	Need	Anticipated Benefit	Implementation			Estimated Cost	Potential Funding Source			
		From	To								Near	Mid	Long		Federal	State	County	Local
Capacity Improvements/New Roadways																		
M1	SR 83 W Bypass	SR 83 (N)	SR 83 (S)	N/A	4-Lanes, Divided	2.00 miles	CWP	New Roadway	Connectivity	Improved Connectivity	✓			\$2,800,000	✓	✓	✓	
M2	US 441	US 441 Bypass	N of Apalachee River (Oconee)	2-Lanes	4-Lanes, Divided	7.92 miles	CWP	Arterial Widening	Capacity Deficiency	Increase Capacity & Improved Safety	✓			\$41,389,911	✓	✓	✓	
M3	SR 83/US 441 Bypass	US 441 (N)	SR 83 (N)	N/A	4-Lanes, Divided	2.00 miles	Public	New Roadway	Connectivity	Improved Connectivity		✓		\$21,760,000	✓	✓	✓	
M4	SR 83	US 278	I-20	2-Lanes	4-Lanes, Divided	1.50 miles	Analysis	Arterial Widening	Capacity Deficiency	Increase Capacity & Improved Safety	✓			\$8,160,000	✓	✓	✓	
M5	SR 83	I-20	Jasper County	2-Lanes	4-Lanes, Divided	9.75 miles	Analysis	Arterial Widening	Capacity Deficiency	Increase Capacity & Improved Safety		✓		\$53,040,000	✓	✓	✓	
														\$127,149,911				
Operational Improvements																		
M6	US 278	US 441	US 441 Bypass	2-Lanes	2-Lanes	2.26 miles	Analysis	Operational Improvements	Capacity Deficiency	Increase Capacity & Improved Safety		✓		-	✓	✓	✓	
M7	Dixie Hwy	Walton County	Pennington Rd	2-Lanes	2-Lanes	10.65 miles	Public	Operational Improvements	Capacity Deficiency	Increase Capacity & Improved Safety	✓			-	✓	✓	✓	
														\$0				
Minor Widening																		
M8	Lower Apalachee Rd	US 441	US 278	< ideal typical section	12' lanes and 2' paved shoulders	9.00 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$6,120,000	✓	✓	✓	
M9	Seven Island Rd	US 278	Glades Rd	< ideal typical section	12' lanes and 2' paved shoulders	14.90 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$10,132,000	✓	✓	✓	
M10	Sandy Creek Rd	Fairplay Rd	US 441	< ideal typical section	12' lanes and 2' paved shoulders	10.65 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$7,242,000	✓	✓	✓	
M11	Davis Academy Rd	Walton County	US 278	< ideal typical section	12' lanes and 2' paved shoulders	9.20 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$6,256,000	✓	✓	✓	
M12	Price Mill Rd	SR 83	Oconee County	< ideal typical section	12' lanes and 2' paved shoulders	5.55 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$3,774,000	✓	✓	✓	
M13	Fairplay Rd	Dixie Hwy	SR 83	< ideal typical section	12' lanes and 2' paved shoulders	10.45 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$7,106,000	✓	✓	✓	
M14	Newborn Rd	Dixie Hwy	Newton County	< ideal typical section	12' lanes and 2' paved shoulders	8.35 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$5,678,000	✓	✓	✓	
M15	Parks Mill Rd	US 278	end	< ideal typical section	12' lanes and 2' paved shoulders	8.20 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$5,576,000	✓	✓	✓	
M16	Apalachee Rd	Price Mill Rd	US 441	< ideal typical section	12' lanes and 2' paved shoulders	4.20 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$2,856,000	✓	✓	✓	
M17	Buckhead Rd/Seven Island Rd	Greensboro Rd	I-20	< ideal typical section	12' lanes and 2' paved shoulders	4.80 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$3,264,000	✓	✓	✓	
M18	Bethany Rd	Bramblewood Dr	Seven Island Rd	< ideal typical section	12' lanes and 2' paved shoulders	7.16 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$4,868,800	✓	✓	✓	
M19	Bethany Church Rd	Bethany Rd	Seven Island Rd	< ideal typical section	12' lanes and 2' paved shoulders	2.57 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$1,747,600	✓	✓	✓	
M20	Pierce Dairy Rd	US 441	Seven Island Rd	< ideal typical section	12' lanes and 2' paved shoulders	5.92 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$4,025,600	✓	✓	✓	
M21	Godfrey Rd	SR 83	Seven Island Rd	< ideal typical section	12' lanes and 2' paved shoulders	4.62 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$3,141,600	✓	✓	✓	
M22	Spears Rd	Brownwood Rd	SR 83	< ideal typical section	12' lanes and 2' paved shoulders	4.17 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$2,835,600	✓	✓	✓	
M23	Brownwood Rd	Spears Rd	Old Dixie Hwy	< ideal typical section	12' lanes and 2' paved shoulders	4.90 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$3,332,000	✓	✓	✓	
M24	Reese Rd/Knight Rd	Brownwood Rd	Jasper County	< ideal typical section	12' lanes and 2' paved shoulders	6.62 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$4,501,600	✓	✓	✓	
M25	Briar Creek Rd	Lower Apalachee Rd	US 278	< ideal typical section	12' lanes and 2' paved shoulders	2.85 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$1,938,000	✓	✓	✓	
M26	Old Mill Rd	Fairplay Rd	Newborn Rd	< ideal typical section	12' lanes and 2' paved shoulders	6.45 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$4,386,000	✓	✓	✓	
M27	Cochran Rd	US 441 (Putnam)	Kingston Rd	< ideal typical section	12' lanes and 2' paved shoulders	3.76 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$2,556,800	✓	✓	✓	
M28	Double Bridges Rd	Prospect Rd	Dixie Hwy	< ideal typical section	12' lanes and 2' paved shoulders	2.00 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$1,360,000	✓	✓	✓	
														\$92,697,600				
Intersection/Geometric Improvements																		
M29	Fairplay Rd	SR 83				sight distance	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	
M30	Price Mill Rd	SR 83				sight distance	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	
M31	US 441	US 278				25 crashes	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M32	US 278	SR 24 Spur				safety issues	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M33	US 441	SR 24 Spur				safety issues	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M34	US 441 Bypass	Bethany Rd				10 crashes, delay	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M35	US 441 Bypass	Old Buckhead Rd				school traffic	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	
M36	Little's Rd	Harmony Rd (Putnam)				safety issues	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M37	Lions Club Rd	US 441				26 crashes	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M38	Indian Creek Rd	vicinity of I-20				In I-20's ROW	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M39	US 278 (Atlanta Hwy)	SR 83 (Pennington Rd)				31 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M40	US 278/US 441 (S Main St)	SR 83 (E Washington St)				16 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M41	US 441	Pierce Dairy Rd				13 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	
M42	US 441	Walker Cir				11 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	
														\$3,500,000				
Bridge Improvements																		
M43	Oil Mill Rd	Norfolk Southern Railroad (733141J)		1,081 sq ft		15.76 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$166,505	✓	✓	✓	
M44	Newborn Rd	Little River		2,056 sq ft		18.07 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$316,609	✓	✓	✓	
M45	Kingston Rd	Little Sugar Creek		2,410 sq ft		26.98 sufficiency rating	CWP	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,011,000	✓	✓	✓	
M46	Lower Apalachee Rd	Norfolk Southern Railroad (733130W)		2,131 sq ft		31.79 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$328,174	✓	✓	✓	
M47	US 441	Hard Labor Creek		10,410 sq ft		35.53 sufficiency rating	CWP	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,944,992	✓	✓	✓	
M48	Brownwood Rd	Big Indian Creek		2,070 sq ft		36.54 sufficiency rating	CWP	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,034,000	✓	✓	✓	
M49	Enterprise Rd	Little Sugar Creek		431 sq ft		37.19 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$66,359	✓	✓	✓	
M50	US 441	Apalachee River		12,874 sq ft		38.86 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,982,550	✓	✓	✓	
M51	Walton Mill Rd	Little River Tributary		606 sq ft		38.91 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$93,324	✓	✓	✓	
M52	US 441	Big Sandy Creek		10,896 sq ft		41.45 sufficiency rating	CWP	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,944,992	✓	✓	✓	
M53	Davis Academy Rd	Big Indian Creek		2,500 sq ft		41.50 sufficiency rating	CWP	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations		✓		\$1,019,000	✓	✓	✓	
M54	Keencheefoonee Rd	Hunnicut Creek		983 sq ft		45.38 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$151,351	✓	✓	✓	
M55	Buckhead Rd	North Sugar Creek		1,113 sq ft		49.16 sufficiency rating	CWP	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$900,000	✓	✓	✓	
M56	High Shoals Rd	Jacks Creek		2,016 sq ft		52.22 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$310,464	✓	✓	✓	
M57	Parks Mill Rd	I-20		12,295 sq ft		56.07 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,893,461	✓	✓	✓	
M58	I-20 (EB Lane)	CR 214 - North Sugar Creek		7,778 sq ft		57.36 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,197,797	✓	✓	✓	
M59	Old Mill Rd	I-20		8,596 sq ft		61.15 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,323,784	✓	✓	✓	
M60	Bethany Rd	I-20		11,578 sq ft		63.57 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,783,074	✓	✓	✓	
M61	Clack Rd	Little River		4,816 sq ft		65.38 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$741,664	✓	✓	✓	
M62	Clack Rd	Big Indian Creek		4,515 sq ft		67.54 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$695,310	✓	✓	✓	
M63	Monticello Hwy	Big Indian Creek		5,100 sq ft		68.01 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$785,400	✓	✓	✓	
M64	Fairplay Rd	Hard Labor Creek		1,343 sq ft		68.28 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$206,760	✓	✓	✓	
M65	Fairplay Rd	Still Branch		901 sq ft		69.27 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$138,754	✓	✓	✓	
M66	Double Bridge Rd	Hard Labor Creek		3,078 sq ft		69.70 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$474,012	✓	✓	✓	
M67	I-20 (WB Lane)	CR 214 - North Sugar Creek		7,778 sq ft		70.06 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,197,797	✓	✓	✓	
M68	I-20 (EB Lane)	Big Indian Creek		4,956 sq ft		72.49 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$763,224	✓	✓	✓	
M69	I-20 (WB Lane)	Big Indian Creek		4,956 sq ft		72.49 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$763,224	✓	✓	✓	
M70	Monticello Hwy	Little River		6,392 sq ft		72.89 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$984,368	✓	✓	✓	
M71	Sewell Church Rd	I-20		8,074 sq ft		73.52 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,243,411	✓	✓	✓	
M72	US 278	CSX Railroad (279602P)		8,747 sq ft		73.55 sufficiency rating	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,346,961				

Table 9.2
Recommended Improvements

Project Ref. No.	Facility	Segment Limits		Existing Configuration	Improved Configuration	Notes/Comments	Source	Improvement Type	Need	Anticipated Benefit	Implementation			Estimated Cost	Potential Funding Source			
		From	To								Near	Mid	Long		Federal	State	County	Local
M81	Newborn Rd Sidewalks	Dixie Hwy	US 278	deficient sidewalk on west	replace sidewalk on west	0.22 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$22,000	✓	✓	✓	✓
M82	SR 83 Sidewalks	2nd St	Callaway St	no sidewalks	sidewalks on both sides	0.50 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$100,000	✓	✓	✓	✓
M83	Wellington Rd Sidewalks	Ruark Ln	SR 83	no sidewalks	sidewalks on both sides	0.20 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$40,000	✓	✓	✓	✓
M84	Wheat Rd Sidewalks	Whitehall St	Garnett St	no sidewalks	sidewalks on both sides	0.29 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$58,000	✓	✓	✓	✓
M85	Garnett St Sidewalks	SR 83	Wheat Rd	no sidewalks	sidewalks on both sides	0.44 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$88,000	✓	✓	✓	✓
M86	SR 83 Sidewalks	Garnett St	Pearl St	no sidewalks	sidewalks on both sides	0.20 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$40,000	✓	✓	✓	✓
M87	East Ave Sidewalks	Harris St	Morgan County Library	no sidewalk on north	sidewalk on north side	0.53 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$53,000	✓	✓	✓	✓
M88	Moreland Ave Sidewalks	East Ave	College Dr	no sidewalks	sidewalks on both sides	0.16 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$32,000	✓	✓	✓	✓
M89	Harris St	College Dr		no crosswalk	crosswalk - signage and pavement marking		Analysis	Crosswalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$1,000	✓	✓	✓	✓
M90	Harris St	East Ave		no crosswalk	crosswalk - signage and pavement marking		Analysis	Crosswalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$1,000	✓	✓	✓	✓
M91	Madison by the Creek Subdivision	School		no crosswalk	crosswalk - signage and pavement marking		Public	Crosswalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$1,000	✓	✓	✓	✓
M92	Brownwood Rd Bike Lanes & Sidewalks	US 278	Clack Rd	no bike lanes/narrow shoulder	bike lanes and sidewalks on both sides	0.91 miles	RDC	Bike Lane & Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$318,500	✓	✓	✓	✓
M93	Clack Rd Bike Lanes & Sidewalks	Brownwood Rd	I-20	no bike lanes/narrow shoulder	bike lanes and sidewalks on both sides	0.52 miles	RDC	Bike Lane & Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$182,000	✓	✓	✓	✓
M94	SR 24 Spur Bike Lanes & Sidewalks	US 278	US 441	no bike lanes/narrow shoulder	bike lanes and sidewalks on both sides	0.41 miles	RDC	Bike Lane & Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$143,500	✓	✓	✓	✓
M95	SR 83 Bike Lanes & Sidewalks	US 278	Doster Rd	no bike lanes/narrow shoulder	bike lanes and sidewalks on both sides	2.14 miles	RDC	Bike Lane & Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$749,000	✓	✓	✓	✓
M96	US 441 Bike Lanes & Sidewalks	US 278	I-20	no bike lanes/narrow shoulder	bike lanes and sidewalks on both sides	1.69 miles	RDC	Bike Lane & Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$591,500	✓	✓	✓	✓
M97	US 278 Bike Lanes & Sidewalks	Brownwood Rd	Lambert Rd	no bike lanes/narrow shoulder	bike lanes and sidewalks on both sides	5.74 miles	RDC	Bike Lane & Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$2,009,000	✓	✓	✓	✓
M98	US 441 Bike Lanes	I-20	Putnam County Line	no bike lanes/narrow shoulder	bike lanes on both sides	8.26 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$1,239,000	✓	✓	✓	✓
M99	US 278 Bike Lanes	Brownwood Rd	Walton County Line	no bike lanes/narrow shoulder	bike lanes on both sides	9.65 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$1,447,500	✓	✓	✓	✓
M100	US 278 Bike Lanes	Lambert Rd	Greene County Line	no bike lanes/narrow shoulder	bike lanes on both sides	4.52 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$678,000	✓	✓	✓	✓
M101	Railroad Trail	US 278	Oconee County Line		multi-use path	10.34 miles	RDC	Multi-Use Path	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$3,619,000	✓	✓	✓	✓
														\$16,564,500				
Airport Improvements																		
M102	Extend Runway			3,806' x 75'	4,500' x 75'		Analysis	Runway Extension	Airport Upgrade	meet GDOT Level I standards		✓		\$350,000	✓	✓	✓	✓
M103	Runway Rehabilitation						Analysis	Runway Improvement	Airport Upgrade	Improved Safety & Operations		✓		\$350,000	✓	✓	✓	✓
M104	Install PAPIs on Runway 32						Analysis	Equipment Upgrade	Airport Upgrade			✓		\$25,000	✓	✓	✓	✓
M105	Construct Access Road, Apron, TieDown Area						Analysis		Airport Upgrade			✓		\$825,000	✓	✓	✓	✓
M106	Construct Terminal Building						Analysis		Airport Upgrade			✓		\$250,000	✓	✓	✓	✓
M107	Relocate Fuel Farm						Analysis		Airport Upgrade	Improved Safety & Operations		✓		\$250,000	✓	✓	✓	✓
														\$2,050,000				
Rail Improvements																		
M108	Hawkins Ave Crossing	CSX #279621U			Warning Device	upgrade signage short term	CWP	Upgrade crossing	Operational & Safety Issues	Improved Safety & Operations		✓		\$150,000		✓	✓	✓
M109	Lions Club Rd Crossing	CSX #733144E			Upgrade crossing - add warning lights and gates	sight problems, inefficient stop	Public	Upgrade crossing	Operational & Safety Issues	Improved Safety & Operations		✓		\$150,000		✓	✓	✓
M110	Fairplay St Crossing	CSX #279622B			Upgrade crossing	review for safety of trucks crossing	Public	Upgrade crossing	Operational & Safety Issues	Improved Safety & Operations		✓		-		✓	✓	✓
M111	Jefferson St Crossing	CSX #279605K			Upgrade crossing - add warning lights and gates		Analysis	Upgrade crossing	Operational & Safety Issues	Improved Safety & Operations		✓		\$150,000		✓	✓	✓
M112	McHenry Rd Crossing Crossing	CSX #279611N, 279612V			Upgrade crossing - add warning lights and gates		Analysis	Upgrade crossing	Operational & Safety Issues	Improved Safety & Operations		✓		\$150,000		✓	✓	✓
M113	Oconee Rd (E) Crossing	CSX #279591E			Close Crossing	close and use crossing to the west	Analysis	Close Crossing	Operational & Safety Issues	Improved Safety & Operations		✓		\$5,000		✓	✓	✓
M114	Oconee Rd (W) Crossing	CSX #279592L			Upgrade crossing - add warning lights and gates		Analysis	Upgrade crossing	Operational & Safety Issues	Improved Safety & Operations		✓		\$150,000		✓	✓	✓
M115	Buckhead Rd Crossing	CSX #279593T			Upgrade crossing - new warning lights and add gates	old warning devices	Analysis	Upgrade crossing	Operational & Safety Issues	Improved Safety & Operations		✓		\$150,000		✓	✓	✓
M116	Old Buckhead Rd Crossing	CSX #279597V			Upgrade crossing - review further for improvement alternatives	inadequate clearance, 9.5'	Analysis	Upgrade crossing	Operational & Safety Issues	Improved Safety & Operations		✓		-		✓	✓	✓
														\$905,000				
Transit Improvements																		
M117	Park and Ride Lot	I-20 and SR 83 or US 441			50 parking spaces		Public	Transit	Commuter Options	Enhanced Multi-Modal System			✓	\$50,000	✓	✓	✓	✓
M118	Multi-Modal Train Station						Analysis	Transit	Commuter Options	Enhanced Multi-Modal System			✓	-	✓	✓	✓	✓
														\$50,000				
Notes: 1. Intersection Improvements listed include all intersections developed through the public involvement process. Many of these locations may not warrant improvements, however additional study is required to make this determination.														\$269,725,330				
2. Intersection costs assumed a unit cost of \$250,000																		
3. Bridge replacement costs are based off of \$140 per square foot																		
4. Projects M6 and M7 are proposed to have non-widening improvements, therefore costs were not provided																		
5. Estimated costs DO NOT include Right of Way																		

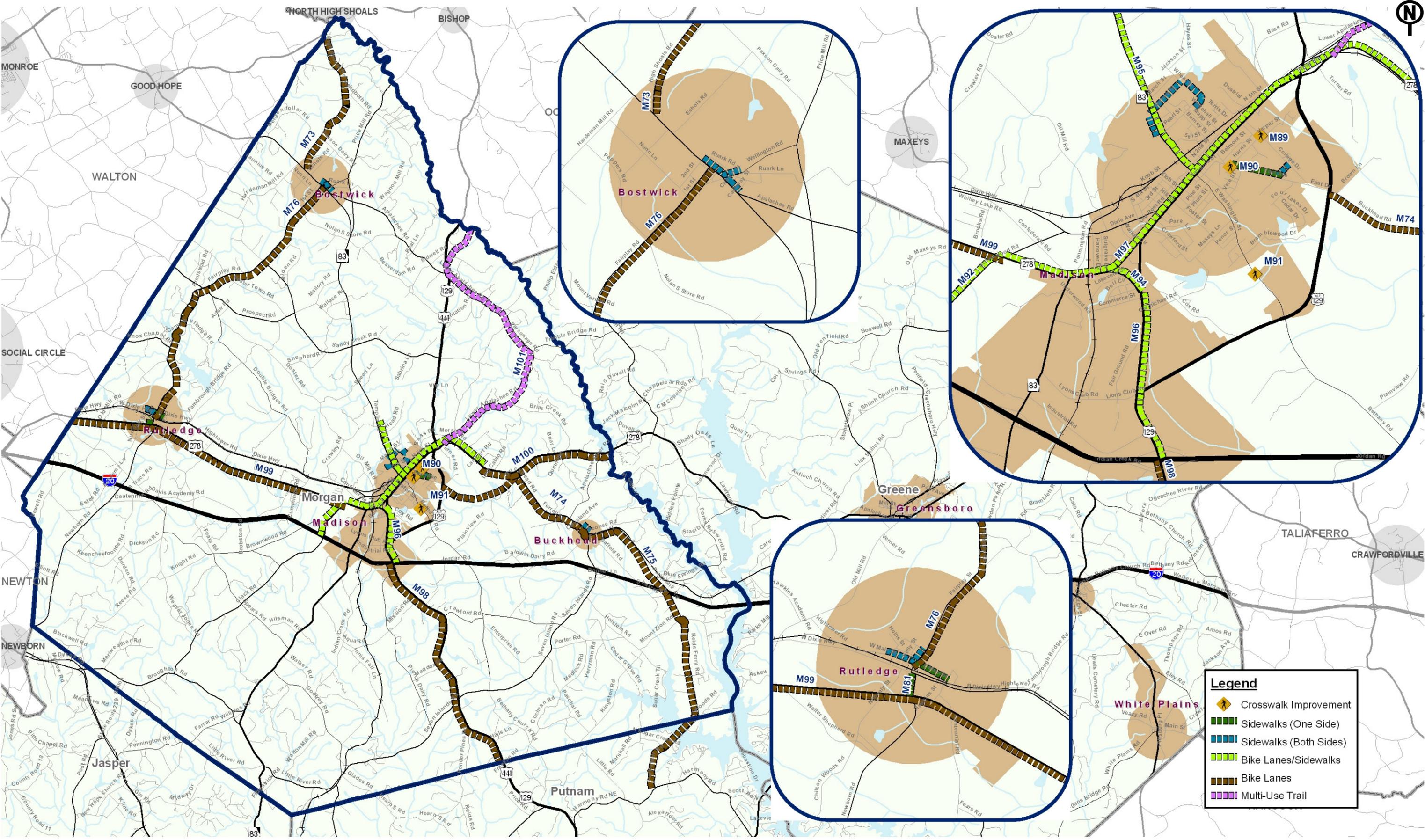


Legend

- Airport Improvement
- Bridges Improvement
- Interchange Improvement
- Intersection Improvement
- Park-n-Ride Improvement
- Rail Crossing Improvement
- Major Roadway Widening
- Minor Roadway Widening
- Operational Improvements
- Passing Lanes
- Roadway Realignment
- Roadway Project

Recommended Improvements - Roadway
East Georgia Multi-County Transportation Study

Figure No: 9.2.1



Recommended Improvements – Bicycle & Pedestrian
East Georgia Multi-County Transportation Study

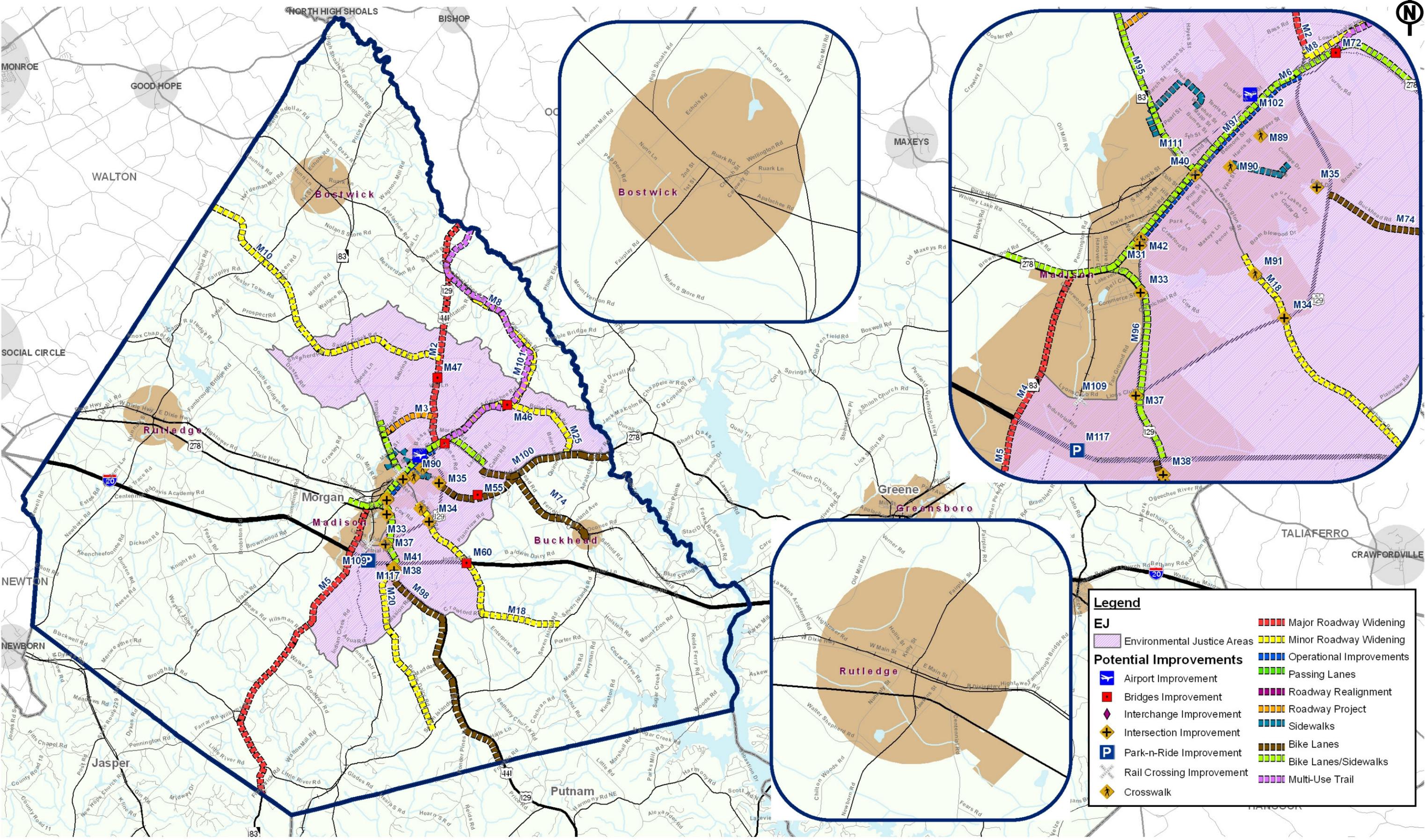
9.3 Environmental Justice Considerations

Another key point of concern in evaluating proposed transportation improvements is environmental justice. This ensures that areas with high concentrations of low-income or minority populations are not adversely impacted by transportation improvements. The following recommended projects are located in EJ areas:

- M2 – Widening of US 441 from US 441 Bypass to north of Apalachee River (Oconee County);
- M3 – Construction of SR 83/US 441 Bypass from US 441 (N) to SR 83 (N);
- M4 – Widening of SR 83 from US 278 to I-20;
- M5 – Widening of SR 83 from I-20 to Jasper County;
- M6 – Operational improvements to US 278 from US 441 to US 441 Bypass;
- M8 – Minor widening of Lower Apalachee Road from US 441 to US 278;
- M10 – Minor widening of Sandy Creek Road from Fairplay Road to US 441;
- M18 – Minor widening of Bethany Road from Bramblewood Drive to Seven Island Road;
- M20 – Minor widening of Pierce Dairy Road from US 441 to Seven Island Road;
- M25 – Minor widening of Briar Creek Road from Lower Apalachee Road to US 278;
- M31 – Intersection improvements to US 441 and US 278;
- M33 - Intersection improvements to US 441 and SR 24 Spur;
- M34 - Intersection improvements to US 441 Bypass and Bethany Road;
- M35 - Intersection improvements to US 441 Bypass and Old Buckhead Road;
- M37 - Intersection improvements to Lions Club Road and US 441;
- M38 - Alignment improvements to Indian Creek Road in the vicinity of I-20;
- M40 - Intersection improvements to US 278/US 441 (S Main Street) and SR 83 (E Washington Street);
- M41 - Intersection improvements to US 441 and Pierce Dairy Road;
- M42 - Intersection improvements to US 441 and Walker Circle;
- M46 – Bridge upgrade to Lower Apalachee Road at Norfolk Southern Railroad;
- M47 - Bridge upgrade to US 441 at Hard Labor Creek;
- M55 - Bridge upgrade to Buckhead Road at North Sugar Creek;
- M60 - Bridge upgrade to Bethany Road at I-20;
- M72 - Bridge upgrade to US 278 at CSX Railroad;
- M74 – Bike lanes along Buckhead Road from US 441 Bypass to Parks Mill Road;
- M84 – Sidewalks along Wheat Road from Whitehall Street to Garnett Street;
- M85 - Sidewalks along Garnett Street from SR 83 to Wheat Road;
- M86 - Sidewalks along SR 83 from Garnett Street to Pearl Street;
- M87 - Sidewalks along East Avenue from Harris Street to Morgan County Library;
- M88 - Sidewalks along Moreland Avenue from East Avenue to College Drive;
- M89 – Crosswalk for intersection of Harris Street and College Drive;
- M90 - Crosswalk for intersection of Harris Street and East Avenue;
- M91 - Crosswalk for intersection of Madison by the Creek Subdivision and School;
- M94 – Bike lanes and sidewalks along SR 24 Spur from US 278 to US 441;

- M95 - Bike lanes and sidewalks along SR 83 from US 278 to Doster Road;
- M96 - Bike lanes and sidewalks along US 441 from US 278 to I-20;
- M97 - Bike lanes and sidewalks along US 278 from Brownwood Road to Lambert Road;
- M98 – Bike lanes along US 441 from I-20 to Putnam County Line;
- M100 – Bike lanes along US 278 from Lambert Road to Greene County Line;
- M101 - Railroad Trail from US 278 to Oconee County Line;
- M109 - Railroad crossing upgrade at Lions Club Road;
- M111 - Railroad crossing upgrade at Jefferson Street; and,
- M117 - Park and Ride Lot along I-20 at SR 83 or US 441.

The recommended improvements will improve safety, mobility, and access for all users on a county-wide basis. These projects include the need for roadway widening and the possibility of additional right of way. Additional projects that will benefit the EJ communities include: bicycle and pedestrian improvements; transit park and ride lots along I-20; and, numerous safety and capacity enhancements throughout the County, as shown in Table 9.2. Figure 9.3 shows the recommended projects in the vicinity of the environmental justice areas.



Legend

	Environmental Justice Areas		Major Roadway Widening
	Potential Improvements		Minor Roadway Widening
	Airport Improvement		Operational Improvements
	Bridges Improvement		Passing Lanes
	Interchange Improvement		Roadway Realignment
	Intersection Improvement		Roadway Project
	Park-n-Ride Improvement		Sidewalks
	Rail Crossing Improvement		Bike Lanes
	Crosswalk		Bike Lanes/Sidewalks
			Multi-Use Trail

Environmental Justice Evaluation
East Georgia Multi-County Transportation Study

Figure No: 9.3

10.0 Project Prioritization

In order to aid GDOT and County staff, potential improvements were ranked by mode based on several evaluation factors. The following sections document the prioritization of improvements for Morgan County.

10.1 Corridor Prioritization

Qualitative and Quantitative Evaluation Factors were established so that the potential improvements for Morgan County could be evaluated objectively by County staff. These factors were developed by HNTB with the assistance of the SAG, public comment, and GDOT. This evaluation serves as a ranking for potential projects, resulting in a prioritization of improvement options to meet the County's transportation needs. Prioritization criteria were developed for four types of projects – roadway capacity, bicycle and pedestrian improvements, intersections, and bridges.

Qualitative Criteria

Qualitative criteria were established to evaluate the deficient corridors based on various conditions or standards established through the study process. The following list documents the qualitative criteria established for the roadway network improvement evaluation. These correspond to the vision established in the Goals and Objectives documented in Section 7.0.

- Continuation of Existing Road Widening Project
- Governor's Road Improvement Program (GRIP) / National Highway System
- Part of the Comprehensive Plan
- Right of Way Protection Corridor
- Connectivity
- Construction Designs in Progress
- Parallel Relief
- Protection of Downtown
- Ideal Typical Section
- Community Preservation
- Transportation - Land Use Linkage

By comparing potential projects to these established criteria, it was possible to determine which projects scored highest against these critical measures. This information was used as an input for prioritizing projects. Table 10.1.1 displays the qualitative criteria and the associated scoring. The total points established by the Qualitative Criteria range from 0 to 34 points. These points were added to the points received from the Quantitative Criteria, which are documented on the following pages.

**Table 10.1.1
Qualitative Criteria and Scoring**

Corridor Prioritization Criteria	Possible Points
Continuation of Existing Road Widening Project Is the proposed project a continuation of any previously completed or current project providing added lanes to the specific transportation corridor?	No = 0 Yes = 4
Governor's Road Improvement Program/National Highway System Is the project identified as a GRIP Corridor or part of the National Highway System?	No = 0 Yes = 2
Supports Comprehensive Plan Does the proposed project support the Comprehensive Plan?	No = 0 Yes = 3
Right of Way Protection Corridor Is the proposed project located in a developing area where right of way protection or early acquisition is needed?	No = 0 Yes = 3
Connectivity Does the proposed project improve access between activity centers or link existing or proposed projects or provide regional connectivity?	No = 0 Yes = 3
Construction Designs in Progress Are the design plans for the proposed project already complete or in the process of being completed?	No = 0 Yes = 3
Parallel Relief Does the proposed project provide relief to parallel congested/ deficient corridors?	No = 0 Yes = 4
Protection of Downtown Does the proposed project enhance the quality of life in downtown areas?	No = 0 Yes = 4
Ideal Typical Section Does the proposed project address upgrading sub standard roadway segments?	No = 0 Yes = 4
Community Preservation Does the proposed project preserve or enhance the character of existing communities in the County?	No = 0 Yes = 2
Transportation – Land Use Linkage Has the proposed project coordinated with, or support, land use decisions in the area?	No = 0 Yes = 2
Sub-Total Possible Points	34

Quantitative Criteria

Quantitative criteria were set up to evaluate the deficient corridors based on various measurable conditions. The following list documents the quantitative criteria established for the roadway network improvement evaluation.

- Volume to Capacity Ratio
- Ratio of Corridor Crash Rate (Number of Crashes per 100 Million Vehicle Miles Traveled) to Statewide Crash Rate Average
- Number of Fatalities

Table 10.1.2 displays the quantitative criteria and the associated scoring. The total points established by the Quantitative Criteria range from 0 to 25 points.

**Table 10.1.2
Quantitative Criteria and Scoring**

Corridor Prioritization Criteria	Possible Points
Volume to Capacity Ratio	
0.00 - 0.349	0.00
0.350 - 0.399	2.00
0.400 - 0.449	2.50
0.450 - 0.499	3.00
0.500 - 0.549	3.50
0.550 - 0.599	4.00
0.600 - 0.649	4.50
0.650 - 0.699	5.00
0.700 - 0.749	5.50
0.750 - 0.799	6.00
0.800 - 0.849	6.50
0.850 - 0.899	7.00
0.900 - 0.949	7.50
0.950 - 1.049	8.00
1.050 - 1.149	9.00
1.150 - 1.249	10.00
1.250 - 1.349	11.00
1.350 - 1.449	12.00
1.450 - 1.549	14.00
1.550 - 1.649	16.00
1.650 -	18.00
Ratio of Corridor Crash Rate to Statewide Crash Rate	
0.01-0.49	0.50
0.50-0.99	1.00
1.00 -1.99	1.50
2.00-2.49	2.00
2.50-2.99	2.50
3.00-3.99	3.00
4.00-5.99	3.50
6.00	4.00
Number of Fatalities	
1	1
2 or more	3
Sub-Total Possible Points	25

The total points that a facility can receive for both the qualitative and quantitative criteria is 59 points. Based upon the identified improvements and the evaluations made during the quantitative and qualitative evaluation, a set of recommended near, mid, and long-term transportation projects was established. The scoring for the deficient corridors is displayed in Table 10.1.3.

Table 10.1.3
Corridor Prioritization

Project Ref. No.	Facility	Segment Limits		Qualitative Criteria	Continuation of Existing Road Widening Project	Governor's Road Improvement Program / National Highway System	Part of Comprehensive Plan	Right of Way Protection Corridor	Connectivity	Construction Designs in Progress	Parallel Relief	Protection of Downtown	Ideal Typical Section	Community Preservation	Transportation Land Use Linkage	Sub-Total Qualitative Criteria	Quantitative Criteria				
		From	To														Volume/Capacity Ratio	Ratio of 100 Million VMT to Statewide Average	Number of Fatalities	Sub-Total Quantitative Criteria	Total Score for Project
M1	SR 83 W Bypass	SR 83 (N)	SR 83 (S)					✓	✓		✓	✓		✓	✓	18.00	0.00	0.00	0	0.50	18.50
M2	US 441	Madison Bypass	N of Apalachee River (Oconee)	✓	✓					✓	✓			✓	✓	17.00	0.41	0.11	1	4.00	21.00
M3	SR 83/US 441 Bypass	US 441 (N)	SR 83 (N)			✓		✓			✓	✓		✓	✓	17.00	0.00	0.00	0	0.50	17.50
M4	SR 83	US 278	I-20						✓		✓			✓	✓	11.00	0.72	0.43	1	7.00	18.00
M5	SR 83	I-20	Jasper County						✓						✓	5.00	0.63	0.38	0	5.00	10.00
M6	US 278	US 441	US 441 Bypass			✓										2.00	0.73	1.60	0	7.00	9.00
M7	Dixie Hwy	Walton County	Pennington Rd				✓		✓		✓					10.00	0.06	1.20	0	1.50	11.50
M8	Lower Apalachee Rd	US 441	US 441						✓				✓			7.00	0.27	1.36	0	1.50	8.50
M9	Seven Island Rd	Glades Rd	US 278				✓		✓				✓		✓	12.00	0.28	1.06	1	2.50	14.50
M10	Sandy Creek Rd	Fairplay Rd	US 441				✓		✓				✓			10.00	0.18	1.33	0	1.50	11.50
M11	Davis Academy Rd	Walton County	US 278										✓			4.00	0.00	0.96	0	1.00	5.00
M12	Price Mill Rd	SR 83	Oconee County				✓						✓			7.00	0.14	1.17	0	1.50	8.50
M13	Fairplay Rd	Dixie Hwy	SR 83				✓		✓				✓			10.00	0.31	0.56	2	4.00	14.00
M14	Newborn Rd	Dixie Hwy	Newton County						✓				✓		✓	9.00	0.19	0.75	0	1.00	10.00
M15	Parks Mill Rd	Seven Island Rd	Putnam County				✓		✓				✓		✓	12.00	0.27	0.51	0	1.00	13.00
M16	Apalachee Rd	Price Mill Rd	US 441				✓		✓				✓			10.00	0.44	0.66	0	3.50	13.50
M17	Buckhead Rd/Seven Island Rd	Greensboro Rd	I-20				✓		✓				✓		✓	12.00	0.50	0.30	1	5.00	17.00
M18	Bethany Rd	US 441 Bypass	Bethany Church Rd										✓			4.00	0.18	0.71	1	2.00	6.00
M19	Bethany Church Rd	Bethany Rd	Seven Island Rd										✓			4.00	0.12	0.00	0	0.50	4.50
M20	Pierce Dairy Rd	US 441	Seven Island Rd								✓		✓		✓	10.00	0.02	0.40	0	0.50	10.50
M21	Godfrey Rd	SR 83	Seven Island Rd				✓						✓			7.00	0.07	0.00	0	0.50	7.50
M22	Spears Rd	Brownwood Rd	SR 83						✓				✓			7.00	0.14	0.00	0	0.50	7.50
M23	Brownwood Rd	Spears Rd	Old Dixie Hwy						✓				✓			7.00	0.26	0.42	0	0.50	7.50
M24	Reese Rd/Knight Rd	Brownwood Rd	Jasper County										✓			4.00	0.29	0.72	0	1.00	5.00
M25	Briar Creek Rd	Lower Apalachee Rd	US 278										✓			4.00	0.00	0.00	0	0.50	4.50
M26	Old Mill Rd	Fairplay Rd	Newborn Rd									✓	✓			8.00	0.00	1.36	0	1.50	9.50
M27	Cochran Rd	US 441 (Putnam)	Kingston Rd										✓			4.00	0.00	0.72	0	1.00	5.00
M28	Double Bridges Rd	Prospect Rd	Dixie Hwy										✓			4.00	0.07	0.00	0	0.50	4.50

The prioritization resulted in the following ranking of top roadway improvements:

- US 441 from Madison Bypass to north of Apalachee River (Occonee);
- SR 83 W Bypass from SR 83 (N) to SR 83 (S);
- SR 83 from US 278 to I-20;
- SR 83/US 441 Bypass from US 441 (N) to SR 83 (N);
- Buckhead Road/Seven Island Road from Greensboro Road to I-20;
- Seven Island Road from Glades Road to US 278;
- Fairplay Road from Dixie Highway to SR 83;
- Apalachee Road from Price Mill Road to US 441;
- Parks Mill Road from Seven Island Road to Putnam County;
- Dixie Highway from Walton County to Pennington Road; and,
- Sandy Creek Road from Fairplay Road to US 441.

Corridors with higher points are considered to achieve more of the goals and objectives established for the LRTP. The points are not meant to be the final decision on whether a project should be implemented or not. Instead these rankings should be employed in conjunction with input from key technical staff from the County and GDOT; input from political decision makers; and, public comment. However, the total points, from the Qualitative and Quantitative scoring, could be used to establish a priority ranking.

10.2 Bicycle & Pedestrian Prioritization

Criteria were established to evaluate the potential bicycle and pedestrian improvements based on various conditions or standards established through the study process. The following list documents the criteria established for the bicycle and pedestrian evaluation. These correspond to the established Goals and Objectives and project evaluation factors.

- Is the project within a bicycle or pedestrian priority area (1-mile buffer around schools, parks & libraries)?
- Did a bicycle or pedestrian related injury or fatality occur in the proposed project area?
- Does the proposed project improve access between activity centers or link existing or proposed projects or provide regional bicycle and pedestrian connectivity?
- Was the proposed project previously identified (STIP, RDC Bike/Ped Plan, Comprehensive Plan)?
- Does the proposed project link to a major bicycle or pedestrian origin or destination?

By comparing potential projects to these established criteria, it was possible to determine which projects scored highest against these critical measures. This information was used as a means for prioritizing projects. Table 10.2.1 documents the scoring used for the bicycle and pedestrian prioritization and Table 10.2.2 displays the scoring applied to the proposed bicycle and pedestrian improvements.

**Table 10.2.1
Bicycle & Pedestrian Scoring Criteria**

Corridor Prioritization Criteria	Possible Points
Bike Ped Priority Area Is the project within a bicycle or pedestrian priority area (1-mile buffer around schools, parks & libraries)?	No = 0 Partial = 5 Yes = 10
Injury or Fatality Did a bicycle or pedestrian related injury or fatality occur in the proposed project area?	None = 0 Injury = 5 Fatality = 10
Connectivity Does the proposed project improve access between activity centers or link existing or proposed projects or provide regional bicycle and pedestrian connectivity?	No = 0 Yes = 5
Previously Identified Improvement Was the proposed project previously identified (STIP, RDC Bike/Ped Plan, Comprehensive Plan)?	No = 0 Yes = # * 2
Origin & Destination Does the proposed project link to a major bicycle or pedestrian origin or destination?	No = 0 Yes = # * 2

* 2 – the number of projects or origins/destinations multiplied by 2

The prioritization scoring resulted in the following ranking of bicycle and pedestrian improvements:

- SR 83 bike lanes and sidewalks from US 278 to Doster Road;
- East Avenue sidewalks from Harris Street to Morgan County Library;
- Buckhead Road/Chivers Avenue sidewalks from Parks Mill Road to Park;
- Moreland Avenue sidewalks from East Avenue to College Drive;
- SR 24 Spur bike lanes & sidewalks from US 278 to US 441;
- US 441 bike lanes and sidewalks from US 278 to I-20; and,
- US 278 bike lanes and sidewalks from Brownwood Road to Lambert Road.

The remaining bicycle and pedestrian improvements scored lower and, at this time, should be considered a lower priority.

**Table 10.2.2
Bicycle & Pedestrian Prioritization**

Road	From	To	Priority Area	Injury / Fatality	Connectivity	Previously Id	O & D	Score
High Shoals Rd Bike Lanes	SR 83	Walton County			✓			5
Buckhead Rd Bike Lanes	US 441 Bypass	Parks Mill Rd			✓			5
Parks Mill Rd Bike Lanes	Buckhead Rd	Harmony Rd (Putnam)			✓			5
Fairplay Rd Bike Lanes	Rutledge	Bostwick	✓		✓			15
Buckhead Rd/Chivers Ave Sidewalks	Parks Mill Rd	Park	✓		✓		1	17
East Main St Sidewalks	Hawkins St	Fairplay St	✓		✓			15
West Main St Sidewalks	Fairplay St	New subdivision	✓		✓			15
Fairplay Rd Sidewalks	Main St	Williams St	✓		✓			15
Newborn Rd Sidewalks	Dixie Hwy	US 278	✓					10
SR 83 Sidewalks	2nd St	Callaway St	✓		✓			15
Wellington Rd Sidewalks	Ruark Ln	SR 83	✓		✓			15
Wheat Rd Sidewalks	Whitehall St	Garnett St	✓					10
Garnett St Sidewalks	SR 83	Wheat Rd	✓					10
SR 83 Sidewalks	Garnett St	Pearl St	✓	I				15
East Ave Sidewalks	Harris St	Morgan County Library	✓		✓		2	19
Moreland Ave Sidewalks	East Ave	College Dr	✓		✓		1	17
Harris St	College Dr		✓					10
Harris St	East Ave		✓					10
Madison by the Creek Subdivision	School		✓				1	12
Brownwood Rd Bike Lanes & Sidewalks	US 278	Clack Rd				1		2
Clack Rd Bike Lanes & Sidewalks	Brownwood Rd	I-20				1		2
SR 24 Spur Bike Lanes & Sidewalks	US 278	US 441	✓		✓	1		17
SR 83 Bike Lanes & Sidewalks	US 278	Doster Rd	✓	I	✓	1		22
US 441 Bike Lanes & Sidewalks	US 278	I-20	✓		✓	1		17
US 278 Bike Lanes & Sidewalks	Brownwood Rd	Lambert Rd	✓	I		1		17
US 441 Bike Lanes	I-20	Putnam County Line				1		2
US 278 Bike Lanes	Brownwood Rd	Walton County Line				1		2
US 278 Bike Lanes	Lambert Rd	Greene County Line				1		2
Railroad Trail	US 278	Oconee County Line				1		2

10.3 Intersection Prioritization

Criteria were established to evaluate the potential intersection improvements based on various conditions or standards established through the study process. The following list documents the criteria established for the intersection evaluation. These correspond to the established Goals and Objectives and project evaluation factors.

- What is the Average Annual Daily Traffic (AADT) on the facility?
- How many crashes occurred at the intersection between 2003 and 2005?
- Did a fatality occur at the intersection?
- Was the intersection currently identified by the County/City?
- Can operational issues be addressed without installing a traffic signal?

By comparing potential projects to these established criteria, it was possible to determine which projects scored highest against these critical measures. This information was used as a means of prioritizing projects. Table 10.3.1 documents the scoring used for the intersection prioritization and Table 10.3.2 displays the scoring applied to the proposed intersection improvements.

Table 10.3.1
Intersection Scoring Criteria

Corridor Prioritization Criteria	Possible Points
AADT What is the Average AADT at the intersection?	> 4,000 = 5 2,500 - 4,000 = 4 1,000 - 2,500 = 2 < 1,000 = 0
Crashes How many crashes occurred at the intersection between 2002 and 2004?	> 20 = 10 10 - 20 = 5 5 - 10 = 2 <5 = 0
Fatality Did a fatality occur at the intersection?	No = 0 Yes = 10
Previously Identified Improvement Was the intersection currently identified by the County/City?	No = 0 Yes = 5
Improvement Opportunities Can operational issues be addressed without installing a traffic signal?	No = 0 Yes = 5

Table 10.3.2
Intersection Prioritization

Project Ref. No.	Road	Intersection	AADT	Crashes	Fatalities	County / City List	Score
M29	Fairplay Rd	SR 83	1,373	0	0	✓	5
M30	Price Mill Rd	SR 83	873	0	0	✓	5
M31	US 441	US 278	3,233	25	0	✓	17
M32	US 278	SR 24 Spur	2,590	0	0	✓	7
M33	US 441	SR 24 Spur	2,613	5	0	✓	9
M34	US 441 Bypass	Bethany Rd	1,945	10	0	✓	10
M35	US 441 Bypass	Old Buckhead Rd	1,745	4	0	✓	5
M36	Little's Rd	Harmony Rd (Putnam)	510	1	0	✓	5
M37	Lions Club Rd	US 441	4,477	26	1	✓	27
M38	Indian Creek Rd	vicinity of I-20	5,430	8	0		6
M39	US 278 (Atlanta Hwy)	SR 83 (Pennington Rd)	1,968	31	0		10
M40	US 278/US 441 (S Main St)	SR 83 (E Washington St)	3,103	16	0		7
M41	US 441	Pierce Dairy Rd	3,623	13	0		7
M42	US 441	Walker Cir	2,320	11	0		5

The prioritization scoring resulted in the following ranking of intersection improvements:

- Lions Club Road at US 441;
- US 441 at US 278;
- US 278 (Atlanta Highway) at SR 83 (Pennington Road);
- US 441 Bypass at Bethany Road;
- US 441 at SR 24 Spur;
- US 278 at SR 24 Spur;
- US 278/US 441 (S Main Street) at SR 83 (E Washington Street);
- US 441 at Pierce Dairy Road;
- Indian Creek Road in the vicinity of I-20; and,
- Little's Road at Harmony Road (Putnam County).

The remaining intersections scored lower and, at this time, should be considered a lower priority.

10.4 Bridge Prioritization

Bridges with a sufficiency rating of 75 or lower were recommended for improvements. The sufficiency rating was also used to prioritize the bridges in need of rehabilitation or maintenance. The lower the sufficiency rating, the higher the improvement priority.

The prioritization scoring resulted in the following ranking of bridge improvements:

- Oil Mill Road at Norfolk Southern Railroad;
- Newborn Road at Little River;
- Kingston Road at Little Sugar Creek;
- Lower Apalachee Road at Norfolk Southern Railroad;
- US 441 at Hard Labor Creek;
- Brownwood Road at Big Indian Creek;
- Enterprise Road at Little Sugar Creek;
- US 441 at Apalachee River;
- Walton Mill Road at Little River Tributary;
- US 441 at Big Sandy Creek;
- Davis Academy Road at Big Indian Creek;
- Keencheefoonee Road at Hunnicut Creek; and,
- Buckhead Road at North Sugar Creek.

The remaining bridges have a higher sufficiency rating and, at this time, should be considered a lower priority.

11.0 Funding

Several funding sources will be used to construct as many of the recommended projects as possible. This is usually controlled by the agencies responsible for maintaining and operating the roadway. Most major facilities in Morgan County are either operated by GDOT or the County. Should the County desire to accelerate projects on state owned and maintained facilities, it is highly likely that overmatching of local funds could accelerate the process.

Funding for most transportation projects in the County comes in part through GDOT. To understand the ability of GDOT to continue to provide funds to Morgan County, it is useful to understand the components of GDOT funding. Key components include:

- Federal Title I Apportionments;
 - State Motor Fuels Taxes;
 - State License Tag Fees;
 - State Title Registrations;
 - State Motor Carrier Fuels Tax;
 - State Personal Property Tax; and,
 - Tax Allocation Districts.
- } Accounts for approximately 98% of the budget

While detailed analysis of these funding sources is beyond the scope of this study, it is useful to point out that all of the revenue streams identified as key components of GDOT funding have positive growth rates historically, and it is anticipated that they will continue to grow in the future.

While GDOT funding components have positive growth rates, the Department is experiencing some funding challenges. Construction costs have increased up to 65% over the past two to three years forcing the Department to continually assess which projects it can reasonably fund. It is anticipated that in the future local funding sources will become more significant. A review of project implementation shows that locations with a Special Purpose Option Sales Tax (SPLOST) have been in the best position to leverage funds and ultimately construct projects.

11.1 Federal Funding Sources for Transportation

A substantial portion of GDOT funding comes from the Federal Government through Federal Title I Apportionments. The primary funding source for Title I is the Federal gasoline tax collected at the state level. The US Congress authorizes federal transportation funding to the states and other public entities, generally every six years. The previous authorization was known as the "Transportation Efficiency Act for the 21st Century" or TEA 21. The reauthorization of TEA 21 in August 2005 was SAFETEA-LU which authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005 through 2009.

Based on the reauthorization, Table 11.1 illustrates funding levels for major highway transportation programs and apportionments and allocations to Georgia over the five-year time frame (FY 2005, 2006, 2007, 2008, and 2009).

Table 11.1
Estimated Five-Year SAFETEA-LU Highway Apportionments and Allocations*

Area	Georgia	US
Interstate Maintenance	\$922	\$25,202
National Highway System	\$859	\$30,542
Surface Transportation System	\$1,119	\$32,550
Bridge Replacement & Rehabilitation	\$272	\$21,607
Congress Mitigation & Air Quality	\$186	\$8,609
Appalachian Development Highway System	\$90	\$2,350
Recreational Trails	\$10	\$370
Metropolitan Planning	\$37	\$1,481
Safety	\$141	\$5,064
Rail Highway Crossings	\$30	\$880
Safe Route to Schools	\$18	\$612
High Priority Projects	\$350	\$14,832
Equity Bonus	\$2,324	\$40,896
Total	\$6,356	\$183,466

* In millions of dollars (rounded to the nearest million) for FY 2005 through 2009.

Source: US Department of Transportation

Federal funding for the majority of highway system improvements (excluding interstate highways) planned in Morgan County is expected to come from the Surface Transportation Program (STP) and Minimum Guarantee Program. Locally-sponsored projects within the County will generally require a 20% local funding commitment to match federal funds. The local government is also generally responsible for completing the planning and design of the projects as well. Federal and state funds are programmed by GDOT for right of way and construction costs. State-sponsored projects generally require a 10%-20% local funding match.

As part of the federal apportionment and allocation, there are opportunities for local governments to collaborate with GDOT on special transportation projects. These programs include:

- *Scenic Byway Program* - GDOT has initiated a Scenic Byways Program to help communities preserve and promote the cultural and historic resources found along the roadways in Georgia. Once a road becomes designated as a Georgia Scenic Byway, it becomes eligible for federal Scenic Byway funds. Funds can be used to develop corridor management plans to protect the natural and cultural assets along the route.

- *Transportation Enhancement Program (TE Funds)* - Currently, the TE Grant Program provides federal transportation funds through GDOT to local governments through a competitive process for non-highway projects. Eligible projects include bicycle and pedestrian facilities, multi-use trails, the preservation of historic sites related to transportation, etc.

11.2 Federal Funds for Public Transportation

The need for better mobility and access to transportation extends far beyond city limits. In Morgan County, a very limited amount of public transportation services are available for people who cannot or choose not to drive their private autos. As the population grows and demographic trends change with a larger percentage of the population being elderly, the needs for special public transit to serve seniors and disabled people will grow.

In addition, as the study area urbanizes and households with workers are formed, there will be growing demands to serve commuter travel needs. Commuter-oriented public transportation services, such as vanpooling programs and express bus services as well as transit facilities, such as park and ride lots will be needed in the area. All of these programs are eligible for federal funding, with the local share ranging from 10 percent for transit vehicle purchases and the construction of park and ride lots up to 50 percent for rural transit operating assistance.

As Morgan County evolves, the County should monitor its needs for local and regional public transportation services and identify opportunities to tap into the available federal sources for these programs. Table 11.2 shows the estimated federal funds included in SAFETEA-LU. Generally, for public transit projects proposed in Morgan County, the federal funding programs will be the Non-Urbanized Area Program; the Rural Transit Assistance Program; Transit for Elderly and Disabled Persons, Job Access and Reverse Commute; and SAFETEA's New Freedom Program.

Table 11.2
Four-Year Apportionments and Allocations for Public Transportation*

Area	Georgia	US
Urban Areas	\$308	\$12,723
Fixed Guideway Motorization	\$150	\$6,076
Non-Urbanized Areas	\$62	\$1,880
Rural Transit Assistance Program (RTAP)	\$1	\$29
Job Access/Reverse Commute Program	\$13	\$603
Elderly & Persons with Disabilities	\$12	\$490
New Freedoms	\$10	\$339
Metropolitan Planning	\$9	\$343
State Planning	\$2	\$72
Total	\$567	\$22,598

* in millions of dollars (rounded to the nearest million) for the period from FY 2006 – 2009.

Source: US Department of Transportation

11.3 State Funding Sources for Transportation

State funding for transportation projects in Georgia is derived from the following sources:

- State tax on motor fuels (7.5 cents per gallon)(provides majority of revenue);
- State license tag fees;
- State title registrations;
- State motor carrier fuels tax; and,
- State personal property tax.

It is also useful to note that Georgia currently has one of the nation's lowest state motor fuels taxes, excluding sales taxes. Even when including the additional 4% sales tax, Georgia's motor fuel taxes are the third lowest in the US.

A major element of Georgia's Statewide Transportation Plan is the Governor's Road Improvement Program (GRIP). The program is viewed as a priority funding program for GDOT. The GRIP program was started in 1989 through action by the Georgia Legislature. The program's goal is to connect 95% of the state's cities with a population of 2,500 or more to the Interstate Highway System through a four-lane facility.

11.4 Local Funding Sources for Transportation

Local governments (cities and counties) receive revenues from a number of sources to support the public facilities and services they provide to citizens. These sources include federal and state funds, "own source" funds, such as property tax revenues and other monies, and discretionary grant funds from federal and/or state agencies.

Increasingly, counties in Georgia have enacted SPLOST to fund specifically identified capital projects. SPLOST taxes require voter approval and are time-limited. SPLOST funds can be used for transportation projects, including matching federal and/or state transportation funds. Cities and counties may also use Local Option Sales Taxes (LOST) for transportation purposes, including providing local matching funds for GDOT projects. Other local sources of transportation funding include impact fees or other exactions paid by developers according to local ordinances and the creation of self-taxing entities, such as Community Improvement Districts. In addition, counties in Georgia may issue general obligation bonds to support transportation capital projects.

County governments use a portion of their own revenues for transportation-related purposes, including capital projects, and operations and maintenance of transportation facilities within their own jurisdiction. A key determinant of the ability to improve an area's transportation facilities is the availability of local funds to match state and/or federal transportation funds. Data on the County's expenditures for transportation were not available.

According to the Georgia Department of Community Affairs (DCA), the County's "own source" revenues, including revenues from property taxes, sales taxes, excise and special use taxes and service charges and fees were estimated. Own source revenues are relevant because a portion of these funds could be provided as local matching funds for federally and state-funded transportation improvements or for locally-funded projects, depending on the County's other funding priorities. Table 11.4 illustrates this data. In 2004, Morgan County had per capita own source amounts of (\$736), which is greater than the statewide average of \$611.

Table 11.4
Own Source Revenues

County	2000 Own Source Revenues	2004 Own Source Revenues	% Change from 1996 to 2000	Per Capita Amount*
Morgan County	\$12.7 million	\$14.3 million	13.0%	\$736

* Statewide per capita amount equals \$736.

Source: Georgia Department of Community Affairs

11.5 GDOT State Transportation Improvement Program (STIP)

Each year, GDOT develops its State Transportation Improvement Program (STIP), a listing of all projects and project phases anticipated to be funded with federal and state funds within the current three-year period. The STIP also contains "lump sum" projects for transportation activities that benefit more than one county jurisdiction, for example, roadway beautification projects.

In its 2006-2008 STIP, GDOT estimated that nearly \$8 billion were allocated for various transportation functions throughout Georgia. Table 11.5.1 shows the allocation of these funds across major functional areas.

Table 11.5.1
STIP Fund Allocations (2006 – 2008)

Transportation Function	Amount Allocated	Percent of Total
New Construction	\$517,556,000	6.44%
Reconstruction and Rehabilitation	\$2,692,175,000	33.52%
Bridges	\$1,151,520,000	14.34%
Safety	\$778,927,000	9.70%
Maintenance	\$785,263,000	9.78%
Transportation Enhancement	\$348,825,000	4.34%
Transit	\$1,393,728,000	17.35%
Other	\$363,293,000	4.52%
Total	\$8,031,287,000	100.00%

Additionally, GDOT develops a Construction Work Program (CWP), a listing of projects expected to be funded within a six-year period (current year plus five subsequent years). The fourth, fifth, and sixth years of the CWP are viewed as an expression of GDOT's intention to proceed with the projects as funding becomes available to develop the projects (complete engineering design, acquire right-of-way, if needed, and construct the improvement). These projects are documented in this Plan.

According to GDOT's latest STIP for Morgan County, a total of 8 major projects have been programmed utilizing nearly \$45 million in federal and state funds. Table 11.5.2 summarizes these programmed amounts.

Table 11.5.2
GDOT State Transportation Improvement Program (STIP)

Project	Total Funds Programmed
Aqua Rd at Little Indian Creek 5.7 Mi south of Madison	\$927,000
Seven Island Rd at Big Indian Creek & Overflow	\$810,000
Bostwick Streetscape in Morgan County	\$120,000
Hawkins Ave at CSX #279621U	\$150,000
SR 24/US 441 from Putnam CL to north of Pierce Dairy Rd	\$35,304,000
SR 83/Bostwick Hwy at Little Sandy Creek 4.6 mile south of Bostwick	\$3,130,000
SR 83/Bostwick Hwy at Big Sandy Creek 3 mile south of Bostwick	\$3,743,960
Aqua Rd & Mission Rd at Pierce Dairy Rd	\$15,293
TOTAL PROGRAMMED FUNDS	\$44,200,253

11.6 Future Transportation Funding Needs

A combination of federal, state, local, and private funding sources should be pursued for individual projects to improve transportation facilities in the study area. These sources should be pursued depending on GDOT (state), regional and local investment priorities considering the safety, convenience, and economic benefits of the projects throughout the planning period.

12.0 Conclusions

Growth in Greene, Jasper, Morgan, and Putnam Counties has resulted in increased travel demand through the 4-County Region. The GDOT Office of Planning, in conjunction with these four Counties, initiated the East Georgia Multi-County Transportation Study to develop a LRTP to serve the 4-County Region through the planning horizon, 2030. Recommended projects were identified and selected according to all applicable rules and regulations with the intent of enhancing the quality of life for County residents and visitors. Efforts were taken to ensure that proposed projects impacted the community as little as possible while providing maximum benefits. Analysis was conducted to ensure that the projects benefited and did not disproportionately impact low-income and minority communities. Ultimately, the study identified multi-modal improvements and prioritized project implementation in the form of a Long Range Transportation Plan.

HNTB coordinated with GDOT, Greene, Jasper, Morgan, and Putnam Counties, local cities, citizens, and other partners in the planning, development, review, and approval of potential improvements. Additionally, a comprehensive and interactive public involvement program was conducted. This ensured that alternative transportation improvements were not only coordinated with various governments, but afforded individual citizens and interested groups the opportunity to provide their input in developing and evaluating potential improvements to each County's transportation network.

The end product for this study was a LRTP that provided for the efficient movement of people and goods within and through Morgan County through the horizon year of this study, 2030. Interim year analysis was conducted for the year 2015. As part of this effort existing and future operating conditions were documented for the following modes: highways and bridges, bicycle and pedestrian improvements, freight, transit, railways and airports.

This document should be reviewed and updated periodically to ensure that the planning factors and other assumptions are still relevant and effectively address transportation needs. This document should serve as the foundation for Morgan County's transportation planning efforts and a starting point for addressing transportation needs.