

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

**Putnam 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 Putnam 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 Putnam 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.

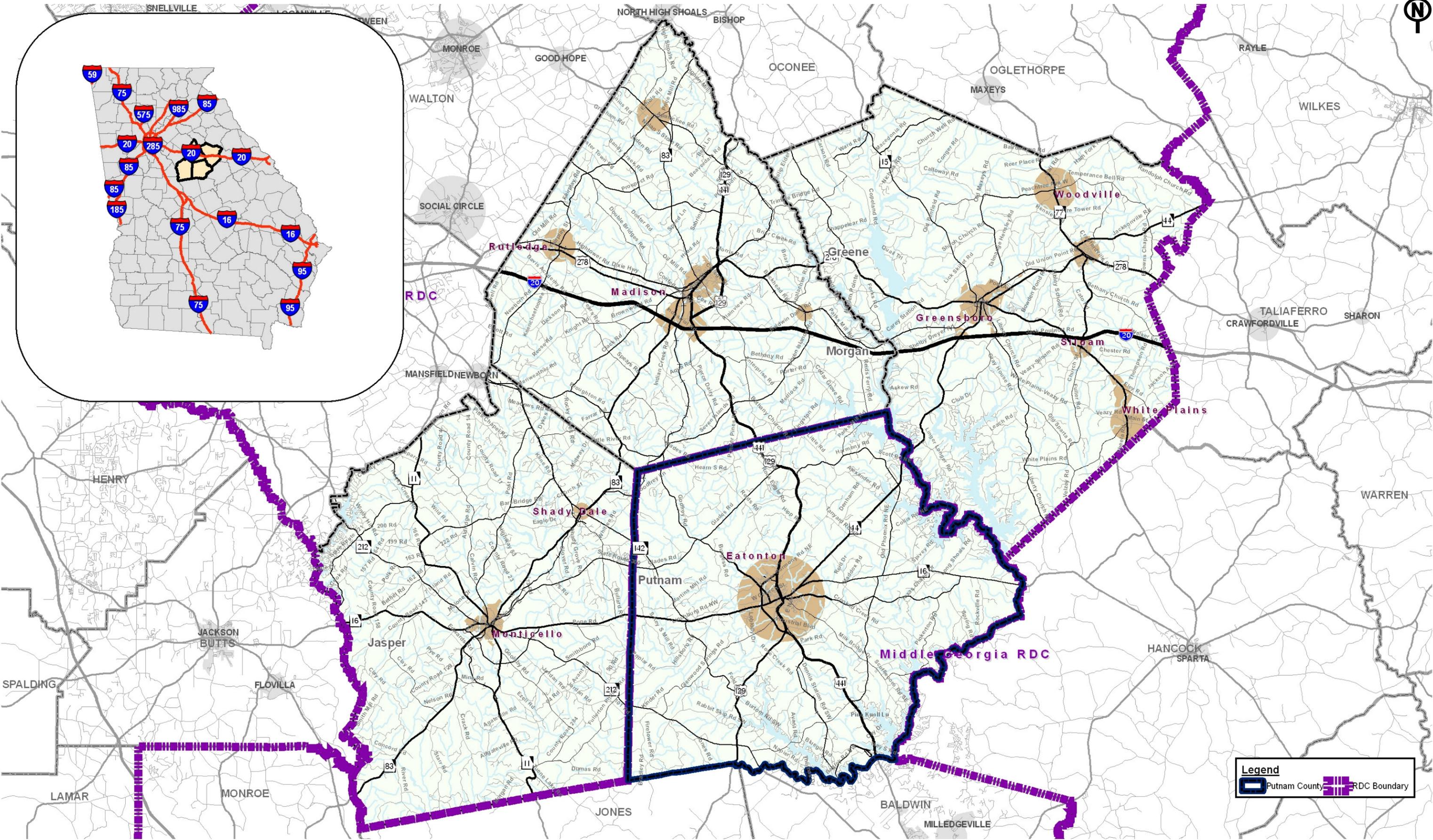
1.2 Study Area Description

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. Putnam County covers approximately 345 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.

- Putnam County was the 33rd County formed in Georgia (1807), named after the General Israel Putnam.
- Putnam 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. Additionally, Lake Sinclair borders the south of Putnam.
- Just north of Eatonton is Rock Eagle State 4-H Club Center and Oconee National Forest. Rock Eagle is an eagle-shaped mound of white quartz boulders created by the early Indians.

Putnam County is part of the Middle Georgia RDC (MGRDC). There is only one municipality in Putnam County – Eatonton. Additionally, the southern portion of Putnam County is in a partial PM2.5 non-attainment area. The study area is displayed in Figure 1.2.



Study Area
East Georgia Multi-County Transportation Study

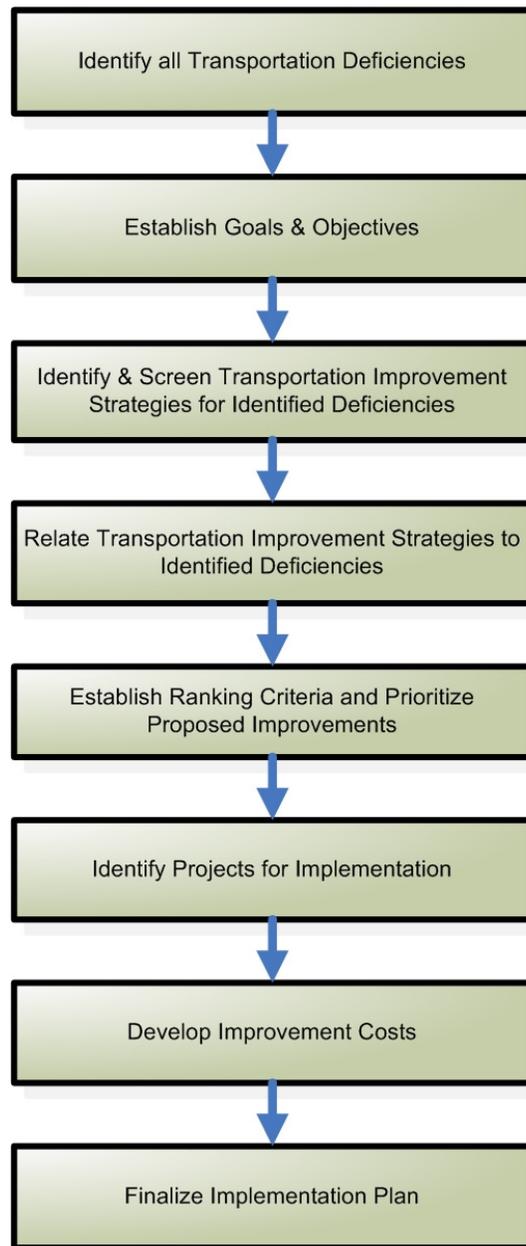
Figure No: 1.2

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 Putnam 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 Putnam County 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. Putnam 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:

- Helen Carnes - Putnam County, County Manager;
- Dan Elmore - City of Eatonton, City Administrator;
- Phil Clark - Middle Georgia RDC Senior Planner;
- John Reid - Eatonton Mayor;
- James Gorley – Councilman;
- Doug Veal - Zoning Board;
- Kent Lawrence - Police Chief;
- Sharyn Darlington - Eatonton Planning & Development Director;
- Wesley Willis – Commissioner;
- Jack Griffith - Putnam County Public Works Director;

- Clayburn McMichael - Assistant Road Superintendent;
- Gary McElhenney - Putnam County Emergency Service;
- Roddie Ann Blackwell - Chamber of Commerce;
- Jim Willis - School Board Superintendent; and
- Ray Ricks - Board of Education.

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:

- Putnam County Courthouse Annex – October 26, 2006;
- Putnam County Courthouse Annex – February 15, 2007; and,
- Putnam County Courthouse Annex – July 10, 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
Workshop #1	6-Nov-06	Putnam County Courthouse	100	12	5
Workshop #2	13-Mar-07	Putnam County Courthouse	105	13	0

3.0 Demographic Information

A review of US Census data shows that Putnam County has experienced population growth at a high level during the past 20 years. Table 3.0 presents select demographic data to illustrate the characteristics of the population living in Putnam 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 Putnam County. The ratio of residents (18,812) to jobs (8,264) is almost two and a half 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	Putnam County
Total Population	18,812
Median Age	39.6
Households	7,402
Average Household Size	2.50
Total Housing Units	10,319
Occupied Housing Units	7,402 (71.7% of total)
Owner-Occupied Housing Units	5,870 (56.9% of total)
Renter-Occupied Housing Units	1,532 (14.8% of total)
School Enrollment (Age 3+)	4,207 (22.4% of total)
Percent High School Graduate or Higher	75.5%
Total Disabled Population (Age 5+)	4,108
Percent of Population in Same House in 1995	58.2%

Source: 2000 US Census

In 2000, 6,764 people lived within Eatonton city limits. Approximately two-third of the residents (12,048) of Putnam County lives outside of the cities.

Perhaps the most significant figure identified in the demographic data is the percent of disabled individuals in Putnam County, 21.8%. This figure exceeds 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 Putnam 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

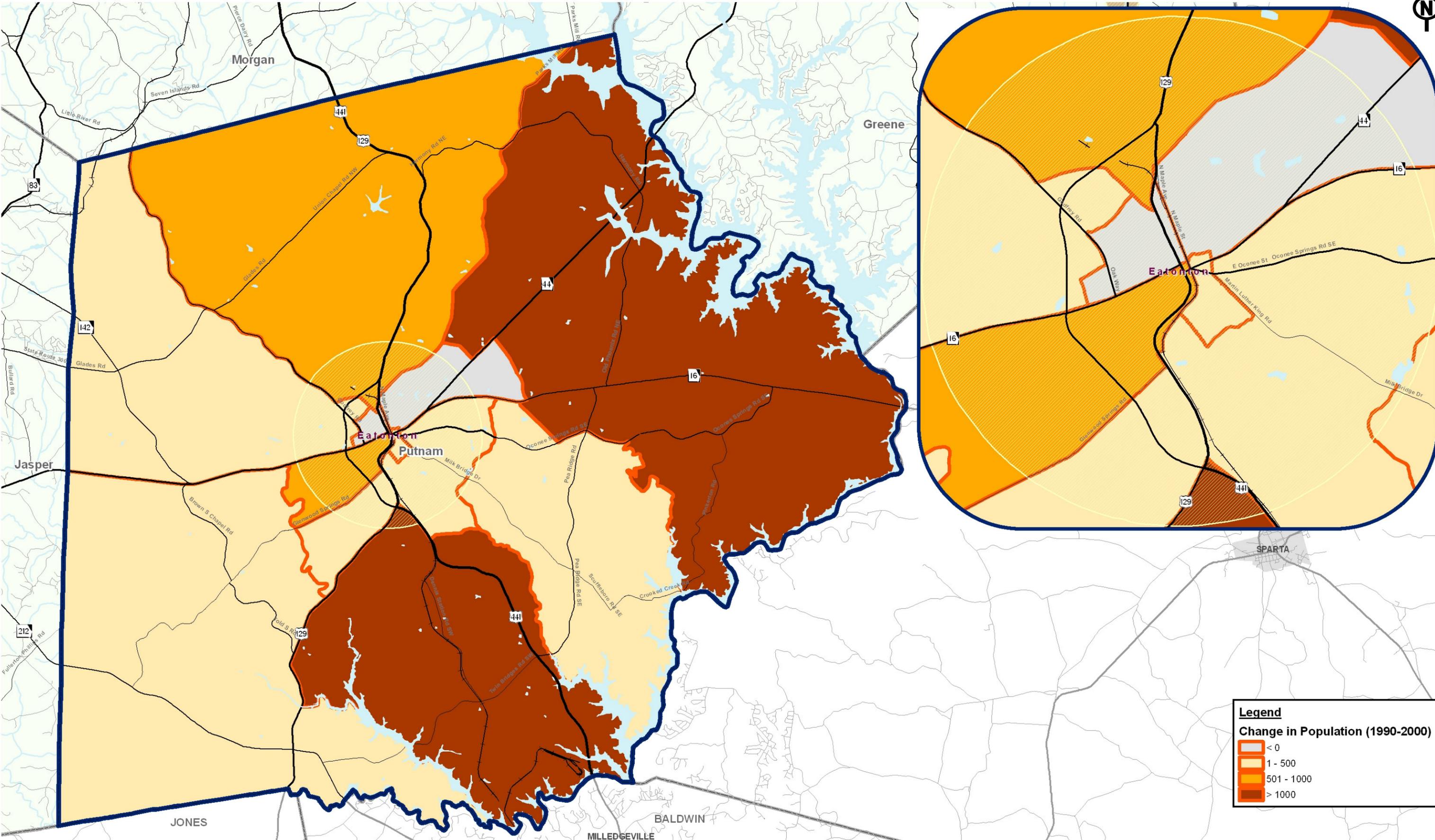
Table 3.1 illustrates the growth trends for Putnam County and Georgia from 1900 to 2000. Information in Table 3.1 shows that the area has had high historical growth compared to the growth trend for the State of Georgia between 1980 - 2000. The population for Putnam County is expected to increase throughout 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
Putnam	13,436	15,151	8,514	7,798	10,295	18,812	82.7%
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 Putnam County for each Census Block Group. The greatest change has occurred in the vicinity of Lake Oconee and Lake Sinclair.



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

Putnam County has received a large amount of growth over the past 20 years (82.7%). This growth trend is expected to slow down; however, the County will continue 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 developments. Table 3.2 displays the projected growth, provided by the Putnam County Comprehensive Plan, for Putnam County through the horizon year of 2030.

Table 3.2
Projected Population

	2000	2005	2010	2015	2020	2025	2030
Projected Population	18,812	19,900	21,126	22,327	23,553	24,841	27,144

Source: Putnam County Comprehensive Plan

Reviewing Putnam County's Comprehensive Plan reveals that over the next 30 years the County is projected to nearly 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 Putnam County were analyzed using the 2000 Census data. This census data was reviewed by Census Block Group, and shows concentrations of minority populations located in Eatonton and the western portion of the County. The average minority population figure for the County is 32% while the statewide average is 34.9%. The minority Census Block Groups are displayed in Figure 3.3.1.

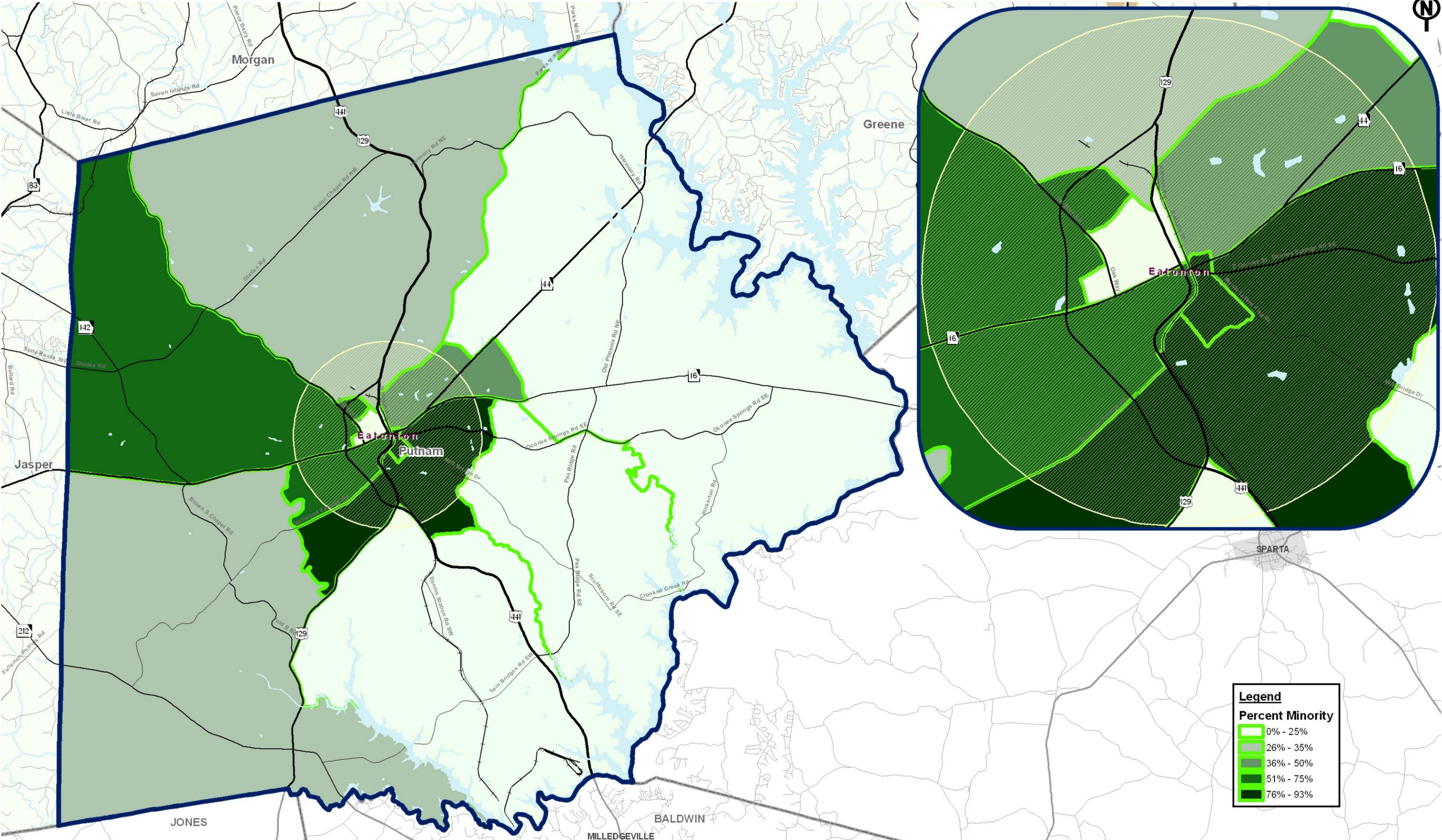
Low-Income Populations

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 Eatonton and the western portion of the County. The average number of residents below the poverty line in the County is 15% 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 Eatonton and the western portion of the County. 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.



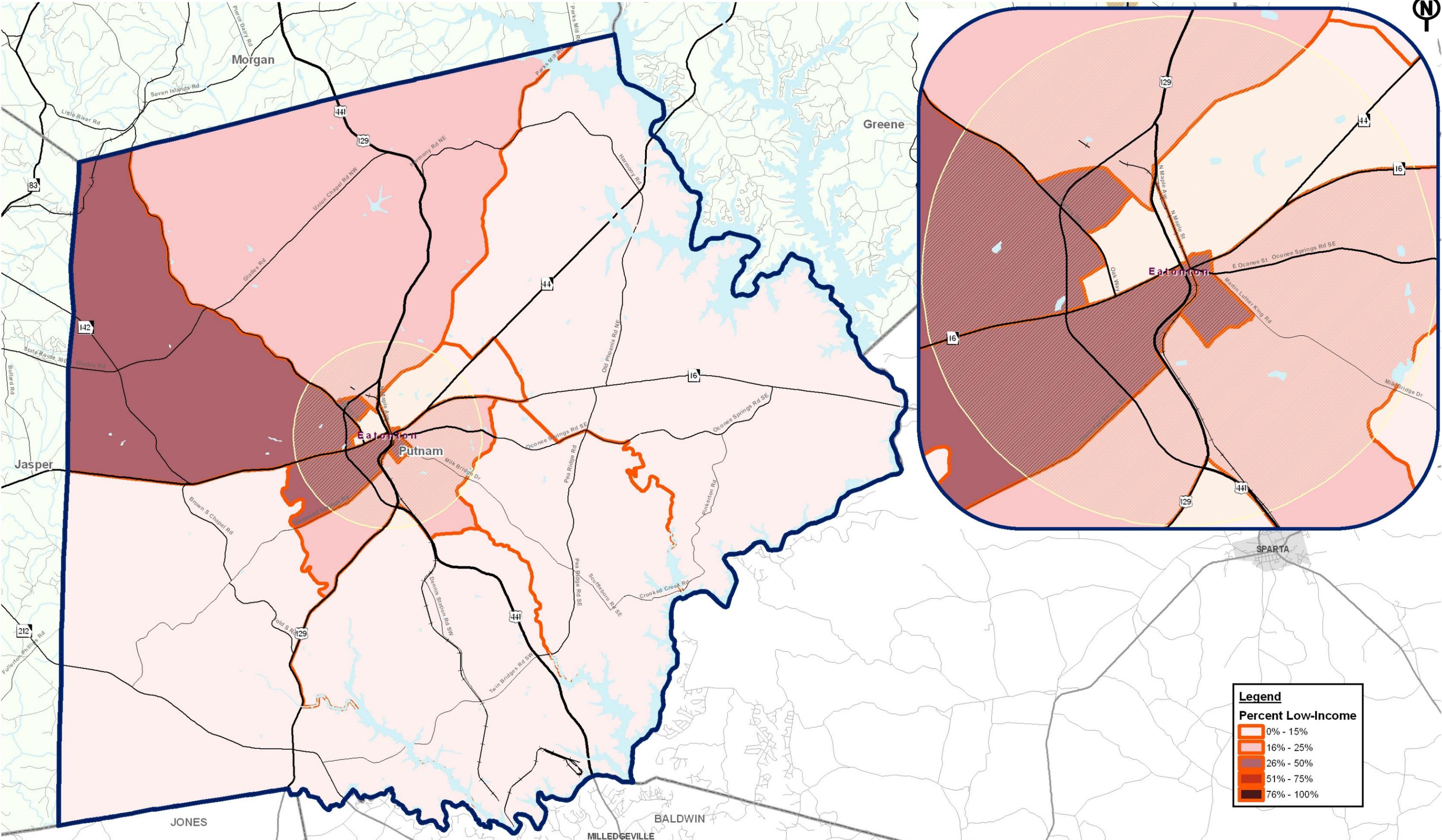
Legend

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

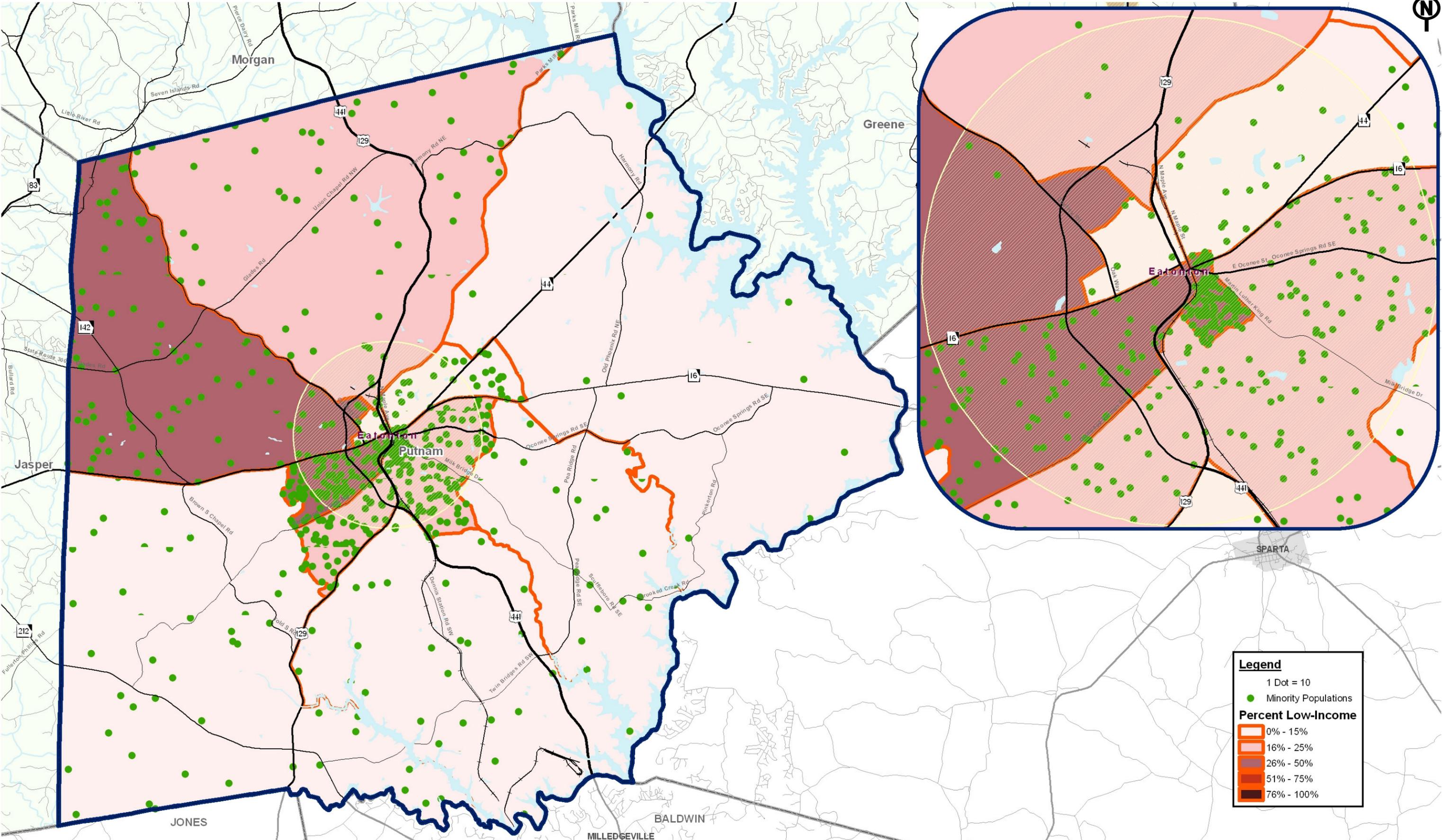


Legend

Percent Low-Income

- 0% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%

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



Legend

- 1 Dot = 10
- Minority Populations

Percent Low-Income

- 0% - 15%
- 16% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 100%

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

3.4 Employment Data

In Putnam 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 Horton Homes, Inc. (1,300 employees), Horton Industries, Inc. (1,000 employees), Putnam General Hospital (285 employees), Horton Components (200 employees), and Putnam County Elementary (175 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 Putnam County.

**Table 3.4.1
Existing Industry Jobs**

Industry Type	Putnam County
Agriculture, Forestry, Fishing, Hunting, and Mining	318
Construction	580
Manufacturing	1,893
Wholesale Trade	245
Retail Trade	1,074
Transportation, Warehousing, and Utilities	699
Information	69
Finance, Insurance, Real Estate, and Rental and Leasing	338
Professional, Scientific, Management, Administrative, and Waste Management Services	351
Education, Health, and Social Services	1,450
Arts, Entertainment, Recreation, Accommodation and Food Services	463
Other Services	290
Public Administration	494
TOTAL	8,264

Source: 2000 US Census

The County's per capita income (\$20,161) in 1999 was lower than Georgia's statewide average of \$27,324 and the national average of \$28,546.

Transportation mobility for workers in Putnam County is an important consideration for the Plan. Not surprisingly, most workers (96.3%) in the County rely on highway-based

transportation for commute trips, either by driving alone or carpooling. Two percent (1.9%) of workers in the County walk or commute to work by other means and two percent (1.8%) work at home. Table 3.4.2 illustrates the breakdowns in commuting modes for Putnam County.

**Table 3.4.2
Existing Work Commute Patterns**

Work Commute	Putnam County		Georgia
	Population	Percentage	Percentage
Total Workers (Age 16+)	8,055	100%	100%
Drove Alone	5,924	73.5%	77.5%
Carpooled	1,676	20.8%	14.5%
Transit/Taxi	41	0.5%	2.3%
Biked or Walked	151	1.9%	1.9%
Motorcycle or Other Means	115	1.4%	1.0%
Worked at Home	148	1.8%	2.8%
Mean Travel Time to Work (mins.)	26.5		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 Putnam 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 in Eatonton and in the vicinity of Lake Oconee and Lake Sinclair.

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

- City of Eatonton
- Lake Oconee
- Lake Sinclair

Key Activity Centers

- City of Eatonton
- Lake Oconee
- Lake Sinclair

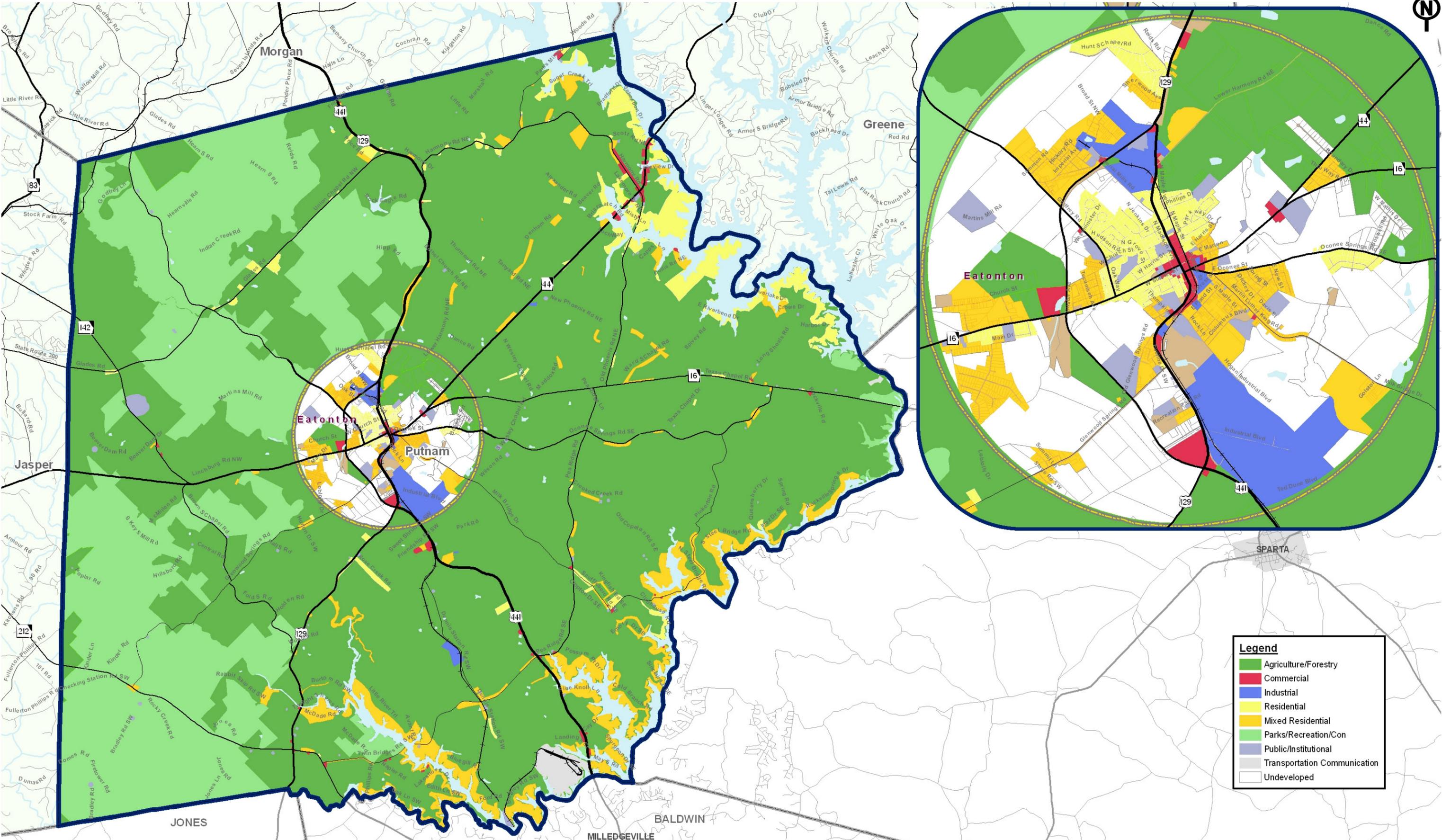
Key Employment Centers

- City of Eatonton
- Lake Oconee

Primary Travel Corridors

- US 129
- US 441
- SR 16
- SR 44
- SR 142
- Norfolk Southern Rail line

The existing land use map is presented in Figure 4.1.



Legend

- Agriculture/Forestry
- Commercial
- Industrial
- Residential
- Mixed Residential
- Parks/Recreation/Con
- Public/Institutional
- Transportation Communication
- Undeveloped

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

- City of Eatonton
- Lake Oconee
- Lake Sinclair

Intensive Agricultural

- A majority of the County is zoned for Agriculture

Commercial Uses

- City of Eatonton
- Lake Oconee
- Lake Sinclair

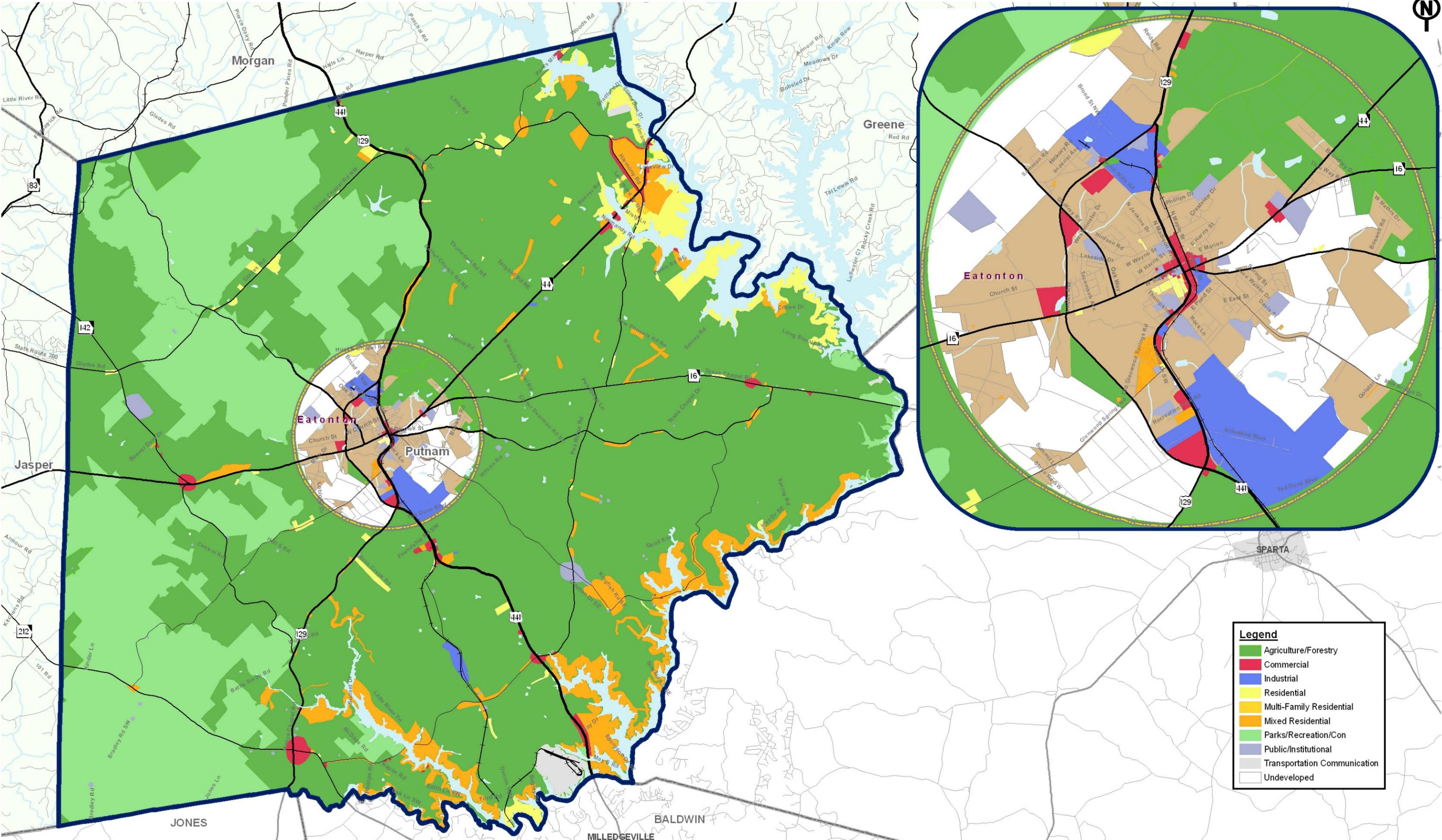
Industrial Uses

- City of Eatonton
- Lake Sinclair

Parks/Recreation/Conservation

- Lake Oconee
- Oconee National Forest

Additionally, there have been approximately 5 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;
- Bicycle/Pedestrian Plan for the Middle Georgia Region; and,
- Putnam 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 Putnam 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; and,
- Railroad Crossing Enhancements.

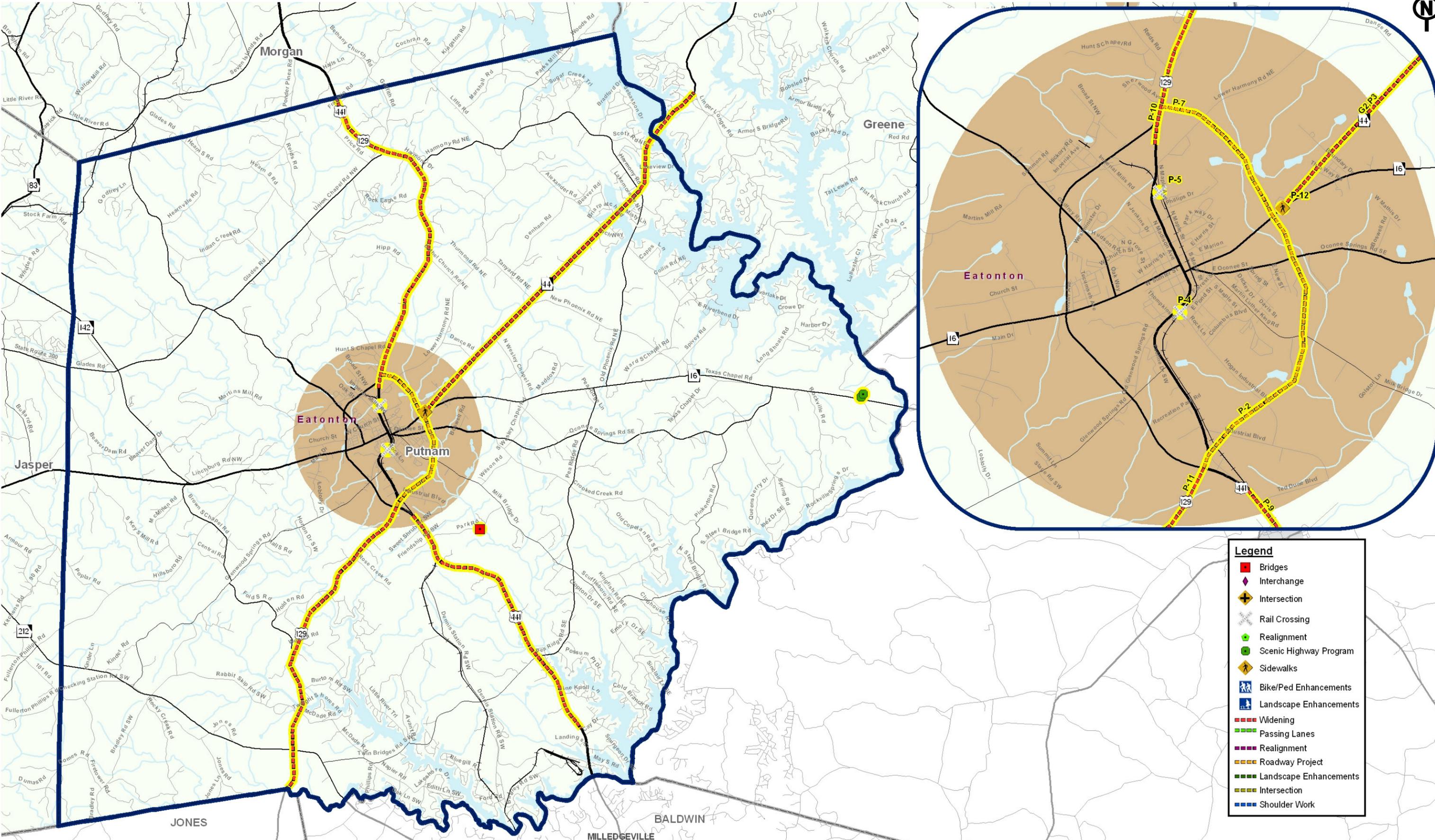
The STIP and CWP were reviewed for projects within and impacting the County and these projects are displayed in Table 5.1. Additionally, these projects are mapped in Figure 5.1. Programmed projects were carried forward and included in the existing conditions network for analysis of future (beyond 2008)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

Table 5.1
2006 – 2008 STIP & 2006-2011 CWP

Map Id	Project Id	Prime Work Type	Description	Program	Construction Date
P-1	3267	Bridges	Parks Rd @ Rooty Creek 3.5 mi southeast of Eatonton	STIP	2008
P-2	5828	Roadway Project	Eatonton Southeast Bypass from SR 44 @ US 441 to SR 16	CWP	LR
P-3	6252	Widening	SR 44 from US 441 Bypass to Linger Longer Rd (Greene)	STIP	LR
P-4	7020	RRX Warning Device	Rock Lane Rd @ NS #733038W	STIP	Lump
P-5	7430	RRX Warning Device	Maple St @ NS #733066A	STIP	Lump
P-6	7461	Scenic Hwy Program	Scenic Byway Rock Hawk Effigy Mount	STIP	Lump
P-7	7480	Roadway Project	Eatonton Northeast Bypass from SR 16 to north side of SR 24	CWP	LR
P-8	8269	Scenic Hwy Program	Rock Hawk Effigy Mound Improvements & Marketing - Phase II	CWP	Lump
P-9	222470-	Widening	US 441 from CR 245 to Eatonton Bypass @ US 129	STIP	2007
P-10	222580-	Widening	US 441 from Eatonton Bypass @ Sherwood Ave to Morgan County Line	STIP	2010
P-11	231620	Widening	SR 44 from Mathis Rd (Jones) to US 441 (Putnam)	STIP	LR
P-12	S005936	Sidewalks	SR 16/SR 44	CWP	PRECST
P-13	S008219	Culvert	CR 216 @ Rooty Creek	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 Eatonton Bypass could help traffic through the downtown area by providing additional connectivity.



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

Figure No: 5.1

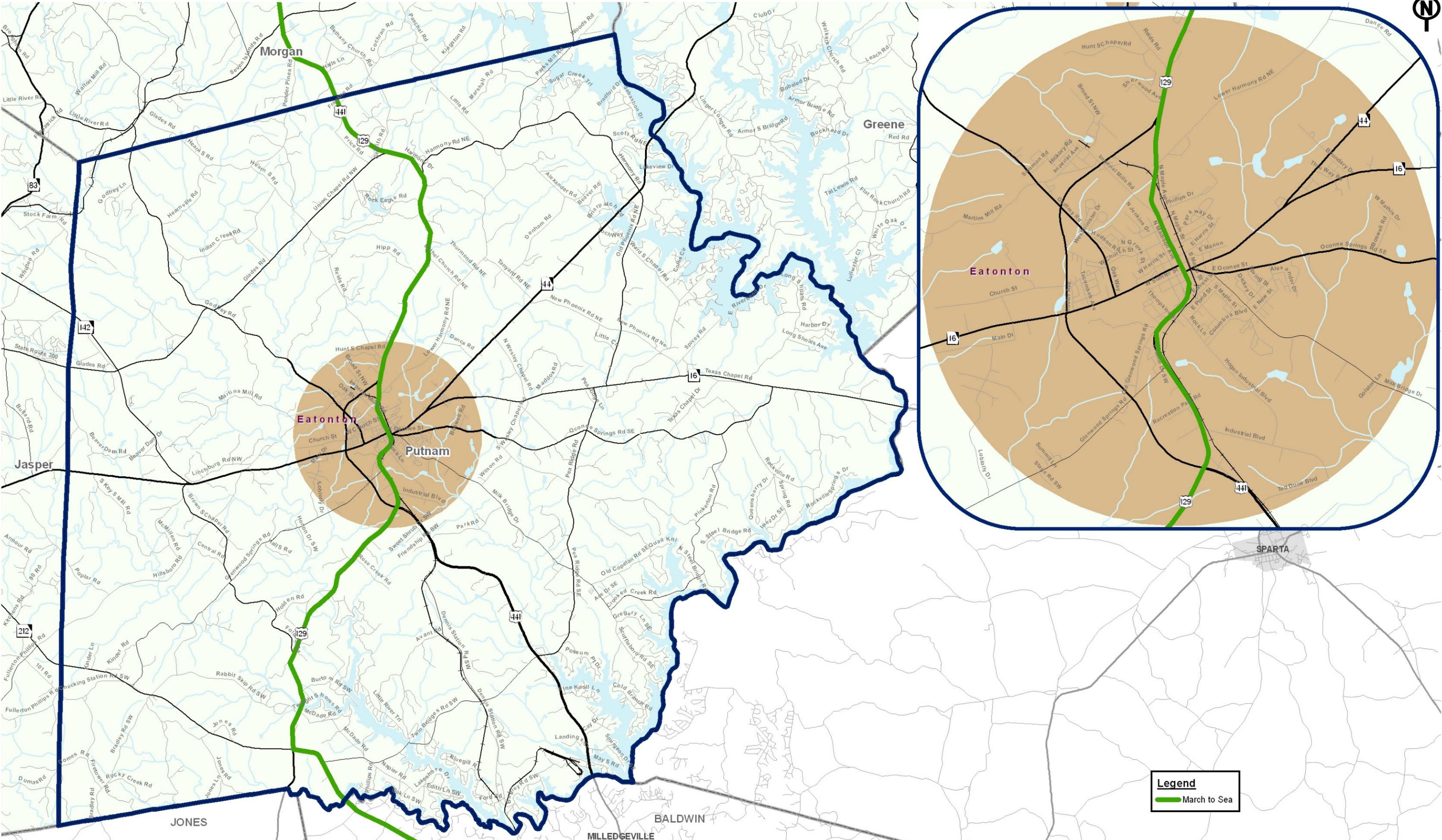
5.2 GDOT's Statewide Bicycle & Pedestrian Plan

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 Madison County. Route 35, March to the Sea, is a designated route totaling 428 miles from Rossville to Savannah. 22-miles of this route are located within Putnam County. The portion of the corridor located in Putnam County enters from Morgan County along US 441 traveling into Eatonton, and then south on US 129. At the intersection of US 129/SR 212, the designated route turns to the southeast onto SR 212 and continues into Baldwin County. Figure 5.2 shows the portion of the March to Sea route located in the vicinity of Putnam County.



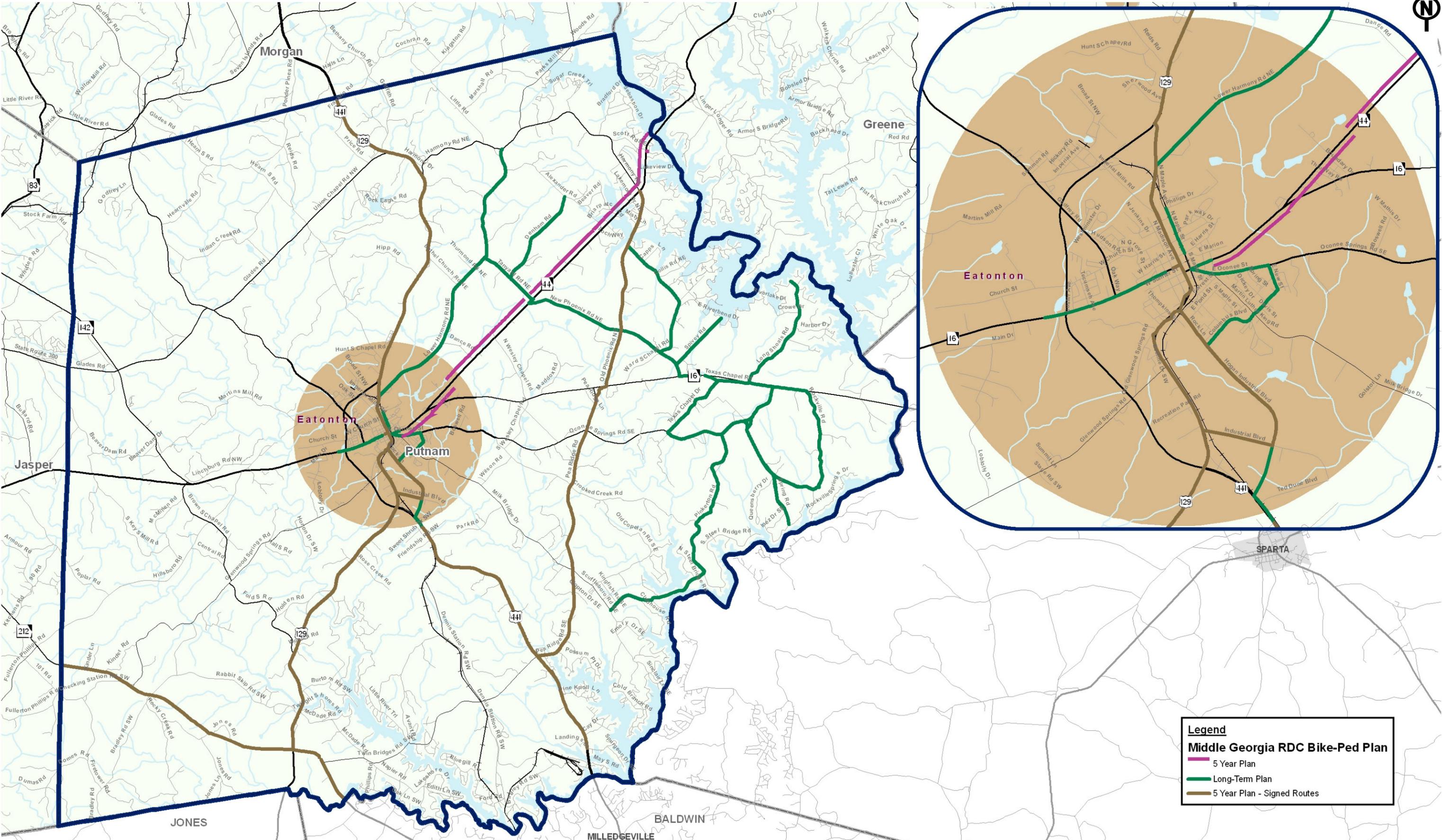
5.3 Bicycle/Pedestrian Plan for Middle Georgia Region

The MGRDC, with funding support from GDOT and advisory support from the Eatonton/Putnam County Bike/Pedestrian Plan Planning Advisory Committee, has developed the *Bicycle/Pedestrian Plan for the Middle Georgia Region*. The focus of this plan is to establish a system of inter-regional bicycle facilities and shared-use trails connecting major regional points of interest. Accessibility of residents to downtown areas and schools and the marketing of bicycle and pedestrian travel in general are key points in the plan. As a part of the planning process, a pilot local bicycle and pedestrian plan, focusing on Eatonton-Putnam County, was also developed. The local plan focuses on the development of new bicycle routes, shared use trails, and sidewalks connecting downtown Eatonton, schools, employment centers, and other activity centers. Local marketing programs to increase bicycle and pedestrian activity and the feasibility of implementing the Safe Routes to School program were also evaluated.

As part of this effort the following goals were created:

- Provide and maintain a safe, convenient, and accessible road network that accommodates bicycles for all users through the coordinated efforts of governmental agencies, the private sector, and the general public;
- Provide and maintain safe, convenient, and accessible shared-use trails for all users through the coordinated efforts of governmental agencies, the private sector, and the general public;
- Provide and maintain safe, convenient, and accessible sidewalk network for the region's communities through the coordinated efforts of governmental agencies, the private sector, and the general public;
- Promote and encourage safe bicycle and pedestrian travel in the Middle Georgia region through effective bicycle and pedestrian safety education and training, design and maintenance standards, and the application and enforcement of the rules of the road;
- Promote better health and fitness of the region's population through walking and riding a bicycle;
- Promote and encourage safe bicycle and pedestrian travel to the schools in the Middle Georgia region that integrates health, fitness, traffic relief, and environmental awareness;
- Promote the usage of the regional and local bicycle, sidewalk, and multi-use trails that have been constructed; regional safety and health/fitness programs; and safe routes to school programs through a variety of marketing and outreach tools; and,
- Expand the general public's awareness of the positive economic, social, and environmental benefits that are derived from the development of bicycle and pedestrian facilities and programs.

The Bicycle and Pedestrian Plan includes several types of routes for Putnam County such as dedicated paths and signed routes. The routes total 100.13 miles in Putnam County. Recommendations from the *Bicycle/Pedestrian Plan for the Middle Georgia Region* are displayed in Figure 5.3.



Legend

Middle Georgia RDC Bike-Ped Plan

- 5 Year Plan
- Long-Term Plan
- 5 Year Plan - Signed Routes

5.4 Putnam County Comprehensive Plan

The Middle Georgia Joint Regional Plan and Comprehensive Economic Development Strategy was completed in 2004 and Putnam County is currently updating their portion. 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 Putnam County. It is important to review the Comprehensive Plan because of the critical linkage between land use and transportation. Table 5.4 presents key findings in the Comprehensive Plan.

Table 5.4
Summary of Putnam County Comprehensive Plan

Key Data/Trends	Description		
Population	RDC Estimates (W&P)		US Census Estimates
	1980:	10,360	10,295
	1990:	14,261	14,137
	2000:	18,892	18,812
	2005:	19,990	N/A
	2010:	21,126	21,126
	2015:	22,327	22,327
Commute Patterns	Living and working in Putnam:	55.6%	
	Living in Putnam and working in Jasper:	2.0%	
	Living in Putnam and working in Morgan:	5.1%	
	Living in Putnam and working in Greene:	4.9%	
	Living in Putnam and working elsewhere:	32.4%	
Largest Employers in 2000	Horton Homes Inc. (1,300 employees)		
	Horton Industries Inc. (1,000 employees)		
	Putnam General Hospital (285 employees)		
Land Uses		1992	2012
	Agriculture/Forestry:	13.10%	11.50%
	Residential (single family and mobile homes):	6.00%	6.90%
	Public/Institutional:	0.92%	1.35%
	Transportation/Communications/Utilities:	N/A	N/A
	Commercial:	0.05%	0.11%
	Industrial:	0.02%	0.13%
	Parks/Recreation/Conservation:	N/A	N/A
Undeveloped:	1.71%	1.22%	

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"> • Residential land use consumes approximately 12,498 acres of land; 6% of the total land acres. • Most concentrated residential area is the developments of Lake Oconee and Lake Sinclair. • Small areas outside city limits in all directions comprise the other highly congested areas. <p style="text-align: center;">Intensive Agricultural (Poultry Farms, etc.)</p> <ul style="list-style-type: none"> • 13.1% of total land area is dedicated to agricultural uses. <p style="text-align: center;">Commercial Uses</p> <ul style="list-style-type: none"> • Commercial land use consumes 109 acres; 0.05% of the total land acres. • Majority of all commercial establishments are located along the primary highways and main arterials. • Largest concentration of commercial establishments found at Lake Oconee and Lake Sinclair. <p style="text-align: center;">Industrial Uses</p> <ul style="list-style-type: none"> • The County has very little land for industrial uses; only 0.02% of the total land area. <p style="text-align: center;">Parks/Recreation/Conservation</p> <ul style="list-style-type: none"> • Unincorporated Putnam County has approximately 1,910 acres of land devoted to recreation; representing 0.92% of the total unincorporated acres in the County.
<p><i>Planning Issues in Cities</i></p>	<ul style="list-style-type: none"> • City of Eatonton will need more residential space to accommodate future growth. • Residential land use in the City of Eatonton consumes approximately 5,278 acres of land; representing 42% of the total land acres.
<p><i>Land Use Issues</i></p>	<ul style="list-style-type: none"> • Putnam County will need more residential space to accommodate future growth. • Commercial growth will increase between the City of Eatonton and Lake Oconee. • Industrial land will increase slightly with the new growth.
<p><i>Transportation-Related Goals, Objectives, and Strategies</i></p>	<ul style="list-style-type: none"> • Putnam County and the City of Eatonton are well served by the existing transportation network. • As future growth occurs, highways such as US 441, SR 44, and SR 16 will need to be four-lanes.

6.0 Assessment of Transportation Facilities

Extensive data was collected for the transportation facilities within Putnam 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

Putnam County has a 5311 Rural Public Transportation Program contracted through GDOT. This program offers improved accessibility to shopping, medical, educational, employment, and social activity centers for residents of the County. Operated by the Putnam County Public Transit Department, the program provides “on call” transportation service available Monday through Friday from 8 a.m. until 4 p.m. The public may phone 24 hours in advance to arrange a round-trip pick up and return. The fare is \$1.00 per one-way trip for destinations within the County limits.

The County currently has four buses, two of which are equipped with a wheel chair lift. GDOT funds approximately 35% - 45% of the program, with the remaining cost supported by County funds. Table 6.1.1 below presents current service statistics.

Table 6.1.1
Putnam County Rural Transit Program Service Statistics

Service Statistics – 2006 (January to August) All Vehicles	
Average Total Miles per Month	7,556
Average Total Hours of Service per Month	511
Average Number of One-Way Passenger Trips per Month	2,132
Average Trips per Vehicle per Day	27

Source: Putnam County Public Transit Department

Nearly one-third of passengers utilizing the system are elderly. Over one-half (57%) of the current ridership in Putnam County consists of disabled citizens, seven percent of whom are in wheel chairs. Historically, these populations, along with low-income residents, are at a disadvantage with private transportation, and access to employment, medical, educational, and recreational opportunities is severely diminished. Table 6.1.2 further characterizes the 2,100+ passengers that utilize Putnam County's rural transportation service each month.

Table 6.1.2
Putnam County Rural Transit 2006 Ridership Statistics

Elderly	Non - Elderly		White	Black	Hispanic	Indian	Asian	Other
27%	73%		22%	76%	1%	0%	<1%	<1%

Source: Putnam County Public Transit Department

The rural buses provide transportation to a variety of destinations which include medical, employment, educational, shopping, and recreational centers. The percentage of trips provided between January and August, 2006 to each destination type is shown in Table 6.1.3.

Table 6.1.3
Putnam County Rural Transit 2006 Destination Statistics

Medical	Employment	Nutrition	Social & Recreation	Education	Shopping & Personal
11%	13%	12%	3%	4%	57%

Source: Putnam County Public Transit Department

According to the Public Transit Department, the program could possibly add one more vehicle and meet GDOT's service requirement of 25 trips per day, however, the County

thinks that, overall, the current program adequately meets the needs of its residents, at this point in time.

Planning for future services needs to consider estimated population projections for seniors, the disabled, and low-income residents, all of whom are primary users of a transit system. Projections for the County's 65+ population are shown in Table 6.1.4 below.

Table 6.1.4
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	18,818	—	23,071	—	29,458	—
Population 65 years of age or older	2,658	14.1%	3,399	14.7%	4,511	15.3%

Source: US Bureau of the Census

Putnam County's percentage of population age 65 and over (14%+) exceeds the Georgia statewide average of 9.6%. The data also indicates that the overall number of persons age 65 and older will increase from 2,658 in 2000 to 4,511 by 2025. The data further shows that the elderly population as a percentage of the total population will also increase from 14.1% to 15.3% in 2025, thus supporting the need for increased rural transit services in the future.

In the year 2000, approximately 26% of Putnam 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 3,794, or 20.1% 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.

In addition to the rural transportation program, the County owns two vans dedicated to the county-run meals on wheels program, which delivers approximately 66 meals each day. The vans are also used to provide transportation to 25 seniors via the senior center. These services are funded by the County, with no GDOT or Department of Human Resources support.

6.2 Freight Transport

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

Norfolk Southern provides rail service in Putnam County with a line connecting Macon to Milledgeville to Eatonton. An average of four trains per day transport freight over 20 miles of rail within the County. Rail traffic density through Putnam County is upwards of 2.4 million gross ton miles per mile of track per year (MGTM/M). 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.

Coal is the largest terminating commodity in Georgia, that is, it represents the greatest tonnage of freight transported into the state from origins outside the state. Destination points for coal transportation coincide with the locations of major power plants in Georgia. Putnam, Bartow, Carroll, and Monroe Counties have the highest densities of coal termination, accounting for 78% of the 31 millions tons of coal transported to the State each year. Approximately 2.9 million tons of coal terminate in Putnam County annually, almost 10% of this total. Other products which terminate in Putnam County include clay, concrete, glass, and stone products, with up to 300,000 tons arriving in the County via rail each year.

Lumber and wood products both originate and terminate in the County. As much as 200,000 tons are shipped annually from Putnam County to destinations outside state boundaries. Likewise, approximately 200,000 tons of wood are transported by rail from outside the state into Putnam County each year.

Putnam County has 41 rail crossings, 39 of which are at-grade and two of which are overpasses. US 441 experiences the greatest vehicular activity. On average, over 10,000 vehicles travel on each of these roads in the vicinity of the crossings each day.

The Federal Railroad Administration, Office of Safety Analysis, reports seven accidents at Putnam County railroad crossings between 1975 and 2005. According to the FRA's Highway-Rail Crossing Accident-Incident Report, the most recent accident occurred in 1993 at the Magnolia Street crossing. The most recent accident where fatalities occurred was reported in 1986, where 3 were killed and 3 injured at the Dennis Station Road crossing.

Three railroad improvement projects are listed for Putnam County in GDOT's Construction Work Program. All three will improve the crossings with warning devices and were previously presented in Table 5.1. In addition to the rail improvement projects above, Construction Work Program Project #22470, currently underway, will widen US 441 from CR 245 to the Eatonton Bypass at US 129 and will potentially affect the rail crossing on US 441 near Friendship Road. This project is currently in the preliminary engineering phase with right of way acquisition scheduled for 2006 and construction to begin in 2007.

Surface Freight Movement

The primary surface freight movement in Putnam County is occurring on SR 44, US 129, and US 441. In order to better understand the movement of freight in Putnam 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

Putnam County does not currently have a local airport. The closest commercial airport, the Middle Georgia Regional Airport, is located 54 miles away in Macon. Hartsfield-Jackson Atlanta International Airport is also accessible and located 73 miles away. It is a convenient choice for travelers from Putnam County as the I-20 to I-285 commute from Eatonton to Hartsfield-Jackson remains fairly free from traffic tie-ups as most flights from Macon require a change in Atlanta, resulting in a 45-minute layover.

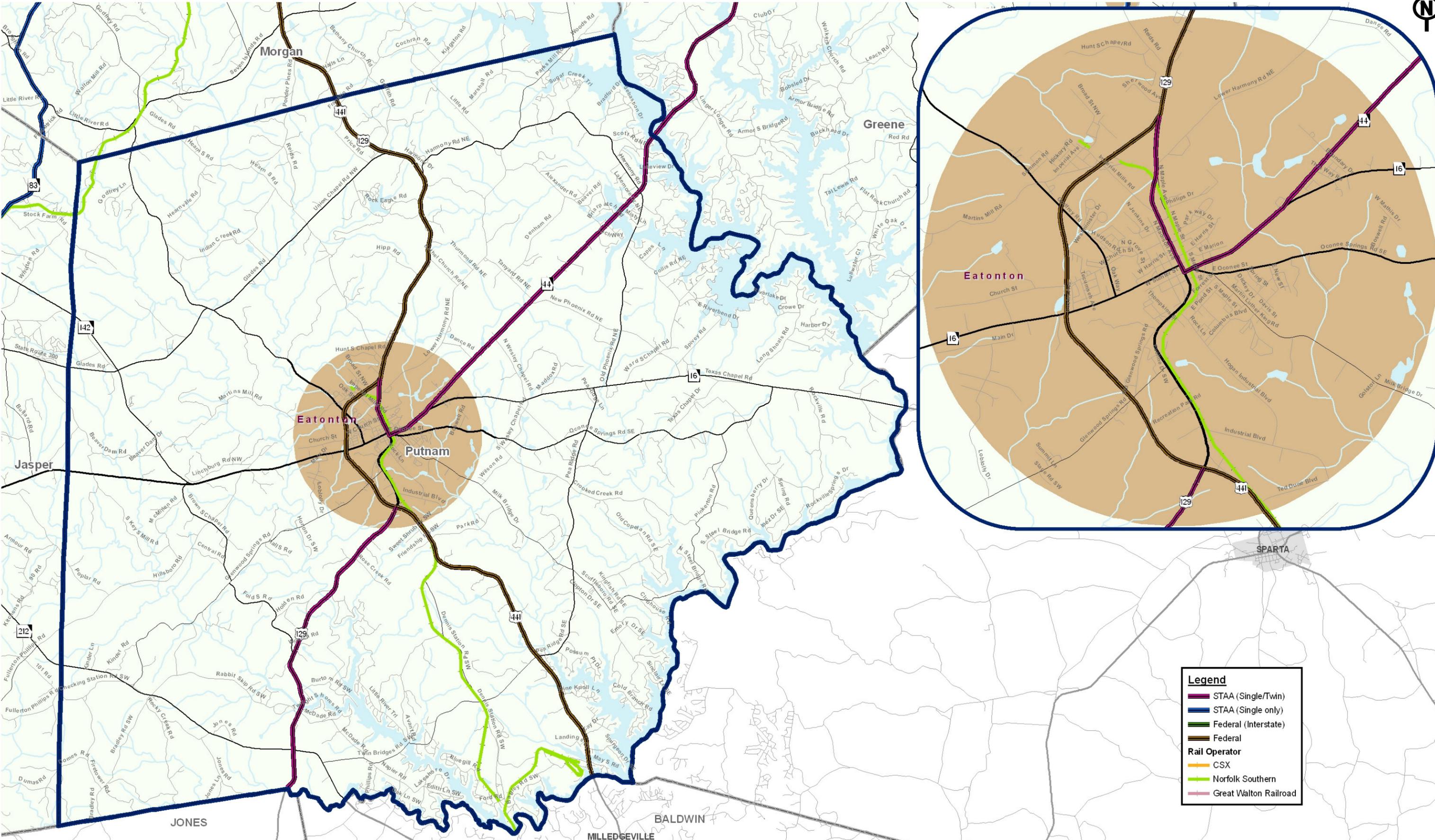
The Milledgeville-Baldwin County Airport, a Level III general aviation airport, is also located 13 miles south of Eatonton. The airport offers a 5,500 foot paved and lighted runway, an instrument landing system, visual approach slope indicator (VASI), sequence approach lights, radar approach control, and a non-directional radio beacon. The airport has a fixed base operator who offers jet fuel and aviation fuel. The facility has a hangar, maintenance and repair, and lease, charter, and rental services.

6.4 Bicycle and Pedestrian Facilities

This section provides a summary of previous bicycle and pedestrian planning efforts, an inventory of existing bicycle and pedestrian facilities in Putnam County, and an outline of issues to consider during the development of future transportation system conditions and recommendations for improvements to the system.

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 Putnam County with assistance from the MGRDC.

Putnam 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 Lake Oconee, Lake Sinclair, Rock Eagle Effigy and Park, Turnwood Plantation, Uncle Remus Museum, Oconee National Forest, and Rock Hawk Effigy Park and 8-mile hiking and biking trail. SR 16 is also designated as a Georgia



Freight Transportation Facilities
East Georgia Multi-County Transportation Study

Figure No: 6.2

Scenic Byway through the entire County resulting in increased tourist activity within the corridor. These attractions will be considered when developing recommendations for additional facilities to foster bicycle and pedestrian connectivity.

The City of Eatonton maintains a fairly extensive sidewalk network in the downtown and residential areas of the City. The existing network offers a safe location for pedestrians to walk within the City. The sidewalk network in the remainder of Putnam County is very sparse. Through interviews with Putnam County and City of Eatonton representatives, several additional network segments have been identified in the *Bicycle/Pedestrian Plan for the Middle Georgia Region*.

Sidewalks are currently being constructed on SR 16 from the Rooty Creek Bridge to the Putnam General Hospital and on Hogan Street from the end of the existing sidewalks to Jimmy Davis Park. Sidewalks are also being constructed on Sumter Street (SR 16) as a part of the roadway widening project and at SR 16/SR 44.

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 5.2. The portion running through Putnam County enters from Morgan County, on the north on US 129/US 441, travels into Eatonton, and then continues south on US 129. At the intersection of US 129/SR 212, the designated route turns to the southeast onto SR 212 and continues into Baldwin County. The presence of a state bicycle route in the County creates an opportunity for the development of several spur routes to better connect bicyclists to destinations within Putnam County.

According to GDOT's crash database, from 2003 to 2005, there were seven reported bicycle and pedestrian related crashes in Putnam County. Of these reported crashes, one was a fatality, which occurred along Little River Trail between Little River Court and Daylight Drive. Four of the pedestrian related crashes occurred in Downtown Eatonton. A review of the information in the crash database did not identify system contributing causes.

Existing Recommendations

The *Bicycle/Pedestrian Plan for the Middle Georgia Region* identifies a five year and long range plan for improvement of the bicycle and pedestrian network. Table 6.4 lists the recommendations previously presented in Figure 5.3.

Table 6.4
Proposed RDC Bicycle and Pedestrian Facility Improvements

Location	Description
Courthouse Square - Jefferson St to SR16/SR44 Split	Sidewalk
SR 16/SR 44 Split in City of Eatonton to Greene County Line	Shared Use Path
Courthouse Square and surrounding neighborhoods in City of Eatonton	Improve existing sidewalks; build new sidewalks
Hogan Industrial Blvd and Industrial Blvd	Construct 4 foot bike lane
Downtown City of Eatonton	Install bicycle racks
SR 16 from SR 142 to US 441 Bypass	Signage short term and bicycle lane long term
SR 16 from US 441 Bypass to Madison Ave in City of Eatonton	Signage short term and bicycle lane long term
SR 16 from Madison Ave to Jefferson St (US 441)	Signage short term and shared roadway long term
SR 16 from US 441 to SR 16/SR 44 Split	Shared use trail on one side of street short term and sidewalks on one side of street long term
SR 16 from SR 16/SR 44 Split to Hancock County Line	Signage short term and bicycle lane long term
SR 44 from SR 16/SR 44 Split to Greene County Line	Shared use Trail
US 441 in City of Eatonton from US 441/US 129 Split to Lake Sinclair	Signage short term and bicycle lane long term
Pea Ridge Rd from US 441 to SR 16	Signage short term and bicycle lane long term
Old Phoenix Rd from SR 16 to SR 44	Signage short term and bicycle lane long term
SR 212 from US 129 to Jasper County Line	Signage short term and bicycle lane long term

Source: *Bicycle/Pedestrian Plan for the Middle Georgia Region*

Additional Considerations

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

- Sidewalks needed on Martin Luther King Drive from Hogan Street to City Limits;
- Sidewalks needed on Phillips Road from Railroad Crossing to Gatewood School;
- Sidewalks needed from SR 16 from 'the Hut' (old American Legion building recreational center) to US 441 Bypass;
- Sidewalks needed in Harmony Crossing area: on SR 44 from Harmony Road to Greene County and on Harmony Road from 'Shuckers' to Cuscowilla;

- Sidewalks needed on Oak Street from New Glenwood Springs Road to Old Glenwood Springs Road;
- Sidewalks needed on Old Glenwood Road from Oak Street to New Glenwood Springs Road;
- Sidewalks needed on New Glenwood Springs Road from Oak Street to Old Glenwood Springs Road; and,
- Sidewalks needed on Oak Way from SR 16 to US 441 Bypass.

Also, locations such as schools, major recreational sites, and activity centers within the County should also be considered for bicycle and pedestrian improvements. Putnam County has four public schools and one private school all located in Eatonton:

- Putnam County Elementary School;
- Putnam County Middle School;
- Putnam County High School;
- Putnam Alternative Success; and,
- Gatewood School.

Putnam County has plans for a new high school within the next two to three years along US 441 in the vicinity of Rock Eagle. 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 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 Statewide Transportation Improvement Program or 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.

- #1077 - Intersection improvement to SR 16 from Jefferson Avenue to east of Rooty Creek
- #6252 – Widening of SR 44 from west US 441 Bypass to Linger Longer Road
- #222470 - Widening of US 441 from CR 245 to Eatonton Bypass at US 129
- #222580 - Widening of US 441 from Eatonton Bypass at Sherwood Avenue to Morgan County Line
- #231620 - Widening of SR 44 from Mathis Road (Jones County) to US 441
- #232295 – Bridge on SR 16 at Rooty Creek

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 Putnam 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.

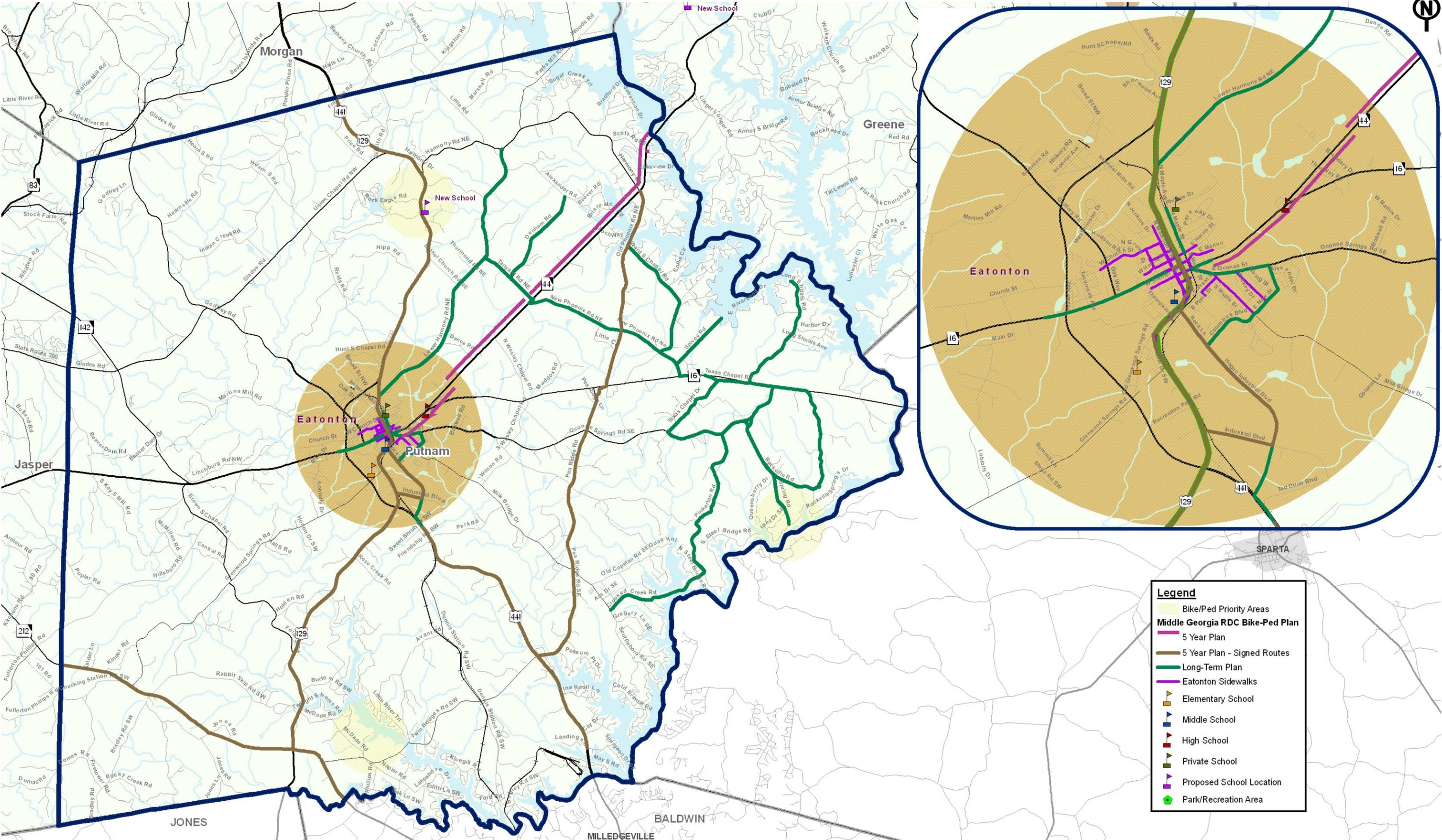
The following criteria are provided as a basis for determining when sidewalks should be considered:

- 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 RDC Bicycle and Pedestrian Plan.

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



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 Putnam County and document a sufficiency rating. Currently, 48 bridges exist within the County. Table 6.5 displays the collected information.

Table 6.5
Bridge Inventory

Road	Feature	Sufficiency Rating
Alexander Rd ⁽¹⁾	Lick Creek	18.10
Griffith Rd	Sugar Creek Tributary	21.73
Glenwood Springs Rd	Little River	22.23
Parks Rd*	Rooty Creek	25.34
Church St ⁽¹⁾	Little River Tributary	27.27
SR 16 ⁽¹⁾	Rooty Creek	29.95
SR 16	Crooked Creek	34.72
Martins Mill Rd	Little River	41.00
Old Macon Rd	Little River	42.82
Crooked Creek Rd	Crooked Creek	42.87
Oconee Springs Rd	Crooked Creek	48.92
Godfrey Rd	Big Indian Creek	52.92
Godfrey Rd	Glady Creek	60.70
Rock Eagle Rd	Little Glady Creek	62.10
US 129	Murder Creek	64.17
SR 16 ⁽¹⁾	Oconee River & Lake Sinclair	64.49
Indian Creek Rd	Big Indian Creek	64.65

Road	Feature	Sufficiency Rating
US 129	Little River	67.27
SR 44	Crooked Creek	73.50
US 441	Beaverdam Creek	75.76
Little's Rd	Sugar Creek Tributary	81.14
Godfrey Rd	Glady Creek Tributary	81.28
Glades Rd	Beaverdam Creek	81.42
Old Phoenix Rd	Lick Creek	81.85
SR 44	Oconee River	81.86
Pea Ridge Rd	Rooty Creek	82.80
Parks Mill Rd	Sugar Creek	83.10
Twin Bridges Rd	Little River	84.23
Twin Bridges Rd	Bear Creek	85.10
Glenwood Springs Rd	Murder Creek	88.37
Little's Rd	Sugar Creek Tributary	88.68
River Oak Dr	Little River Tributary	89.51
US 441	Little Creek	89.95
SR 44	Lick Creek	90.99
Hillsboro Rd	Murder Creek	91.20
SR 16	Beaverdam Creek	91.55
Lower Harmony Rd	Rooty Creek	92.20
Glades Rd	Glady Creek	92.31
Glades Rd	Little River	93.64
SR 212	Cedar Creek	94.14
Crooked Creek Rd	Crooked Creek	94.55
SR 16	Little River	95.16
SR 16	Little River Tributary	95.16
Beaverdam Rd	Beaverdam Creek	96.89
Martin Luther King Jr Dr	Turkey Creek	99.29
Martin Luther King Jr Dr	Rooty Creek	99.70
Rabbit Skip Rd	Hitchcock Branch	99.72
Rockville Rd	Jenkins Branch	99.89

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 eleven (11) bridges that have a sufficiency rating below 50 and are potentially in need of maintenance and rehabilitation.

- Alexander Road at Lick Creek

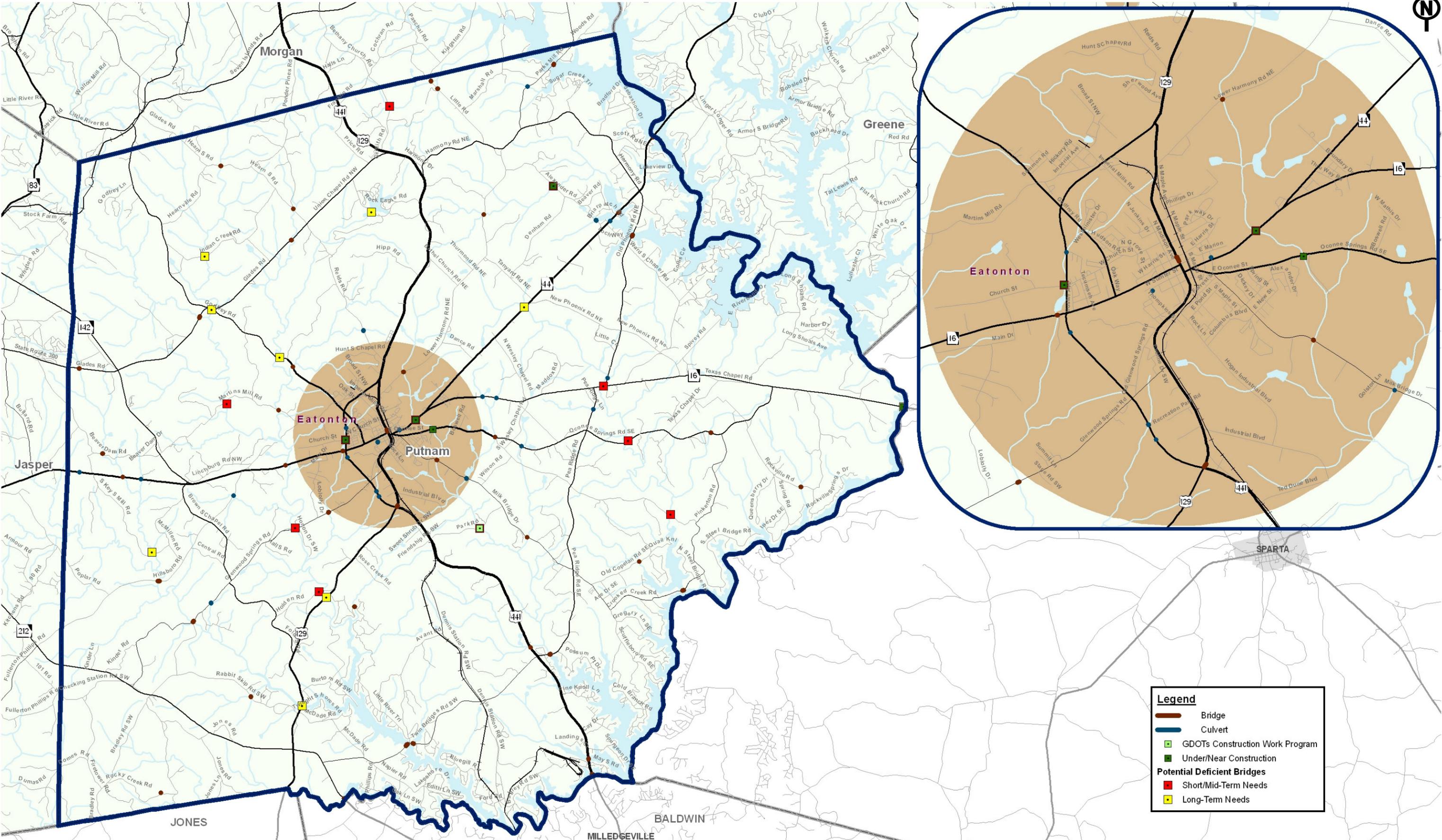
- Griffith Road at Sugar Creek Tributary
- Glenwood Springs Road at Little River
- Parks Road at Rooty Creek
- Church Street at Little River Tributary
- SR 16 at Rooty Creek
- SR 16 at Crooked Creek
- Martins Mill Road at Little River
- Old Macon Road at Little River
- Crooked Creek Road at Crooked Creek
- Oconee Springs Road at Crooked Creek

The SR 16 bridge over Rooty Creek, SR 16 bridge over Oconee River/Lake Sinclair, Alexander Road bridge over Lick Creek, and Church Street over Little River Tributary are currently under construction. The Parks Road bridge over Rooty Creek is part of the 2006-2008 STIP.

Additionally, there are eight (8) 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.

- Godfrey Road at Big Indian Creek
- Godfrey Road at Glady Creek
- Rock Eagle Road at Little Glady Creek
- US 129 at Murder Creek
- SR 16 at Oconee River and Lake Sinclair
- Indian Creek Road at Big Indian Creek
- US 129 at Little River
- SR 44 at Crooked Creek

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



Bridges for Potential Maintenance or Rehabilitation
East Georgia Multi-County Transportation Study

Figure No: 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 Putnam County. The crash data was used to determine roadway locations with potential safety deficiencies throughout the study area. Putnam County experienced a total of 1,698 crashes with 413 injuries and 12 fatalities during the three-year period. US 441 and SR 44 each had three 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

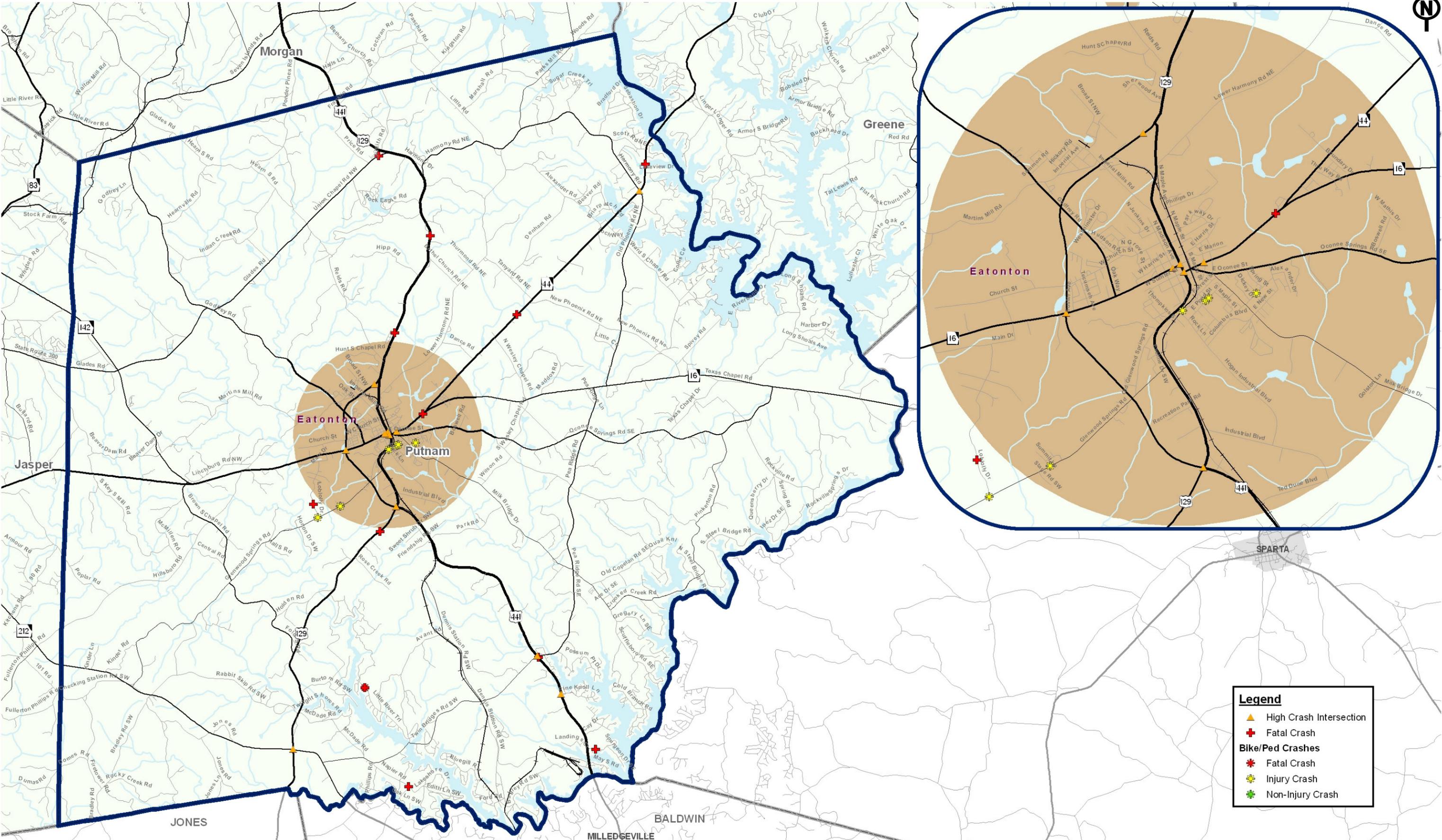
Roadway	Intersection	Crashes	Fatalities	Injuries
SR 16 (W Marion St)	US 441 (Eatonton Bypass)	32	0	10
US 441 (Milledgeville Hwy)	Twin Bridges Rd	25	0	5
SR 16 (W Marion St)	US 441-BU (Jefferson St)	25	0	3
US 441 (Milledgeville Hwy)	SR 44	20	0	5
SR 16 (Sparta Rd)	Putnam Ave	20	0	6
SR 16 (Marion St)	Madison Ave	17	0	2
Eatonton Bypass	Sherwood Ave	16	0	3
US 441 (Milledgeville Hwy)	US 129 (Gray Rd)	14	0	2
SR 44	SR 212	14	0	1
US 441 (Milledgeville Hwy)	Pine Knoll Ln	13	0	3
SR 44 (Greensboro Rd)	Old Phoenix Rd/Harmony Rd	11	0	3

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.

- Jackson Road between Knight Cove and Spurgeon Drive
- Union Chapel Road at Madison Highway
- Little River Trail at Little River Court and Day Light Drive

- CR 496 at Loblolly Drive
- Napier Road between Napier Mill Road and Lakeshore Drive
- SR 16 at Greensboro Highway
- SR 24 at Winding Creek Road
- SR 24 at Glenwood Drive
- SR 24 at Henderson Grove Church Road
- SR 44 between milepost 8.0 and 8.5
- SR 44 at New Phoenix Road
- SR 44 between Lakeview Drive and Thunder Road

Segments with potential safety issues include a section of US 441 between Morgan County and Reids Road. This section of US 441 is currently in GDOT's Construction Work Program for widening. 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.



Legend

- High Crash Intersection
- Fatal Crash
- Bike/Ped Crashes
- Injury Crash
- Non-Injury Crash

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

Figure No: 6.6

6.7 Roadway Characteristics

This section reviews various conditions of the roadways in Putnam 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.

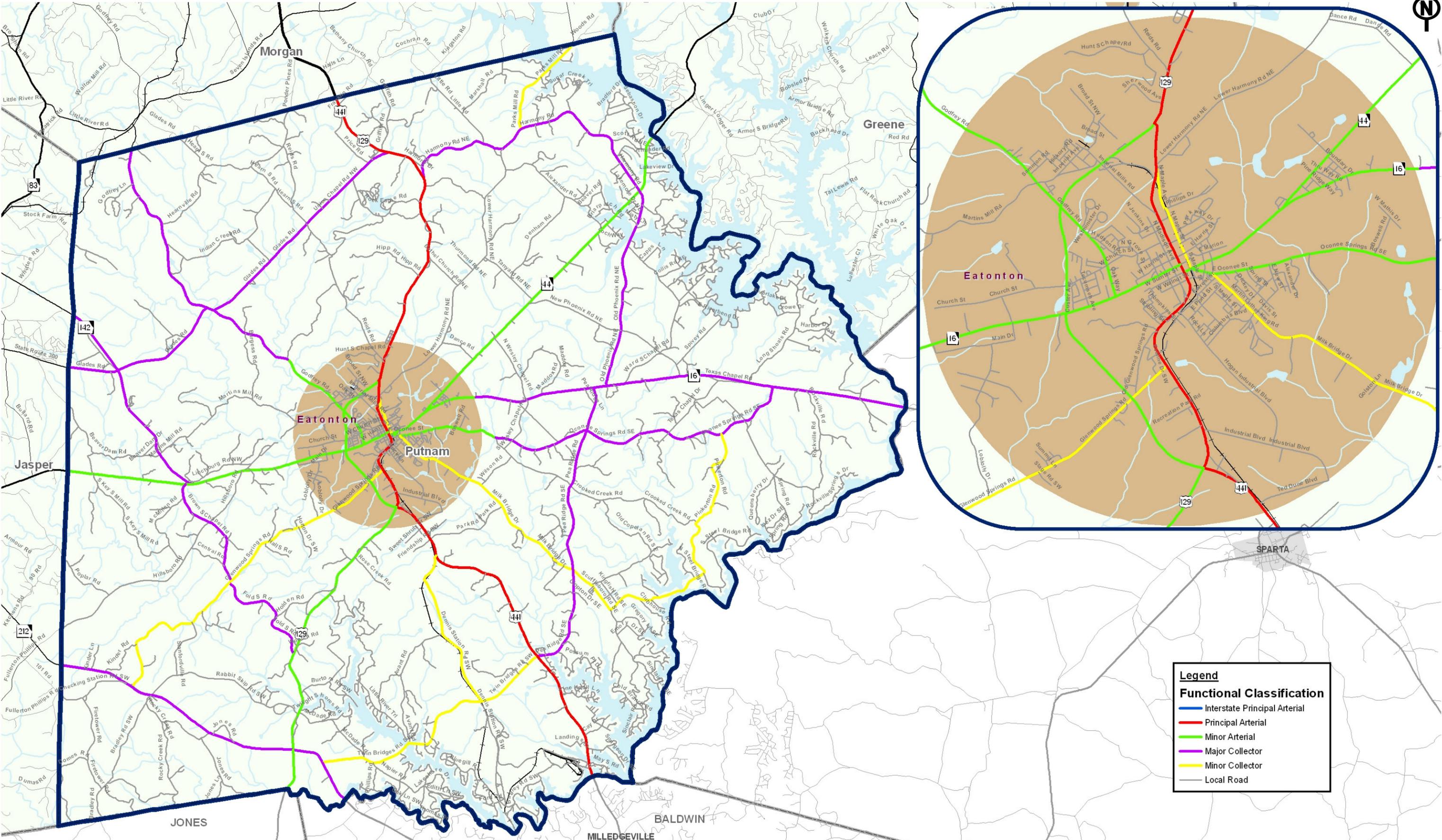
6.7.1 Functional Classification

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.

There are no expressways/freeways in Putnam County. Putnam County has approximately 70 miles of arterial facilities in the study area and 500 miles of collectors and local streets. Figure 6.7.1 displays the functional class of roadways in Putnam County.

Table 6.7.1 displays the mileage and vehicle miles traveled (VMT) for the different roadway classifications in Putnam County. The County is served by multiple State Roads, (approximately 15% of the lane miles) which handle a majority of the traffic (58%). This closely matches the statewide averages of 16% State Roads, handling 63% of the total traffic. 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
Putnam	85	423,296	433	288,238	62	35,527	580	747,060
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 Putnam 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.

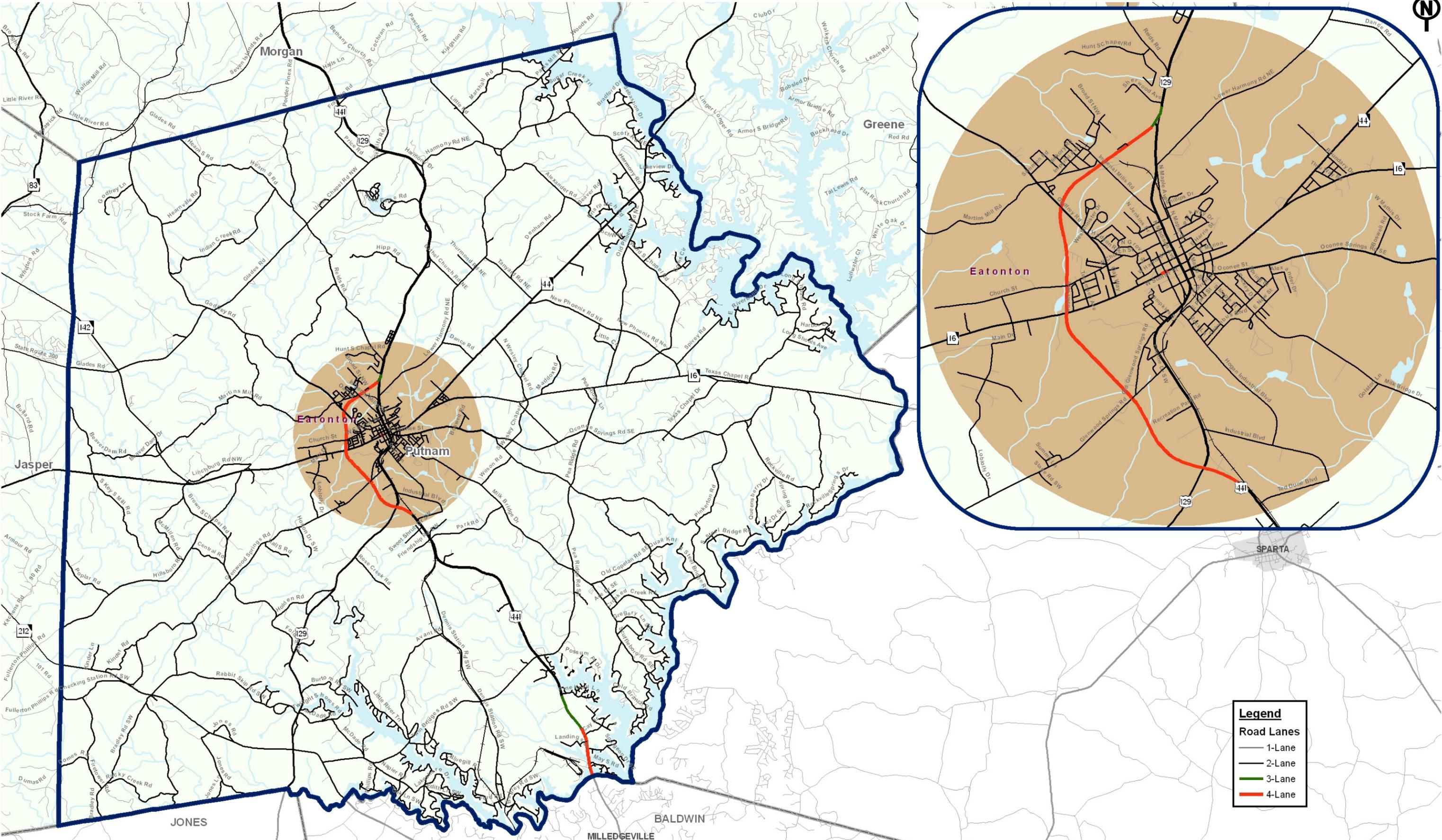
Figure 6.7.2 displays the number of lanes on the roads in Putnam County.

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 Putnam 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.

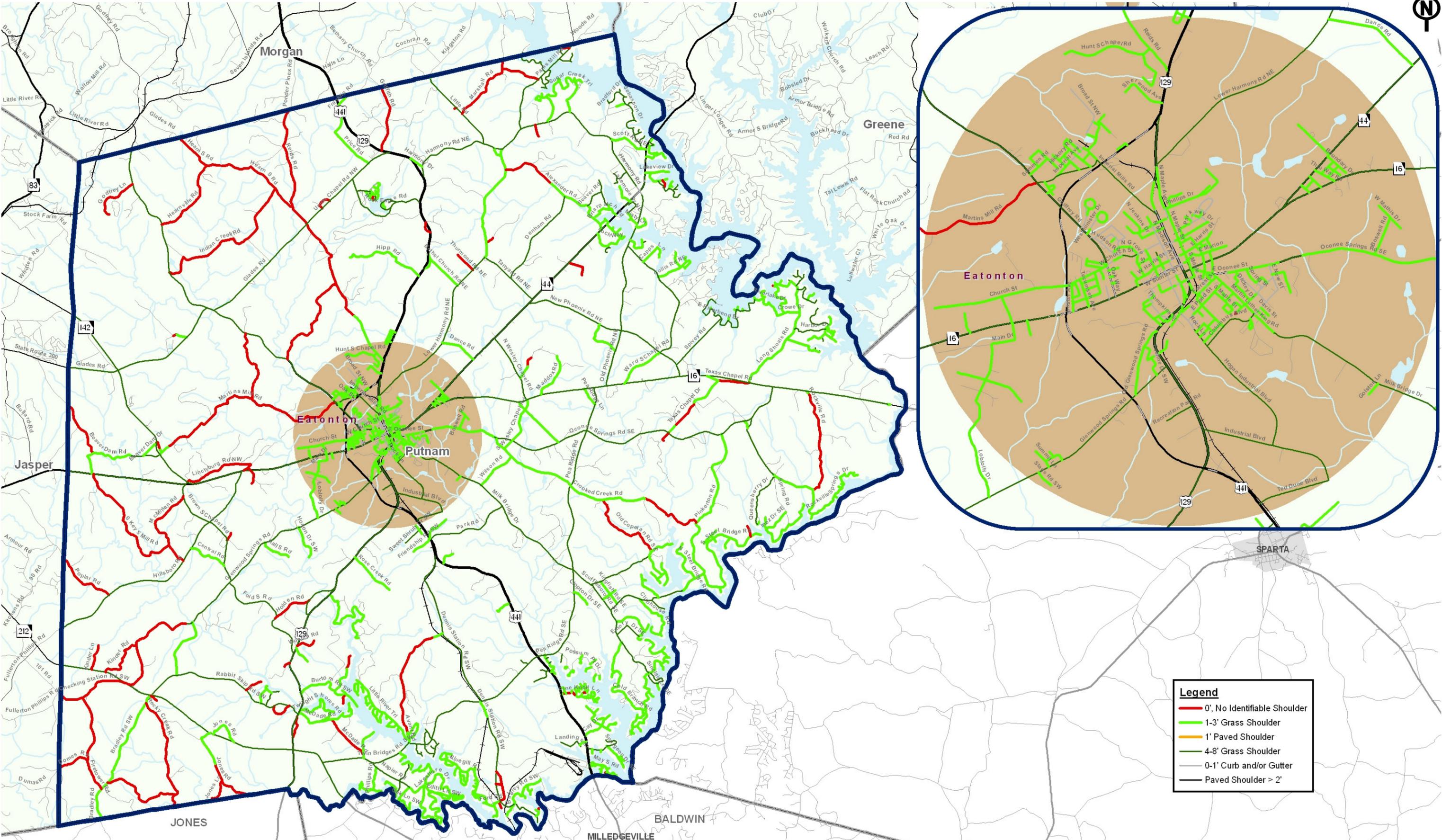


Roadway Lanes
East Georgia Multi-County Transportation Study

Legend

Road Lanes

- 1-Lane
- 2-Lane
- 3-Lane
- 4-Lane



Legend

- 0', No Identifiable Shoulder
- 1-3' Grass Shoulder
- 1' Paved Shoulder
- 4-8' Grass Shoulder
- 0-1' Curb and/or Gutter
- Paved Shoulder > 2'

Roadway Shoulders
East Georgia Multi-County Transportation Study

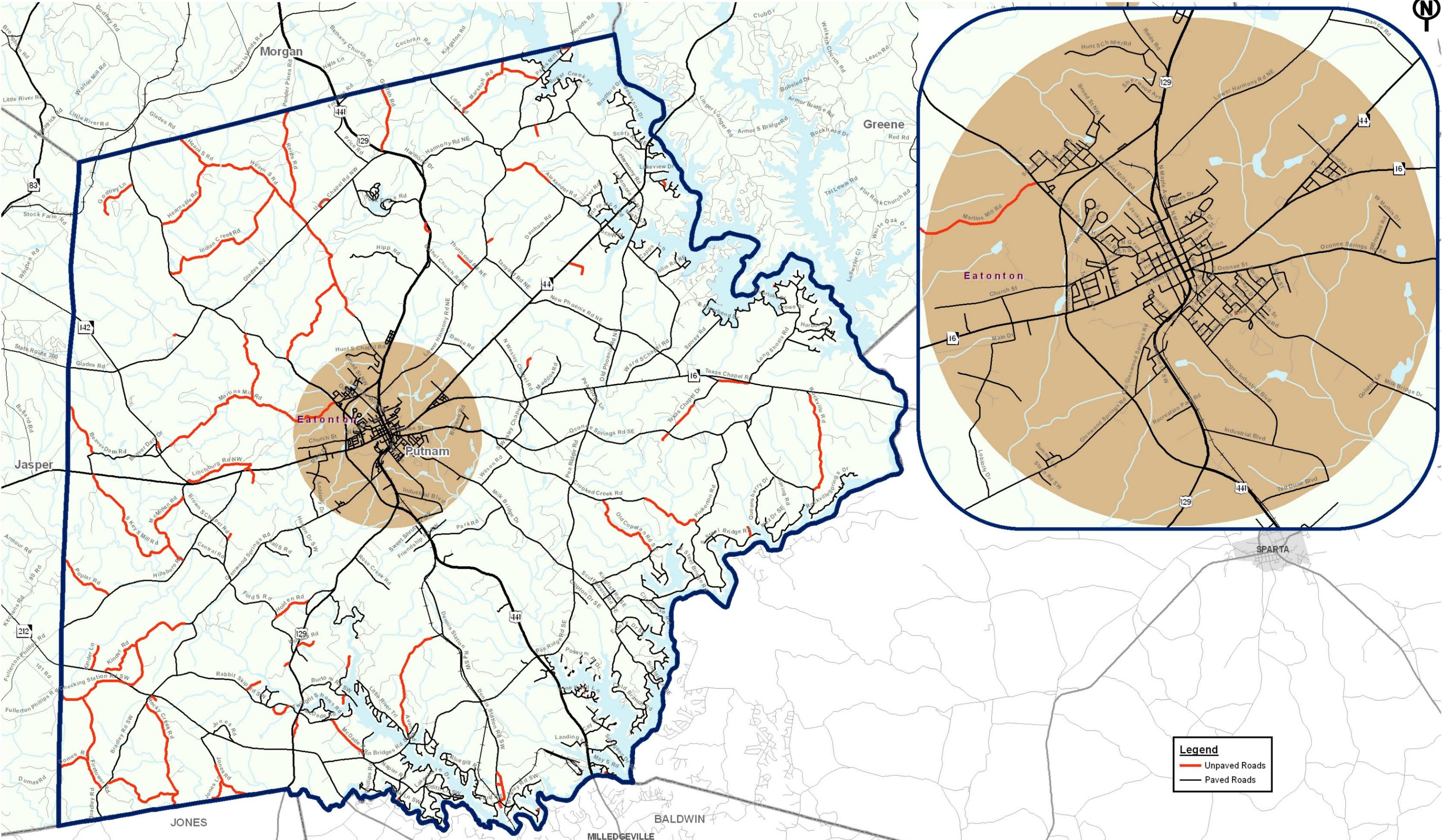
Figure No: 6.7.3

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 Putnam 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.



Legend

- Unpaved Roads
- Paved Roads

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 Putnam 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 Putnam 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.

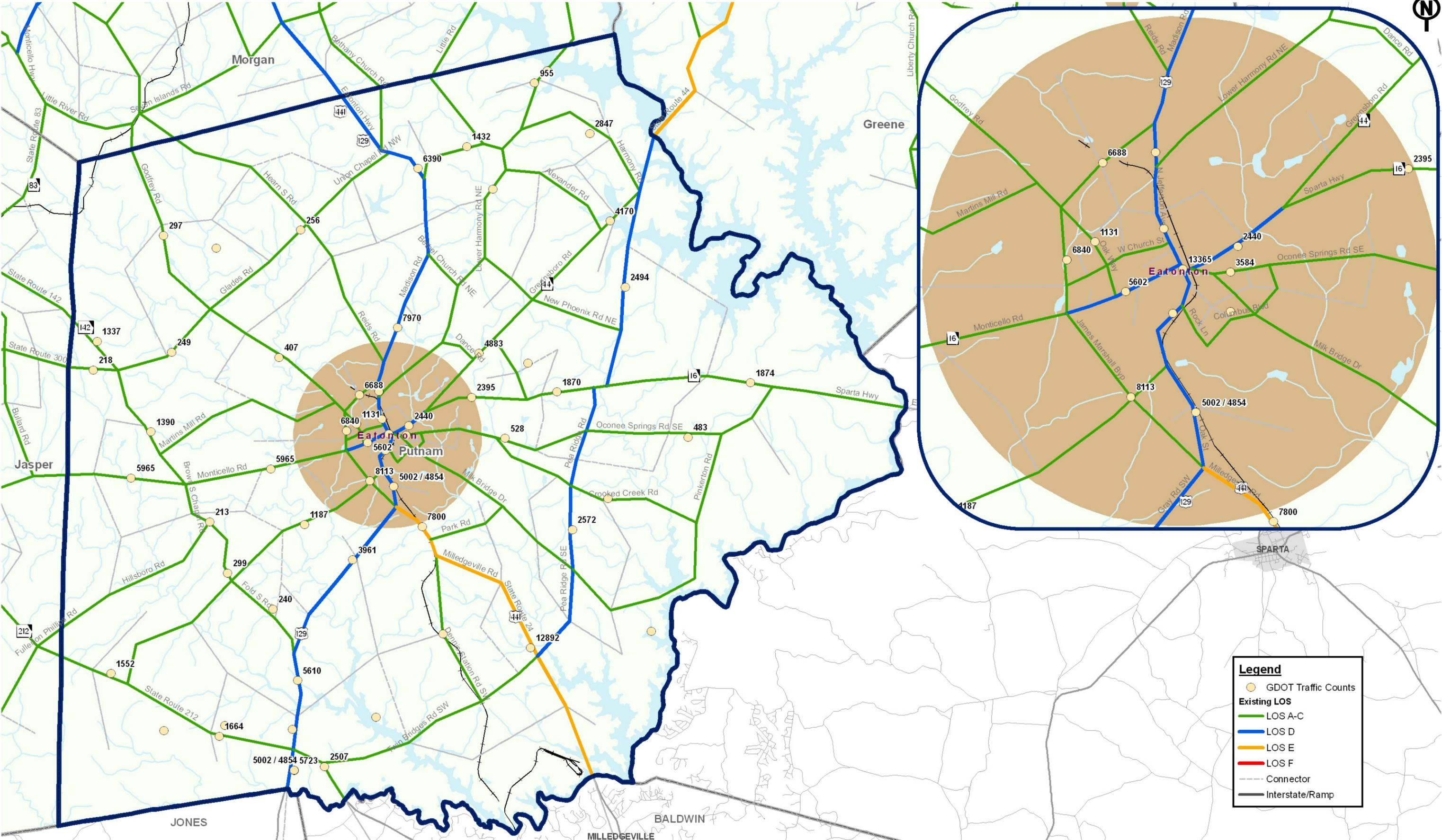
The existing analysis shows that eight segments currently operate at or below LOS D under daily conditions. Table 6.8.1 displays the deficient roadway segments with the LOS for daily operating conditions. Figure 6.8.1 displays the existing LOS for Putnam County.

Table 6.8.1
Existing (2005) Deficient Segments

Roadway	From	To	Volume ⁽¹⁾	V/C	LOS
Old Phoenix Rd	SR 44	SR 16	4,002	0.35	D
Pea Ridge Rd	SR 16	US 441	4,932	0.49	D
SR 16	US 441 Bypass	SR 44	7,132	0.51	D
SR 44	Greene County Line	Harmony Rd	7,360	0.51	D
US 129	US 441	Jones County Line	6,862	0.52	D
US 441	Morgan County Line	US 441 Bypass	8,922	0.46	D
US 441	US 441 Bypass (N)	US 441 Bypass (S)	7,522	0.51	D
US 441	US 129	Baldwin County Line	13,962	0.63	E

(1) - Two-way volumes

It can be seen that generally the majority of roadways in Putnam 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.



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 Putnam County.

**Table 6.8.2.
Committed Capacity Projects**

Project Id	Prime Work Type	Description	CST
222470-	Widening	US 441 from CR 245 to Eatonton Bypass @ US 129	2008
222580-	Widening	US 441 from Eatonton Bypass @ Sherwood Ave to Morgan CL	2010

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 Putnam 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 12 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
Old Phoenix Rd	SR 44	SR 16	6,576	0.55	E
Pea Ridge Rd	SR 16	US 441	7,492	0.72	E
SR 16	SR 142	US 441 Bypass	5,142	0.41	D
SR 16	US 441 Bypass	US 441 Business	7,258	0.49	D
SR 16	US 441 Business	SR 44	8,068	0.62	E
SR 16	N Wesley Chapel Rd	Oconee Springs Rd	3,576	0.37	D
SR 44	Greene County Line	SR 16	6,130	0.43	D
US 129	US 441 Bypass	Jones County Line	8,090	0.61	E
US 441	Morgan County Line	US 441 Bypass (N)	13,876	0.35	D
US 441 Business	US 441 Bypass (N)	US 441 Bypass (S)	8,848	0.60	E
US 441	US 441 Bypass (S)	Baldwin County Line	21,182	0.54	D
US 441 Bypass	SR 16	US 441 (S)	18,926	0.41	D

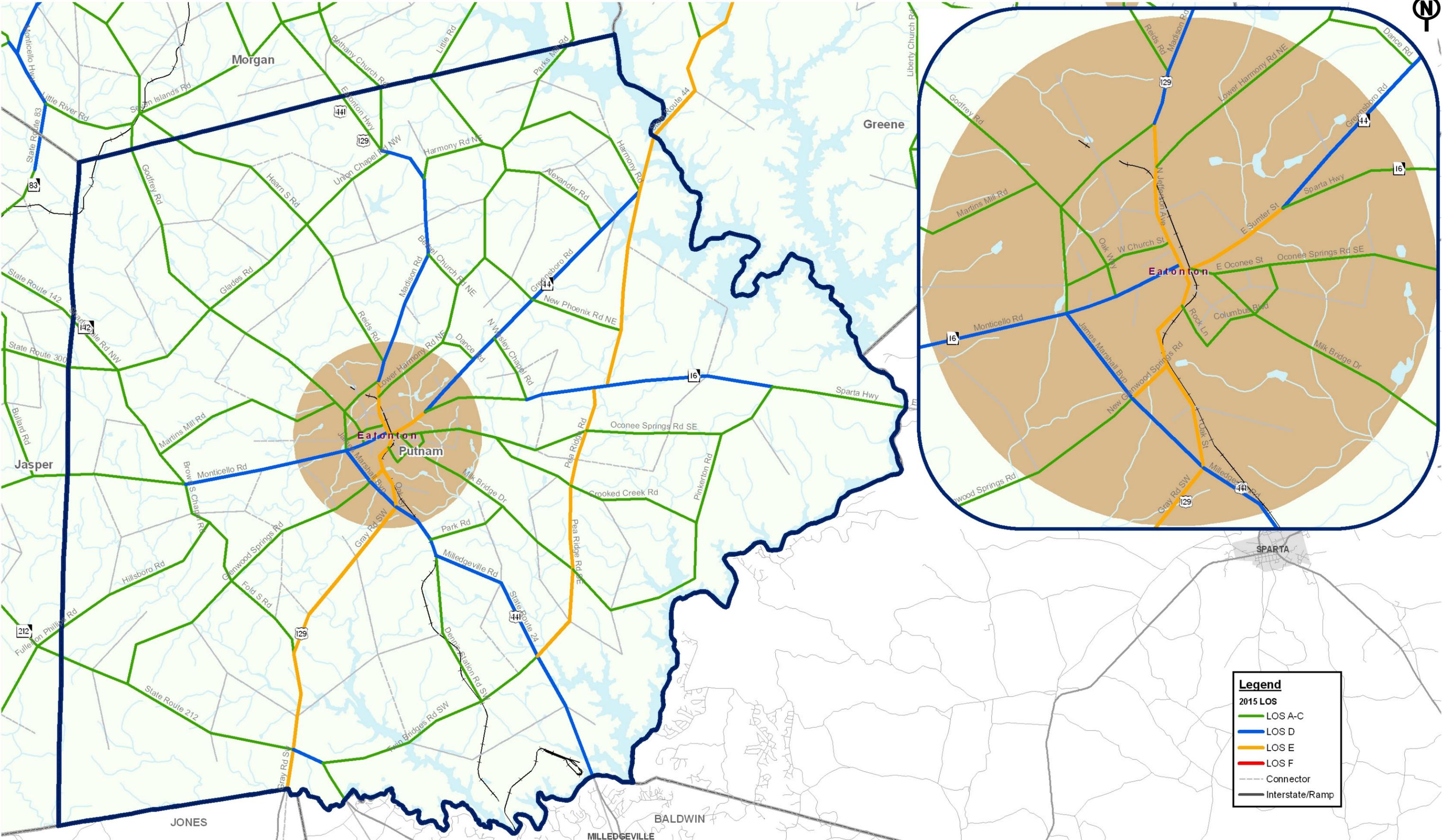
(1) - Two-way volumes

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

- E Oconee Street from SR 16 to New Street

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

The 2030 analysis shows that 14 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.



Legend

2015 LOS

- LOS A-C
- LOS D
- LOS E
- LOS F
- - - Connector
- Interstate/Ramp

2015 Daily Deficient Segments
East Georgia Multi-County Transportation Study

Figure No 6.8.2.1

**Table 6.8.2.2
2030 Deficient Segments**

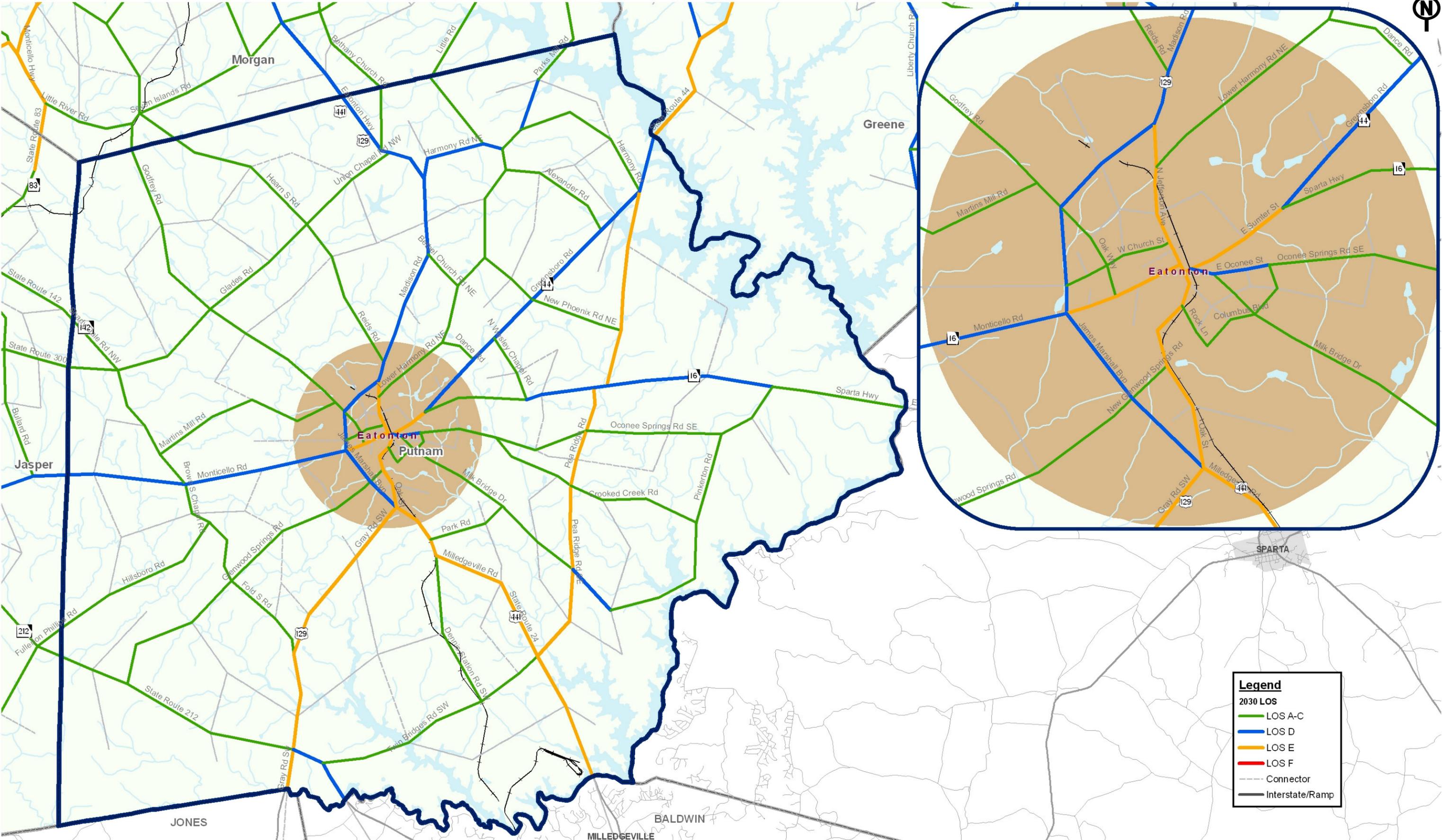
Roadway	From	To	Volume ⁽¹⁾	V/C	LOS
E Oconee St	SR 16	New St	6,382	0.49	D
Harmony Rd	US 441	Lower Harmony Rd	3,656	0.40	D
Old Phoenix Rd	SR 44	SR 16	8,244	0.67	E
Pea Ridge Rd	SR 16	US 441	9,276	0.86	E
SR 16	Jasper County Line	US 441 Bypass	5,330	0.45	D
SR 16	US 441 Bypass	US 441 Business	8,724	0.59	E
SR 16	US 441 Business	SR 44	10,674	0.81	E
SR 16	N Wesley Chapel Rd	Oconee Springs Rd	4,936	0.52	D
SR 44	SR 16	Greene County Line	8,040	0.54	D
US 129	US 441 Bypass	Jones County Line	9,974	0.75	E
US 441	Morgan County Line	US 441 Bypass (N)	20,302	0.53	D
US 441 Business	US 441 Bypass (N)	US 441 Bypass (S)	9,948	0.70	E
US 441	US 441 Bypass (S)	Baldwin County Line	25,538	0.65	E
US 441 Bypass	US 441 (N)	US 441 (S)	21,736	0.49	D

(1) - Two-way volumes

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

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 Putnam 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.



Legend

2030 LOS

- LOS A-C
- LOS D
- LOS E
- LOS F
- Connector
- Interstate/Ramp

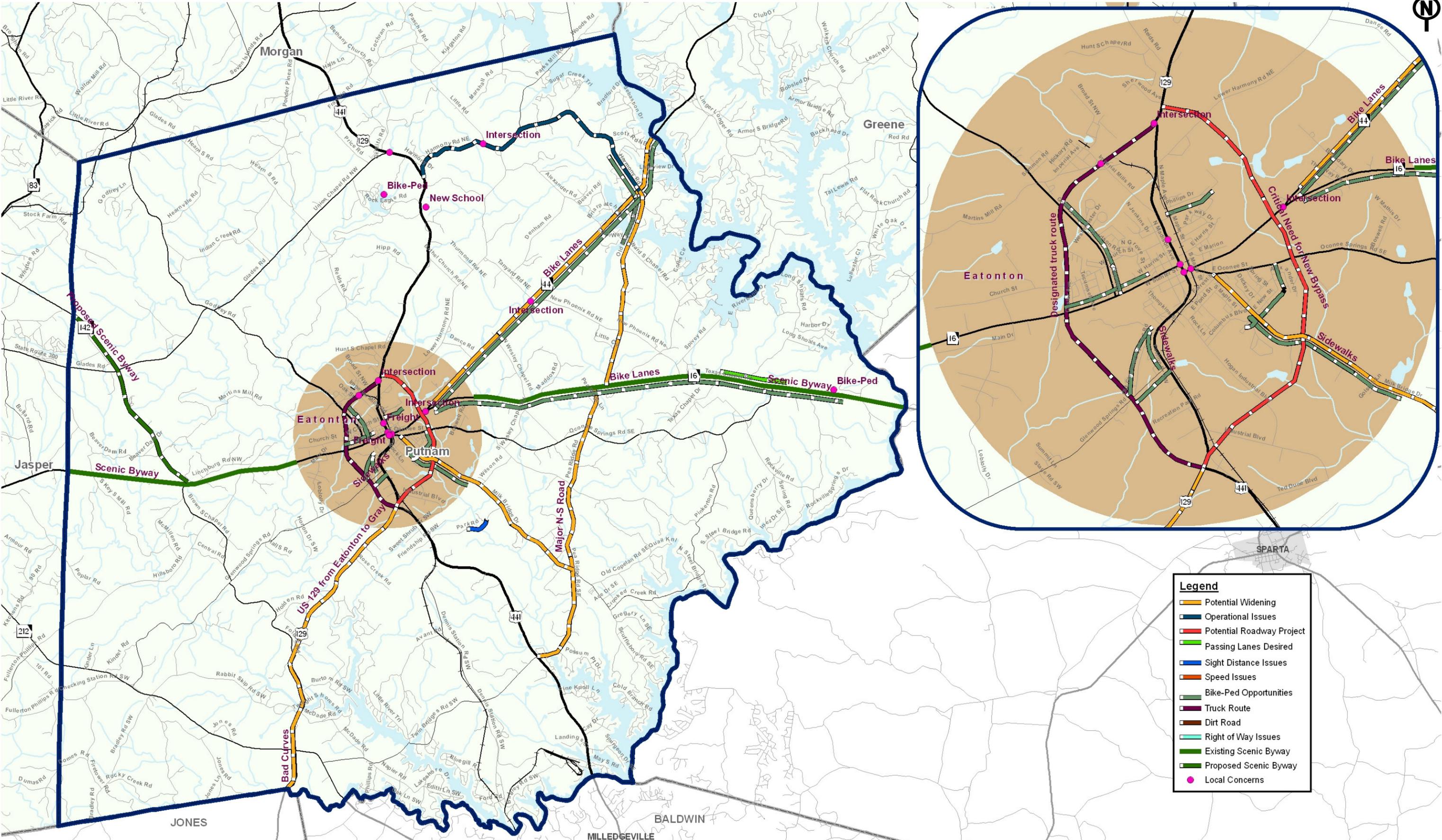
2030 Daily Deficient Segments
East Georgia Multi-County Transportation Study

Figure No 6.8.2.2

Table 6.9
Citizen & Stakeholder Input

Transportation & Land Use
<ul style="list-style-type: none"> • Need a bypass for US 441 and SR 44 east of Eatonton • Seven Island Rd is a potential scenic byway
Roadway and Operational Improvements
<ul style="list-style-type: none"> • Need to fix curves along Parks Rd in conjunction with the bridge replacement • Several bad curves along US 129 south of Eatonton • SR 16 needs passing lanes east of Eatonton • Upgrade Pea Ridge Rd – major north-south road • Major corridors – Old Phoenix Rd, Harmony Rd, Martin Luther King Jr Dr, and Pea Ridge Rd • Widen US 129 from Eatonton to Gray
Intersection Improvements
<ul style="list-style-type: none"> • Godfrey Hwy and Imperial Mill Rd • Jefferson St at City Hall • SR 16 and SR 44 • Traffic signal needed at north end of Bypass
Maintenance
<ul style="list-style-type: none"> • Log trucks tear up roads, bridges and drainage systems • Need to repave several roads • Need better signage to downtown from Bypass
Bicycle and Pedestrian
<ul style="list-style-type: none"> • Need sidewalks on Martin Luther King Jr Dr from Hogan Street to City Limits • Need sidewalks on Phillips Rd from Railroad Crossing to Gatewood School • Need sidewalks on SR 16 from old American Legion building to US 441 Bypass • Need sidewalks in Harmony Crossing area • Need sidewalks on Oak St from New Glenwood Springs Rd to Old Glenwood Springs Rd • Need sidewalks on Old Glenwood Road from Oak St to New Glenwood Springs Rd • Need sidewalks on New Glenwood Springs Rd from Oak St to Old Glenwood Springs Rd • Need sidewalks on Oak Way from SR 16 to US 441 Bypass • Bike lanes along SR 16 from Eatonton to Rock Hawk • Bike lanes along SR 44 north of Eatonton
Public Transportation
<ul style="list-style-type: none"> • Commuter rail service to Atlanta • Provide a regional transit system, with potential linkage to Atlanta • Reinstate the Great Walton Railroad from Shady Dale to Eatonton as a transit option
Freight & Rail
<ul style="list-style-type: none"> • Trucks an issue in downtown areas

Figure 6.9 displays the citizen and stakeholder comments.



Legend

- Potential Widening
- Operational Issues
- Potential Roadway Project
- Passing Lanes Desired
- Sight Distance Issues
- Speed Issues
- Bike-Ped Opportunities
- Truck Route
- Dirt Road
- Right of Way Issues
- Existing Scenic Byway
- Proposed Scenic Byway
- Local Concerns

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 Putnam County. The goals represent the general themes and overall directions that Putnam 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 Putnam 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 Putnam 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 Goals and Objectives

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

GOAL 1.0 Keep and Improve the Land Use and Transportation Connection

Objective 1.1 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 1.2 Encourage local governments to develop a Transportation Corridor Management Plan (Right-of-Way or Thoroughfare Plan Map) based on local government comprehensive land use plans and the Long Range Transportation Plan.*
- Objective 1.3 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 1.4 Maximize the use of existing transportation facilities through the use of Transportation System Management (TSM), Transportation Demand Management (TDM), and Access Management strategies.*
- Objective 1.5 As development is permitted, review the impact to the transportation system to ensure mobility is protected as parcel level development occurs.*

GOAL 2.0 Protect our Natural Resources – Lakes, Forest and Archeological Sites

- Objective 2.1 Improve the environmental quality of transportation decision-making by incorporating context sensitive solutions principles in all aspects of planning and the project development process.*
- Objective 2.2 Consider the overall social, land use compatibility, economic, energy, and environmental effects when making transportation decisions.*

GOAL 3.0 Improve the Range of Mobility Options for our Citizens

- Objective 3.1 Ensure that funding is established for bicycle and pedestrian improvements identified in the Long Range Transportation Plan.*
- Objective 3.2 Develop and review annually the Transit Development Plan (TDP) and Transportation Disadvantaged Service Plan (TDSP) to provide for public transit and Paratransit.*
- Objective 3.3 Coordinate transportation and land use decision making to ensure viability of alternative modes.*
- Objective 3.4 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.*

Objective 3.5 Reduce transportation related accidents, injuries, and deaths through regular analysis of high crash locations and identification of safety related funding streams.

GOAL 4.0 Protect our Downtown by Removing Trucks and Other Through Traffic

Objective 4.1 Consider transportation investments and land use management strategies that remove or discourage heavy trucks from cutting through downtown areas.

GOAL 5.0 Enhance our Transportation System through Maintenance and Beautification

Objective 5.1 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 5.2 All transportation engineering studies and designs shall consider life cycle costs of capital investments.

Objective 5.3 Existing and future roadway deficiencies, based on level of service standards, shall be mitigated through a continuous roadway or transportation system improvement program.

Objective 5.4 The County shall encourage each member unit of government (with responsibility) to properly maintain the various types of transportation facilities including streets, sidewalks, trails, and other modes.

Objective 5.5 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.

Table 7.3 shows how the 2030 Goals and Objectives address the Federal guidelines as presented in SAFETEA-LU.

Table 7.3
LRTP 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	✓		✓				✓	✓
1.3	✓			✓		✓	✓	
1.4	✓	✓					✓	✓
1.5	✓			✓			✓	✓
2.1	✓			✓	✓	✓		✓
2.2	✓	✓	✓		✓		✓	
3.1	✓	✓		✓		✓		
3.2	✓						✓	✓
3.3	✓			✓		✓	✓	
3.4	✓		✓	✓			✓	
3.5	✓	✓	✓					
4.1	✓	✓	✓				✓	✓
5.1	✓	✓	✓				✓	✓
5.2	✓						✓	
5.3		✓	✓	✓			✓	✓
5.4		✓	✓			✓		✓
5.5					✓		✓	

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

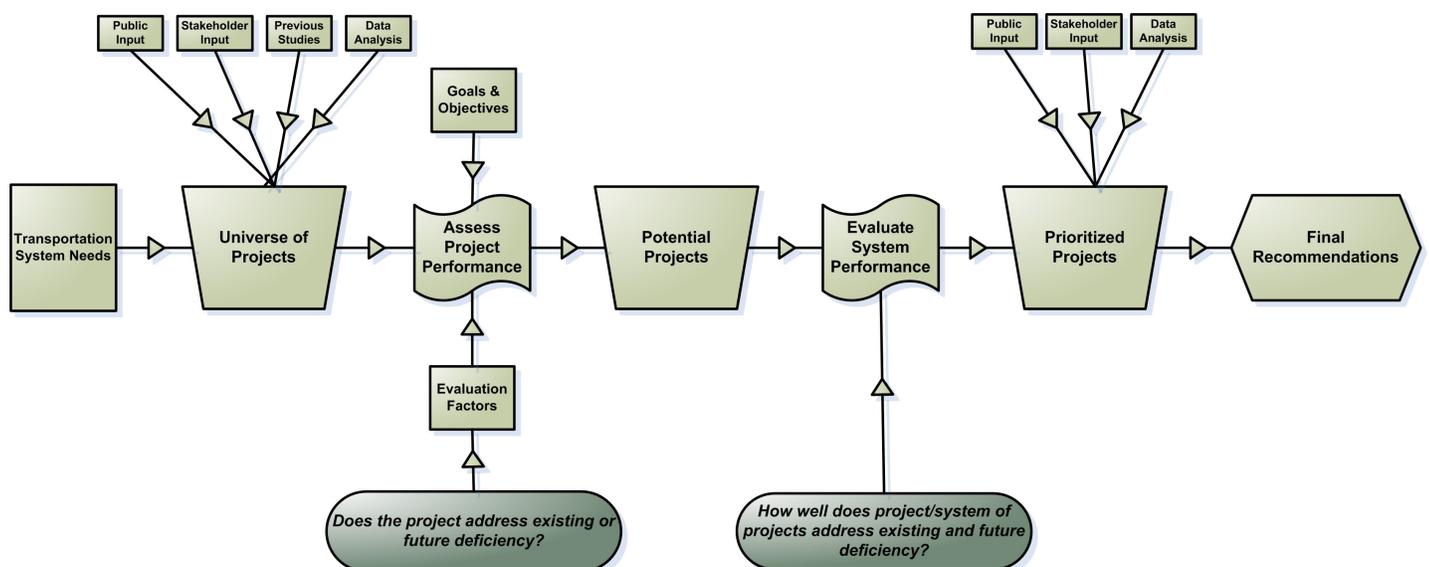
The Goals and Objectives were determined to be consistent with the needs and vision for the County, based on input from GDOT, Putnam County, and the public. The study's Goals and Objectives adhere to the SAFETEA-LU planning factors and can be used as the foundation for ranking or choosing among individual 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 Putnam 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 E+C roadway network generally serves Putnam 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:

- SR 44 from SR 16 to Greene County;
- US 129 from Mathis Road (Jones County) to US 441;
- SR 16/SR 44 from US 441 Business to SR 16;
- US 441 from US 441 Bypass to Baldwin County;
- US 441 Business from US 441 Bypass (N) to US 441 Bypass (S); and,
- SR 16 from US 441 Business to US 441 Bypass.

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:

- Old Phoenix Road from SR 16 to SR 44;
- Harmony Road from US 441 to SR 44;
- Martin Luther King Jr Drive from Oconee Street to Pea Ridge Road;
- Glades Road from Jasper County to Reids Road;
- Union Chapel Road from Reids Road to US 441;
- Glenwood Springs Road from SR 212 to US 441 Bypass;
- Twin Bridges Road from SR 212 to US 441;
- Dennis Station Road from US 441 to Twin Bridges Road;
- Oconee Springs Road from Martin Luther King Jr Drive to Pea Ridge Road;
- Crooked Creek Road from Scuffleboro Road to Pinkerton Road;
- Pinkerton Road from Crooked Creek Road to Oconee Springs Road; and,
- Parks Mill Road from Harmony Road to Morgan County.

8.2 Bicycle and Pedestrian Improvements

The evaluation of existing bicycle and pedestrian systems in the study area revealed the presence of a well developed sidewalk network in and nearby downtown Eatonton. Where the sidewalk system is developed, there remain gaps in connectivity between downtown and residential areas, schools, and parks. 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.

Other than some signed roadways, the bicycle network is currently non-existent in Putnam County. The MGRDC recently developed a Bicycle and Pedestrian Plan for Putnam 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 in this study, the bicycle facilities identified in the *Bicycle/Pedestrian Plan for the Middle Georgia Region* have been incorporated into this plan.

The sidewalk improvements are targeted in the vicinity of the elementary, middle, and high schools in Eatonton and the growing area of Harmony Crossing near Lake Oconee. Some

of the improvements identified to serve the population that could walk to school will also provide connectivity to commercial areas. The bicycle network is aimed at connecting the population in Eatonton to recreational destinations within and near the County and in connecting Putnam County's network to other proposed bicycle networks outside the County.

Eatonton

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

- Putnam County Elementary School;
- Putnam County Middle School;
- Putnam County High School;
- Putnam Alternative Success; and,
- Gatewood School.

Recommendations:

- Construct sidewalks along both sides Martin Luther King Jr Drive from Hogan Street to Rooty Creek.
- Construct sidewalks along the west side of Martin Luther King Jr Drive from Rooty Creek to Gholston Road.
- Construct sidewalks along the north side of SR 16 from US 441 Bypass to Ingles Shopping Center.
- Construct sidewalks along both sides of New Street from Martin Luther King Jr Drive to Oconee Springs Road.
- Construct sidewalks along the north side of Hogan Street from Jefferson Avenue to Martin Luther King Jr Drive.
- Construct sidewalks along the south side of Hogan Street from Rock Lane to Jefferson Avenue.
- Construct sidewalks along both sides of Oconee Springs Road from New Road to SR 16.
- Construct sidewalks along the west side of Rock Lane from US 129 to Railroad.
- Construct sidewalks along the east side of Rock Lane from Railroad to Hogan Road.
- Construct sidewalks along the east side of Maple Avenue from SR 16 to Phillips Drive.

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 Glades Road / Union Chapel Road from Jasper County to Rock Eagle Park to include extra pavement for bicycles.

8.3 Public Transportation Improvements

Putnam County's Public Transit Department operates the Section 5311 Rural Transportation Program. This fare-based, on-demand program transports the County's residents to a variety of shopping, medical, educational, employment and social destinations. In 2006, the County's elderly population accounted for 27% of the total ridership. Over one-half (57%) of the ridership was disabled citizens, seven percent of whom were in wheel chairs. The majority of trips made in 2006 were for shopping and personal needs (57%), followed by employment (13%), nutrition (12%), medical (11%), education (4%), and social/recreational (3%).

The County expanded its program several years ago, increasing from three to four vans. According to the Public Transit Department, capital expenditures planned for the next several years include a van (without a lift) and radio for 2007, and two vans (one with a lift and one without) in 2008.

The County also provides a meals-on-wheels program and other senior transportation services which are operated and funded entirely by the County. In addition, the MGRDC administers a program funded by the Georgia Department of Human Resources which provides a coordinated transportation program for the 11 counties in the MGRDC region. Utilizing a third party provider, T & T Transportation, the program offers transportation services to Putnam County residents who are clients of the Putnam County Department of Children and Family Services, Putnam-Jasper Support Services (MHADDD), and the Department of Labor Vocational Rehabilitation Program – Milledgeville. This coordinated service provided 7,532 trips to Putnam County residents in 2006.

Despite the availability of these services, concern has been raised about inadequate transportation services for the elderly. This need is likely to multiply in coming years as the number of elderly persons age 65 and over is projected to increase from 2,658 persons in 2000 to 4,511 persons by 2025 (The Draft Joint Comprehensive Plan for Putnam County and City of Eatonton, October 2006). Additionally, the MGRDC reports that, in the Eatonton area, there are numerous residents in need of transportation to work, a situation for which the rural transportation service may or may not be the best option. Users of the on-demand 5311 service are limited to certain hours of van operation, a costly fare outside the city limits, and a daily reservation requirement. A fixed-route type service with designated stops would possibly better accommodate this type of need.

Several planning activities are on the horizon which should help Putnam County evaluate current program services. The first of these will be a transit development plan to be completed by the MGRDC for each county in their region. The timetable for completion of the Putnam County plan, however, has not yet been determined. Secondly, the Georgia Department of Human Resources (DHR), in conjunction with the GDOT, is developing a Public Transit - Coordinated Human Services Plan for each DHR region, an activity that is underway. 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 Six Plan, which includes Putnam 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. Putnam County's Draft Comprehensive Land Use Plan, October 2006, reports that, in 2000, the majority of workers residing in Putnam County work in Putnam County (56%) while 44% commute outside the County. Neighboring Baldwin County is the destination for the largest percentage of commuters (13%) followed by Morgan (5%), Greene (5%), and Bibb Counties (4%). Less than four percent commute into the Atlanta region. Given this data, there does not appear to be an immediate need for a park and ride facility within the County at this time. The nearest Rideshare facility to Putnam County is located in Newton County on I-20 at US 278. This facility is currently at capacity and in the process of being expanded from 55 parking spaces to 110 parking spaces.

Recommendations:

- Putnam County should actively participate in the coordinated human services planning process being led by the DHR Region Six Coordinator (Cheryl Harrington 478-757-2530). 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 ensure that the transportation needs of all of its residents are identified (low-income individuals, individuals ineligible for DHR services, etc.), not just those whose needs can be met by one of these programs.
- The coordinated plan will also likely make recommendations regarding the 5311 Rural Transportation Program. As such, Putnam County will need to re-evaluate its current program and the unmet needs of its elderly and workers. Working with GDOT, the County needs to explore additional on-demand capacity or possibly fixed route services to improve and encourage rural transit use by the public.

- 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. Jasper, Morgan, Greene, Putnam, and other interested counties need to instigate exploratory planning initiatives for regional connectivity with GDOT.

8.4 Freight & Rail Improvements

Norfolk Southern provides rail service in Putnam County with a line connecting Macon to Milledgeville to Eatonton. An average of four trains per day transport freight over 20 miles of rail within the County. There are 41 rail crossings, 39 of which are at-grade and 2 of which are 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.

Three railroad improvement projects for Putnam County are listed in GDOT’s Construction Work Program. All three will improve the crossings with warning devices and are described as follows:

- Rail crossing warning improvements at Rock Lane Road Crossing (#733038W);
- Rail crossing warning improvements at Phillips Drive Crossing (#733065T); and,
- Rail crossing warning improvements at Maple Street Crossing (#733066A).



Crossing at Rock Lane Road scheduled to be improved with warning devices.

In addition to the rail improvement projects above, Construction Work Program Project #22470, currently underway, will widen US 441 from CR 245 to the Eatonton Bypass at US 129 and will affect the rail crossing on US 441 near Friendship Road. At present, the railroad runs parallel to US 441 which makes it difficult for the driver of a vehicle to see approaching trains. The existing rail crossing has flashers but no other warning devices.



Railroad runs parallel to US 441 at Friendship Rd.



Edward Reeve Rd., Friendship Rd. and Park Rd. intersect US 441 near the railroad crossing.

SR16/Sumter Street will also be widened through downtown Eatonton. Its rail crossing at Maple Avenue will undergo modifications/improvements as part of the widening project.



Future widening of SR 16 / Sumter St. will affect the rail crossing.

Commuter and Intercity Rail

The Georgia Rail Passenger Program (GRPP) proposes two passenger rail options which will be accessible to Putnam 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). Working with the Middle Georgia RDC, 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 residential areas and 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

Putnam County does not have a local airport, but does have a few private airstrips which are located primarily near Lake Oconee. The Milledgeville-Baldwin County Airport, a Level III-Business Airport of Regional Impact, is located 13 miles south of Eatonton. Commercial airport needs are met by the Middle Georgia Regional Airport, located 54 miles away in Macon, and Hartsfield-Jackson Atlanta International Airport, located 73 miles away south of Atlanta.

Recommendations

- None

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 Putnam 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 US 441 and SR 44 east of Eatonton	Roadway Project	This project is currently in GDOT's CWP	Yes
2	Widen US 129 from Eatonton to Gray	Widening	This project is currently in GDOT's CWP	Yes
3	SR 16 needs passing lanes east of Eatonton	Passing Lanes	This project is a recommended improvement	Yes
4	Need to fix curves along Parks Rd in conjunction with the bridge replacement	Geometric	This project is a recommended improvement	Yes
5	Several bad curves along US 129 south of Eatonton	Geometric	A widening project for this facility is currently in GDOT's CWP, this will deal with the curves	Yes
6	Upgrade Pea Ridge Rd – major north-south road	Operational	This roadway is being recommended for improvement	Yes
7	Major corridors – Old Phoenix Rd, Harmony Rd, and Martin Luther King Jr Dr	Operational	These roadways are being recommended for improvement	Yes
8	Godfrey Hwy and Imperial Mill Rd	Intersection	This intersection is recommended for improvement	Yes
9	SR 16 and SR 44	Intersection	This intersection is recommended for improvement	Yes
10	Traffic Signal at north end of Bypass	Intersection	This intersection is recommended for improvement	Yes
11	7 Island Rd is a potential scenic byway	Scenic Byway	This is beyond the scope of this project	No
12	Log trucks tear up roads, bridges and drainage systems	Maintenance	Improvements such as the Eatonton Bypass will help address this issue	Yes
13	Need to repave several roads	Maintenance	This is beyond the scope of the project. This comment has been forwarded to Putnam County	No
14	Need better signage to downtown from Bypass	Maintenance	This is beyond the scope of this project	No
15	Need sidewalks on Martin Luther King Jr Dr from Hogan Street to City Limits	Bike-Ped	Sidewalk improvements are recommended in this area	Yes
16	Need sidewalks on Phillips Rd from Railroad Crossing to Gatewood School	Bike-Ped	Sidewalk improvements are recommended in this area	Yes
17	Need sidewalks on SR 16 from old American Legion building to US 441 Bypass	Bike-Ped	Sidewalk improvements are recommended in this area	Yes
18	Need sidewalks in Harmony Crossing area	Bike-Ped	Sidewalk improvements are recommended in this area	Yes
19	Need sidewalks on Oak St from New Glenwood Springs Rd to Old Glenwood Springs Rd	Bike-Ped	Sidewalk improvements are recommended in this area	Yes
20	Need sidewalks on Old Glenwood Road from Oak St to New Glenwood Springs Rd	Bike-Ped	Sidewalk improvements are recommended in this area	Yes

#	Comment or Concern	Comment Type	Response	Recommended for Inclusion in Plan
21	Need sidewalks on New Glenwood Springs Rd from Oak St to Old Glenwood Springs Rd	Bike-Ped	Sidewalk improvements are recommended in this area	Yes
22	Need sidewalks on Oak Way from SR 16 to US 441 Bypass	Bike-Ped	Sidewalk improvements are recommended in this area	Yes
23	Bike lanes along SR 16 from Eatonton to Rock Hawk	Bike-Ped	Bicycle improvements are recommended along this road	Yes
24	Bike lanes along SR 44 north of Eatonton	Bike-Ped	A study is being conducted for a separate Multi-Use trail along SR 44	No
25	Commuter rail service to Atlanta	Transit	This is being investigated as part of another study	No
26	Provide a regional transit system	Transit	A regional transit system is a recommended improvement	Yes
27	Reinstate the Great Walton Railroad from Shady Dale to Eatonton as a transit option	Transit	Rail ROW has been sold back to various land owners	No
28	Trucks an issue in downtown areas	Freight	Improvements such as the Eatonton Bypass will help address this issue	Yes

9.0 Improvement Recommendations

Putnam County has received high 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;
- 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 Putnam 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 Putnam 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 Putnam 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; and,
- Bicycle and Pedestrian 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																		
P1	Eatonton SE Bypass	SR 44	SR 16	N/A	4-Lanes, Divided	6.25 miles	CWP	New Roadway	Connectivity	Improved Connectivity	✓			\$8,600,000	✓	✓	✓	
P2	SR 44	SR 16	Greene County	2-Lanes	4-Lanes, Divided	13.40 miles	CWP	Arterial Widening	Capacity Deficiency	Increase Capacity & Improved Safety	✓			\$46,495,000	✓	✓	✓	
P3	Eatonton NE Bypass	SR 16	US 441	N/A	4-Lanes, Divided	1.60 miles	CWP	New Roadway	Connectivity	Improved Connectivity	✓			\$5,280,000	✓	✓	✓	
P4	US 129	Mathis Rd (Jones) ⁶	US 441	2-Lanes	4-Lanes, Divided	10.73 miles	CWP	Arterial Widening	Capacity Deficiency	Increase Capacity & Improved Safety	✓			\$48,647,753	✓	✓	✓	
P5	SR 16 Passing Lanes	Texas Chapel Rd	Oconee Springs Rd		Passing Lanes	1.87 miles	Public	Passing Lanes		Increase Capacity & Improved Safety		✓			✓	✓	✓	
P6	SR 16/SR 44	US 441 Business	SR 16	2-Lanes	4-Lanes	1.11 miles	Analysis	Arterial Widening	Capacity Deficiency	Increase Capacity & Improved Safety	✓			\$6,038,400	✓	✓	✓	
														\$115,061,153				
Operational Improvements																		
P7	US 441	US 441 Bypass	Baldwin County	4-Lanes	4-Lanes	9.82 miles	Analysis					✓			✓	✓	✓	
P8	US 441 Business	US 441 Bypass (N)	US 441 Bypass (S)	2-Lanes	2-Lanes	3.71 miles	Analysis					✓			✓	✓	✓	
P9	SR 16	US 441 Business	US 441 Bypass	2-Lanes	2-Lanes	1.25 miles	Analysis					✓			✓	✓	✓	
														\$0				
Minor Widening																		
P10	Old Phoenix Rd	SR 16	SR 44	< ideal typical section	12' lanes and 2' paved shoulders	5.57 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity	✓			\$3,787,600	✓	✓	✓	✓
P11	Harmony Rd	US 441	SR 44	< ideal typical section	12' lanes and 2' paved shoulders	8.17 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$5,555,600	✓	✓	✓	✓
P12	Martin Luther King Jr Dr	Oconee St	Pea Ridge Rd	< ideal typical section	12' lanes and 2' paved shoulders	6.14 miles	Public	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$4,175,200	✓	✓	✓	✓
P13	Glades Rd	Jasper County	Reids Rd	< ideal typical section	12' lanes and 2' paved shoulders	8.27 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$5,623,600	✓	✓	✓	✓
P14	Union Chapel Rd	Reids Rd	US 441	< ideal typical section	12' lanes and 2' paved shoulders	3.03 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$2,060,400	✓	✓	✓	✓
P15	Glenwood Springs Rd	SR 212	US 441 Bypass	< ideal typical section	12' lanes and 2' paved shoulders	9.76 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$6,636,800	✓	✓	✓	✓
P16	Twin Bridges Rd	SR 212	US 441	< ideal typical section	12' lanes and 2' paved shoulders	7.30 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$4,964,000	✓	✓	✓	✓
P17	Dennis Station Rd	US 441	Twin Bridges Rd	< ideal typical section	12' lanes and 2' paved shoulders	4.60 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$3,128,000	✓	✓	✓	✓
P18	Oconee Springs Rd	Martin Luther King Jr Dr	Pea Ridge Rd	< ideal typical section	12' lanes and 2' paved shoulders	5.31 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity		✓		\$3,610,800	✓	✓	✓	✓
P19	Crooked Creek Rd	Scuffleboro Rd	Pinkerton Rd	< ideal typical section	12' lanes and 2' paved shoulders	4.68 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$3,182,400	✓	✓	✓	✓
P20	Pinkerton Rd	Crooked Creek Rd	Oconee Springs Rd	< ideal typical section	12' lanes and 2' paved shoulders	2.95 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$2,006,000	✓	✓	✓	✓
P21	Parks Mill Rd	Harmony Rd	Morgan County	< ideal typical section	12' lanes and 2' paved shoulders	2.93 miles	Analysis	Minor Widening	Sub-Standard Typical Section	Improved Safety & Capacity			✓	\$1,992,400	✓	✓	✓	✓
														\$46,722,800				
Intersection/Geometric Improvements																		
P22	Parks Rd	Bridge				curves	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity				\$250,000	✓	✓	✓	✓
P23	Godfrey Hwy	Imperial Mill Rd					Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	✓
P24	SR 16	SR 44					Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P25	US 441 Bypass (N)	US 441 (N)					Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	✓
P26	SR 16	US 441 Bypass				32 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P27	US 441	Twin Bridges Rd				25 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P28	SR 16	US 441 BU				25 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P29	US 441	SR 44				20 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P30	SR 16 (Sparta Rd)	Putnam Ave				20 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P31	SR 16 (Marion St)	Madison Ave				17 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	✓
P32	US 441 Bypass (N)	Sherwood Ave				16 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity			✓	\$250,000	✓	✓	✓	✓
P33	US 441	US 129				14 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P34	US 129	SR 212				14 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	✓
P35	US 441	Pine Knoll Ln				13 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P36	SR 44	Old Phoenix Rd/Harmony Rd				11 crashes	Analysis	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	✓
P37	SR 16	Pea Ridge Rd & Old Phoenix Rd				Align Intersections	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P38	SR 44	Tanyard Rd & New Phoenix Rd				Align Intersections	Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
P39	W Marion	Maple St					Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity		✓		\$250,000	✓	✓	✓	✓
P40	US 441	Union Chapel					Public	Intersection Improvement	Operational & Safety Issues	Improved Safety & Capacity	✓			\$250,000	✓	✓	✓	✓
														\$4,750,000				
Bridge Improvements																		
P41	Griffith Rd	Sugar Creek Tributary				522 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$80,342	✓	✓	✓	✓
P42	Glenwood Springs Rd	Little River				9,632 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,483,328	✓	✓	✓	✓
P43	SR 16	Crooked Creek				3,040 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$468,098	✓	✓	✓	✓
P44	Martins Mill Rd	Little River				2,088 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$321,552	✓	✓	✓	✓
P45	Old Macon Rd	Little River				9,114 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$1,403,556	✓	✓	✓	✓
P46	Crooked Creek Rd	Crooked Creek				508 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations		✓		\$78,294	✓	✓	✓	✓
P47	Oconee Springs Rd	Crooked Creek				4,515 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$695,310	✓	✓	✓	✓
P48	Godfrey Rd	Big Indian Creek				5,870 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations	✓			\$903,903	✓	✓	✓	✓
P49	Godfrey Rd	Glady Creek				3,161 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations		✓		\$486,717	✓	✓	✓	✓
P50	Rock Eagle Rd	Little Glady Creek				932 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations		✓		\$143,528	✓	✓	✓	✓
P51	US 129	Murder Creek				9,169 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations			✓	\$1,412,026	✓	✓	✓	✓
P52	Indian Creek Rd	Big Indian Creek				567 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations			✓	\$87,318	✓	✓	✓	✓
P53	US 129	Little River				9,833 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations			✓	\$1,514,205	✓	✓	✓	✓
P54	SR 44	Crooked Creek				1,050 sq ft	Analysis	Upgrade Bridge	Rehabilitation or Maintenance	Improved Safety & Operations			✓	\$161,638	✓	✓	✓	✓
														\$9,239,815				
Bicycle & Pedestrian Improvements																		
P55	Phillips Rd Sidewalks	Maple Dr	Gatewood School	no sidewalks	sidewalks on both sides	0.51 miles	Public	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System	✓			\$102,000	✓	✓	✓	✓
P56	Martin Luther King Jr Dr Sidewalks	Hogan St	Rooty Creek	no sidewalks	sidewalks on both sides	0.70 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$140,000	✓	✓	✓	✓
P57	Martin Luther King Jr Dr Sidewalks	Rooty Creek	Gholston Rd	no sidewalks on west	sidewalks on west	0.80 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$80,000	✓	✓	✓	✓
P58	SR 16 Sidewalks	US 441 Bypass	existing	no sidewalks	sidewalks on both sides	0.93 miles	Public	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System	✓			\$186,000	✓	✓	✓	✓
P59	SR 16 Sidewalks	US 441 Bypass	Ingles	no sidewalks on north	sidewalk on north	0.13 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System	✓			\$13,000	✓	✓	✓	✓
P60	Oak St Sidewalks	New Glenwood Springs Rd	Old Glenwood Springs Rd	no sidewalks	sidewalks on both sides	0.38 miles	Public	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$76,000	✓	✓	✓	✓
P61	Old Glenwood Springs Rd Sidewalks	Oak St	New Glenwood Springs Rd	no sidewalks	sidewalks on both sides	0.70 miles	Public	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System	✓			\$140,000	✓	✓	✓	✓
P62	New Glenwood Springs Rd Sidewalks	Oak St	Old Glenwood Springs Rd	no sidewalks	sidewalks on both sides	0.42 miles	Public	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System	✓			\$84,000	✓	✓	✓	✓
P63	Oak Way Sidewalks	Church St	Hudson Rd	no sidewalks	sidewalks on both sides	0.32 miles	Public	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System	✓			\$64,000	✓	✓	✓	✓
P64	SR 16 Bike Lanes	Eatonton	Rock Hawk	no bike lanes/narrow shoulders	bike lanes on both sides	11.57 miles	Public	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$1,735,500	✓	✓	✓	✓
P65	New St Sidewalks	Martin Luther King Jr Dr	Oconee Springs Rd	limited sidewalks	sidewalks on both sides	0.60 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$120,000	✓	✓	✓	✓
P66	Hogan St Sidewalks	Jefferson Ave	Martin Luther King Jr Dr	no sidewalk on north	sidewalk on north	0.38 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$38,000	✓	✓	✓	✓
P67	Hogan St Sidewalks	Rock Lane	Jefferson Ave	no sidewalk on south	sidewalk on south	0.25 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$25,000	✓	✓	✓	✓
P68	Oconee Springs Rd Sidewalks	New Rd	SR 16	no sidewalks	sidewalks on both sides	0.80 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$160,000	✓	✓	✓	✓
P69	Rock Lane Sidewalks	US 129	Railroad	no sidewalk on west	sidewalks on west	0.08 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System	✓			\$8,000	✓	✓	✓	✓
P70	Rock Lane Sidewalks	Railroad	Hogan Rd	no sidewalk on east	sidewalk on east	0.42 miles	Analysis	Sidewalk	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$42,000	✓	✓	✓	✓
P71	Maple Ave Sidewalks	SR 16																

**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
P77	SR 44 Multi-Use Path	US 441 (Jefferson St)	Greene County Line		multi-use path	10.79 miles	RDC	Multi-Use Path	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$3,776,500	✓	✓	✓	✓
P78	SR 16 Bike Lanes	SR 142	US 441 Bypass	no bike lanes/narrow shoulder	bike lanes on both sides	4.25 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$637,500	✓	✓	✓	✓
P79	SR 16 Bike Lanes	US 441 Bypass	Madison Ave	no bike lanes/narrow shoulder	bike lanes on both sides	1.16 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$174,000	✓	✓	✓	✓
P80	SR 16 Bike Lanes	SR 16/SR 44	Hancock County Line	no bike lanes/narrow shoulder	bike lanes on both sides	13.42 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$2,013,000	✓	✓	✓	✓
P81	US 441 Bike Lanes	US 441/US 129	Lake Sinclair	no bike lanes/narrow shoulder	bike lanes on both sides	9.77 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$1,465,500	✓	✓	✓	✓
P82	Pea Ridge Rd Bike Lanes	US 441	SR 16	no bike lanes/narrow shoulder	bike lanes on both sides	8.34 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$1,251,000	✓	✓	✓	✓
P83	Old Phoenix Rd Bike Lanes	SR 16	SR 44	no bike lanes/narrow shoulder	bike lanes on both sides	5.55 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$832,500	✓	✓	✓	✓
P84	SR 212 Bike Lanes	US 129	Jasper County Line	no bike lanes/narrow shoulder	bike lanes on both sides	6.93 miles	RDC	Bike Lane	Bike/Ped Facilities	Enhanced Multi-Modal System			✓	\$1,039,500	✓	✓	✓	✓
P85	Downtown City of Eatonton	Bicycle Racks		no bicycle racks	bicycle racks -\$100-\$300 each - install 4		RDC	Bicycle Racks	Bike/Ped Facilities	Enhanced Multi-Modal System		✓		\$1,000	✓	✓	✓	✓
														\$18,617,000				
														\$194,390,768				

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.

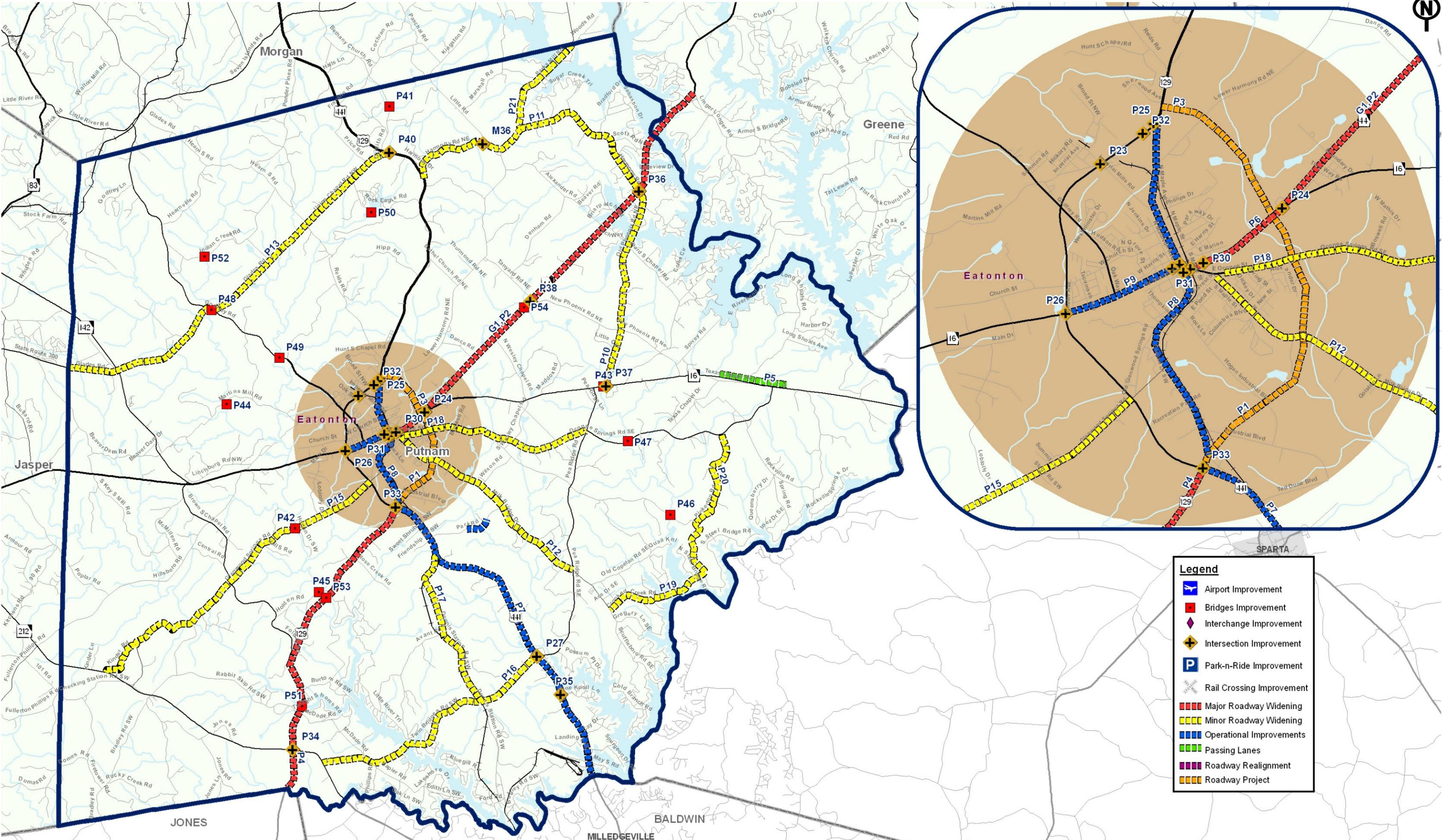
2. Intersection costs assumed a unit cost of \$250,000

3. Bridge replacement costs are based off of \$140 per square foot

4. Projects P7, P8 and P9 are proposed to have non-widening improvements, therefore costs were not provided

5. Estimated costs DO NOT include Right of Way

6. Logical termini for P4 should be extended to Gray Bypass in Jones County

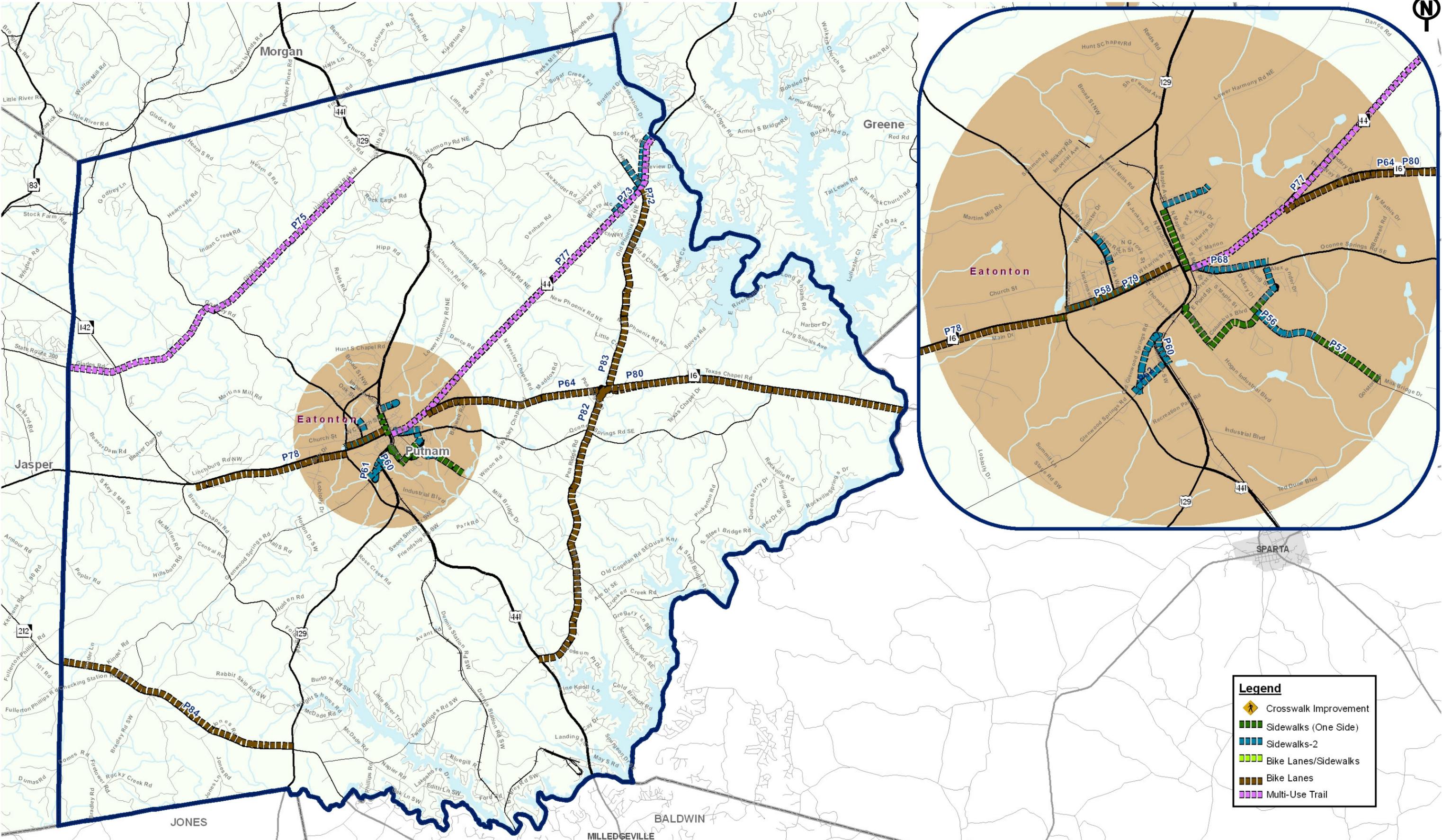


Legend

- 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



Legend

- Crosswalk Improvement
- Sidewalks (One Side)
- Sidewalks-2
- Bike Lanes/Sidewalks
- Bike Lanes
- Multi-Use Trail

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

Figure No: 9.2.2

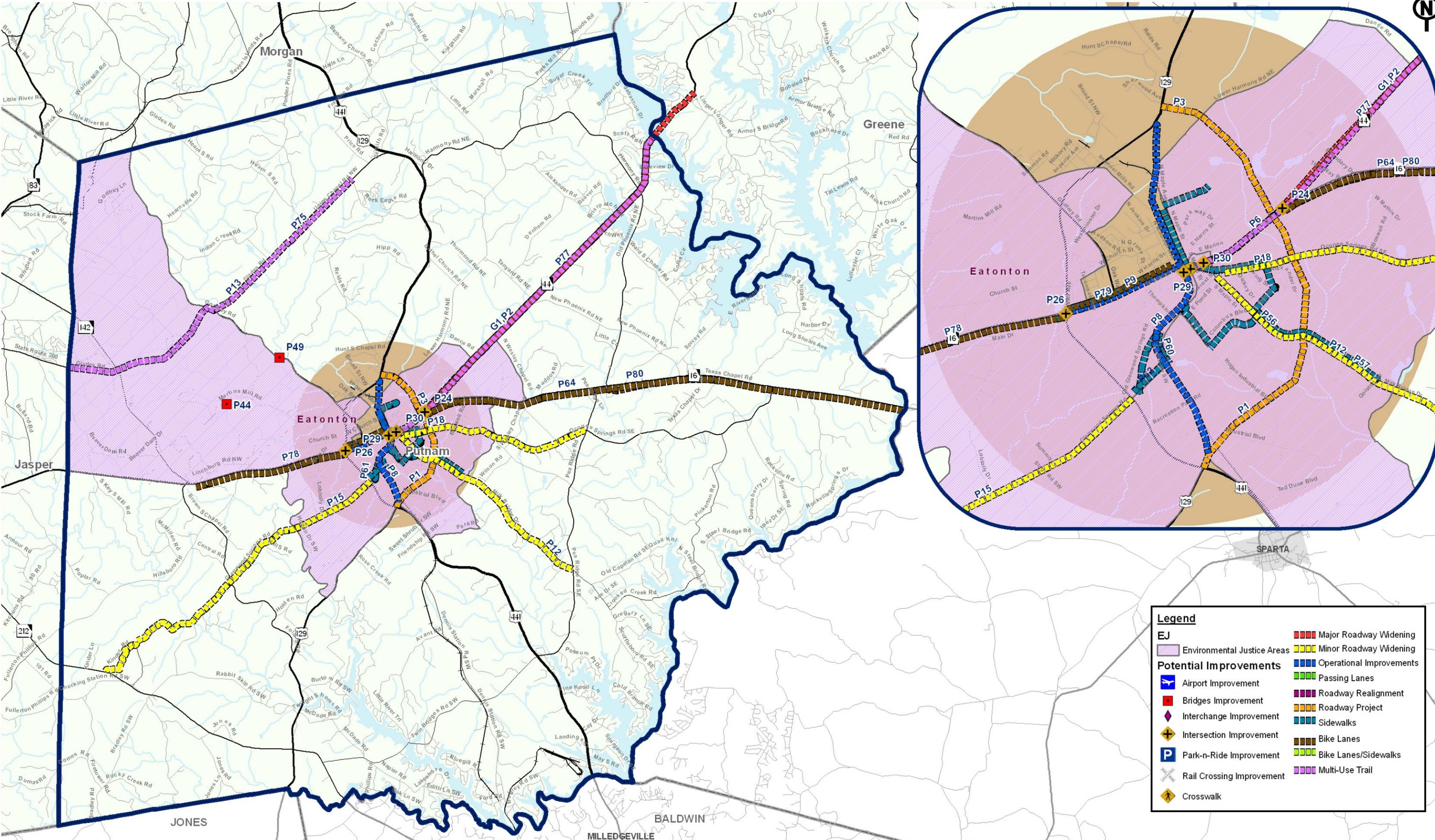
9.3 Environmental Justice Considerations

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:

- P1 – Construction of Eatonton SE Bypass from SR 44 to SR 16;
- P2 – Widening of SR 44 from SR 16 to Greene County;
- P3 – Construction of Eatonton NE Bypass from SR 16 to US 441;
- P6 – Widening of SR 16/SR 44 from US 441 Business to SR 16;
- P8 – Operational improvements to US 441 Business from US 441 Bypass (N) to US 441 Bypass (S);
- P9 – Operational improvements to SR 16 from US 441 Business to US 441 Bypass;
- P12 – Minor widening of Martin Luther King Jr Drive from Oconee Street to Pea Ridge Road;
- P13 – Minor widening of Glades Road from Jasper County to Reids Road;
- P15 - Minor widening of Glenwood Springs Road from SR 212 to US 441 Bypass;
- P18 - Minor widening of Oconee Springs Road from Martin Luther King Jr Drive to Pea Ridge Road;
- P24 – Intersection improvements to SR 16 and SR 44;
- P26 - Intersection improvements to SR 16 and US 441 Bypass;
- P28 - Intersection improvements to SR 16 and US 441 Business;
- P29 - Intersection improvements to US 441 and SR 44;
- P30 - Intersection improvements to SR 16 (Sparta Road) and Putnam Avenue;
- P44 – Bridge upgrade to Martins Mill Road at Little River;
- P49 - Bridge upgrade to Godfrey Road at Gladly Creek;
- P55 – Sidewalks along Phillips Road from Maple Drive to Gatewood School;
- P56 - Sidewalks along Martin Luther King Jr Drive from Hogan Street to Rooty Creek;
- P57 - Sidewalks along Martin Luther King Jr Drive from Rooty Creek to Gholston Road;
- P58 - Sidewalks along SR 16 from US 441 Bypass to existing;
- P59 - Sidewalks along SR 16 from US 441 Bypass to Ingles Shopping Center;
- P60 - Sidewalks along Oak Street from New Glenwood Springs Road to Old Glenwood Springs Road;
- P61 - Sidewalks along Old Glenwood Springs Road from Oak Street to New Glenwood Springs Road;
- P62 - Sidewalks along New Glenwood Springs Road from Oak Street to Old Glenwood Springs Road;
- P64 – Bike Lanes along SR 16 from Eatonton to Rock Hawk;
- P65 - Sidewalks along New Street from Martin Luther King Jr Drive to Oconee Springs Road;
- P66 - Sidewalks along Hogan Street from Jefferson Avenue to Martin Luther King Jr Drive;

- P67 - Sidewalks along Hogan Street from Rock Lane to Jefferson Avenue;
- P68 - Sidewalks along Oconee Springs Road from New Road to SR 16;
- P69 - Sidewalks along Rock Lane from US 129 to Railroad;
- P70 - Sidewalks along Rock Lane from Railroad to Hogan Road;
- P71 - Sidewalks along Maple Avenue from SR 16 to Phillips Drive;
- P75 – Multi-Use Trail along Glades Road /Union Chapel Road from Jasper County to Rock Eagle;
- P77 – Multi-Use Trail along SR 44 from US 441 (Jefferson Street) to Greene County;
- P78 – Bike lanes along SR 16 from SR 142 to US 441 Bypass;
- P79 - Bike lanes along SR 16 from US 441 Bypass to Madison Avenue; and,
- P80 - Bike lanes along SR 16 from SR 16/SR 44 to Hancock County.

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 and numerous safety and capacity enhancements throughout the study area, as shown in Table 9.2. Figure 9.3 shows the recommended projects in the vicinity of the environmental justice areas.



Legend

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

10.1 Corridor Prioritization

Qualitative and Quantitative Evaluation Factors were established so that the potential improvements for Putnam 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
- Supports Comprehensive Plan
- Right of Way Protection Corridor
- Connectivity
- Construction Designs in Progress
- Parallel Relief
- Protection of Downtown
- Ideal Typical Section
- Natural 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 Is the proposed project identified in 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
Natural Preservation Does the proposed project protect our natural resources?	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	Qualitative Criteria											Sub-Total Qualitative Criteria	Quantitative Criteria					Total Score for Project
		From	To		Continuation of Existing Road Widening Project	Governor's Road Improvement Program / National Highway System	Supports Comprehensive Plan	Right of Way Protection Corridor	Connectivity	Construction Designs in Progress	Parallel Relief	Protection of Downtown	Ideal Typical Sections	Natural Preservation	Transportation Land Use Linkage		Volume/Capacity Ratio	Ratio of 100 Million VMT to Statewide Average	Number of Fatalities	Sub-Total Quantitative Criteria		
					0-4	0-2	0-3	0-3	0-3	0-3	0-4	0-4	0-4	0-2	0-2							
P1	Eatonton SE Bypass	SR 44	SR 16	✓			✓			✓	✓		✓	17.00	0.00	0.00	0	0.50	17.50			
P2	SR 44	SR 16	Greene County			✓		✓	✓				✓	11.00	0.54	0.86	2	7.50	18.50			
P3	Eatonton NE Bypass	SR 16	US 441	✓			✓			✓	✓		✓	17.00	0.00	0.00	0	0.50	17.50			
P4	US 129	Mathis Rd (Jones)	US 441			✓		✓					✓	8.00	0.75	0.63	1	7.50	15.50			
P5	SR 16 Passing Lanes	Texas Chapel Rd	Oconee Springs Rd									✓		2.00	0.29	0.51	0	1.00	3.00			
P6	SR 16/SR 44	US 441 Business	SR 16			✓		✓		✓				10.00	0.78	3.14	1	10.00	20.00			
P7	US 441	US 441 Bypass	Baldwin County		✓			✓					✓	7.00	0.65	0.53	1	7.00	14.00			
P8	US 441 Business	US 441 Bypass (N)	US 441 Bypass (S)							✓	✓			8.00	0.70	1.03	0	6.50	14.50			
P9	SR 16	US 441 Business	US 441 Bypass							✓	✓			8.00	0.60	3.20	0	7.50	15.50			
P10	Old Phoenix Rd	SR 16	SR 44					✓				✓		7.00	0.67	0.75	0	6.00	13.00			
P11	Harmony Rd	US 441	SR 44					✓				✓		7.00	0.27	0.96	0	1.00	8.00			
P12	Martin Luther King Jr Dr	Oconee St	Pea Ridge Rd							✓		✓		8.00	0.25	1.68	0	1.50	9.50			
P13	Glades Rd	Jasper County	Reids Rd									✓		4.00	0.06	3.58	0	3.00	7.00			
P14	Union Chapel Rd	Reids Rd	US 441									✓		4.00	0.08	1.86	1	2.50	6.50			
P15	Glenwood Springs Rd	SR 212	US 441 Bypass							✓		✓		8.00	0.12	1.32	0	1.50	9.50			
P16	Twin Bridges Rd	SR 212	US 441					✓				✓		7.00	0.08	1.60	0	1.50	8.50			
P17	Dennis Station Rd	US 441	Twin Bridges Rd							✓		✓		8.00	0.02	2.27	0	2.00	10.00			
P18	Oconee Springs Rd	Martin Luther King Jr Dr	Pea Ridge Rd							✓		✓		8.00	0.30	2.89	0	2.50	10.50			
P19	Crooked Creek Rd	Scuffleboro Rd	Pinkerton Rd					✓				✓		7.00	0.02	1.26	0	1.50	8.50			
P20	Pinkerton Rd	Crooked Creek Rd	Oconee Springs Rd					✓				✓		7.00	0.03	0.53	0	1.00	8.00			
P21	Parks Mill Rd	Harmony Rd	Morgan County									✓		4.00	0.30	0.78	0	1.00	5.00			

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

- SR 16/SR 44 from US 441 Business to SR 16;
- SR 44 from SR 16 to Greene County;
- Eatonton SE Bypass from SR 44 to SR 16;
- Eatonton NE Bypass from SR 16 to US 441;
- US 129 from Mathis Road (Jones County) to US 441;
- SR 16 from US 441 Business to US 441 Bypass;
- US 441 Business from US 441 Bypass (N) to US 441 Bypass (S);
- US 441 from US 441 Bypass to Baldwin County;
- Old Phoenix Road from SR 16 to SR 44; and,
- Oconee Springs Road from Martin Luther King Jr Drive to Pea Ridge Road.

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:

- Sidewalks along Rock Lane from US 129 to Railroad;
- Sidewalks along Phillips Road from Maple Drive to Gatewood School;
- Sidewalks along Old Glenwood Springs Road from Oak Street to New Glenwood Springs Road;
- Sidewalks along Courthouse Square from Jefferson Street to SR 16/SR 44;
- Sidewalks along SR 16 from US 441 Bypass to existing;
- Sidewalks along SR 16 from US 441 Bypass to Ingles Shopping Center;
- Sidewalks along Oak Street from New Glenwood Springs Road to Old Glenwood Springs Road;
- Sidewalks along New Glenwood Springs Road from Oak Street to Old Glenwood Springs Road;
- Sidewalks along Oak Way from Church Street to Hudson Road; and,
- Sidewalks along Old Phoenix Road from Cuscowilla Road to SR 44.

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	Fatality	Connectivity	Previously Id	O & D	Score
Phillips Rd Sidewalks	Maple Dr	Gatewood School	✓		✓	1	1	19
Martin Luther King Jr Dr Sidewalks	Hogan St	creek	✓		✓			15
Martin Luther King Jr Dr Sidewalks	creek	Gholston Rd	✓		✓			15
SR 16 Sidewalks	US 441 Bypass	existing	✓		✓	1		17
SR 16 Sidewalks	US 441 Bypass	Ingles	✓		✓		1	17
Oak St Sidewalks	New Glenwood Springs Rd	Old Glenwood Springs Rd	✓		✓	1		17
Old Glenwood Springs Rd Sidewalks	Oak St	New Glenwood Springs Rd	✓		✓	1	1	19
New Glenwood Springs Rd Sidewalks	Oak St	Old Glenwood Springs Rd	✓		✓	1		17
Oak Way Sidewalks	Church St	Hudson Rd	✓		✓	1		17
SR 16 Bike Lanes	Eatonton	Rock Hawk			✓	1	1	9
New St Sidewalks	Martin Luther King Jr Dr	Oconee Springs Rd	✓		✓			15
Hogan St Sidewalks	Jefferson Ave	Martin Luther King Jr Dr	✓		✓			15
Hogan St Sidewalks	Rock Lane	Jefferson Ave	✓		✓			15
Oconee Springs Rd Sidewalks	New Rd	SR 16	✓		✓			15
Rock Lane Sidewalks	US 129	Railroad	✓	1	✓			20
Rock Lane Sidewalks	Railroad	Hogan Rd	✓		✓			15
Maple Ave Sidewalks	SR 16	Phillips Dr	✓		✓			15
Old Phoenix Rd Sidewalks	Cuscowilla Rd	SR 44	✓		✓	1		17
SR 44 Sidewalks	Old Phoenix Rd	Greene County			✓	1		7
Harmony Rd Sidewalks	Gosse Landing	SR 44			✓	1		7
Glades/Union Chapel Trail	Jasper County	Rock Eagle			✓		1	7
Courthouse Sq Sidewalks	Jefferson St	SR 16/SR 44	✓		✓	1	1	19

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
P22	Parks Rd	Bridge	100	4	0	✓	5
P23	Godfrey Hwy	Imperial Mill Rd	4,240	2	0	✓	7
P24	SR 16	SR 44	2,287	12	1	✓	20
P25	US 441 Bypass (N)	US 441 (N)	3,637	0	0	✓	7
P26	SR 16	US 441 Bypass	4,600	32	0		12
P27	US 441	Twin Bridges Rd	4,628	25	0		12
P28	SR 16	US 441 BU	3,733	25	0		12
P29	US 441	SR 44	5,307	20	0		14
P30	SR 16 (Sparta Rd)	Putnam Ave	3,190	20	0		12
P31	SR 16 (Marion St)	Madison Ave	3,700	17	0		7
P32	US 441 Bypass (N)	Sherwood Ave	3,980	16	0		7
P33	US 441	US 129	5,410	14	0		9
P34	US 129	SR 212	2,120	14	0		5
P35	US 441	Pine Knoll Ln	8,690	13	0		9
P36	SR 44	Old Phoenix Rd/Harmony Rd	2,453	11	0		5
P37	SR 16	Pea Ridge Rd & Old Phoenix Rd	2,157	12	0	✓	10
P38	SR 44	Tanyard Rd & New Phoenix Rd	1,133	11	0	✓	10
P39	W Marion	Maple St	4,660	1	0	✓	7
P40	US 441	Union Chapel	3,030	4	1	✓	17

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

- SR 16 at SR 44;
- US 441 at Union Chapel;
- US 441 at SR 44;
- SR 16 at US 441 Bypass;
- US 441 at Twin Bridges Road;
- SR 16 at US 441 Business;
- SR 16 (Sparta Road) at Putnam Avenue;
- SR 16 at Pea Ridge Road and Old Phoenix Road;
- SR 44 at Tanyard Road and New Phoenix Road;
- US 441 at US 129; and,
- US 441 at Pine Knoll Lane.

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:

- Griffith Road at Sugar Creek Tributary;
- Glenwood Springs Road at Little River;
- SR 16 at Crooked Creek;
- Martins Mill Road at Little River;
- Old Macon Road at Little River;
- Crooked Creek Road at Crooked Creek; and,
- Ocone Springs Road at Crooked 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 Putnam 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 Putnam 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 Local 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 Putnam 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 Putnam 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 Putnam 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 Putnam 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, Putnam 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*
Putnam County	\$14.5 million	\$17.0 million	17.0%	\$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 Putnam County, a total of 7 major projects have been programmed utilizing nearly \$92 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
Parks Rd at Rooty Creek 3.5 mile SE of Eatonton	\$988,000
Rock Lane Rd at Norfolk Southern #733038W	\$440,000
Maple St at Norfolk Southern #733066A	\$135,000
Scenic Byway Rock Hawk Effigy Mount	\$553,000
Rock Hawk Effigy Mound Improvements & Marketing - Phase II	\$88,000
US 441 from CR 245 to Eatonton Bypass @ US 129	\$41,614,000
US 441 from Eatonton Bypass @ Sherwood Ave to Morgan CL	\$48,101,000
TOTAL PROGRAMMED FUNDS	\$91,919,000

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. 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 Putnam 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 Putnam County's transportation planning efforts and a starting point for addressing transportation needs.