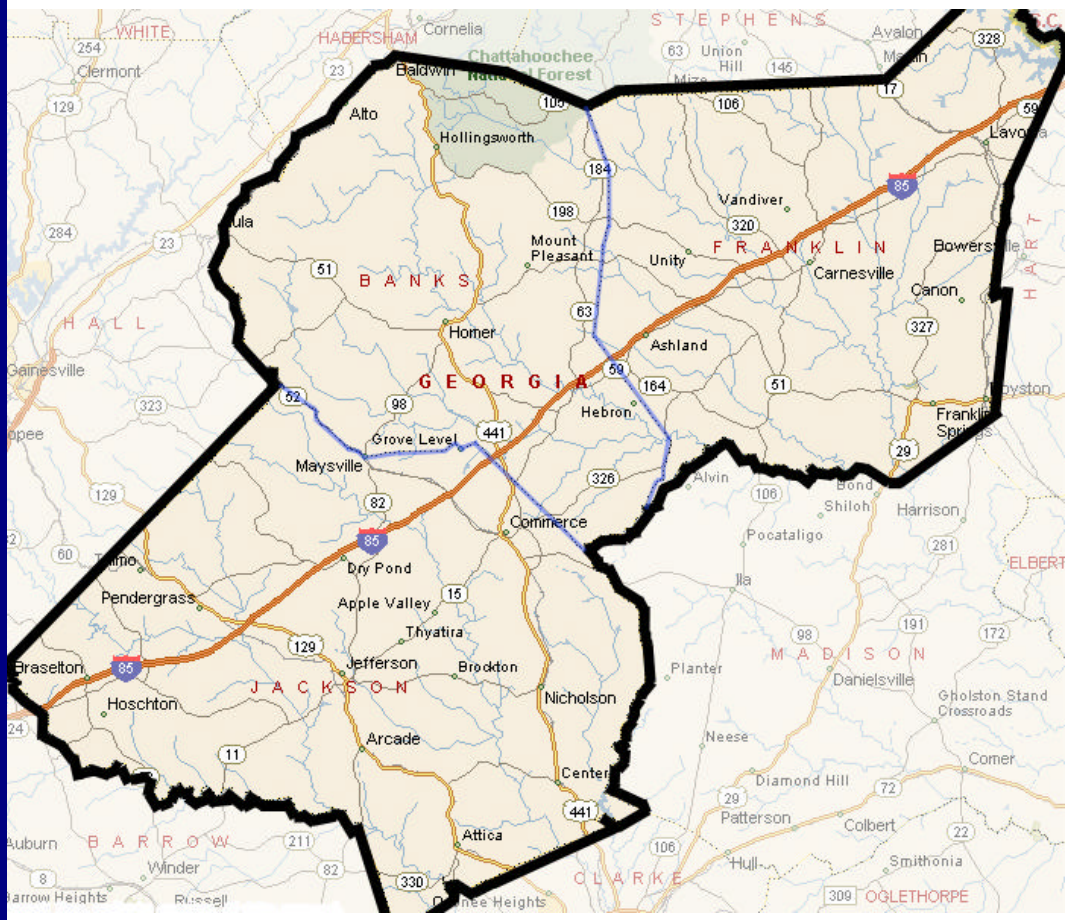
Prepared For:

Georgia Department of Transportation

Banks County
Franklin County
Jackson County

Banks-Franklin-Jackson County Multimodal Transportation Study



Prepared By:

In association with
J. Cochran & Co

JUNE 2004

1.0 Introduction

Due to population and employment growth in the Banks, Franklin and Jackson Counties, there has been a resulting increase in travel demand. The Georgia Department of Transportation (GDOT) Office of Planning in conjunction with these Counties initiated a study to develop a Long Range Transportation Plan (LRTP) to serve the Tri-County area through the planning horizon, 2025.

The study area is located along the Interstate 85 corridor in Northeast Georgia, one of the Southeastern U.S.'s most dynamic corridors for economic development and business growth. Banks, Franklin, and Jackson Counties cover a land area of just over 839 square miles.

The format of the LRTP, and the process by which it was developed, is prescribed by federal legislation known as the Transportation Efficiency Act for the 21st Century (TEA-21). 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.

The purpose of the public involvement program was to inform the public, while at the same time including them in the decision-making process. Public concerns were brought to the forefront so that they could be discussed and resolved. Several forums were available for citizens to voice their opinions, concerns, and ideas. Two (2) Open House workshops were conducted for each county as part of the study. Each public workshop was used to encourage consensus among citizens, County staff, and area municipalities, as to the planned improvements for each counties transportation network. Additionally, the Project Team met with individual citizens and small groups upon request to support study activities.

2.0 Demographic Information

During the past 20 years, the Tri-County has seen population growth at a moderate level, with Jackson County seeing the largest percent increase in growth over time. Table 2.0 presents selected demographic data to more fully illustrate the characteristics of the population living in the Tri-County area, their households, and other socio-economic factors.

Table 2.0
Year 2000 General Demographic Characteristics

Demographic	Banks	Franklin	Jackson	Total
Total Population	14,422	20,285	41,589	76,296
Median Age	35.2	37.6	34.6	35.8
Households	5,364	7,888	11,488	24,740
Average Household Size	2.69	2.50	2.71	2.63
Total Housing Units	5,808	9,303	16,226	31,337

Source: 2000 U.S. Census

2.1 Employment

The three counties share a reliance on manufacturing, retail, education, and construction jobs; however, Jackson County has an economy that is more diversified, which includes a significant number of jobs in transportation, warehousing, and utilities; professional, scientific and management, arts, entertainment, recreation, accommodations and food service. It is important to recognize that working age individuals out number jobs in the study area. This means that

residents must commute outside the study area to work – increasing the importance of a quality transportation system.

2.2 Environmental Justice Areas

It was important to look at the distribution and concentration of minority and low-income populations because they are part of the Environmental Justice (EJ) population. Environmental Justice is intended to acknowledge minority and low-income populations and ensure that these groups receive benefits from transportation projects and are not disproportionately impacted as a result of transportation improvement recommendations. Improvements are recommended to provide benefit within EJ areas and no disproportionate impacts resulted from study recommendations.

2.3 Land Use

The existing and future land use plans for the study area continues to show a substantial percentage of land area devoted to residential and agricultural land uses. Additionally, the development of major employment centers is not anticipated through much of the study area with the exception of Jackson County. It was important to evaluate future land uses through the study area because of the relationship between land uses and the need for transportation improvements.

3.0 Existing Transportation Conditions

Extensive data was collected for the transportation facilities within the Tri-County area. 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 and were used to establish baseline operating conditions through the study area.

- Existing Highway System;
- Crash Data;
- Bridge Inventory;
- Bicycle and Pedestrian Facilities;
- Existing Transit Programs and Services;
- Freight & Rail; and,
- Airports.

4.0 Planned State and Local Projects

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. The following planning studies were reviewed:

- Banks County 2020 Comprehensive Plan;
- Jackson County 2020 Comprehensive Plan;
- Franklin County 2020 Comprehensive Plan;
- Georgia Department of Transportation Statewide Transportation Plan (SWTP);
- Georgia Department of Transportation State Transportation Improvement Program and Six Year Construction Work Program;
- Georgia Department of Transportation Statewide Bicycle and Pedestrian Plan (GABPP);
- I-85 Corridor Study; and,

- GDOT Statewide Interstate System Plan (On-Going Study).

In addition to current studies there are several planned and programmed improvements along roadways in all three Counties. Programmed improvements refer to projects included in the State Transportation Improvement Program (STIP) within the first three years of the planning horizon – 2004, 2005, and 2006 with a dedicated funding source established. Planned projects refer to projects included in the Six Year Construction Work Program (CWP) that extend beyond the first three years of the planning horizon and have no dedicated funding source identified but are recognized as priority projects.

5.0 Development of Travel Demand Model

Travel Demand Modeling is the utilization of a computer software package to replicate the "real world" transportation system around us (roads, intersections, traffic control devices, congestion delay, use of transit systems, etc.). Once the computer model can accurately replicate the existing conditions of a study area, it can then be used to predict future travel patterns and demands based on changes in the transportation system (e.g. new roads, wider roads with more capacity, closed roads); changes in the land use (e.g. more residential development, a new industrial site, etc.); and changing demographics (more or less people in a specific area, access to a vehicle etc.).

Developing the travel demand model for each of the Counties was an integral part of developing the LRTP. The model was used to develop future year traffic forecasts, test various alternative networks and aid in the implementation of the LRTP. Descriptions of each module are presented in the *Model Technical Memorandum* (dated June, 2004).

6.0 Assessment of Transportation Facilities

The travel demand model was developed to assist in the evaluation of the existing and future travel conditions through the study area. The key output from the travel demand model is volume to capacity ratio for each roadway segment. The volume to capacity ratios corresponds to a level of service based on accepted methodologies from the 2000 Highway Capacity Manual. Existing (2000) and future (2025) operating conditions for the study are summarized in the following sections. The best approach for determining deficient segments in the Tri-County area was to analyze the volume of traffic on the roadway segments compared to the actual capacity of those segments and relate these values to a level of service. Facilities with a level of service (LOS) D or worse are generally considered deficient.

The Long Term scenario was evaluated for the year 2025, the study horizon year. This extended horizon provides an opportunity to determine how well the existing plus committed projects will serve 2025 population and employment in the Tri-County area. It is useful to point out that the long-term projections for population and employment are the least reliable input into the planning process. These results should be considered preliminary and when the transportation plan is updated projects should be amended as necessary.

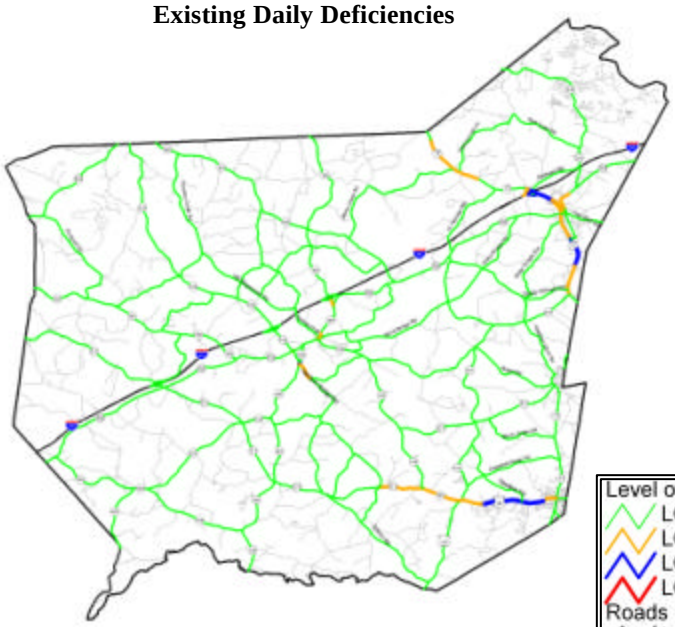
Figure 6.1
Banks County Daily Deficient Segments

Existing Daily Deficiencies

2025 Daily Deficiencies

Figure 6.2
Franklin County Daily Deficient Segments

Existing Daily Deficiencies



2025 Daily Deficiencies

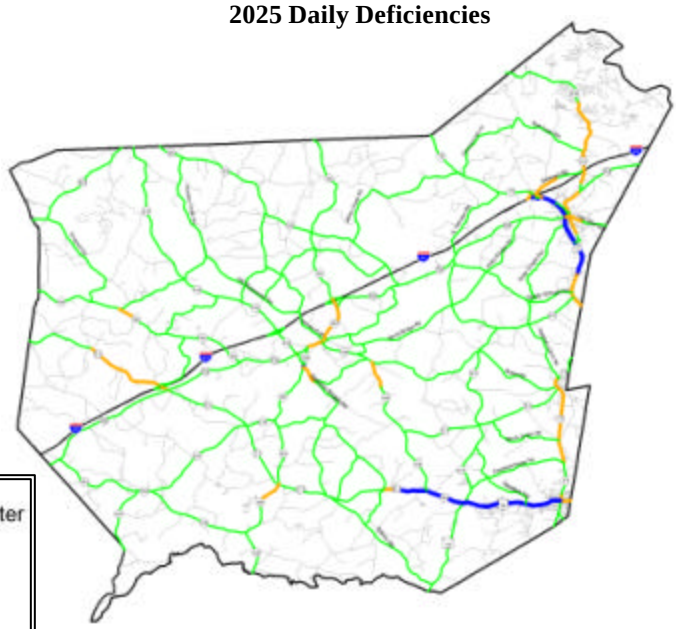
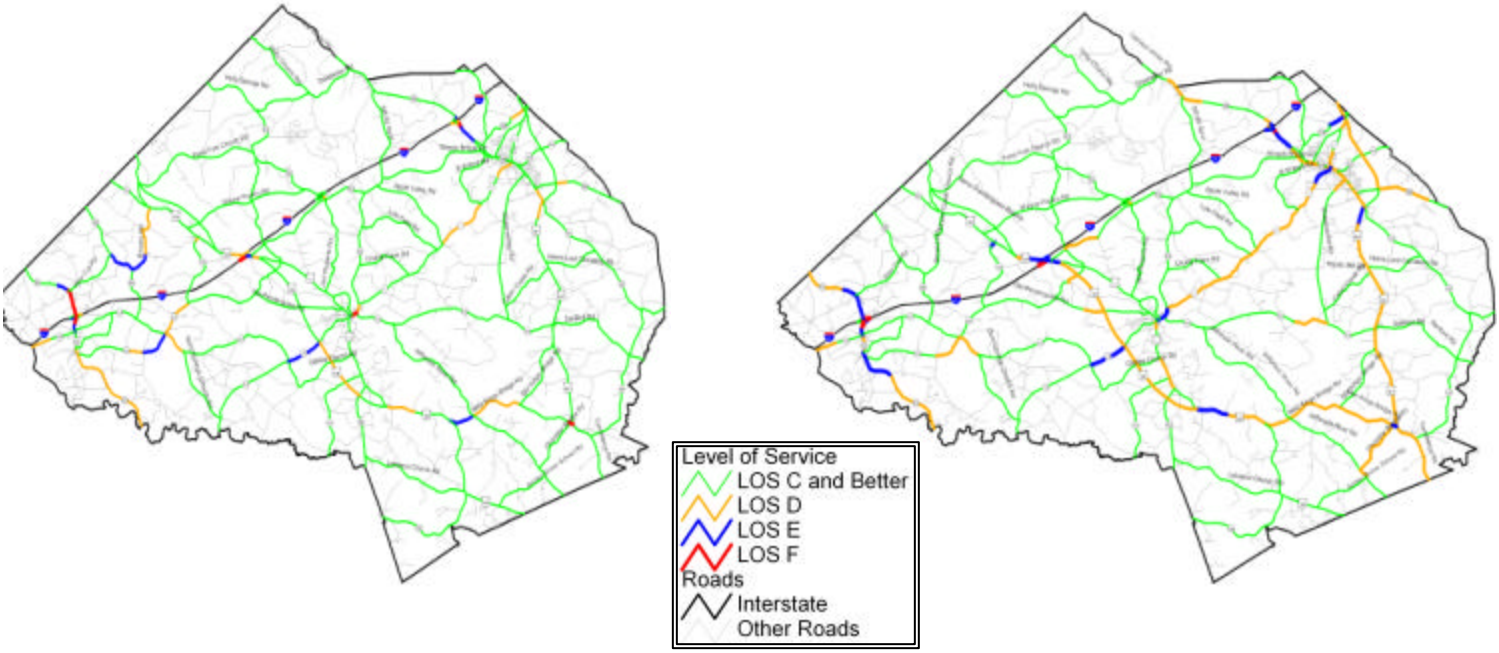


Figure 6.3
Jackson County Daily Deficient Segments

Existing Daily Deficiencies **2025 Daily Deficiencies**



Several other key aspects of the Tri-County area were evaluated and analyzed including:

- Crash Data;
- Bridges;
- Bicycle and Pedestrian Facilities;
- Public Transit;
- Freight; and,
- Aviation.

7.0 Goals, Objectives and Policies

Using existing plans, meetings with County and GDOT staff and input received from the general public, the following Goals were established to guide the transportation decision making process for the Tri-County area. Additionally, specific objectives were developed to support these broader goals. All the goals, objectives and policies were evaluated against the TEA-21 planning factors to ensure compliance with appropriate planning guidelines.

GOAL 1.0 **Establish an integrated multimodal transportation system consistent with the future transportation needs of the residents, visitors and businesses of the County.**

GOAL 2.0 **Provide for the mobility needs of the citizens of the County without access to automobiles.**

GOAL 3.0 **Develop a bicycle and pedestrian transportation system that provides access to all major public and private facilities.**

GOAL 4.0 **Provide a transportation system that is safe for users of any mode.**

8.0 Improvement Development Process

For the purposes of applying the ISTEA, TEA-21, and CMS requirements to the LRTP, an attempt was made to separate potential improvement strategies into a hierarchical order that considers first those actions which address the fundamental transportation and land use relationships that cause vehicle trips. If the reason for the trip can be eliminated, so can the trip and its contribution to congestion. In successive rounds, the residual trips not mitigated by previous levels of actions are successively dealt with using techniques aimed at the next higher level of concern. This process is described below:

- **Level One**: Actions that decrease the need for trip making (i.e. growth management, activity centers, congestion pricing, and some transportation demand management measures).
- **Level Two**: Actions that place trips into transit or other non-auto modes (i.e. public transit capital and operating improvements, and parking management).
- **Level Three**: Actions that put as many trips as possible into HOVs.
- **Level Four**: Actions that optimize the highway system's operation for SOV trips, and for all other trips using highway facilities/modes (traffic signalization modification, intelligent transportation systems, etc.).
- **Level Five**: Actions that increase the capacity of the highway system for SOVs by adding general-purpose lanes.

With such an extensive list of potential strategies identified, it is desirable to perform an initial screening to determine which strategies are applicable for the Tri-County area. This screening analysis was followed by a more detailed corridor evaluation of strategies. Based on this preliminary strategy screening analysis, the extensive list of almost sixty (60) strategies was narrowed to twenty-five (25) strategies applicable to the study area. Additionally, improvements were developed to address needs related to the following transportation modes and facilities:

- Bicycle and Pedestrian Improvements;
- Transit Improvements;
- Freight Improvements; and,
- Aviation Improvements.

9.0 Pavement Management System

The demand on County governments in the maintenance of a high number of assets combined with their age, condition and value, has made effective roadway management challenging. Information systems have been developed to help assess and manage a large number of assets in an attempt to simplify the process and provide current and up-to-date condition assessments and balance schedule and budgetary pressures. From this source, the necessary treatments can be considered and recommendations on programs and funding levels can be established. While Pavement Management Systems (PMS) provide benefits, they require continuous development and ongoing maintenance to be effective. As part of this study a pavement management system was developed to assist with the prioritization of roadway maintenance and resurfacing activities through the Tri-County area.

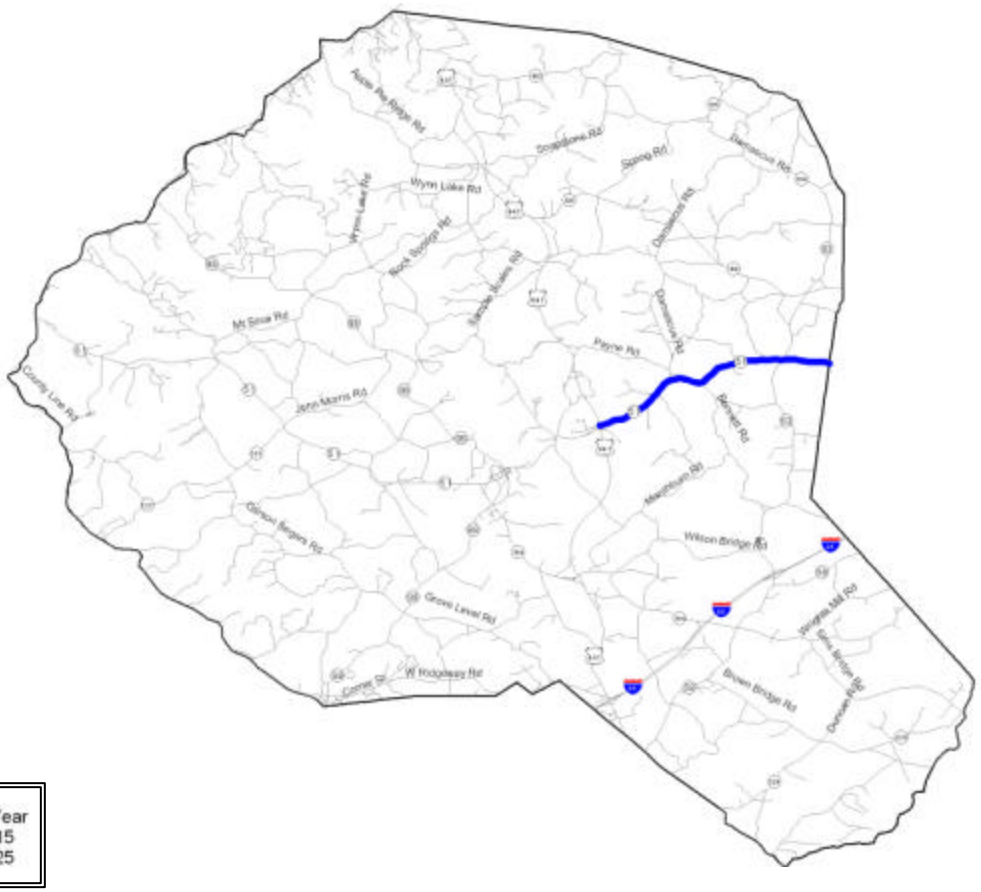
10.0 Improvement Recommendations

Based on the analysis completed as part of this study, a listing of recommended projects was created for Banks, Franklin, and Jackson Counties. The project listing includes capacity

improvements, TDM/TSM improvements, intersection enhancements, bridge improvements, bicycle and pedestrian enhancements and transit recommendations. 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. Figures 10.1 – 10.3 show recommended capacity enhancements for the study area.

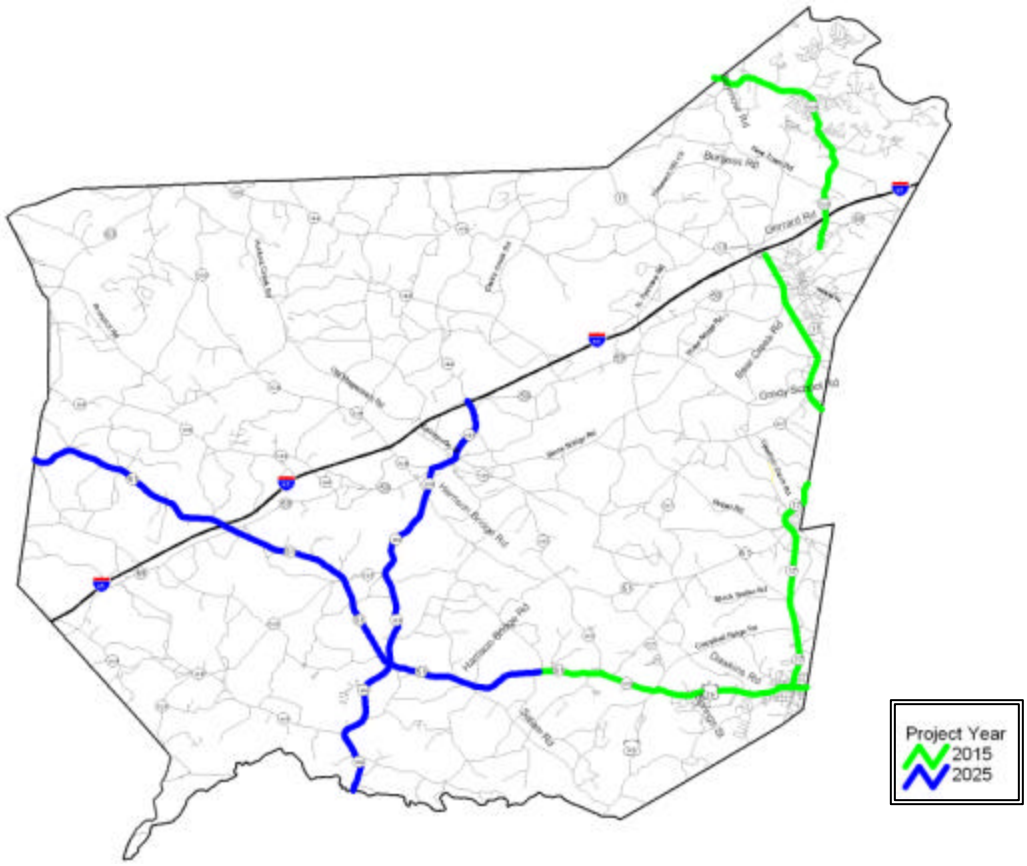
A detailed listing of all recommended improvements (bike/ped, transit, bridges, and rail) is presented in Tables 10.2, 11.2, and 12.2 of this report.

Figure 10.1
Recommended Capacity Improvements
Banks County



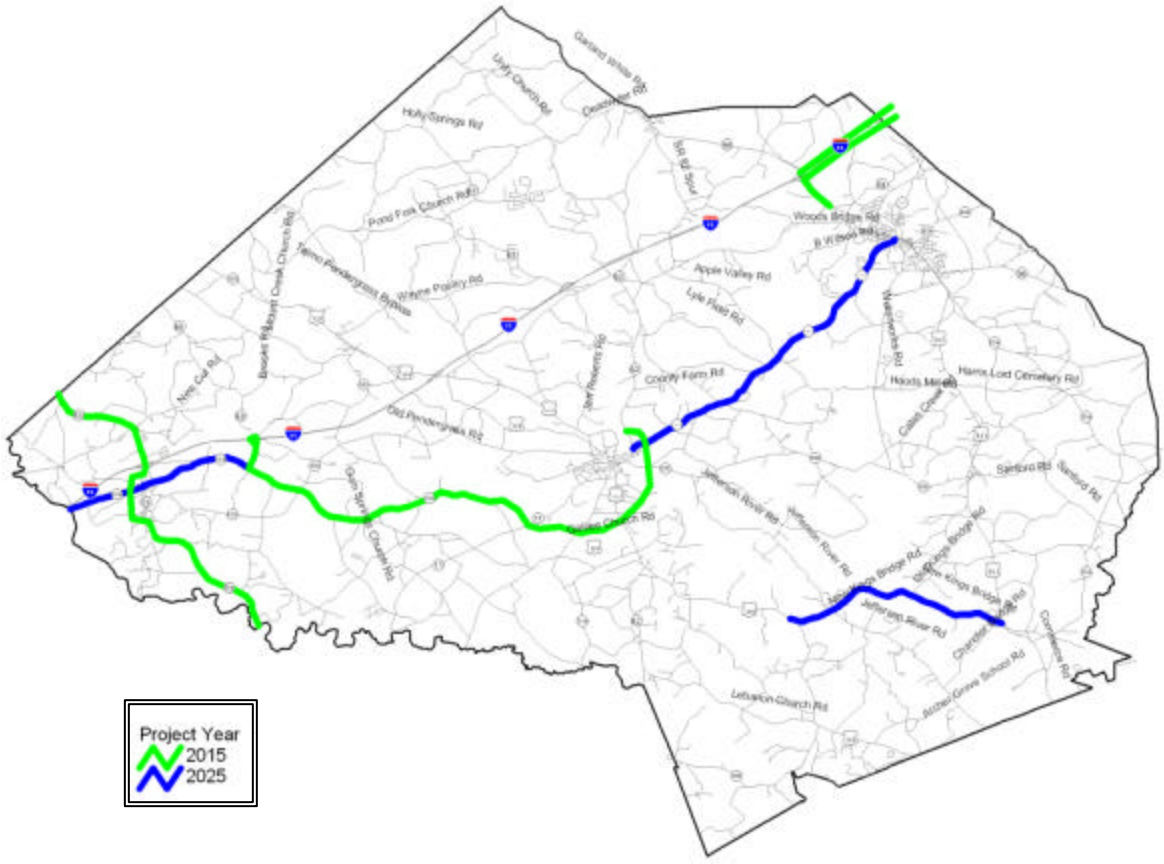
1	SR 51	Franklin County Boundary	US 441

Figure 10.2
Recommended Capacity Improvements
Franklin County



1	SR 328	County Boundary	SR 59
2	SR 17 (Lavonia Bypass)	Hart County	Exit Ramp of I-85
3	SR 17	Hart County	US 29
4	SR 51	Noah Crow Rd	SR 145
5	SR 145	SR 51	US 129
6	US 29	SR 145	County Boundary
7	SR 106	I-85	County Boundary
8	SR 51	County Boundary	Noah Crow Rd

Figure 10.3
Recommended Capacity Improvements
Jackson County



1	I-85 Interchange	at SR 60	
2	Frontage Road	US 441	SR 98
3	SR 53	Hall County Boundary	I-85
4	SR 53 Bypass	I-85	SR 332
5	SR 53	SR 332	Barrow County Boundary
6	SR 11 Bypass	SR 82	SR 124
7	SR 98	I-85	Old Maysville Road
8	SR 124	SR 60	SR 11 Bypass
9	SR 60	I-85	SR 124
10	SR 124	Barrow County Boundary	SR 60
11	New Kings Bridge Road	US 129	US 441

11.0 Funding

All of the recommended projects are not expected to be funded by Banks, Franklin or Jackson Counties respectively. 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. Should a County desire to accelerate projects on state owned and maintained facilities, it is highly likely that local funds could accelerate the process.

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 U.S. Congress authorizes federal transportation funding to the states and other public entities generally every six years. The last authorization was known as the "Transportation Efficiency Act for the 21st Century" or TEA 21.

11.2 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)
- State license tag fees
- State title registrations
- State motor carrier fuels tax
- 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 U.S.

11.3 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 Special Purpose Local Option Taxes (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.

11.4 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 Corridor Preservation Planning

In order to meet the future transportation needs of the citizens of Banks, Franklin, and Jackson Counties, a proactive approach to protecting transportation corridors should be taken. By protecting these corridors, transportation capacity of various kinds (roadway, rail, sidewalk, etc.) can be provided at the locations where it is needed, making the best use of the public funds invested. In short, the right kind of transportation investment can be made in the right place to serve the right needs.

12.1 Identify Priority Growth Corridors

As part of the comprehensive planning process, communities and counties identify where new growth and redevelopment is anticipated and desired. This aspect of the comprehensive planning process should be examined in detail at the corridor level for both residential and non-residential land uses. Once the locations, sizes (in terms of floor area or square footage), types, intensities and densities of the various land uses are known in the corridor, the transportation needs can be identified and multimodal transportation solutions (road, transit, pedestrian, bicycle, truck, etc.) can be developed to meet these needs. The solutions must address both passenger and goods movement.

12.2 Future Actions

The individual counties in the study area have the ability to customize their approach to coordinated land use and transportation planning in corridors depending on the unique character and needs of their communities. As part of the comprehensive planning process, there is an opportunity to identify important local and regional transportation corridors along with land use considerations for each of them. As these important corridors are identified, specific land use and transportation plans can be developed which will guide the future design of the community.

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1.0 Introduction

Growth in the Banks, Franklin and Jackson Counties has resulted in increased travel demand through the Tri-County area. The Georgia Department of Transportation (GDOT) Office of Planning in conjunction with these Counties initiated a study to develop a Long Range Transportation Plan (LRTP) to serve the Tri-County area through the planning horizon, 2025. Currently the transportation planning function for these counties is provided by GDOT through coordination with each County. The Transportation Plans developed as part of this study built upon existing work efforts to date, and provide a mechanism for guiding transportation decision-making as development pressures increase through the Tri-County area.

As part of this effort, County travel demand models were developed to represent the transportation network of each County. The purpose of this study was to identify existing and future operating conditions for the transportation system within each of the Counties. Ultimately the study identified multimodal improvements and prioritized project implementation in the form of a Long Range Transportation Plan.

TEI coordinated with GDOT, Banks, Franklin and Jackson Counties, local cities and other partners in the planning, development, review, and approval of study alternatives. Additionally, a comprehensive and interactive public involvement program was conducted. This ensures 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 is a Long Range Transportation Plan (LRTP) that provides for the efficient movement of people and goods within and through each of the Counties through the horizon year of this study (2025). Interim year analyses were conducted for the years 2008 and 2015. As part of this effort existing and future operating conditions were documented for the following modes: highways, bicycle and pedestrian improvements, freight, transit, railways and airports.

1.1 Study Purpose

While the Tri-County 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 Transportation Efficiency Act for the 21st Century (TEA-21). Each MPO is responsible for developing a Long Range Transportation Plan (LRTP) every five years. 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.

TEA-21 continues the emphasis on multi-modal planning that was introduced in the previous federal transportation legislation known as the Intermodal Surface Transportation Efficiency Act (ISTEA), which was passed in 1991. ISTEA also introduced 15 planning "factors", or considerations, which had to be taken into account during the planning process. With TEA-21, these 15 factors have been consolidated into seven planning factors. These factors include:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety and security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility options available to people and for freight;
- Protect and enhance the environment, promote energy conservation, and improve quality of life;
- 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.

Implementation of the long-range planning process involves using these seven planning factors, along with other local concerns and considerations, to develop goals, objectives, and policies that guide the development of a long-range transportation plan.

Another mandate introduced by ISTEA and continued with TEA-21 is the concept of multi-modalism. This means that long-range transportation plans must address all available modes of transportation, including public transportation, bicycle, and pedestrian transportation modes in addition to automobile travel. Projects developed through the long-range transportation plan process should provide for an integrated mix of transportation modes, including those that would benefit the traditionally underserved.

Long range transportation plans 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 long range plan, such as demographics, forecast revenue, and project costs, change over time, long-range transportation plans are updated at least every five years.

1.2 Study Area Description

The study area is located along the Interstate 85 corridor in northeast Georgia, one of the Southeastern U.S.'s most dynamic corridors for economic development and business growth. In recent years, communities located in the I-85 corridor from Virginia 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. The significance of the population and commercial growth in this multi-state corridor has even prompted the states to examine the feasibility of introducing new interstate rail service in the I-85 corridor connecting the Middle Atlantic and Southern states from Richmond, Virginia to Birmingham, Alabama.

Banks, Franklin, and Jackson Counties cover a land area of just over 839 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.

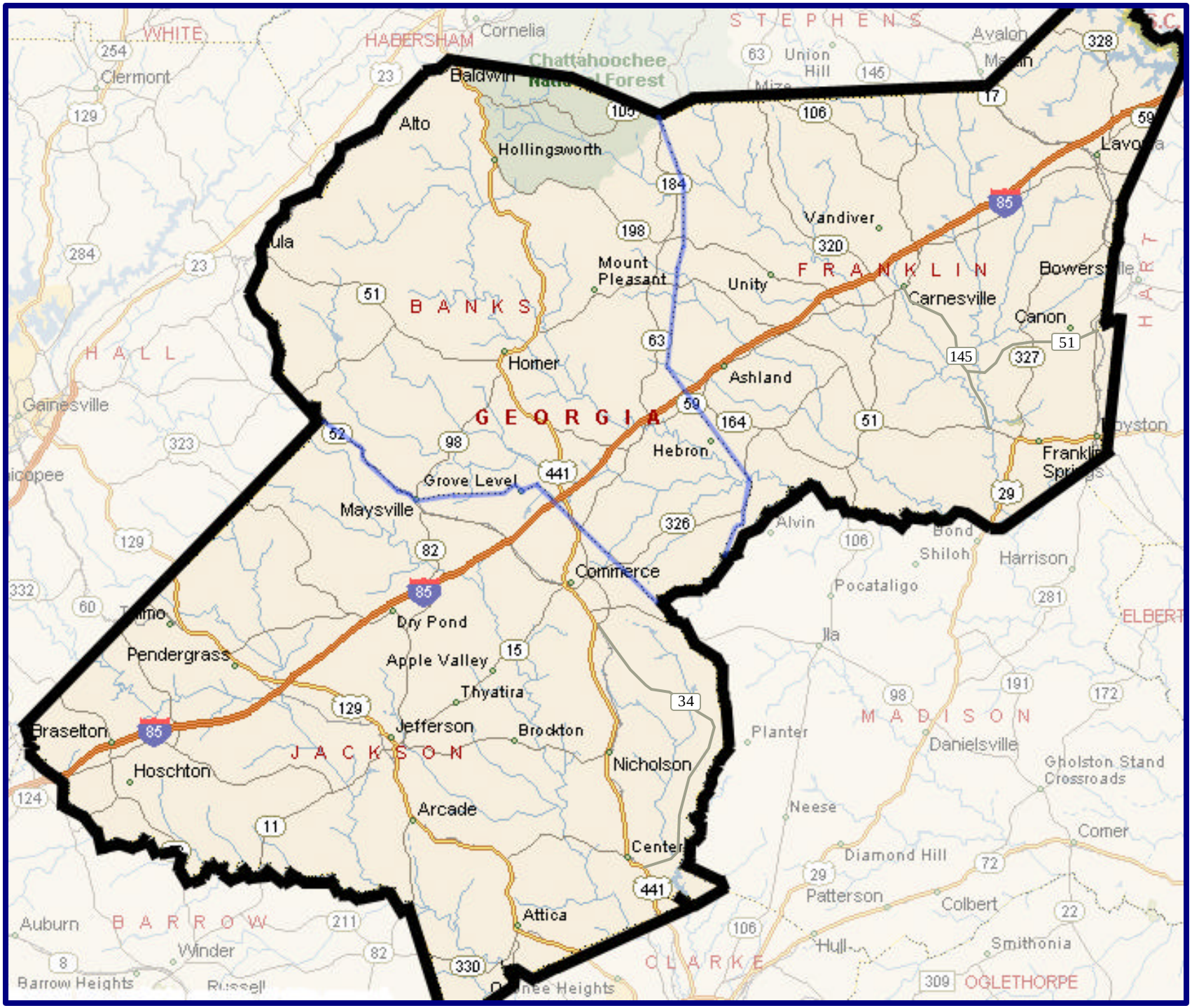
- The northeastern boundary of Banks County is in the Chattahoochee National Forest and much of this portion of the County is woodlands.

- Many travelers accessing the North Georgia and the North Carolina mountains utilize US 441/SR 15 which bisects both Franklin and Jackson Counties.

- Franklin County leads the State of Georgia in poultry production and the County's Livestock Market is the largest in the state. The unique transportation needs of this market sector were considered when assessing the transportation system.

- Jackson County's most populous city is Commerce, which is near a major retail/outlet mall center, also known as the Banks Crossing area. Incorporated cities in the County include Arcade, Braselton, Commerce, Hoschton, Jefferson, Maysville, Nicholson, Pendergrass and Talmo. Due to its proximity to suburban Atlanta, Jackson County's population and employment bases are rapidly growing creating increased pressure on the transportation infrastructure and prompting the need for transportation enhancements. In particular, the US 441 corridor in the Banks Crossing area is experiencing periods of extreme congestion that is likely to worsen due to the uncontrolled access, close driveway and sidestreet spacing and additional proposed intensive land uses, particularly in the interchange area.

The study area is displayed in Figure 1.2.



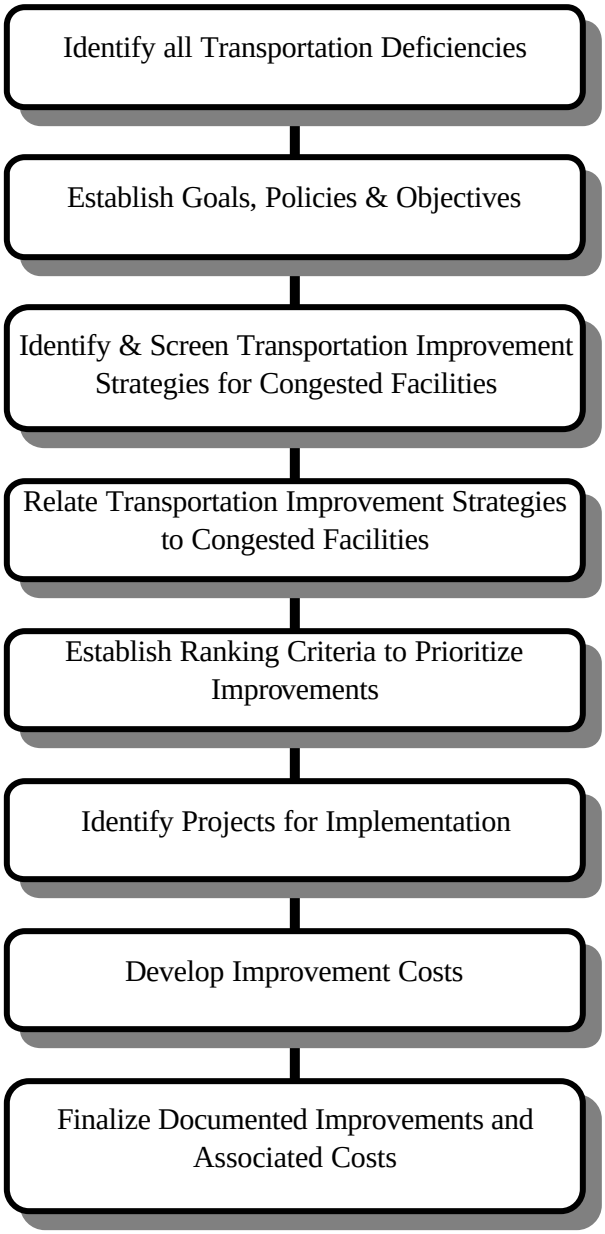
Engineers & Planners	Figure No: 1.2	Page No: 4	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Study Area***

1.3 Study Process

There are several important steps in developing a LRTP. After all of the data has been collected and the model has been validated and calibrated, the deficiencies are identified and the rest of the process is used to address and prioritize improvements for these deficiencies.

Figure 1.3 displays a flow chart depicting the study process.

Figure 1.3
Study Process



1.4 Public and Stakeholder Involvement

The purpose of the public involvement program was to inform the public, while at the same time including 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 of the Tri-County area) in the identification, development, evaluation, and selection of transportation improvements. The ultimate goal of the Public Involvement Plan was to build consensus for the recommended short-term and long-term improvements identified through the long range transportation planning process.

A public involvement program that encourages participation and interaction throughout the process has a good chance of attaining community consensus. If consensus is unattainable, an effective, well-planned and organized public involvement program helps anticipate and lessen negative perceptions, and can encourage acceptance of the study results. Throughout the study process, the Study Team implemented a public involvement program that utilized consensus-building techniques.

Individual citizens and interested groups were given several opportunities to become involved throughout the process. Citizens with an interest in the study were informed of the study's progress and provided various forums for input into the decision-making process. Through the public involvement process, the Study Team was able to identify improvements that meet the needs of stakeholders and residents of the Tri-County area.

1.4.1 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 project.

Several forums were available for citizens to voice their opinions, concerns, and ideas. Two (2) Open House workshops were conducted for each county 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 each counties transportation network.

The public workshops and other proposed forums available throughout the study are described below.

Public Information Workshops

A brief presentation was given at each of the public workshops to support facilitation activities and/or 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 TEI 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 was appropriate for this study. These Workshops took place from 4:00 PM to 6:00 PM on either a Tuesday or Thursday night to avoid conflicts with recreational activities and church gatherings. The following locations were identified for hosting public workshops:

- Banks County – Banks County High School;
- Jackson County – Jackson County Grand Jury Room, Jefferson; and,
- Franklin County – Franklin County Administrative Offices (Commissioner's Meeting Room).

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

This workshop provided an overview of the study process; document data collection activities; overview existing and future operating conditions; identified deficiencies; and, present preliminary improvement concepts for major deficiencies. This workshop included a formal presentation, followed by an open house format 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)

At this workshop the Study Team presented the findings to date, which included a Preliminary Long Range Transportation Plan for public review and comment. A formal presentation of the study results was followed by an open house format to solicit public input on the study recommendations.

Study Advisory Group Meetings

In addition to the public workshops, Study Advisory Group (SAG) meetings were held to solicit key stakeholder feedback at key junctures throughout the study. Each County selected their Advisory Group participants typically including representatives from the business community, planning staff, school board, elected officials and Emergency Management staff. Member of the SAG are listed below.

Table 1.4.1
Study Advisory Group Members

Banks County	Franklin County	Jackson County
Sam McDuffie – Regions Bank	Frank Ginn – County Manager	Jennifer Scott – Town of Braselton
Rick Billingslea – Banks County Chamber of Commerce	Parks Martin – Franklin County Commissioner	Gina Mitsdarffer – Town of Jefferson
Craig Armstrong – Atlanta International Dragway	Gary Fesperman – City of Lavonia	Clarence Bryant – City of Commerce
Mark Valentine – Tanger Outlet Centers	Steve Williams – Mayor of Royston	Charles Reeves – Jackson County BOE
Deidra Moore – Banks County 911	Abe Padgett – Padgett Farms	BR White – Jackson County Planning and Development
Michael Fischer – Banks County Commission	Harris Little – Mayor of Carnesville	Al Crace – County Manager
	Georgia Bennett – Mayor of Canon	
Non County Affiliated Participants		
Bill Holley – Interested Citizen	Jacque Marlowe – Interested Citizen	Chris Ulmer – Northeast GA RDC
Jerry Presely – Georgia Mountains RDC		

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

- Jackson County Grand Jury Room – November 11, 2003;
- Banks County EMS Conference Room – January 7, 2004; and,
- Franklin County/Lavonia Depot – February 19, 2004.

Other Meetings

The Study Team coordinated with interested agencies, representatives, organizations, and citizen groups via the distribution of project newsletters to elected officials, citizens, and local governments' engineering and planning staff, and local and state agencies. Additionally, the Study Team was available for presentations to other groups. As part of this effort a presentation was made to the Jackson County Realtors Association and Town of Hoschton Women's Club. In addition, GDOT District 1 Communications Officer, Teri Pope, made additional presentations to Banks County Chamber of Commerce and Royston Rotary Club.

1.4.2 Program Evaluation

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

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

Feedback from GDOT, Advisory Group members and Environmental Justice representatives was evaluated to determine the effectiveness of the public involvement plan. Table 1.4.2 displays the public workshop participation information.

Table 1.4.2
Public Workshop Participation

Meetings	Date	Location	# of Newsletters & Fact Sheets	# of Attendees	# of Comments
Banks County Public Workshop #1	Dec. 11, 2003	Banks County High School	100	8	3
Franklin County Public Workshop #1	Dec. 10, 2003	Franklin County Administration Offices	200	11	5
Jackson County Public Workshop #1	Dec. 9, 2003	Jackson County Grand Jury Room, Jefferson	250	17	3
Banks County Public Workshop #2	March 11, 2004	Banks County High School	125	18	9
Franklin County Public Workshop #2	March 4, 2004	Franklin County Administration Offices	225	25	7
Jackson County Public Workshop #2	March 9, 2004	Jackson County Grand Jury Room, Jefferson	250	18	9
Hoschton Town Meeting	March 23, 2004	Hoschton Train Depot	-	56	7

2.0 Demographic Information

During the past 20 years, the Tri-County area has seen population growth at a moderate level, with Jackson County seeing the largest percent increase in growth over time. Table 2.0 presents selected demographic data to more fully illustrate the characteristics of the population living in the Tri-County area, their households, and other socio-economic factors. Many new residents of the Tri-County area relocated from the Atlanta-Athens area to live in a more rural area. However, employment has not shifted to the Tri-County area. The ratio of residents to jobs is approximately two to one based on the latest Census information. This places increased demand on the transportation system linking the Tri-County area to Atlanta, Athens, Gainesville and other employment centers – all of which are located outside of the Tri-County area.

The overview of each County documents: demographics, historic growth, future population, existing employment, environmental justice and existing and future land use.

Table 2.0
Year 2000 General Demographic Characteristics

Demographic	Banks	Franklin	Jackson	Total
Total Population	14,422	20,285	41,589	76,296
Median Age	35.2	37.6	34.6	35.8
Households	5,364	7,888	11,488	24,740
Average Household Size	2.69	2.50	2.71	2.63
Total Housing Units	5,808	9,303	16,226	31,337
Occupied Housing Units	5,364 (92.3% of total)	7,888 (83.9% of total)	15,057 (92.8% of total)	28,309 (90.3% of total)
Owner-Occupied Housing Units	4,341 (80.9% of total)	6,255 (79.3% of total)	11,276 (74.9% of total)	21,872 (77.3% of total)
Renter-Occupied Housing Units	1,023 (19.1% of total)	1,633 (20.7% of total)	3,781 (25.1% of total)	6,437 (22.7% of total)
School Enrollment (age 3 and older)	3,185 (22% of total)	5,002 (25% of total)	9,885 (24% of total)	18,072 (24%)
Percent High School Graduate of Higher	65.4	67.0	68.1	66.8
Total Disabled Population – Age 5+	3,028 (23%)	4,873 (26%)	8,542 (22%)	16,443 (23%)
% of Population in Same House or House in Same County in 1995	73.5	75.9	68.7	72.7

Source: 2000 U.S. Census

Perhaps the most significant figure identified in the demographic data is the percent of disabled individuals in the study area, (23%). 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."*

As these counties continue to attract retirement residential land uses, the need will increase for a transportation system that accommodates the disabled population.

2.1 Historic Growth and Development

The population for the Tri-County area can be expected to increase throughout most of the study area through the study horizon of 2025. A historical review of population data for each County shows that while the study area's population declined in the 1940s, steady growth has occurred over the past 40 years. Table 2.1 illustrates the growth trends for from 1900 to 2000.

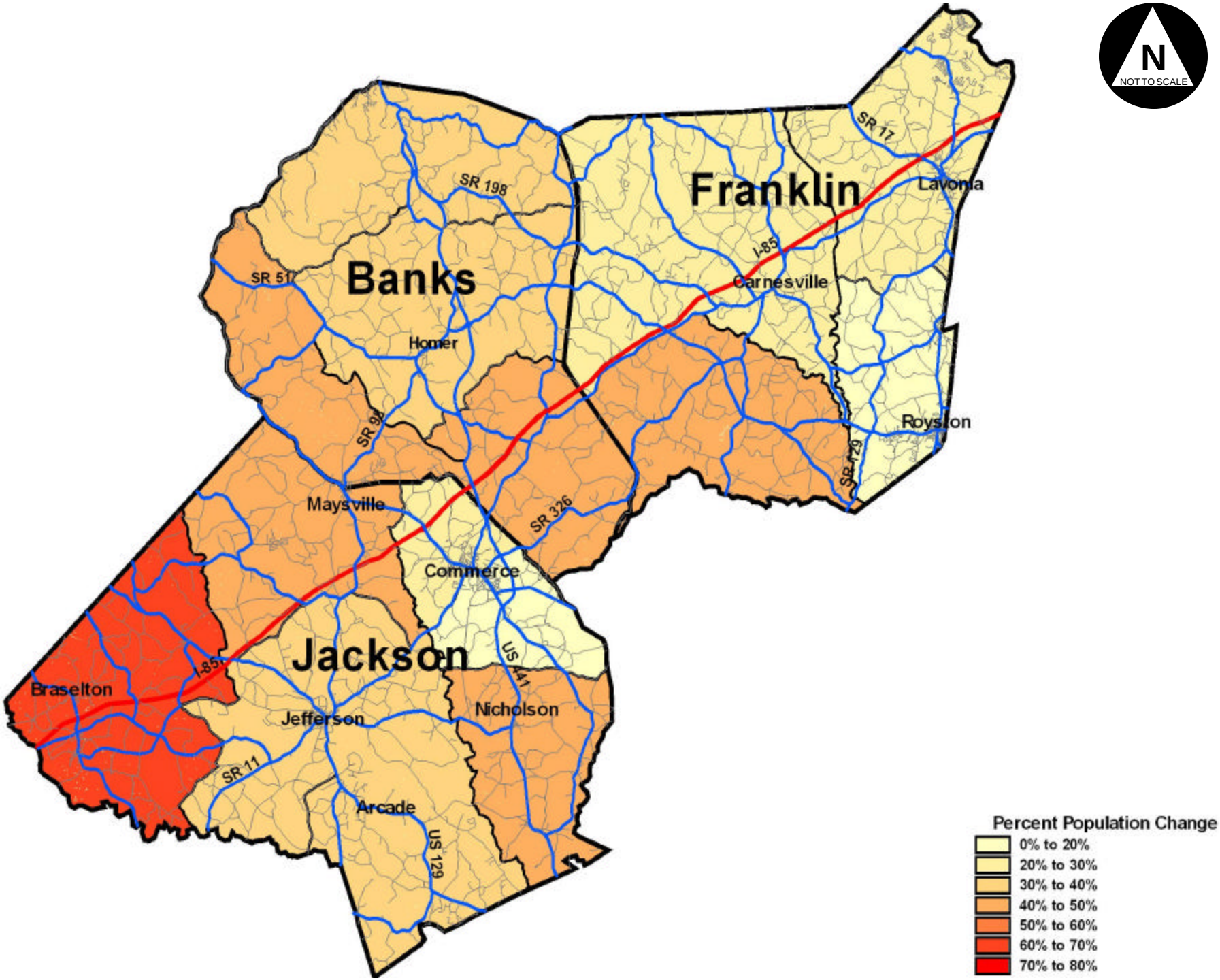
Table 2.1
Historical Population Profile

County	1900	1920	1940	1960	1980	2000	Percent Change 1980 - 2000
Banks	10,545	11,814	8,733	6,497	8,702	14,422	**66%**
Franklin	17,700	19,957	15,612	13,274	15,185	20,285	**34%**
Jackson	24,039	24,654	20,089	18,499	25,343	41,589	**61%**
Total	**52,284**	**56,425**	**44,434**	**38,270**	**49,230**	**76,296**	**55%**

Source: 2000 U.S. Census

The population change for the study area was analyzed comparing the 1990 census data with the 2000 census data. A majority of the study area received significant growth during this 10-year period. The census tracts with the largest population growth are those closest to the Atlanta urban area. The other census tracts with considerable growth are in close proximity to Athens and Gainesville.

Figure 2.1 shows the percent change of the population from 1990 to 2000 for each Census Block Group in the study area. The figure clearly illustrates that Jackson County is experiencing the highest population increase and should shift from a rural county to a suburban county between 2010 and 2015. The highest growth areas, particularly the Braselton area, correspond to sewer expansion and other capital projects identified in the Comprehensive Plans.



Engineers & Planners	Figure No: 2.1	Page No: 12	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Percent Population Change (1990-2000) by Census Block Group***

While growth has occurred in Banks and Franklin Counties it has resulted in a much lower increase in total population compared to Jackson County. Of particular importance to Banks and Franklin Counties is the preservation and enhancement of transportation systems to support agricultural activity and tourism traffic accessing the North Georgia Mountains and Lake Hartwell including SR 17, SR 106, I-85, US 441 and SR 51.

2.2 Employment

The three counties share a reliance on manufacturing, retail, education, and construction jobs; however, Jackson County has an economy that is more diversified, which includes a significant number of jobs in transportation, warehousing, and utilities; professional, scientific and management, arts, entertainment, recreation, accommodations and food service. The number, type, and location of jobs in the study area have direct implications to the types of transportation facilities needed by business operators and employees in the area. Table 2.2.1 shows the major categories of jobs and industries located in each of the three counties.

Table 2.2.1
Year 2000 Industry Jobs

Industry Type	Banks	Franklin	Jackson	Total
Agriculture, forestry, fishing, hunting, and mining	317	440	562	1,319
Construction	854	718	2,165	3,737
Manufacturing	1,686	2,285	4,154	8,125
Wholesale trade	313	274	875	1,462
Retail trade	912	1,088	2,394	4,394
Transportation, warehousing, and utilities	297	422	1,044	1,763
Information	103	129	378	610
Finance, insurance, real estate and rental and leasing	269	411	871	1,551
Professional, scientific, management, administrative, and waste management services	319	350	1,116	1,785
Education, health, and social services	959	1,604	2,807	5,370
Arts, entertainment, recreation, accommodation and food services	320	574	1,414	2,308
Other services	325	367	984	1,676
Public administration	425	345	778	1,548
Total	**7,099**	**9,007**	**19,542**	**35,648**

Source: 2000 U.S. Census

Transportation mobility for workers in the study area is an important consideration for the Plan. Not surprisingly, most workers (94%) in the study area rely on highway-based transportation for commute trips, either by driving alone or carpooling. About three percent (3%) of workers in the Tri-County area walked or commuted to work by other means and an equal percent worked at home. Table 2.2.2 illustrates the breakdowns in commuting modes for the individual counties and area as a whole.

Table 2.2.2
Year 2000 Work Commute Patterns

Commute Type	Banks	Franklin	Jackson	Total
Total Workers (age 16 and older)	6,928	8,844	19,132	34,904
Drove Alone	5,453	7,111	15,177	27,741 (79%)
Carpooled	1,036	1,196	2,968	5,200 (15%)
Transit/Taxi	25	9	21	55 (<1%)
Walked	84	144	164	392 (1%)
Other means	78	110	152	340 (1%)
Worked at home	252	274	650	1,176 (3%)
Mean travel time to work (mins.)	30.1	25.7	29.9	28.6

Source: 2000 U.S. Census

It is clear that the study area 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 the North Georgia Mountains and the Carolinas.

2.3 Environmental Justice Areas

It is important to look at the distribution and concentration of minority and low-income populations because they are part of the Environmental Justice (EJ) population.

The ability to prevent discrimination and achieve environmental justice consists of a two-part process: involving the public early and continuously through the decision making process; and, using data to analytically assess if there would be a disproportionate impact on traditionally underrepresented communities.

The U.S. DOT Order on Environmental Justice and Executive Order 12898 address 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 U.S. Department of Health and Human Services poverty guidelines.

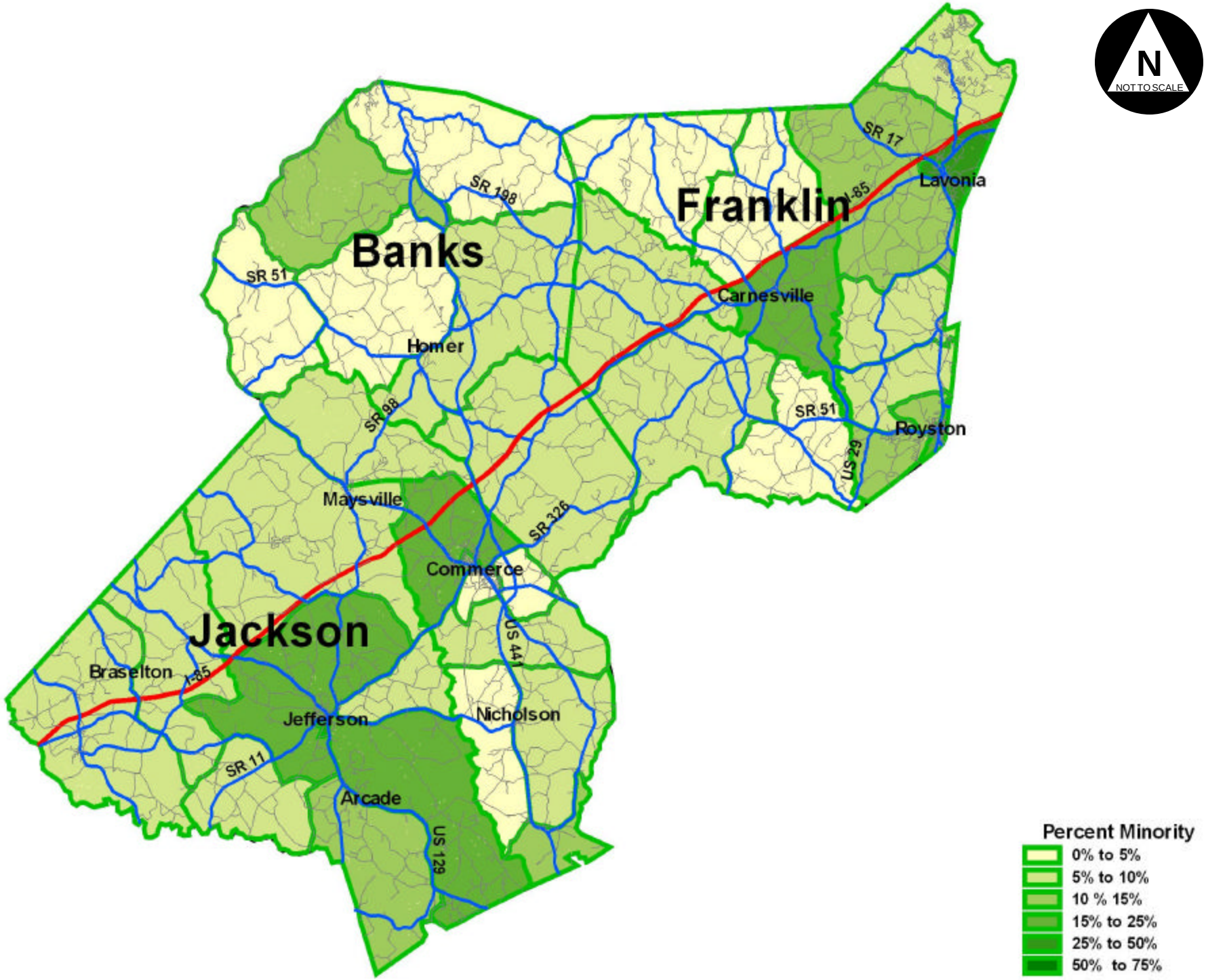
Environmental justice is intended to acknowledge minority and low-income populations and ensure that these groups receive benefits from transportation projects and are not disproportionately impacted as a result of transportation improvement recommendations. Census data was reviewed by census block group to determine potential environmental justice areas, which shows a relatively equal distribution throughout the study area.

2.3.1 Percentage Minority

The minority population for the Tri-County area was analyzed using the 2000 census data. This census data was reviewed by census block group, and shows a relatively equal distribution throughout the Tri-County area. The minority population by census tract range from 1% to 38%. The average minority population figure for the Tri-County area is 11.5% while the statewide average is 34.9%. Minority population at the County level shows the following distribution:

- Banks 3% - 11%
- Franklin 1% - 30%
- Jackson 4% - 38%

The results are displayed in Figure 2.3.1.


N
NOT TO SCALE
Banks
Franklin
Jackson
SR 17
Lavonia
I-85
SR 198
SR 51
Carnesville
Homer
SR 98
SR 51
Royston
US 29
Maysville
SR 326
Commerce
US 441
Braselton
I-85
Jefferson
Nicholson
SR 11
Arcade
US 129
Percent Minority
0% to 5%
5% to 10%
10 % 15%
15% to 25%
25% to 50%
50% to 75%

2.3.2 Percentage Low-Income

The second component for environmental justice, poverty level, was also analyzed using the 2000 census data. This census data was reviewed by census block group, and similar to the minority population shows a relatively equal distribution throughout the Tri-County area. The low-income population ranges from 5% to 35% throughout the Tri-County area census block groups. The study wide average for poverty in the Tri-County area is 13.5% while the statewide average is 13.0%. Low-income population at the County level shows the following distribution:

- Banks 5% - 17%
- Franklin 6% - 35%
- Jackson 7% - 29%

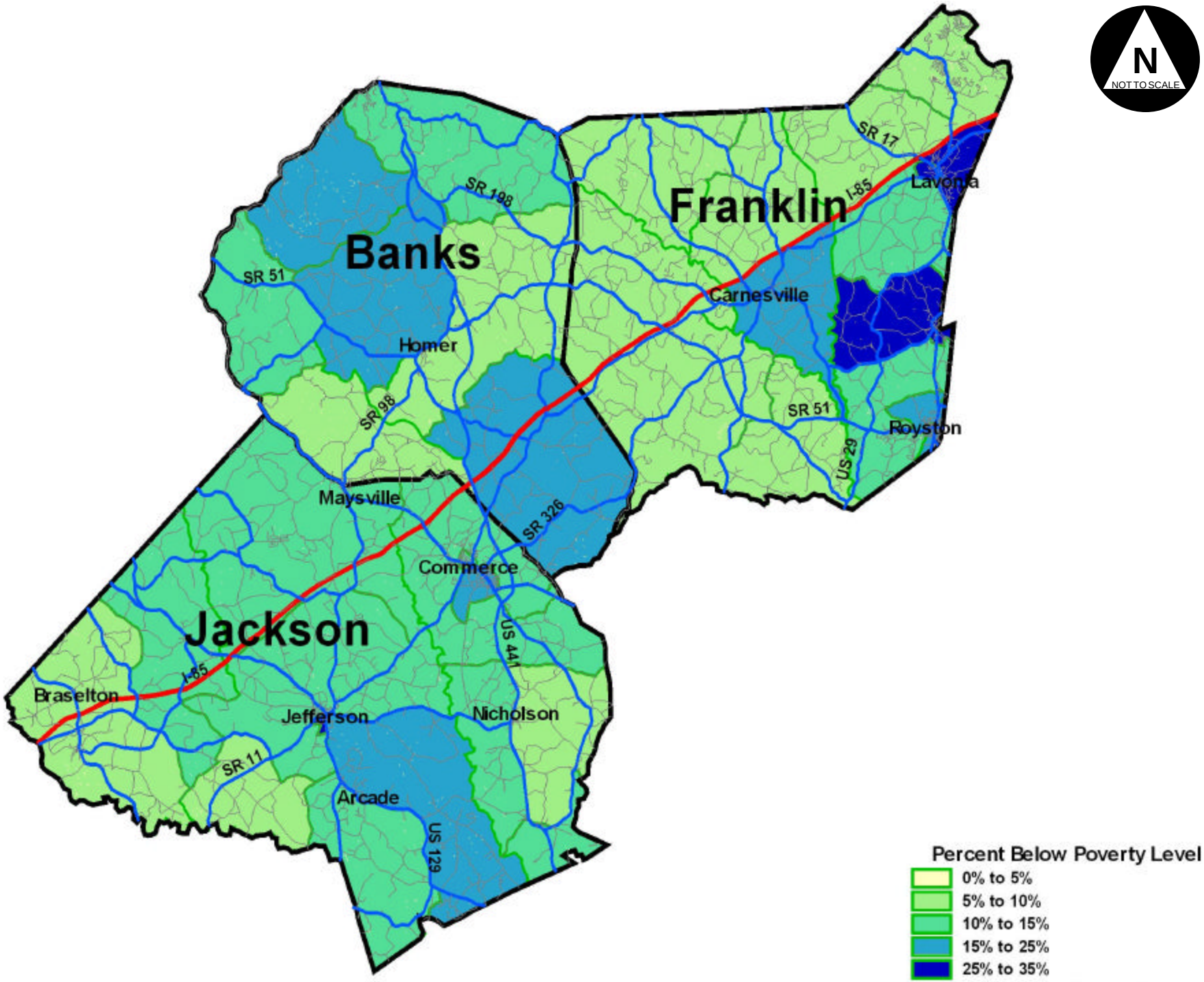
The results are displayed in Figure 2.3.2.1.

It is helpful to analyze the low-income areas with the location of minority populations. Interest is drawn to areas with high populations for both of these categories. Figure 2.3.2.2 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 the downtown areas of Jefferson, Carnesville, Royston, and Lavonia. These areas were evaluated to ensure that transportation improvements would benefit and do not disproportionately impact these areas in a negative manner.

The following tasks were conducted for the identified low-income and minority census tracks:

- Coordinated with the Study Advisory Group to identify leaders within these communities;
- Posted notice for workshops in these communities where possible;
- 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.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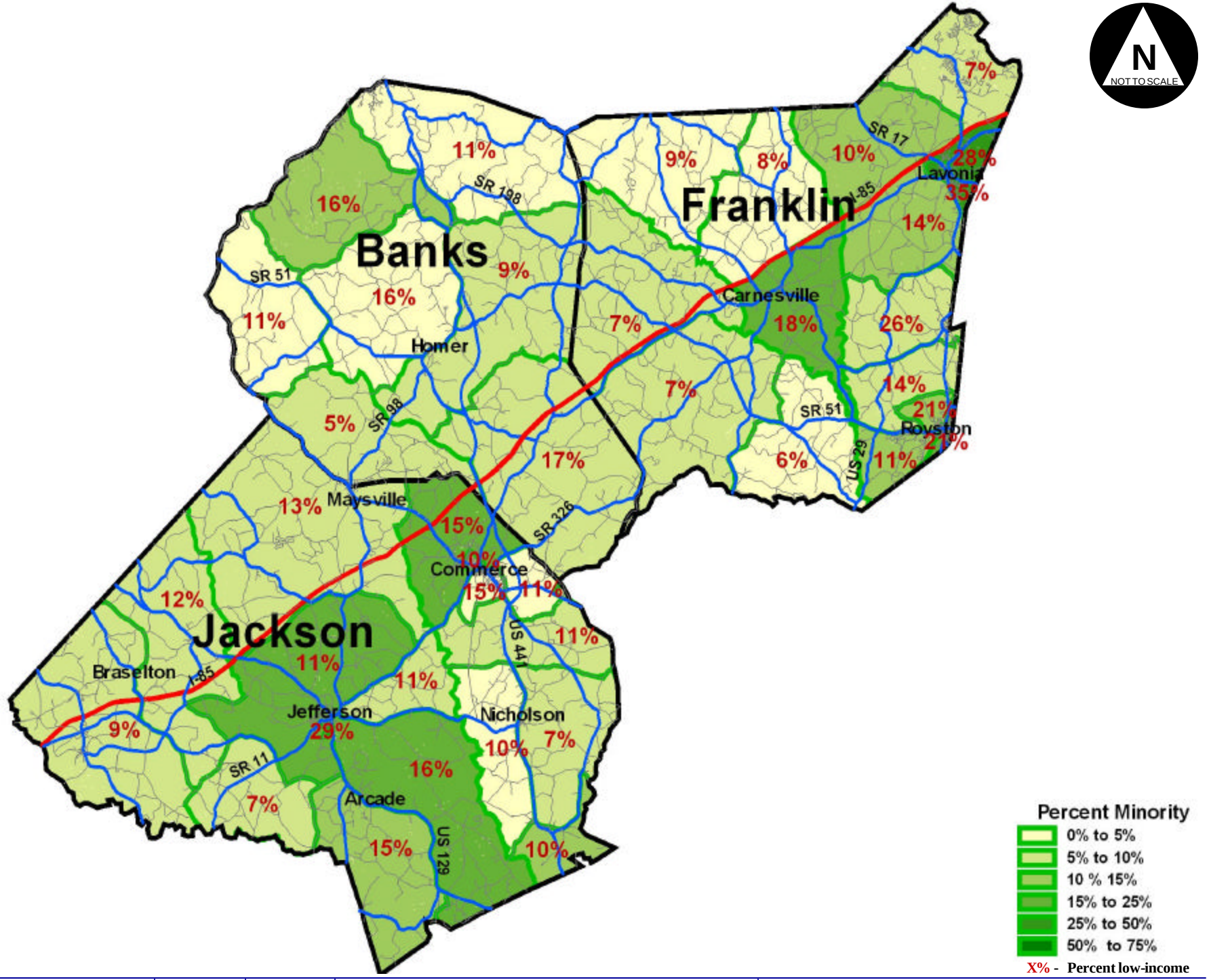
Banks
Franklin
Jackson
SR 17
Lavonia
I-85
SR 198
SR 51
Carnesville
Homer
SR 98
SR 51
Royston
US 29
Maysville
SR 326
Commerce
US 441
I-85
Braselton
Jefferson
Nicholson
SR 11
Arcade
US 129
Percent Below Poverty Level
0% to 5%
5% to 10%
10% to 15%
15% to 25%
25% to 35%



TEI Engineers & Planners		Figure No: 2.3.2.2	Page No: 19	**Banks-Franklin-Jackson County Multimodal Transportation Study**

Overlay of Minority and Low-Income Populations

2.4 Land Use

The existing and future land use plans for the study area continue to show a substantial percentage of land area devoted to residential and agricultural land uses. Additionally, the development of major employment centers is not anticipated through much of the study area. These two factors suggest that transportation enhancements will be required to adequately service future travel demand, particularly employment related demand to/from Atlanta, Athens and Gainesville.

2.4.1 Existing Land Use Characteristics

To assess the impact of existing land use on the transportation system the following types of areas were identified for each County: major residential areas; key activity centers; key employment centers; and, primary travel corridors. The existing land use maps for each county is presented in Figures 2.4.1.1 to 2.4.1.3.

2.4.1.1 Banks County Existing Land Use Characteristics

Major Residential Areas

- Residential Development Dispersed Throughout County

Key Activity Centers

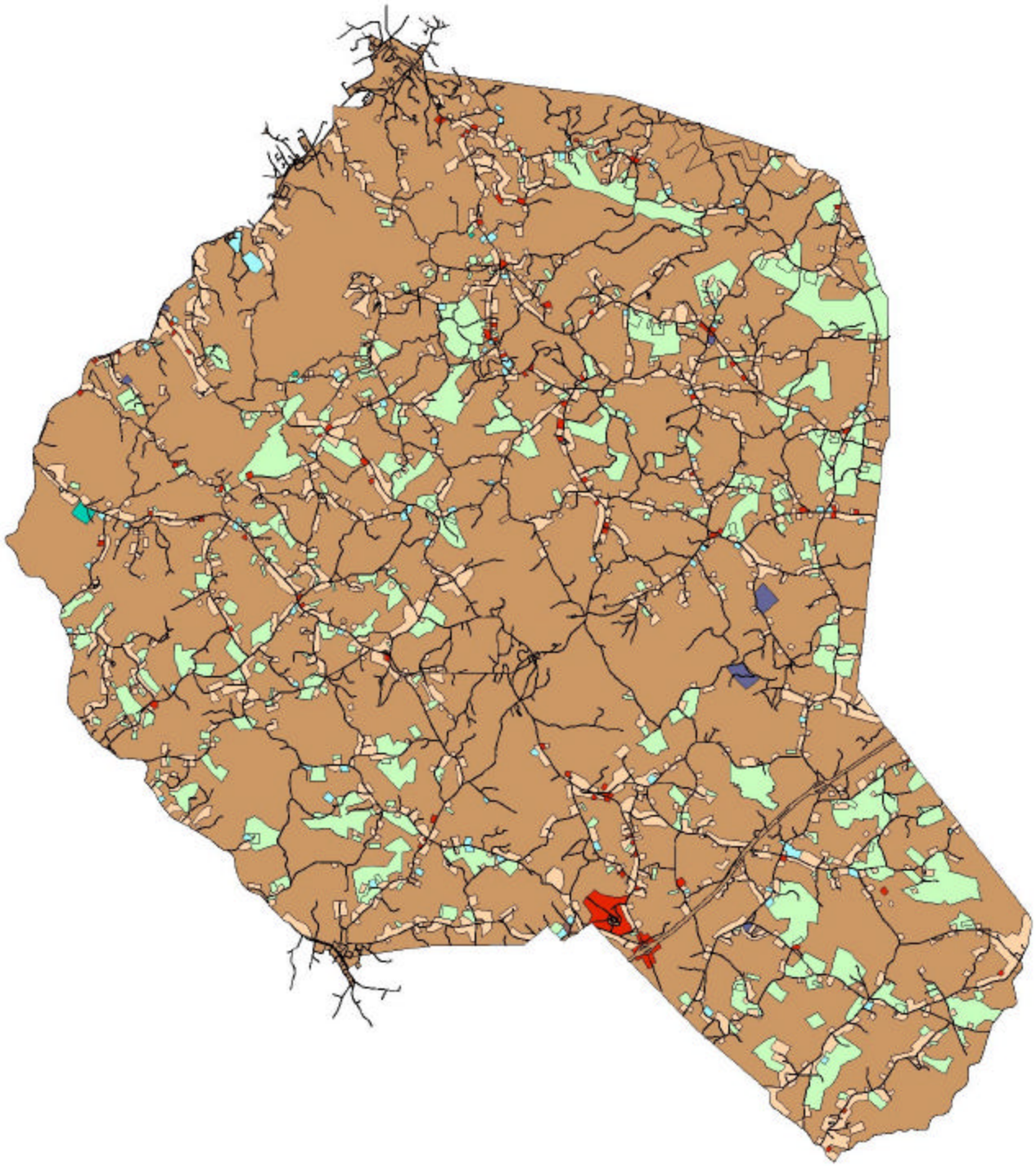
- Banks Crossing
- Atlanta International Dragway
- Homer

Key Employment Areas

- Agricultural and Farming Distributed Through the County
- Banks Crossing
- US 441 Corridor
- West Ridgeway Road

Primary Travel Corridors

- I-85
- US 441
- SR 51
- West Ridgeway Road
- SR 98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Residential
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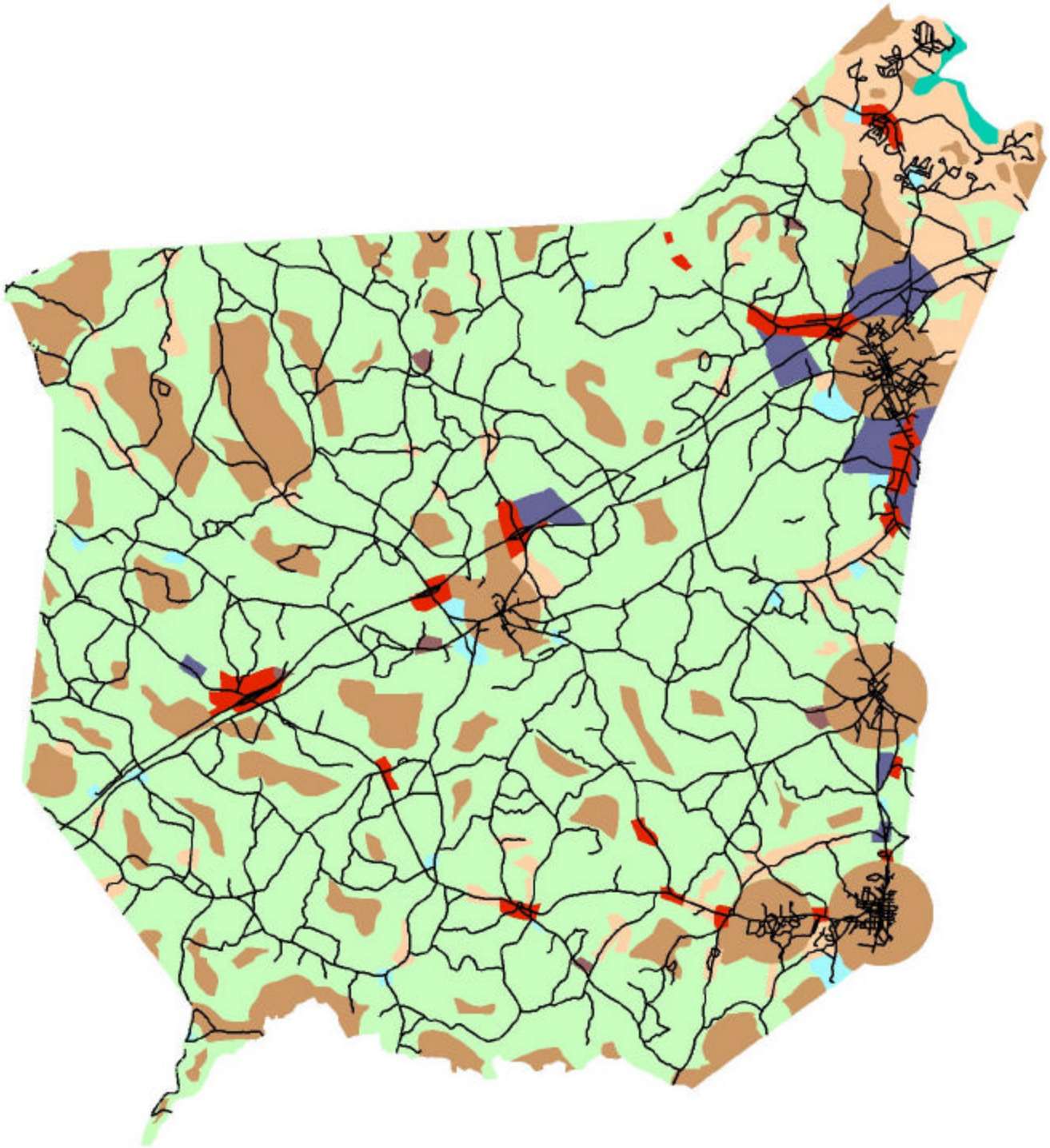
Transportation/Communication/Utilities
Park/Recreation/Conservation
Agriculture/Forestry
Undeveloped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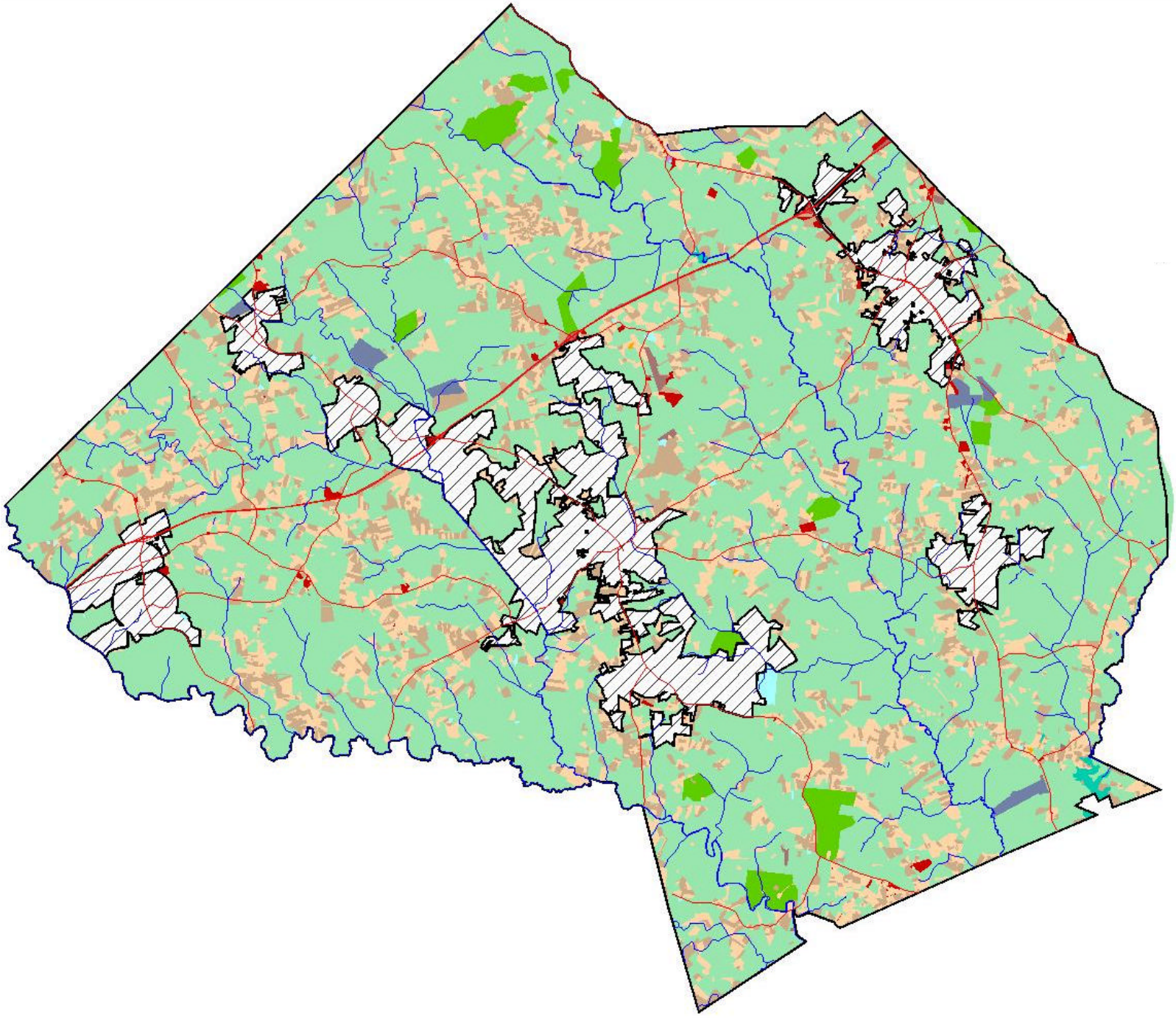
Industrial
Public/Institutional
Transportation/Communication/Utilities
Park/Recreation/Conservation
Agriculture/Forestry
Undeveloped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Multi-Family Residential
Residential
Agriculture
Crop Forest
Commercial
Industrial
Public/Institutional
Government
Park/Recreation/Conservation
Transportation/Communication/ Utility
Undeveloped/Unused

2.4.1.2 Franklin County Existing Land Use Characteristics

Major Residential Areas

- Carnesville
- Royston
- Lavonia

Key Activity Centers

- Carnesville
- Royston
- Lavonia
- Emmanuel College (Franklin Springs)
- Tugaloo State Park

Key Employment Areas

- Agricultural and Poultry Distributed Through the County
- Carnesville
- Royston
- Lavonia

Primary Travel Corridors

- I-85
- SR 106
- SR 17
- SR 51
- SR 145
- SR 8 / US 29

2.4.1.3 Jackson County Existing Land Use Characteristics

Major Residential Areas

- Braselton
- Hoschton
- Jefferson
- Commerce
- SR 124 Corridor
- SR 53 Corridor
- SR 60 Corridor

Key Activity Centers

- Braselton
- Hoschton
- Jefferson
- Commerce
- Banks Crossing Area

Key Employment Areas

- Braselton
- Commerce
- Jefferson
- SR 53 Corridor

Primary Travel Corridors

- I-85
- SR 53
- SR 124
- SR 11 / SR 15 Alt / US 129
- US 441
- New Cut Road
- Wayne Poultry Road
- New Kings Bridge Road

2.4.2 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 through the study area. 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 predict 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 each County's Comprehensive Plan. These maps identify where growth is likely to occur in each County through the horizon year of the study. By clearly identifying where growth is allowed to occur in the County, it is possible for the travel model to more accurately represent travel demand on the roadway network and more accurate future year traffic conditions.

Of particular importance from the Land Use Plans is the presence of a major development site along the west side of I-85 just west of Commerce. This area is currently serviced by both sewer and electrical utilities. Currently no tenants/users were identified for this site.

Should a major employer choose to locate in this site it will be necessary to reevaluate transportation needs through the study area.

The future land use maps for each county is presented in Figures 2.4.2.1 to 2.4.2.3.

2.4.2.1 Banks County Future Land Use

The Banks County 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 and forestry. The following growth areas were identified:

Residential

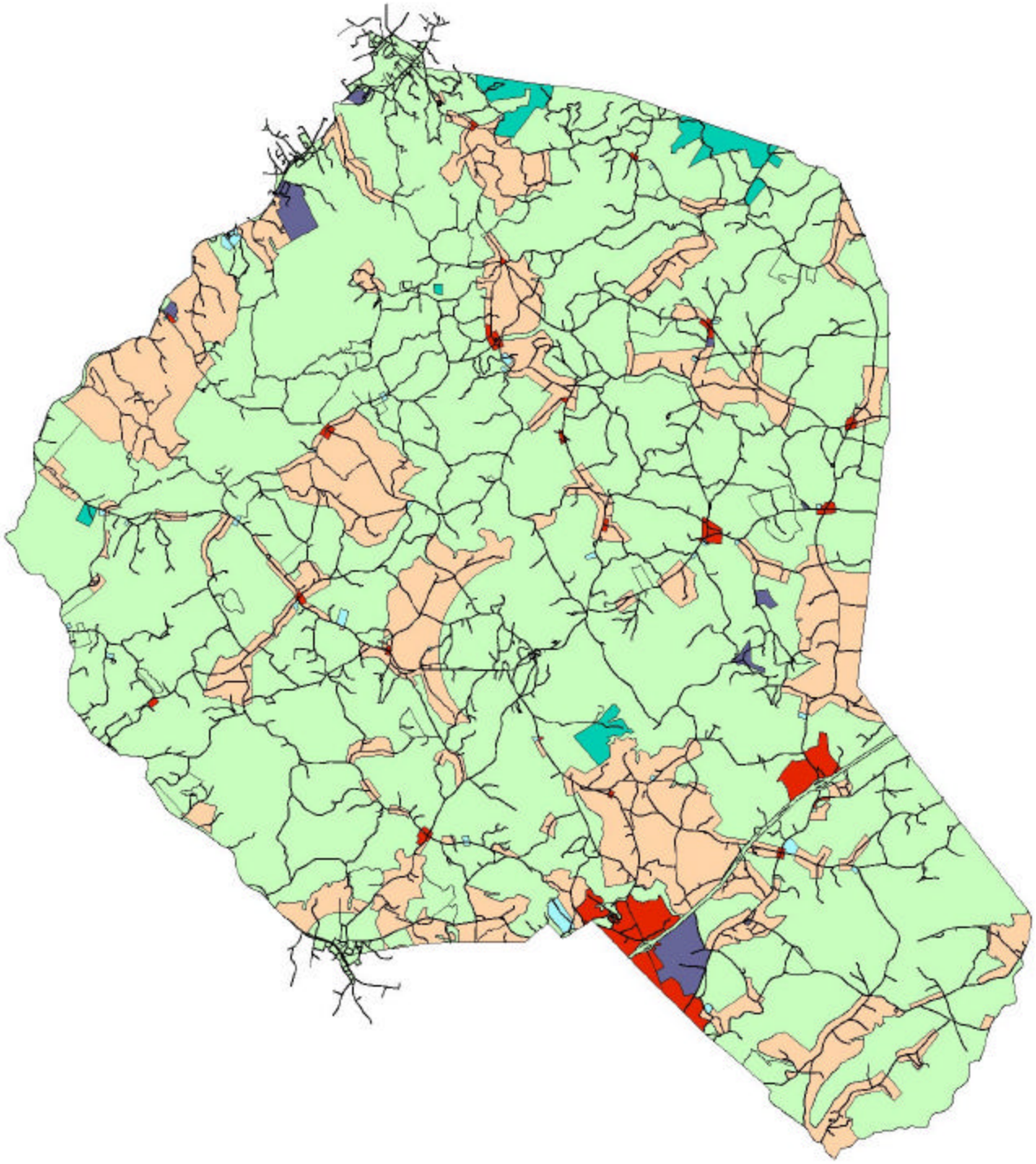
- Along Old Cornelia Highway between the Cities of Lula and Baldwin;
- Areas north and south of the Silver Shoals Community along Old SR 98 northwest of Homer;
- An area southeast of the City of Baldwin along SR 15 and SR 105;
- Properties along SR 15 (US 441) from the Hollingsworth Community area south to Shady Grove Pond;
- An area east of the City of Maysville along SR 98 and CR 232;
- Properties along SR 184 and 198 south of the Pinefield Crossings community;
- Along portions of SR 59, SR 326, and CR 67 in the south part of the County;
- Along US 441 and SR 184 between I-85 and the City of Homer; and,
- Along Martin Bridge Road north of I-85.

Intensive Agricultural (Poultry Farms, etc.)

No major expansions anticipated.

Commercial Uses

- Banks Crossing area near I-85 – highway-oriented commercial and regional market commercial;
- Martin Bridge Road interchange with I-85 – highway-oriented commercial and regional market commercial;
- Expansion of Banks Crossing south to SR 59 and northwest along Ridgeway Church Road to Grove Creek; and,
- New commercial uses at the intersections of major roads (by 2015): SR 323 and SR 51; SR 98 and Rock Springs Church Road; SR 15 and SR 105; SR 15 and Rock Springs Church Road; SR 198 and SR 184; SR 198 and Martin Bridge Road (Odis Crossroads); SR 51 and Martin Bridge Road (Jewelville); SR 184 and SR 51 (Mt. Pleasant); SR 98 and CR 22, and SR 59 and SR 164.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Agriculture/Forestry
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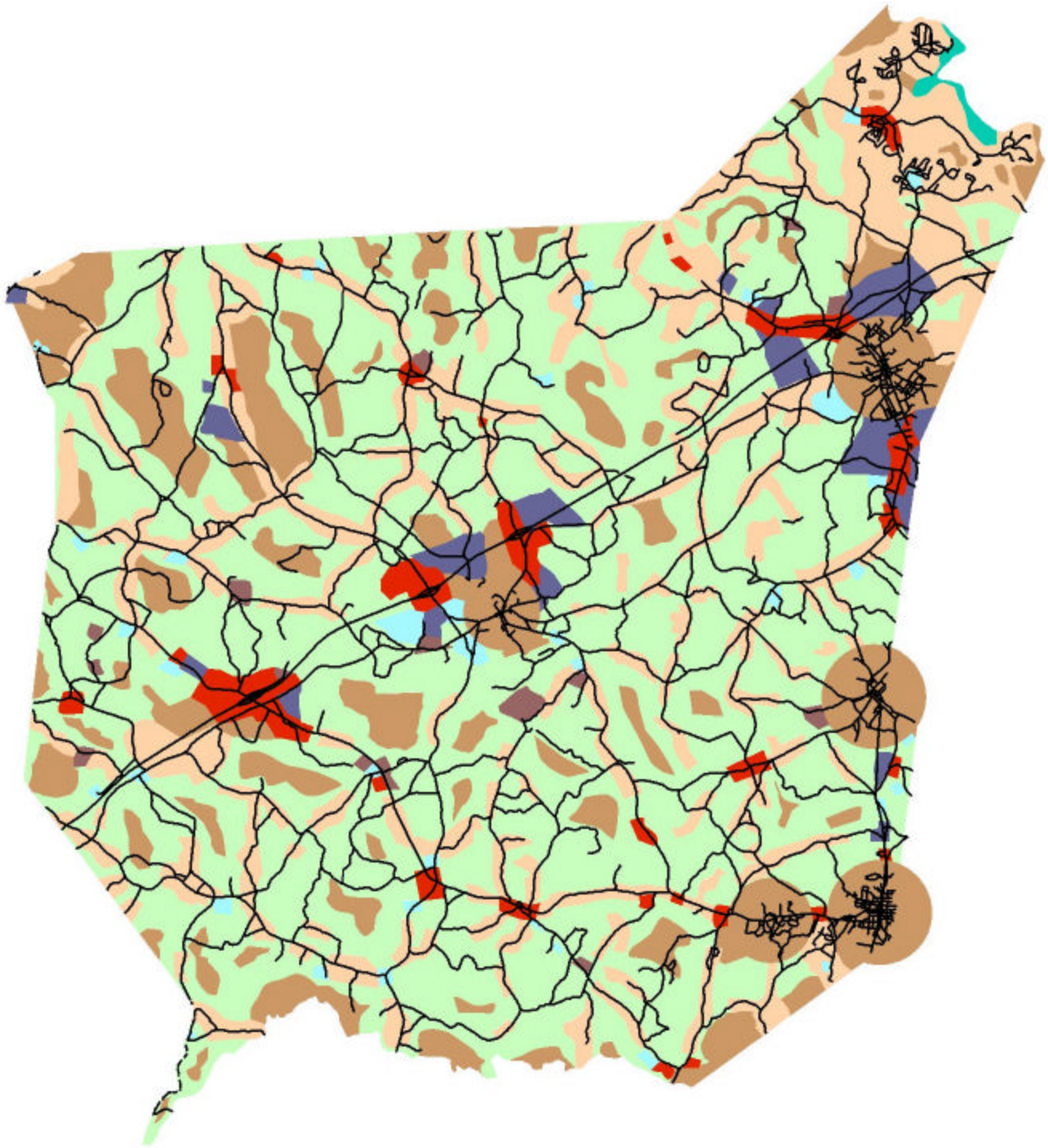
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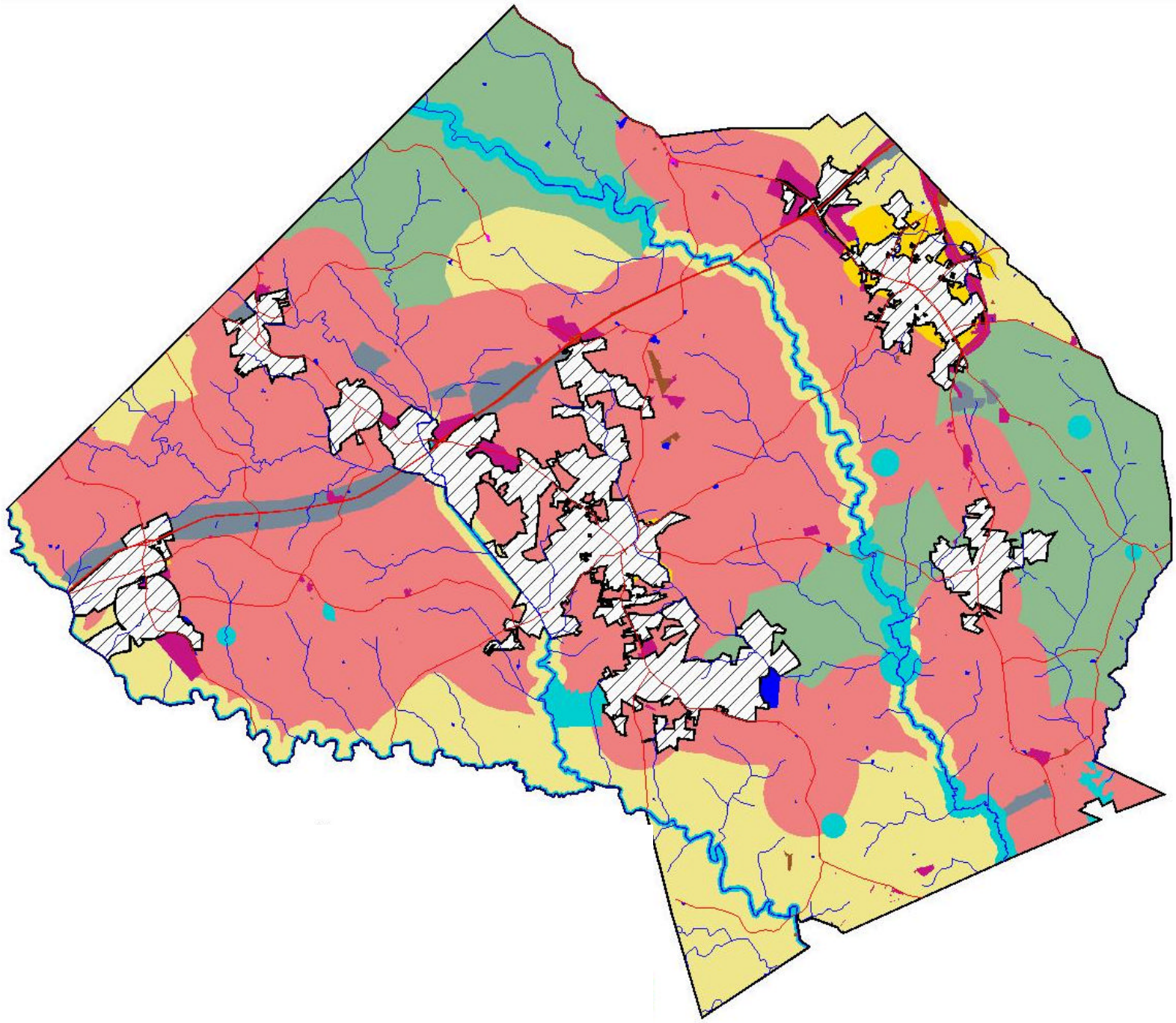
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Low Density Residential
Medium Density Residential
High Density Residential
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Government
Park/Recreation/Conservation
Transportation/Communication/ Utility

Industrial Uses

- Expansion of the County's existing industrial park adjacent to Banks Crossing (near SR 59 and CR 16).

Parks/Recreation/Conservation

- Area south of the City of Homer and east of US 441 (several hundred acres owned by County).

2.4.2.2 Franklin County Future Land Use

The Franklin County Future Land Use Map designates most of the County for suburban and rural land uses. The Country has plans for growth but a majority of the County is zoned as agricultural and forestry.

Commercial Uses

- Highway-oriented commercial uses along I-85 corridor, including four interchanges, especially at Lavonia exit;
- Commercial activity centers at major intersections by 2015: SR 51/SR 106; SR 51/SR 174; SR 145/SR 8; and SR 51/SR 327; and,
- Neighborhood commercial uses along SR 328 north of Lavonia near Lake Hartwell.

Industrial Uses

- New industrial uses near I-85 and at SR 51 interchange along the south side of SR 59;
- Area north of Carnesville on the north and south sides of SR 145 interchange;
- Area north of Lavonia interchange east and west of SR 17;
- Industrial Park south of Lavonia east and west of SR 17; and,
- Small industrial expansions south of the intersection of McFarlin Bridge Road and SR 320 and the area north of Royston on the east and west side of SR 17.

Undeveloped Land

- Reserved throughout the county in areas where septic tank and site development are unsuitable.

Other Land Use Issues

- Canon – few changes – a few new residential lots plus a new park at Royston Road south of Athens Street;
- Franklin Springs – expansion of Emmanuel College – new multi-family housing and homes for new staff - also expansion of commercial sites along US 29;

- Lavonia – new commercial and industrial uses along SR 17 on the northwest and south sides of the City; new single-family and multi-family residential within most areas of the City; and,
- Royston – some new small commercial sites along Winn Street; new single-family residences in Woodland Manor and Pine Valley; new multi-family residential sites in SW Royston.

2.4.2.3 Jackson County Future Land Use

Because Jackson County was in the process of updating its Comprehensive Plan, less detailed information was available for use as part of this study related to future growth areas. The Jackson County Future Land Use Map designates most of the County for suburban and rural land uses. Jackson County has plans to accommodate growth and has classed the land area of the County into nine uses, most of the land is contained within the following classifications: Industrial Workplace (IW); Residential Growth Areas (RG); Rural Places (RP); and, Agricultural Reservation (AP).

By 2015 it is anticipated that Jackson County will exceed 50,000 in population and migrate from a rural setting to one more suburban in nature. As such, the County wants to ensure the acceptable function of its transportation facilities to include classifying of key travel corridors and preservation of adequate right of way for capacity enhancements.

While the Comprehensive Plan could not provide detailed information about the location of future development, several guiding principles were established to guide land-use decision-making and they are documented below.

- "…we will be a place where inevitable growth is managed at a human scale that will balance the more rural and natural areas that we highly treasure…."
- "….Jackson County and its cities will continue to maintain its 'small town feel' where individuals are important and development is designed with people and nature in mind. Jackson County will continue to provide a family-oriented quality of life that encourages community leisure and cohesiveness…."
- "….we will be a county that values our green spaces and historic buildings…."
- "…..Jackson County will be a place with an abundance of tree-lined parkways…."
- "…we will be a place with a unique identity and a sense of arrival with gateway features…."
- "….we will be a place for vibrant downtown centers…."
- "….we will continue to provide a place where intensive commercial and employment centers are embraced as an 'interstate main street village'"….

3.0 Existing Transportation Conditions

Extensive data was collected for the transportation facilities within the Tri-County area. 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 future improvements.

3.1 Existing Highway System

The roadway network for each County is made up of federal, state, county and local roads. These roadways are classified as interstates, primary and minor arterials and collectors with respect to their functionality in the County. Roads with a higher functional class service more traffic and as a result receive additional scrutiny as part of this study. Interstate highways are currently being studied under a separate contract and were therefore not investigated as part of this study.

Tables' 3.1.1 – 3.1.3 list the characteristics by facility type for each of the Counties in the study area.

Table 3.1.1
Facility Type Characteristics
Banks County

Facility Type	2000 Average Annual Daily Traffic	Vehicle Miles of Travel (1)	Proportion of Total Travel
Interstates	111,742	248,060	45.52%
Principal Arterials	34,110	65,227	11.97%
Minor Arterials	13,933	1,201	0.22%
Collectors	97,758	230,449	42.29%
Total VMT (2)	257,543	544,937	100.00%

(1) Observed values were obtained from GDOT report 445-2000.
(2) Does not include local roads.

Table 3.1.2
Facility Type Characteristics
Franklin County

Facility Type	2000 Average Annual Daily Traffic	Vehicle Miles of Travel (1)	Proportion of Total Travel
Interstates	188,973	786,825	64.53%
Principal Arterials	88,198	95,232	7.81%
Minor Arterials	109,956	124,400	10.20%
Collectors	110,704	212,868	17.46%
Total VMT (2)	497,831	1,219,325	100.00%

(1): Observed values were obtained from GDOT report 445-2000.
(2) Does not include local roads.

Table 3.1.3
Facility Type Characteristics
Jackson County

Facility Type	2000 Average Annual Daily Traffic	Vehicle Miles of Travel (1)	Proportion of Total Travel
Interstates	235,098	1,105,558	49.27%
Principal Arterials	175,854	294,022	13.10%
Minor Arterials	251,031	397,308	17.71%
Collectors	147,674	447,020	19.92%
Total VMT (2)	809,657	2,243,908	100.00%

(1): Observed values were obtained from GDOT report 445-2000.
(2) Does not include local roads.

GDOT maintains an extensive traffic data collection program and TEI was able to capitalize on these data sets as part of this study. This information was used as input into the models for validation and calibration purposes. The traffic volume data can be found in the *Model Memorandum* (dated June, 2004).

3.2 Crash Data

The latest three years of available crash data from the Georgia Department of Transportation (1997, 2000 and 2001) was collected and analyzed for the Tri-County area. The crash data served as key input to the development process and was used to determine locations with potential safety deficiencies.

3.3 Bridge Inventory

One of the critical concerns for the Counties was the condition of the numerous bridges through the study area. The study area'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 deficiencies. 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. All bridges with a sufficiency rating of fifty (50) or lower were identified as deficient and a more detailed assessment of bridge inventory elements was performed to facilitate the ranking of bridges for potential improvement.

The sufficiency rating is used to determine the need for maintenance, rehabilitation or reconstruction of a bridge structure. With adequate maintenance any structure with a sufficiency rating of above 75 should maintain an acceptable rating for at least 20 years. Structures with a rating between 65 and 75 are less satisfactory and structures with a sufficiency rating of 65 or lower have a useful life of less than twenty years and will require major rehabilitation or reconstruction work during the study horizon.

3.3.1 Banks County

The study area was reviewed to identify all bridges within Banks County and document a sufficiency rating. Seventy-Six (76) bridges currently exist within the County. Tables 3.3.1.1 – 3.3.1.3 displays the collected information.

Table 3.3.1.1
Banks County Bridge Inventory
Sufficiency Rating < 65

Road	Feature	Location	Sufficiency Rating
CR 6/McCoy Bridge Rd	Hudson River	2.5 mi SE of Homer	7.57
CR 284/Soapstone Rd	Middle Fork Broad River	8.5 mi N of Homer	15.17
CR 107/Shady Grove Rd	Garrison Creek	3.7 mi NE of Homer	15.73
CR 189/Boiling Rd	Middle Fork Broad River	8.5 mi N of Homer	23.75
CR 155/Wynn Lake Rd	Hudson River	6.9 mi NW of Homer	26.35
CR 6/Mashburns Rd	Webb Creek	2.7 mi SE of Homer	27.13
CR 63/Duncan Rd	Hudson River Trib.	9.9 mi SE of Homer	27.99
CR 37/Hickory Creek Rd	Hickory Level Creek	3.2 mi SW of Homer	31.04
SR 105*	Middle Fork Broad River	9.6 mi N of Homer	32.54
CR 16/Wilson Bridge Rd	Hudson River	3.4 mi SE of Homer	33.56
CR 196/Spring Rd	Middle Fork Broad River	8.5 mi N of Homer	34.15
CR 16/Harden Bridge Rd	Grover Creek	5.8 mi SE of Homer	35.06
CR 231/Yonah Homer Rd	Hudson River	6.4 mi NW of Homer	39.81
CR 92/Wrights Mill Rd	Hudson River	7.3 mi SE of Homer	44.11
SR 51*	Grove Creek	7 mi N of Homer	44.89
SR 59	Grove Creek	6.5 mi SE of Homer	44.99
CR 224/Moss Farm Rd	Mountain Creek	6 mi N of Homer	47.75
CR 50/Hembree Rd	Hickory Level Creek	4.6 mi S of Homer	50.37
SR 51	Webb Creek	At East Homer City Limit	54.12
CR 231/Yonah Homer Rd	Hudson River Trib.	6.8 mi NW of Homer	55.02
CR 301/Damascus Rd	Middle Fork Broad River	8.4 mi N of Homer	56.68
SR 63	Middle Fork Broad River	9.4 mi NE of Homer	59.58
CR 227/Brown Bridge Rd	Beaverdam Creek	8.1 mi SE of Homer	60.72
SR 326	Hudson River	10.5 mi E of Homer	61.86
SR 98	Grove Creek	4.3 mi SW of Homer	61.88
SR 15/US 441	Hudson River	In Homer	62.35
CR 142/Wheeler St	Southern Railroad	In Alto	62.36
SR 63	Nails Creek Trib.	6.5 mi E of Homer	63.65

Source: GDOT
* These bridges are currently part of the 2004 – 2006 STIP

Table 3.3.1.2
Banks County Bridge Inventory
Sufficiency Rating > 65 & < 75

Road	Feature	Location	Sufficiency Rating
SR 98	Hickory Level Creek	3.5 mi SW of Homer	65.06
SR 59	Hudson River	6 mi SE of Homer	65.46
CR 62/Sims Bridge Rd	Grove Creek	8.1 mi SE of Homer	67.10
SR 323	Grove Creek	6.5 mi W of Homer	67.73
CR 77/Hebron Rd	Hudson River	8.2 mi SE of Homer	69.04
SR 15/US 441 SB	Grove Creek	4.8 mi SE of Homer	71.45
SR 63	Carlan Creek	5.6 mi E of Homer	71.47
CR 232/West Ridgeway Rd	Grove Creek Trib.	5.2 mi S of Homer	72.29
SR 59	Hudson River Trib.	6.5 mi SE of Homer	72.53
CR 125/Welborn Rd	Hickory Level Creek	4.4 mi W of Homer	72.54
CR 155/Wynn Lake Rd	Mountain Creek	6.7 mi NW of Homer	72.67

Source: GDOT

Table 3.3.1.3
Banks County Bridge Inventory
Sufficiency Rating > 75

Road	Feature	Location	Sufficiency Rating
CR 42/Gowder Rd	Grove Creek	5.2 mi SW of Homer	78.96
CR 155/Emory Chambers Rd	Hudson River Trib.	3.7 mi NW of Homer	79.83
CR 161/Berlin Rd	Holbrook Creek	2.6 mi N of Homer	81.51
SR 105	Nancy Town Creek	9.5 mi N of Homer	81.66
SR 323	Grove Creek Trib.	7.5 mi N of Homer	82.27
CR 235/Apple Pie Ridge Rd	Mountain Creek	7.4 mi NW of Homer	82.51
SR 403/I-85 SBL	Hudson River	5.5 mi E of Homer	83.64
CR 156/Bellamy Rd	Hudson River	3.1 mi NW of Homer	83.87
CR 124/Henderson Rd	Grove Creek	6.5 mi SW of Homer	84.30
SR 403/I-85	Crooked Creek	5.9 mi S of Homer	85.00
CR 168/Louden Ridge Rd	Hudson River	6.5 mi NW of Homer	85.47
SR 403/I-85	Crooked Creek	5.9 mi S of Homer	86.78
SR 63	I-85	5.9 mi E of Homer	87.31
SR 403/I-85 NBL	Hudson River	5.5 mi E of Homer	87.42
SR 403/I-85 NBL	CR 16	5.6 mi S of Homer	87.86
CR 300/Yonah Homer Rd	Silver Creek	3 mi NW of Homer	88.61
SR 403/I-85 SBL	CR 16	5.6 mi S of Homer	88.87
CR 52/N Mangum Bridge Rd	Grove Creek	4.5 mi S of Homer	89.78
SR 403/I-85 NBL	SR 164	5 mi SE of Homer	93.87

Road	Feature	Location	Sufficiency Rating
SR 403/I-85 SBL	SR 164	5 mi SE of Homer	93.87
CR 153/Rock Springs Rd	Hudson River	5.5 mi NW of Homer	94.82
SR 15/US 441	Holbrook Creek	At North Homer City Limit	95.14
SR 403/I-85 NBL	Grove Creek	5.9 mi S of Homer	95.19
SR 403/I-85 SBL	Grove Creek	5.9 mi S of Homer	95.19
SR 15/US 441	I-85 (SR 403)	5.9 mi S of Homer	98.21
SR 15/US 441	Crooked Creek	6 mi SE of Homer	98.61
SR 326	Hudson River Trib.	9.6 mi SE of Homer	98.77
CR 39/Jake Shubert Rd	Hickory Level Creek	3.6 mi SW of Homer	98.96
SR 15/US 441 NB	Grove Creek	4.8 mi SE of Homer	99.04
SR 63	Nails Creek	5.9 mi E of Homer	99.49
SR 198	Little Nails Creek Trib.	6.3 mi N of Homer	99.49
CR 106/Payne Mill Rd	Garrison Creek	3 mi N of Homer	99.61
CR 34/John Morris Rd	Silver Creek	3.3 mi NW of Homer	99.67
SR 15/US 441	Little Nails Creek	6.3 mi N of Homer	99.81
SR 198	Brady Creek	6.8 mi N of Homer	99.81
CR 368	Little Nails Creek	5.8 mi N of Homer	99.88
CR 301/Damascus Rd	Tates Creek	8.8 mi N of Homer	99.96

Source: GDOT

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. However, there are twenty-one (21) bridges that have a sufficiency rating below 75 and should be considered candidates for maintenance and rehabilitation.

3.3.2 Franklin County

The study area was reviewed to identify all bridges within the County and document a sufficiency rating. One hundred twenty-one (121) bridges currently exist within the County. Tables 3.3.2.1 – 3.3.2.3 displays the collected information for all of the bridges in Franklin County.

Table 3.3.2.1
Franklin County Bridge Inventory
Sufficiency Rating < 65

Road	Feature	Location	Sufficiency Rating
CR 191/Goalsby Bridge Rd	Whiten Creek	4.2 mi NW of Carnesville	15.09
CR 216/Goolsby Bridge Rd	Middle Fork Broad River	3.7 mi NW of Carnesville	15.09
CR 252/E. Arial Rd	Nails Creek	8.4 mi W of Carnesville	15.41
CR 284/Little Rd	Nails Creek	6 mi SW of Carnesville	15.41
CR 32/Starrett Rd	Double Branch	1.6 mi NW of Canon	15.73
CR 214	Indian Creek	3.7 mi W of Carnesville	15.73
CR 187/Stagecoach Rd	Stephens Creek	3 mi NW of Carnesville	18.52
CR 267/Wilhite Rd	Nails Creek	5.9 mi SW of Carnesville	21.43
CR 283/Voyles Rd	Nails Creek Trib.	4.5 mi SW of Carnesville	21.82
CR 316/Strange's Rd	Nails Creek	7.4 mi W of Carnesville	22.57
CR 119	Gum Log Creek	4.7 mi NW of Lavonia	22.61
CR 48/Jackson Bridge Rd	Uniwatti Creek	3.5 mi W of Canon	24.33
SR 51*	Nails Creek Trib.	8.3 mi W of Carnesville	32.39
CR 12/Blacksnake Rd	Rice Creek	2.4 mi SW of Canon	33.07
CR 18/Park Rd	Rice Creek	1.6 mi NW of Franklin Springs	34.90
CR 282/Thunder Rd	Nails Creek Trib.	5.5 mi SW of Carnesville	40.10
CR 103/Sheriff Rd	Toms Creek	7 mi NW of Lavonia	40.82
CR 145	North Fork Broad River	5.7 mi N of Carnesville	41.57
CR 414/E County Line Rd	Blacks Creek Trib.	11 mi SE of Carnesville	43.08
SR 51*	Middle Fork Broad River	2.1 mi W of Franklin Springs	44.77
CR 294/Bold Springs Church	Little's Creek	7.3 mi SW of Carnesville	45.30
CR 47/Burroughs Rd	Uniwatti Creek	3.8 mi NW of Canon	46.05
CR 388/Prospect Rd	Middle Fork Broad River	8.5 mi NW of Carnesville	47.43
SR 145*	North Fork Broad River	1.7 mi W of Franklin Springs	48.58
CR 205/Akins Bridge Rd	North Fork Broad River	7.3 mi NW of Carnesville	49.25
CR 163/Atkinson Bridge Rd	Middle Fork Broad River	3.7 mi SE of Carnesville	50.73
CR 219/New Bethal Bridge	Middle Fork Broad River	5 mi NW of Carnesville	50.75
CR 285/Shelton Rd	Little's Creek	6.2 mi SW of Carnesville	52.30
CR 48/Jackson Bridge Rd	North Fork Broad River	3 mi SE of Canon	52.40
SR 106	Nails Creek	7 mi S of Carnesville	52.76
CR 46/Johns Bridge Rd	Double Branch	4 mi W of Canon	53.11
SR 328	I-85	1.7 mi N of Lavonia	55.21
CR 379/Carson Rd	Blacks Creek	11.5 mi SW of Carnesville	55.97
CR 97/Brown Rd	I-85	3.2 mi NE of Carnesville	56.83
SR 59	Middle Fork Broad River	1.7 mi SW of Carnesville	57.55
SR 198	I-85	3 mi SW of Carnesville	57.58
SR 17	I-85	1 mi NW of Lavonia	58.26
SR 328	Gumlog Creek	3.8 mi N of Lavonia	58.73

Road	Feature	Location	Sufficiency Rating
SR 106	Middle Fork Broad River	2.3 mi S of Carnesville	58.83
SR 59	Nails Creek	6.2 mi SW of Carnesville	59.84
CR 383/Fairview Rd	I-85	3.5 mi SW of Lavonia	60.58
CR 101/Clark's Creek Rd	North Fork Broad River	6 mi W of Lavonia	62.01
CR 382/South Fairview Rd	Unawatti Creek	4 mi NW of Canon	62.25
CR 154/Archibold Rd	Stephens Creek	6.4 min W of Canon	62.92
SR 63	Leatherwood Creek	10 mi NW of Carnesville	63.10
CR 384/Stone Bridge Rd	North Fork Broad River	2 mi E of Carnesville	63.25
SR 59	Stephens Creek	Inside Carnesville	63.30

Source: GDOT
* These bridges are currently part of the 2004 – 2006 STIP

Table 3.3.2.2
Franklin County Bridge Inventory
Sufficiency Rating > 65 & < 75

Road	Feature	Location	Sufficiency Rating
CR 250/Bellamy Rd	Nails Creek	7.8 mi W of Carnesville	65.43
CR 273/Holbrook Rd	Little's Creek	7.3 mi SW of Carnesville	65.54
CR 118/Gumlog Creek Rd	Gum Log Creek	4.4 mi NW of Lavonia	66.93
SR 51/Starrs Bridge Rd	North Fork Broad River	5 mi SW of Canon	66.98
CR 387/Cedar Ridge Rd	I-85	7.5 mi SW of Carnesville	67.89
CR 108/Stagecoach Rd	I-85	1.1 mi NW of Carnesville	68.02
SR 326	Little's Creek	6.3 mi SW of Carnesville	68.40
CR 175/Carytown Rd	Nails Creek	5.4 mi SW of Franklin Springs	68.46
CR 84/Whitworth Rd	I-85	2.7 mi NE of Lavonia	69.19
SR 326	Nails Creek	5 mi SW of Carnesville	70.00
CR 258/Neal Rd	I-85	9.3 mi SW of Carnesville	70.48
CR 225/Red Hill Rd	Whiten Creek	7 mi NW of Carnesville	70.79
CR 158	Middle Fork Broad River	3.7 mi S of Carnesville	71.89
CR 256/Wilkinson Rd	Crockett Creek	7.6 mi SW of Carnesville	72.29
CR 219/Hunters Creek Rd	Hunters Creek	4.6 mi NW of Carnesville	72.37
CR 64/McGee Rd	Bear Creek	2.6 mi SW of Lavonia	72.45
CR 74/Grady School Rd	Unawatti Creek	3 mi SW of Lavonia	72.45
CR 159/Brays Lake Rd	Brays Lake Creek	4.3 mi S of Carnesville	72.45
CR 223/Brunette Rd	Whiten Creek	5.9 mi NW of Carnesville	72.45
CR 156/Hubbard Rd	Stephens Creek	1.5 mi S of Carnesville	72.97
SR 59	Little's Creek	8.2 mi SW of Carnesville	74.02
SR 403/I-85 NBL	Nails Creek	6.5 mi SW of Carnesville	74.63

Source: GDOT

Table 3.3.2.3
Franklin County Bridge Inventory
Sufficiency Rating > 75

Road	Feature	Location	Sufficiency Rating
SR 51	I-85	5 mi SW of Carnesville	75.00
CR 277/Alexander Rd	Blacks Creek	8 mi SW of Carnesville	75.10
SR 403/I-85 SBL	North Fork Broad River	5 mi SW of Lavonia	75.89
CR 121/Seven Forks Rd	Gum Log Creek	4.5 mi NW of Lavonia	76.78
SR 403/I-85 NBL	North Fork Broad River	5 mi SW of Lavonia	76.94
CR 236/Knox Crump Rd	Indian Creek	5.3 mi W of Carnesville	77.71
SR 8/US 29	Broad River	3 mi SW of Franklin Springs	79.16
SR 403/I-85 SBL	Indian Creek	3.5 mi SW of Carnesville	79.65
CR 119	Gum Log Creek	4.5 mi NW of Lavonia	80.78
CR 107/Fagan Rd	Clarks Creek	5.4 mi NW of Lavonia	81.64
CR 299/Dawkins Rd	Rice Creek	1.3 mi N of Franklin Springs	81.65
CR 108/Henry Creek Rd	Clarks Creek	5.3 mi NW of Lavonia	81.68
SR 59	Turkey Creek	6.2 mi SW of Lavonia	81.73
SR 59	Crocket Creek	7.5 mi SW of Carnesville	82.30
CR 171/Bond Bridge Rd	Broad River Trib.	2 mi SW of Franklin Springs	82.37
CR 118/Davis School Rd	Crawford Creek	3.3 mi NW of Lavonia	82.41
CR 34/Cawthon/Davis Rd	Double Branch	1.6 mi N of Canon	82.58
CR 74/Grady School Rd	Unawatti Creek Trib.	3.4 mi SW of Lavonia	82.58
CR 158/Harrison Bridge Rd	Brays Lake Creek	3.6 mi S of Carnesville	82.59
SR 59	Indian Creek	3 mi SW of Carnesville	82.64
CR 381	Double Branch	1.9 mi NW of Canon	82.67
CR 58/Turkey Creek Rd	Turkey Creek	2.5 mi NE of Carnesville	82.72
CR 190/Akins Rd	Stephens Creek	2.3 mi NW of Carnesville	82.72
CR 384/Stone Bridge Rd	Unawatti Creek Trib.	4 mi SW of Lavonia	82.72
SR 403/I-85 NBL	Middle Fork Broad River	2.2 mi SW of Carnesville	83.10
SR 403/I-85 SBL	Middle Fork Broad River	2.2 mi SW of Carnesville	83.10
SR 320	I-85	1.3 mi NW of Carnesville	84.50
SR 106	I-85	1.6 mi N of Carnesville	86.50
SR 403/I-85 SBL	Nails Creek	6.5 mi SW of Carnesville	87.23
CR 171/Bond Bridge Rd	Broad River	1.8 mi E of Franklin Springs	88.07
CR 121/Seven Forks Rd	Crawford Creek	2.9 mi NW of Lavonia	88.74
SR 403/I-85 NBL	Stephens Creek	1.2 mi NW of Carnesville	89.27
CR 238/McFarlin Rd	Middle Fork Broad River	6.6 mi NW of Carnesville	90.25
CR 196/Goolsby Rd	Middle Fork Broad River	3 mi NW of Carnesville	90.26
SR 403/I-85 SBL	Stephens Creek	1.2 mi NW of Carnesville	90.71
SR 59	Uniwatti Creek Trib.	2.7 mi SW of Lavonia	92.30
SR 403/I-85	Little's Creek	8.5 mi SW of Carnesville	95.01
SR 403/I-85	Crocket Creek	7.7 mi SW of Carnesville	95.01

Road	Feature	Location	Sufficiency Rating
SR 403/I-85	Turkey Creek Trib.	2.4 mi N of Carnesville	95.13
SR 59	North Fork Broad River	5.2 mi SW of Lavonia	95.27
SR 403/I-85 NBL	Indian Creek	3.5 mi SW of Carnesville	95.32
CR 240/Williams Rd	Middle Fork Broad River	7.4mi NW of Carnesville	96.78
CR 151/Dolly Phillips Rd	Stephens Creek	5.8 mi SW of Canon	98.95
SR 51	Nails Creek Trib.	8.2 mi W of Carnesville	99.00
SR 320	Hunters Creek	4 mi NW of Carnesville	99.43
CR 2/Dovehill Rd	Broad River Trib.	2 mi S of Franklin Spring	99.78
CR 66/Allen Farm Rd	Bear Creek	1.3 mi SW of Lavonia	99.78
SR 145	North Fork Broad River	7 mi NW of Lavonia	99.86
SR 327	Double Branch	1.7 mi N of JCT SR 51	99.89
SR 327	Rice Creek	1.1 mi NW of Franklin Springs	99.93
CR 191/Goalsby Bridge Rd	Stephens Creek Trib.	1.5 mi NW of Carnesville	99.97
CR 118/Newtown Rd	Little Crawford Creek	3.2 mi NW of Lavonia	99.98

Source: GDOT

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. However, there are forty-three (43) bridges that have a sufficiency rating below 75 and should be considered candidates for maintenance and rehabilitation.

3.3.3 Jackson County

The study area was reviewed to identify all bridges within Jackson County and document a sufficiency rating. One Hundred Seventeen (117) bridges currently exist within the County. Tables 3.3.3.1 – 3.3.3.3 displays the collected information for all of the bridges in Jackson County.

Table 3.3.3
Jackson County Bridge Inventory
Sufficiency Rating < 65

Road	Feature	Location	Sufficiency Rating
CR 143/Galilee Church Rd	Middle Oconee River	3.7 mi SW of Jefferson	20.11
CR 367/Whites Bottom Rd	Walnut Creek	2.5 mi NE of Braselton	21.73
CR 86/Jefferson River Rd	Curry Creek	3.6 mi E of Arcade	25.99
CR 246/Lipscomb Lake Rd	Pond Fork Creek	3.5 mi N of Pendergrass	42.40
CR 424/Woods Bridge Rd	North Oconee River	3.5 mi W of Commerce	45.90
CR 89/Chandler Bridge Rd	North Oconee River	1.9 mi SW of Center	47.31
CS 802/Kissam Rd	Curry Creek	In City of Jefferson	47.52
CR 217/O. Pendergrass Rd	Middle Oconee River	3.2 mi SE of Pendergrass	47.65
CR 254/Deadwyler Rd	North Oconee River	8.8 mi NW of Jefferson	47.69
CR 426/Wayne Poultry Rd	Allen Creek	0.7 mi N of Pendergrass	48.95
CR 432/New Kings Br Rd	North Oconee River	7.3 mi SE of Jefferson	53.09
SR 15/SR 15 ALT-SR 82*	Curry Creek	In Jefferson	53.51
CR 62/Smith Overhead Rd	Southern Railroad	1.5 mi N of Nicholson	53.64
CR 68/Sandford Rd	Sandy Creek	2.6 mi SE of Nicholson	55.69
SR 334	Sandy Creek	11.5 mi SE of Jefferson	56.60
CR 426/Wayne Poultry Rd	Pond Fork Creek	1.6 mi NE of Pendergrass	58.22
CR 229/Possum Creek Rd	I-85 (SR 403)	4.5 mi NW of Jefferson	58.70
CR 248/Harmony Church Rd	E. Fork Pond Fork Creek	4.2 mi NE of Talmo	61.60
CR 266/Diamond Hill Ch Rd	North Oconee River	7 mi NE of Pendergrass	61.68
SR 82/SR 82 SPUR	North Oconee River	6.8 mi N of Jefferson	63.09
SR 332	I-85 (SR 403)	2.2 mi S of Pendergrass	63.26
SR 332	Walnut Creek Overflow	1.5 mi S of Pendergrass	63.62
SR 332	Walnut Creek	1.45 mi S of Pendergrass	63.87
CR 250/Plainview Rd	I-85 (SR 403)	5.6 mi N of Jefferson	63.93
SR 60	Walnut Creek	3 mi SW of Pendergrass	64.21

Source: GDOT
* These bridges are currently part of the 2004 – 2006 STIP

Table 3.3.3.2
Jackson County Bridge Inventory
Sufficiency Rating > 65 & < 75

Road	Feature	Location	Sufficiency Rating
SR 11	Middle Oconee River	2.5 mi SW of Jefferson	65.89
CR 422/Cooper Farm Rd	Sandy Creek	2.7 mi SE of Nicholson	66.60
CR 130/Lebanon Church Rd	Middle Oconee River Trib.	3 mi S of Arcade	67.12
SR 403/I-85 NBL	CR 296 Ridgeway Church	3.3 mi N of Commerce	67.72
CR 261/Dixon Bridge Rd	North Oconee River	8.3 mi NW of Jefferson	68.89
CR 568/FAS 2918	Middle Oconee River	5.4 mi S of Jefferson	70.70
SR 403/I-85 SBL	Walnut Creek	1.7 mi SE of Pendergrass	71.19
CR 177/Liberty Church Rd	I-85 (SR 403)	0.9 mi W of Braselton	71.79
SR 403/I-85 SBL	CR 296 Ridgeway Church	3.3 mi N of Commerce	72.77
CR 253/Chandler Cemetery Rd	North Oconee River	7.9 mi N of Jefferson	73.65
SR 11/US 129*	Allen Creek	0.5 mi N of Talmo	73.91

Source: GDOT

Table 3.3.3.3
Jackson County Bridge Inventory
Sufficiency Rating > 75

Road	Feature	Location	Sufficiency Rating
SR 11/US 129	Holders Creek	4.1 mi NW of Jefferson	76.94
CR 433/New Cut Rd	Walnut Creek	2.6 mi N of Braselton	77.14
CR 130/Lebanon Church Rd	Middle Oconee River Trib.	5 mi SE of Arcade	78.72
SR 11	Mulberry River Trib.	6.3 mi SW of Jefferson	78.86
SR 15/SR 15 ALT	North Oconee River	5.7 mi NE of Jefferson	79.03
SR 11/US 129	Middle Oconee River	1.5 mi SE of Pendergrass	80.56
SR 403/I-85 NBL	Walnut Creek	1.7 mi SE of Pendergrass	80.56
CR 35/Cabin Creek Rd	North Oconee River Trib.	6.5 mi E of Jefferson	80.94
CR 296/Ridgeway Church Rd	Hills Creek	3.8 mi NW of Commerce	81.07
SR 60	I-85 (SR 403)	3 mi NE of Braselton	81.20
CR 229/Possum Creek Rd	Opossum Creek	2.3 mi E of Pendergrass	81.21
CR 81/Brockton Loop Rd	Little Curry Creek	3 mi SW of Nicholson	81.29
CR 363/Lords Mill Rd	Gravelly Creek	3.8 mi NW of Commerce	81.47
CR 139/Savage Rd	Big Bear Creek Reservoir	6 mi S of Arcade	81.93
SR 403/I-85 NBL	Middle Oconee River	1.9 mi SE of Pendergrass	83.39
SR 403/I-85 SBL	Middle Oconee River	1.9 mi SE of Pendergrass	83.39
SR 403/I-85 NBL	CSX Railroad	1.8 mi SE of Pendergrass	83.69
SR 403/I-85 SBL	CSX Railroad	1.8 mi SE of Pendergrass	83.69
SR 82/SR 82 SPUR	I-85 (SR 403)	6.3 mi N of Jefferson	83.78

Road	Feature	Location	Sufficiency Rating
SR 403/I-85	Walnut Creek Trib.	2.5 mi SW of Pendergrass	85.00
SR 403/I-85	Gravelly Creek	3.9 mi NW of Commerce	85.00
SR 346	Pond Fork Creek	3.2 mi N of Pendergrass	88.06
SR 334	Sandy Creek	7 mi SE of Commerce	88.55
SR 346	Allen Creek Trib.	1.2 mi NE of Talmo	88.74
CR 304/W.E. King Rd	Beaver Dam Creek	2.4 mi NE of Commerce	89.18
SR 403/I-85 SBL	North Oconee River	4.4 mi NW of Commerce	89.38
CR 185/Davenport Rd	Lott Creek	2.3 mi N of Braselton	89.47
CR 253/Chandler Cemetery Rd	North Oconee River Trib.	6.7 mi N of Jefferson	90.43
CR 156/Old Winder-Jeff Rd	Mulberry River Trib.	6 mi SW of Jefferson	90.47
CR 200/Fairview Rd	Walnut Creek Trib.	3 mi W of Pendergrass	90.47
CR 250/Plainview Rd	North Oconee River Trib.	6.2 mi NE of Pendergrass	90.82
CR 254/Deadwyler Rd	Chandler Creek	9 mi N of Jefferson	90.93
SR 11	Mulberry River Trib.	5.1 mi SW of Jefferson	91.12
SR 11	Buffalo Creek	3.5 mi SW of Jefferson	91.12
CR 168/Jackson Trail Rd	Indian Creek	2.2 mi SE of Hoschton	91.25
CR 32/Sheep Pasture Rd	Borders Creek	4.5 mi SW of Commerce	91.32
SR 403/I-85 NBL	North Oconee River	4.4 mi NW of Commerce	91.34
CR 266/Diamond Hill Ch Rd	Chandler Creek	8.7 mi NE of Pendergrass	91.42
SR 335	North Oconee River Trib.	6.4 mi E of Jefferson	91.71
SR 335	North Oconee River Trib.	6.8 mi E of Jefferson	91.71
CR 361/Jackson Trail Rd	Mulberry River Trib.	5 mi SE of Hoschton	92.01
CR 254/Holly Springs Rd	North Oconee River Trib.	8.9 mi N of Jefferson	92.02
SR 326	Beaver Dam Creek	1.5 mi NE of Commerce	92.03
CR 329/W.L. Williams Rd	Sandy Creek	5.3 mi SE of Commerce	92.13
CR 422/Cooper Farm Rd	Little Sandy Creek	3.8 mi SE of Nicholson	92.13
CR 68/Sandford Rd	Little Sandy Creek	4 mi SE of Nicholson	92.18
CR 204/Mt Creek Church Rd	Mountain Creek	2.2 mi NW of Pendergrass	92.18
CR 125/Carruth Rd	Middle Oconee River Trib.	1.6 mi SW of Arcade	92.26
CR 239/Legg Rd	Curry Creek	3.3 mi N of Jefferson	92.32
CR 169/Indian Creek Rd	Indian Creek Trib.	1.5 mi E of Hoschton	92.46
CR 428/Apple Valley Rd	Parks Creek	3.7 mi NW of Nicholson	92.47
CR 427/Hoods Mill Rd	North Oconee River	4.4 mi SW of Commerce	94.42
SR 15/US 441	Beaver Dam Creek	1 mi NE of Commerce	95.68
SR 15/US 441	Beaver Dam Creek Trib.	1 mi E of Commerce	96.83
SR 98	I-85 (SR 403)	3.3 mi NW of Commerce	97.49
SR 330	Middle Oconee River	9.2 mi SE of Jefferson	98.04
SR 335	North Oconee River	5.7 mi E of Jefferson	98.12
SR 15/SR 15 ALT	Borders Creek	2.1 mi SW of Commerce	98.36
CR 423/Tallasee Rd	Middle Oconee River Trib.	1 mi SE of Attaca	98.57
CR 121/Holiday Cemetery Rd	Redstone Creek	3.4 mi SE of Arcade	98.66
CR 425/Cook Rd	Mountain Creek	0.8 mi SW of Pendergrass	98.66

Road	Feature	Location	Sufficiency Rating
SR 15/SR 15 ALT	Parks Creek	4 mi NE of Jefferson	98.67
CR 330/A.C. Smith Rd	Sandy Creek	3.5 mi NE of Nicholson	98.83
CR 421/Bill Watkins Rd	Indian Creek	3 mi SE of Hoschton	98.83
CR 187/Pocket Rd	Walnut Creek	3.9 mi NE of Braselton	98.98
CR 86/Jefferson River Rd	Crooked Creek	2.3 mi SW of Center	99.49
CR 130/Lebanon Church Rd	Redstone Creek	4 mi SE of Arcade	99.56
CR 47/Sandy Creek Rd	Sandy Creek	3.3 mi SE of Commerce	99.61
CR 150/Creek Nation Rd	Dosters Creek	5.2 mi W of Jefferson	99.61
CR 136/Providence Rd	Big Bear Creek	6 mi S of Arcade	99.72
CR 29/W.O. Smith Rd	Parks Creek	4.6 mi NE of Jefferson	99.78
CR 33/Trayham Rd	Borders Creek Trib.	2.1 mi SW of Commerce	99.78
CR 167/Tapp Wood Rd	Indian Creek	4 mi SW of Hoschton	99.78
CR 269/Diamon Hill Rd	Chandler Creek	8.5 mi NE of Talmo	99.78
SR 332	Indian Creek	2 mi E of Hoschton	99.79
CR 184/Cooper Br Rd	Walnut Creek	4 mi N of Braselton	99.95
CR 65/Tal Phillips Rd	Hardeman Creek	2.5 mi NE of Nicholson	99.96
CR 111/Cane Creek Rd	Crooked Creek Trib.	2.5 mi SW of Center	99.96
SR 11/US 129	I-85 (SR 403)	2 mi SE of Pendergrass	100.00
SR 53	I-85 (SR 403)	0.7 mi N of Braselton	100.00
SR 82	I-85 (SR 403)	5 mi N of Jefferson	100.00

Source: GDOT

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. However, there are twenty-six (26) bridges that have a sufficiency rating below 75 and should be considered candidates for maintenance and rehabilitation.

3.4 Bicycle and Pedestrian Facilities

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.

Given the rural and small town nature of the majority of the study area, the limited bicycle and pedestrian transportation network is not unexpected. However, even in rural areas, there are places where measurable amounts of non-motorized (pedestrian and bicycle) transportation do happen and need to be accommodated. In this study area, those places include the historic downtown areas; concentrations of retail development; educational institutions, such as schools and colleges; and community facilities, such as libraries, government offices, and medical facilities. Some of the areas within the study

region that currently have pedestrian activity include the downtown areas of Lavonia, Commerce, Carnesville, Jefferson, Royston, Braselton, and Homer; the Jackson County High School area; and, the Banks Crossing (outlet mall area) near Commerce.

The current condition of the existing bicycle and pedestrian networks are characterized by as a partially developed network with varying level of maintenance. Some areas, notably Downtown Lavonia and Commerce, have significant networks of sidewalks that are maintained. However, other areas such as the downtown areas in Jefferson, Homer, and Carnesville have limited sidewalk networks that need improvement. There are also gaps in the networks at these locations. In some more recently developed areas, such as newer retail areas, and in some areas around schools, effective pedestrian networks are not in place.

According to the Governor's Office of Highway Safety (GOHS), in 2001, there were two reported pedestrian fatalities in Franklin County and one reported pedestrian fatality in Jackson County. A pedestrian fatality reported to the GOHS involves a crash between a pedestrian and a vehicle along the highway system. The overall reported pedestrian fatalities in the study area represent two percent (2%) of all reported pedestrian fatalities in the state.

One facility documented in the Georgia Department of Transportation Statewide Bicycle and Pedestrian Plan exists in the Tri-County area, State Bicycle Route 85 – the Savannah River route – runs on-road along SR 77 in eastern Franklin County near Lake Hartwell. Paved shoulders are provided for bike travel along this designated stretch of road.

While there is not a large demand for non-motorized transportation in the study area, there are concentrations of pedestrian and bicycle activities in certain places. These areas are found within the historic downtown areas, around recent retail developments, and around educational facilities. Even in areas where there is demand for non-motorized transportation, the existing facilities are at best adequate. For the most part, there are deficiencies which should be addressed to serve the public's needs for mobility and safety.

Public outreach identified bicycle and pedestrian enhancements as a desired quality of life improvement in selected areas including activity centers, schools, libraries and parks. Interest in these types of improvements was high enough that a bicycle and pedestrian working group was formed in Carnesville to identify and prioritize potential bicycle and pedestrian enhancements.

Based on the future land uses in the study area, 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 Tri-County area.

3.5 Existing Transit Programs and Services

Currently, only Jackson and Banks Counties have public transportation services. The services are provided with federal funds from the Federal Transit Administration (FTA Section 5311) and state funds administered through the Georgia Department of Transportation (GDOT). The dial-a-ride service is provided to customers who call and request transportation from a specific location to a specific place at a designated time. Requests for service are usually made at least 24 hours in advance. The services in both Jackson and Banks County are provided in vans. Specific information on the vehicle fleets, ridership levels, and unfunded transportation needs has been requested from both service providers. No conventional, fixed route, fixed schedule transit service is provided in the study area.

3.5.1 Banks County Transit

No conventional, fixed route, fixed schedule transit service is provided in the study area.

3.5.2 Franklin County Transit

The transit needs for Franklin County should be monitored and if warranted the services may be eligible for federal funds from the Federal Transit Administration (FTA Section 5311) and state funds administered through the Georgia Department of Transportation (GDOT).

3.5.3 Jackson County Transit

Public comments received through the study process indicated a desire for additional transit service throughout the Tri-County area. In particular was the desire for express transit service to Atlanta or other employment and activity centers including Athens and Gainesville.

3.6 Freight & Rail

There are currently several active rail lines within the study area. There are no currently active rail yards in the study area, though some sidings are provided to allow businesses to access the main line railroads. Three railroads operate within the study area providing four different lines. The information presented below comes from either the GDOT Office of Intermodal Programs, particularly the 1998 (the most recent) Rail Freight Plan, and the Georgia Geographic Information System (GIS) Clearinghouse.

Between 2000 and 2002, there were five incidents reported to the Federal Railroad Administration (FRA) on rail facilities located in the study area. One involved Amtrak's Crescent Service in December 2001 in a highway/roadway crash along the Norfolk Southern (NS) mainline in Banks County. The other crashes occurred along the Lula Secondary. They included three incidents involving low speed collisions or derailments

along sidings in 2002 and one incident in 2000 with a low speed train at a highway/railroad grade crossing.

The major commodities transported by the railroads that originate or terminate within the study area are pulp, wood, paper products, clay, concrete, glass, and stone products. Jackson County is a source for these products while Franklin County is a terminating point for the clay, concrete, glass, and stone products. Overall, the 1998 State Freight Plan predicts a 1.3% annual growth rate for concrete and glass products and an annual growth rate of 1.6% for pulp and paper-related products.

Rail traffic is an important element in the industrial base of the study area. Care should be taken to make sure that any increases in rail traffic does not adversely impact commercial, residential, and historic areas. Special attention should also be paid to managing the impacts of freight traffic on the other travel modes in the study area so that the rail lines continue to be a valuable transportation asset for the study area.

3.6.1 Banks County Freight & Rail

There are currently two active rail lines within Banks County

1. The Norfolk-Southern Main Line of the Piedmont Division runs along the northern border of Banks County and roughly defines the border between Banks and Habersham Counties. The rail line splits the cities of Baldwin and Alto. This line is the main freight line between Atlanta and Washington D.C. and consequently carries a numerous trains. This line carries between 27 and 30 million gross ton miles/mile (MGTM/M) annually. Amtrak also operates one train in each direction daily along this line, but Amtrak has no stops within the study area. Additionally, this line is part of the proposed route for a train carrying nuclear waste to Yucca Mountain in Nevada.

2. The Norfolk-Southern Lula Secondary Line runs through Banks and Jackson Counties. The line forms part of the western border of Banks County and serves Maysville, Commerce, and Nicholson and carries 1.5 MGTM/M annually. This line roughly parallels the border between Jackson and Banks Counties, then US 441 through Jackson County.

3.6.2 Franklin County Freight & Rail

There is currently one active rail line within Franklin County, the Hartwell Short Line. The Hartwell Short Line operates through eastern Franklin County and stretches between Toccoa and Elberton. Roughly paralleling SR 17, the line serves Lavonia, Canon, and Royston. According to the 1998 Georgia Rail Freight Plan, this line carried 4,289 carloads annually. This line saw extraordinary growth in freight traffic between 1995 and 1998, increasing from less than 1,500 carloads to the current level.

Franklin County is a terminating point for the clay, concrete, glass, and stone products. Overall, the 1998 State Freight Plan predicts a 1.3% annual growth rate for concrete and class products and an annual growth rate of 1.6% for pulp and paper-related products.

3.6.3 Jackson County Freight & Rail

There are currently two active rail lines within Jackson County.

1. This CSX-operated secondary line, the Gainesville Midland Secondary, runs through Jackson County through Jefferson and Arcade, roughly paralleling US 129. This line carries 2.5 MGTM/M annually. In 2001, there were a maximum of six trains daily along this line, three in each direction.

2. The Norfolk-Southern Lula Secondary Line runs through Banks and Jackson Counties. The line forms part of the western border of Banks County and serves Maysville, Commerce, Nicholson, and Center and carries 1.5 MGTM/M annually. This line roughly parallels the border between Jackson and Banks Counties, then US 441 through Jackson County.

Because of the historical importance of the railroads, several of the municipalities in the study area developed along the railroad tracks and are bisected by the tracks. Particularly in Commerce and Maysville, the railroad tracks are bordered on both sides by roadways presenting several railroad grade crossings in heavily traveled areas. These railroad tracks also provide a barrier for pedestrians crossing from one side of town to the other, an important consideration in commercial business and historical areas, such as downtown Commerce.

3.7 Airports

There are currently two active airfields in the study area and one airport located on the edge of the study area. The Jackson County Airport is located off Airport Road and SR 82 northeast of Jefferson. The airport entrance is located on Airport Road. The Franklin-Hart County Airport is located west of Canon north of SR 51. Both of these airports are general aviation airports and do not receive regular scheduled commercial service. These airports serve personal, business, and other travel needs by smaller planes. Additionally, the Habersham County Airport is partially located in Banks County, but is accessed through Habersham County and the City of Cornelia. All of the following information about the airports in the study area is taken from the Georgia Department of Transportation's (GDOT) 2002 Aviation Directory or GDOT's General Aviation System Plan.

The nearest commercial aviation airport is Athens Ben Epps Airport which provides service to Charlotte and other regional locations. Additionally, Hartsfield-Jackson International Airport is located south of Downtown Atlanta via I-85. It is approximately 60 miles south, or about an hour's drive, of the study area. The Greenville-Spartanburg

(South Carolina) International Airport is located about an hour's drive north of the study area along I-85.

3.7.1 Banks County Airport

Located in Cornelia and mostly contained within Habersham County, the Habersham County Airport provides service for both Habersham and Banks Counties. There is one runway (Runway 6-24) with a length of 4,200 feet and a width of 75 feet. The airport is attended.

The Habersham County Airport is currently designated by GDOT as a Level II Airport – a business airport of local and regional impact. GDOT has established an objective of a minimum runway length of 5,000 feet for Level II airports. Currently, the Habersham County Airport does not meet this objective.

There are 50 aircraft based at the airport with an average of 49 operations per day. Approximately 61% of operations are local general aviation, 37% are transient general aviation, and 2% are military operations.

3.7.2 Franklin County Airport

The Franklin-Hart County Airport is located just west of Canon off CR 27, the Franklin-Hart County Airport provides air service for Franklin and Hart Counties. There is one runway (Runway 8-26) that is 3,500 feet long by 75 feet wide. According to the Franklin-Hart Airport Authority, the runway has recently been repaved and there are plans to extend the runway to 5,000 feet. There are hangars available for storage of aircraft. The airport is unattended.

The Franklin-Hart County Airport is currently designated by GDOT as a Level I Airport – Minimum Standard General Aviation Airport. Level I airports have an objective of having a 4,000-foot runway. The Franklin-Hart County Airport will meet this standard if the planned runway extension proceeds. Franklin County staff noted that the proposed runway extension must be factored in to the proposed alignments for an improved SR 17 through Franklin County.

There are 19 aircraft based at the airport with an average of 105 operations per week. Approximately 55% of operations are local general aviation and 45% are transient general aviation operations.

3.7.3 Jackson County Airport

The Jackson County Airport is located northeast of Jefferson between Commerce and Jefferson, the Jackson County Airport provides air service for Jackson County. There are two runways at the airport. Runway 16-34 is 4,106 feet long by 75 feet wide and

Runway 6-27 is 2,490 long by 60 feet wide. There are two hangars available for storage of aircraft and the runway is attended in daylight hours.

The Jackson County Airport is currently listed by GDOT's General Aviation System Plan as a Level II Airport – a business airport of local impact. GDOT has established an objective of a minimum runway length of 5,000 feet for Level II airports. Currently, the Jackson County Airport does not meet this objective; however, a 900-foot extension to Runway 16/34 has been identified by GDOT as a planned project and would make this runway 5000 feet long. Additional projects currently underway at the Jackson County Airport include a 52-space apron and renovations to the hangar. Runway 6-27 is constrained by the presence of SR 82 and Airport Road from expansion and is programmed for closure.

There are 65 aircraft based at the airport with an average of 29 operations per day. Approximately 57% of operations are local general aviation, 33% are transient general aviation, and 10% are military operations.

The land use surrounding the airport consists mainly of open fields with some residences. Two businesses are located near the airport. Just east of the airport and with access to the airport is a small flight school and across from the entrance to the airport is a car racing facility.

4.0 Planned State and Local Projects

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. Several studies and planning documents contribute to the community vision for the study area 0and these were reviewed as part of the existing conditions analysis. The following planning studies were reviewed:

- Banks County 2020 Comprehensive Plan;
- Jackson County 2020 Comprehensive Plan;
- Franklin County 2020 Comprehensive Plan;
- Georgia Department of Transportation Statewide Transportation Plan (SWTP);
- Georgia Department of Transportation State Transportation Improvement Program and Six Year Construction Work Program;
- Georgia Department of Transportation Statewide Bicycle and Pedestrian Plan (GABPP);
- I-85 Corridor Study; and,
- GDOT Statewide Interstate System Plan (On-Going Study).

In addition to current studies there are several planned and programmed improvements along roadways in all three Counties. Programmed improvements refer to projects included in the State Transportation Improvement Program (STIP) within the first three years of the planning horizon – 2004, 2005, and 2006 with a dedicated funding source established and programmed. Planned projects refer to projects included in the Six Year Construction Work Program (CWP) that extend beyond the first three years of the planning horizon and have no dedicated funding source identified. The following list highlights the general types of programmed improvements for the Tri-County area:

- Signal Improvements / Signal System / Traffic Management;
- Bridge Rehabilitation / Replacement;
- Railroad Crossing Safety Improvements;
- Bicycle and Pedestrian Enhancements;
- Passing Lanes; and,
- Roadway Widening.

The following is a list of the types of planned improvements for all three Counties:

- Bridge Rehabilitation / Replacement;
- Passing Lanes;
- Roadway Widening;
- Intersection Improvements; and,
- New Roadways.

The STIP and CWP were reviewed for projects within and impacting the study area and these projects are displayed in Tables 4.1 – 4.3. Additionally, these projects are mapped regionally in Figure 4.1 and for each County in Figures 4.2 - 4.4. Projects included in the STIP were carried forward and included in the existing conditions network for analysis of future (beyond 2006) transportation scenarios.

Table 4.1
2004 – 2006 STIP &
2004-2009 GDOT Construction Work Program
Banks County

Project Id	Prime Work Type	Description	STIP/ CWP	Program Date
0005921	Signals	Upgrade Traffic Signals @ 5 locations along SR 15 / US 441	STIP	2004-2006
142265-	Bridge Improvements	SR 51 @ Grove Creek 7 mi West of Homer	STIP	2004
142266-	Bridge Improvements	SR 105 @ Middle Fork Broad River 9.6 mi North of Homer	STIP	2004
110670-	Widening	I-85 from SR15/US 441 to SR 63	CWP	Long Range
110680-	Widening	I-85 from SR 63 to SR 51 (Franklin County)	CWP	Long Range
110660-	Widening	I-85 from SR 98 (Jackson County) to SR 15	CWP	Long Range

Source: GDOT Department of Planning: 2004 – 2006 STIP, 2004 – 2009 Construction Work Program

Table 4.2
2004 – 2006 STIP &
2004-2009 GDOT Construction Work Program
Franklin County

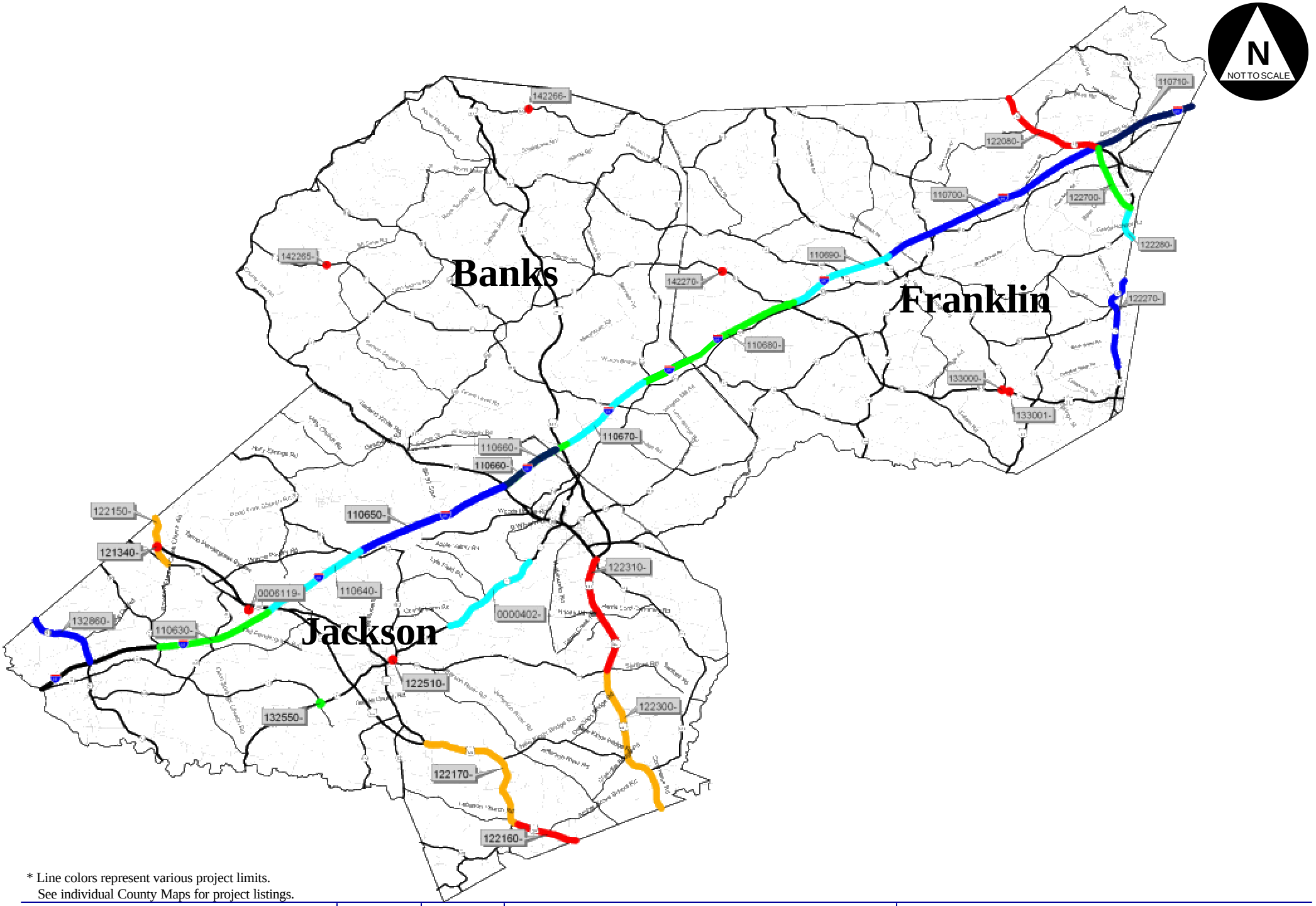
Project Id	Prime Work Type	Description	STIP/ CWP	Program Date
0003898	Landscaping	Landscaping on I-85 in Franklin and Hart Counties	STIP	2004-2006
122080-	Widening	SR 17 from SE CR 67 / Ross Plane N Lavonia to SE Stephens County Line	STIP	2004
133000-	Bridge Improvements	SR 51 @ Middle Fork Broad River 2.1 mi w of Franklin Springs	STIP	After 2006
133001-	Bridge Improvements	SR 145 @ North Fork Broad River 1.7 mi w of Franklin Springs	STIP	After 2006
142270-	Bridge Improvements	SR 51 @ Nails Creek 8.3 mi W of Carnesville	STIP	After 2006
110680-	Widening	I-85 from SR 63 (Banks County) to SR 51	CWP	Long Range
110690-	Widening	I-85 from SR 51 to SR 320	CWP	Long Range
110700-	Widening	I-85 from SR 320 to SR 17	CWP	Long Range
110710-	Widening	I-85 from SR 17 to South Carolina State Line	CWP	Long Range
122270-	Widening	SR 17 from Royston Bypass to N County Line of Hart	CWP	2005
122280-	Widening	SR 17 from N County Line Bowersville to McGee Road / CR 64 (Franklin)	CWP	2005
122700-	New Construction	Lavonia Bypass from McGee Road / CR 64 to I-85 NB Exit Ramp	CWP	2005

Source: GDOT Department of Planning: 2004 – 2006 STIP, 2004 – 2009 Construction Work Program

Table 4.3
2004 – 2006 STIP &
2004-2009 GDOT Construction Work Program
Jackson County

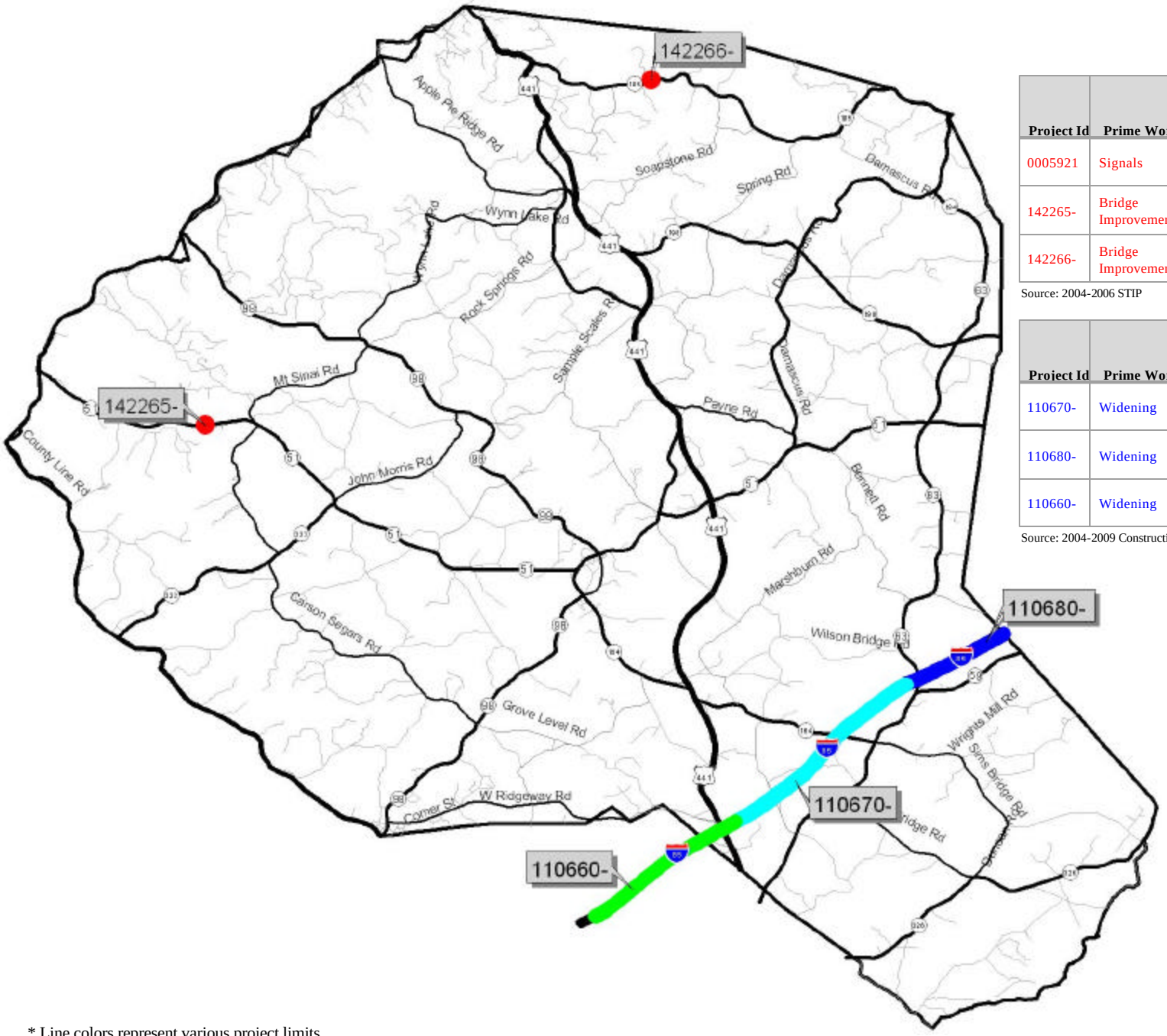
Project Id	Prime Work Type	Description	STIP/ CWP	Program Date
0005288	Signals	Upgrade Traffic Signals at Various Locations Along SR 11 Bus. & SR 98	STIP	2004-2006
0006119	Railroad Crossing	CR 213 / John Brooks Rd @CSX #848484L	STIP	2004-2006
121340-	Bridge Improvements	SR 11 / US 129 @ Allen Creek N of Talmo	STIP	2006
122150-	Widening	SR 15 Alt / US 129 from SR 332 @ Talmo (Jackson) to SR 323 (Hall)	STIP	After 2006
122160-	Widening	SR 11 / US 129 from Lavender Dr (Clarke) to SR 330 (Jackson)	STIP	2005
122170-	Widening	SR 15 Alt / US 129 from SR 330 to Jefferson Bypass @ CR 104	STIP	After 2006
122300-	Widening	SR 15 / US 441 from S of Clarke County Line to SR 335	STIP	2005
122310-	Widening	SR 15 / US 441 from SR 335 to Commerce Bypass	STIP	2005
122510-	Bridge Improvements	SR 15 Alt in Jefferson at Big Curry Creek	STIP	After 2006
0000402	Passing lanes	EB & WB Passing Lanes on SR 15 between Commerce & Jefferson	CWP	Long Range
110630-	Widening	I-85 from SR 60 to SR 11	CWP	Long Range
110640-	Widening	I-85 from SR 11 to SR 82	CWP	Long Range
110650-	Widening	I-85 from SR 82 to SR 98	CWP	Long Range
110660-	Widening	I-85 from SR 98 to SR 15 (Banks County)	CWP	Long Range
132860	Widening	SR 53 from I-85 (Jackson) to SR 211 / Tanners Mill (Hall)	CWP	2010
132550-	Intersection Improvement	SR 11 at SR 124 / Galilee Church Road	CWP	Long Range

Source: GDOT Department of Planning: 2004 – 2006 STIP, 2004 – 2009 Construction Work Program



* Line colors represent various project limits.
See individual County Maps for project listings.

TGI Engineers & Planners	Figure No: 4.1	Page No: 56	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***GDOT Planned and Programmed Projects Tri-County***



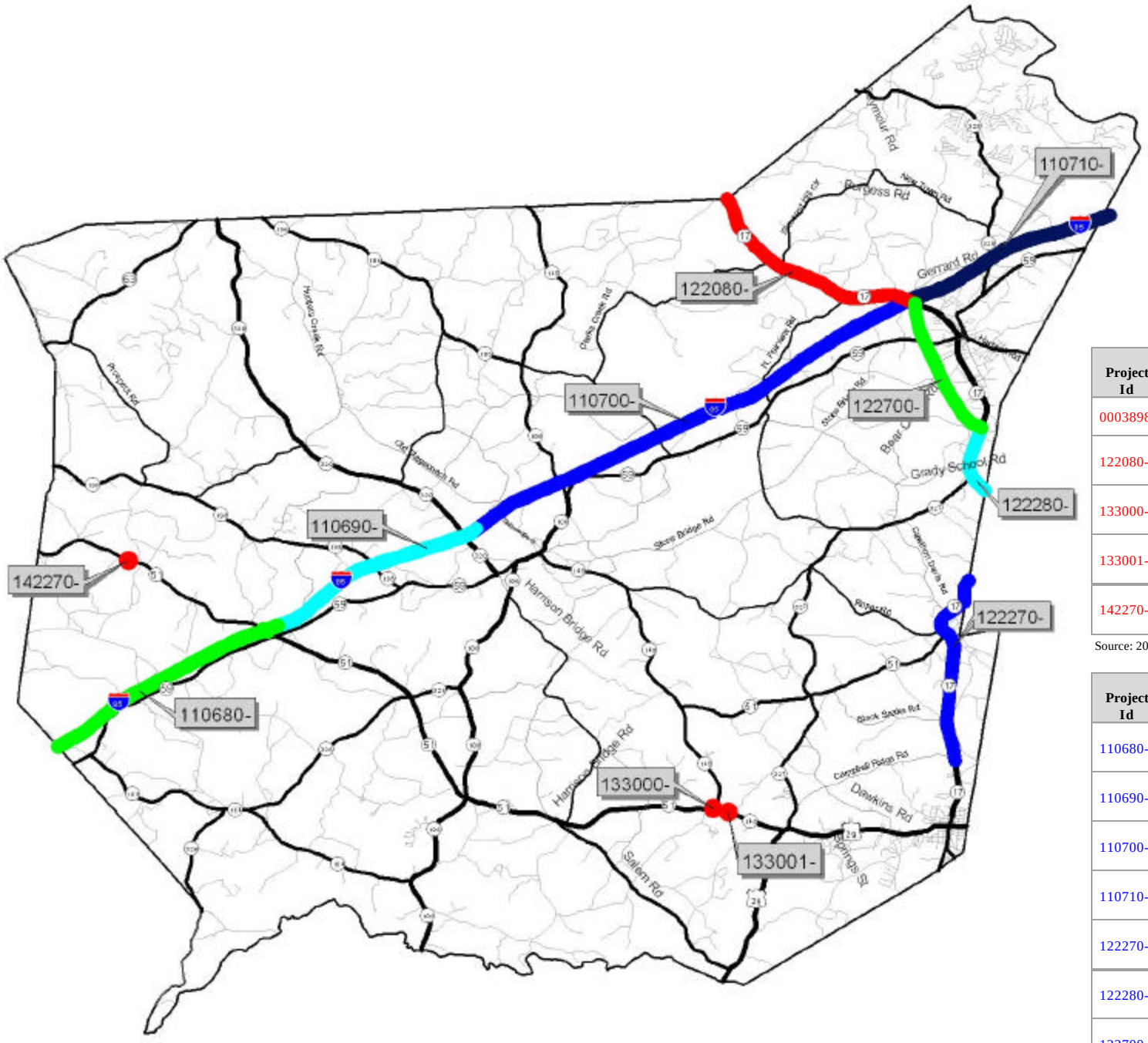
Project Id	Prime Work Type	Description	FY Program Date
0005921	Signals	Upgrade Traffic Signals @ 5 locations along SR 15 / US 441	2004-2006
142265-	Bridge Improvements	SR 51 @ Grove Creek 7 mi West of Homer	2004
142266-	Bridge Improvements	SR 105 @ Middle Fork Broad River 9.6 mi North of Homer	2004

Source: 2004-2006 STIP

Project Id	Prime Work Type	Description	FY Program Date
110670-	Widening	I-85 from SR15/US 441 to SR 63	Long Range
110680-	Widening	I-85 from SR 63 to SR 51 (Franklin County)	Long Range
110660-	Widening	I-85 from SR 98 (Jackson County) to SR 15	Long Range

Source: 2004-2009 Construction Work Program

* Line colors represent various project limits.



Project Id	Prime Work Type	Description	FY Program Date
0003898	Landscaping	Landscaping on I-85 in Franklin and Hart Counties	2004-2006
122080-	Widening	SR 17 from SE CR 67 / Ross Plane N Lavonia to SE Stephens County Line	2004
133000-	Bridge Improvements	SR 51 @ Middle Fork Broad River 2.1 mi W of Franklin Springs	After 2006
133001-	Bridge Improvements	SR 145 @ North Fork Broad River 1.7 mi W of Franklin Springs	After 2006
142270-	Bridge Improvements	SR 51 @ Nails Creek 8.3 mi W of Carnesville	After 2006

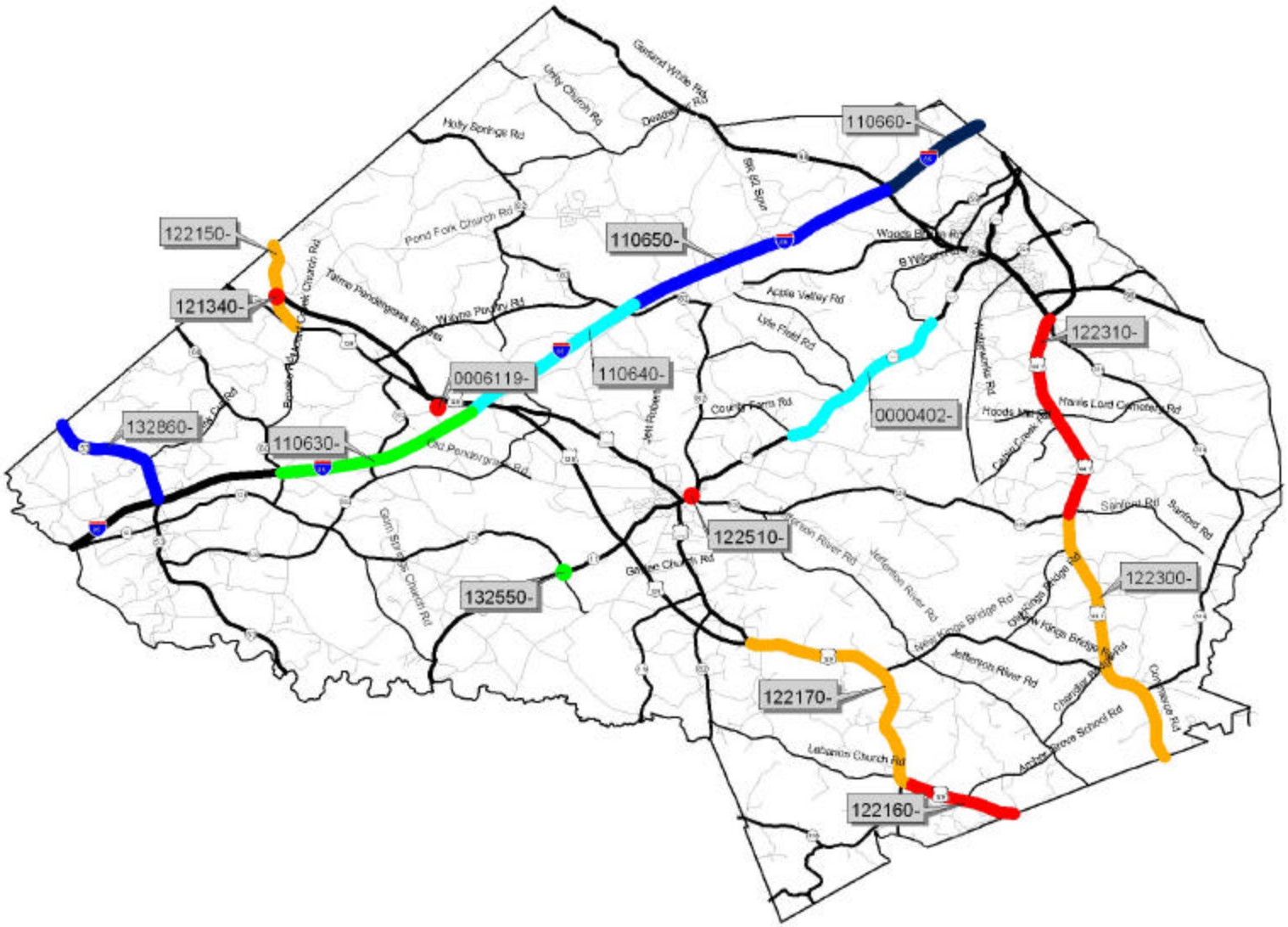
Source: 2004-2006 STIP

Project Id	Prime Work Type	Description	FY Program Date
110680-	Widening	I-85 from SR 63 (Banks County) to SR 51	Long Range
110690-	Widening	I-85 from SR 51 to SR 320	Long Range
110700-	Widening	I-85 from SR 320 to SR 17	Long Range
110710-	Widening	I-85 from SR 17 to South Carolina State Line	Long Range
122270-	Widening	SR 17 from Royston Bypass to Hart County Line	2005
122280-	Widening	SR 17 from N of Bowersville to McGee Rd/CR64	2005
122700-	New Construction	Lavonia Bypass from McGee Rd/CR 64 to NB Exit Ramp of I-85	2005

Source: 2004-2009 Construction Work Program

* Line colors represent various project limits.

GDOT Planned and Programmed Projects Franklin County



Project Id	Prime Work Type	Description	FY Program Date
0005288	Signals	Upgrade Traffic Signals at Various Locations Along SR 11 Bus. & SR 98	2004-2006
0006119	Railroad Crossing	CR 213 / John Brooks Rd @CSX #848484L	2004-2006
121340-	Bridge Improvements	SR 11 / US 129 @ Allen Creek N of Talmo	2006
122150-	Widening	SR 11 / US 129 from SR 332 @ Talmo (Jackson) to SR 323 (Hall)	After 2006
122160-	Widening	SR 15 / US 129 from Lavender Dr (Clarke) to SR 330 (Jackson)	2005
122170-	Widening	SR 15 Alt / US 129 from SR 330 to Jefferson Bypass @ CR 104	After 2006
122300-	Widening	SR 15 / US 441 from S of Clarke County Line to SR 335	2005
122310-	Widening	SR 15 / US 441 from SR 335 to Commerce Bypass	2005
122510-	Bridge Improvements	SR 15 Alt in Jefferson at Big Curry Creek	After 2006

Source: 2004-2006 STIP

Project Id	Prime Work Type	Description	FY Program Date
0000402	Passing Lanes	EB & WB Passing Lanes on SR 15 between Commerce & Jefferson	Long Range
110630-	Widening	I-85 from SR 60 to SR 11	Long Range
110640-	Widening	I-85 from SR 11 to SR 82	Long Range
110650-	Widening	I-85 from SR 82 to SR 98	Long Range
110660-	Widening	I-85 from SR 98 to SR 15 (Banks County)	Long Range
132860-	Widening	SR 53 from I-85 to SR 211 (Hall County)	2010
132550-	Intersection Improvements	SR 11 at SR 124	Long Range

Source: 2004-2009 Construction Work Program

* Line colors represent various project limits.

5.0 Development of Travel Demand Model

Travel Demand Modeling is the utilization of a computer software package to replicate the "real world" transportation system around us (roads, intersections, traffic control devices, congestion delay, use of transit systems, etc.). Once the computer model can accurately replicate the existing conditions of a study area, it can then be used to predict future travel patterns and demands based on changes in the transportation system (e.g. new roads, wider roads with more capacity, closed roads); changes in the land use (e.g. more residential development, a new industrial site, etc.); and changing demographics (more or less people in a specific area, access to a vehicle etc.).

Travel demand forecasting is as state-of-the-art analysis tool used in the transportation planning process. By simulating the current roadway conditions and the travel demand on those roadways, deficiencies in the system can be identified. It is also an important tool in planning future network enhancements and analyzing currently proposed projects.

Developing the travel demand model for each of the Counties was an integral part of developing the LRTP. The model was used to develop future year traffic forecasts, test various alternative networks and aid in the implementation of the LRTP. The County Models have the following main modules:

- Highway Network Module
- Trip Generation Module
- Trip Distribution Module
- Traffic Assignment Module

Descriptions of each module are presented in the *Model Technical Memorandum* (dated June, 2004). A brief summary can be found in the following sections.

5.1 Highway Netwo rk Setup

In addition to the existing model network, the highway network for each of the County Models relied on the street centerline file provided by GDOT. The roadway networks were reviewed and approved by GDOT. All roads with GDOT traffic count stations were included in each of the County Model highway networks.

Link attributes, such as functional class (a general designation of the type of traffic each street is intended to serve) and number of lanes, were obtained from the functional class system map and Road Characteristics (RC) file, both maintained by GDOT. Functional class is fundamental in the determination of other attributes, such as speed and capacity. Using the future land use map, seven area types are identified and coded as follows:

- High Density Urban
- High Density Urban Commercial

- Urban Residential
- Suburban Commercial
- Suburban Residential
- Exurban
- Rural

A graphical representation of each model highway network is presented on Figures 5.1.1, 5.1.2 and 5.2.3.

5.2 Trip Generation Module

Trip generation is the first step in the travel demand modeling process. This process is accomplished by establishing relationships between trips and socioeconomic variables. The number of trips that begin and end in each traffic analysis zone (TAZ) are estimated using cross-classification tables and/or regression methods. Cross classification tables used in the trip generation process were obtained from the Trip Generation Update Project. This project was conducted by the Georgia Department of Transportation (GDOT) in 1997.

Typically, three types of trips are included in travel demand model: (1) internal-internal (I-I) trips whose origin and destination are inside the study area boundary; (2) internal-external (I-E) trips that have exactly one trip end inside the study area; and (3) external-external (E-E) trips that have both trip ends outside of the study area. I-I trips follow the production and attraction logic of trip formulation, and are commonly grouped into several trip purposes. I-E and E-E trips are developed separately using a different methodology that is heavily dependent on traffic counts observed on the principal roads leading into and out of the model study area.

Seven trip purposes, as adopted by GDOT, were included in the trip generation process. These purposes are summarized below:

- **Home Based Work (HBW)**: all travel made for the purpose of work that begins or ends at the traveler's home.
- **Home Based Shopping (HBS)**: trips made for the purpose of shopping that begins or ends at the traveler's home.
- **Home Based Other (HBO)**: any trip made with one end at the home except those for the purpose of work or shopping.
- **Non-Home Based (NHB)**: any trip that neither begins or ends at home.
- **Internal-Internal Truck (IIT)**: internal trips made by commercial vehicles.
- **Internal-External Car (IEC)**: internal trips that begin or end outside the model area, excluding trucks.
- **Internal-External Truck (IET)**: internal truck trips that begin or end outside the model area.

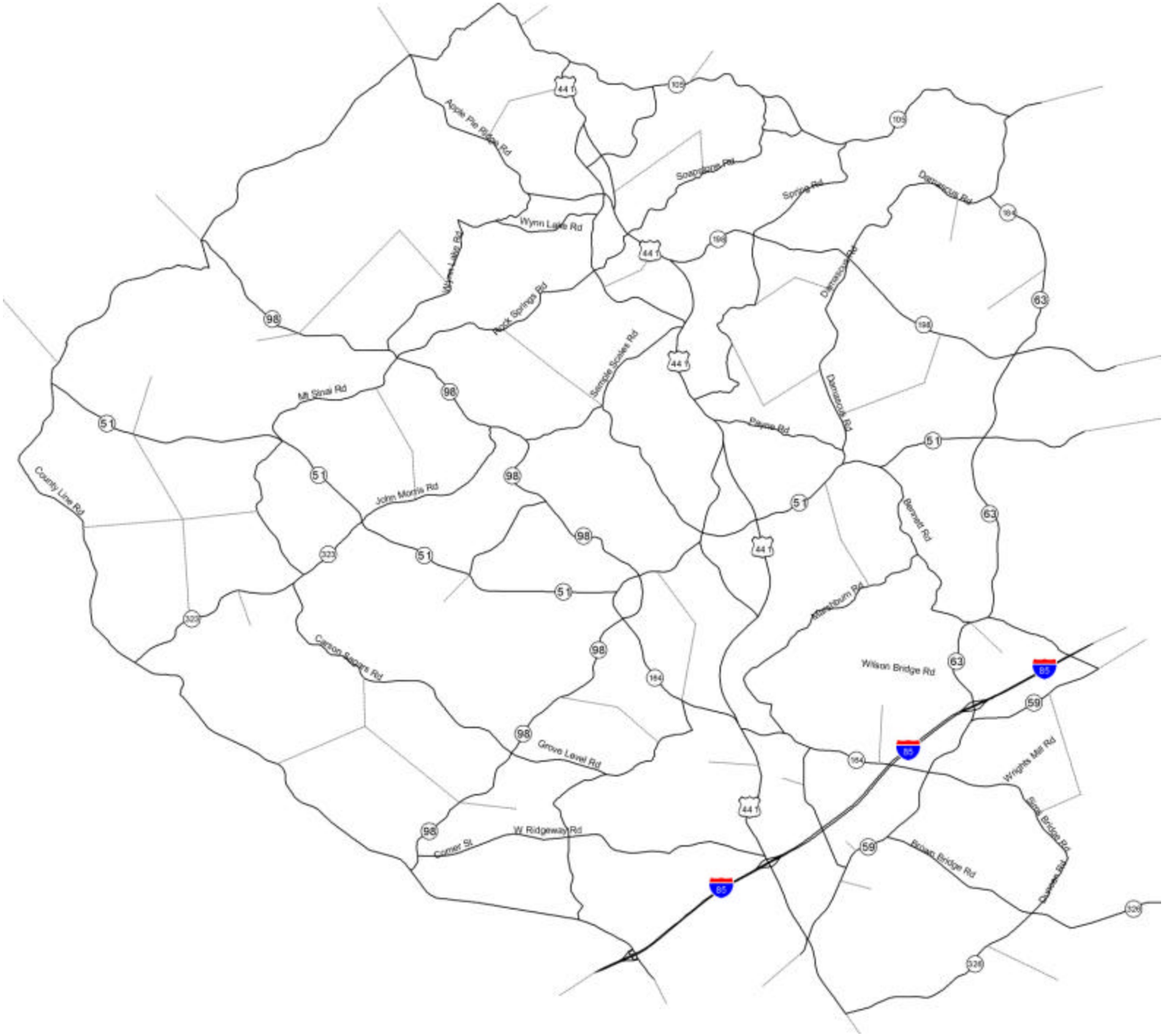
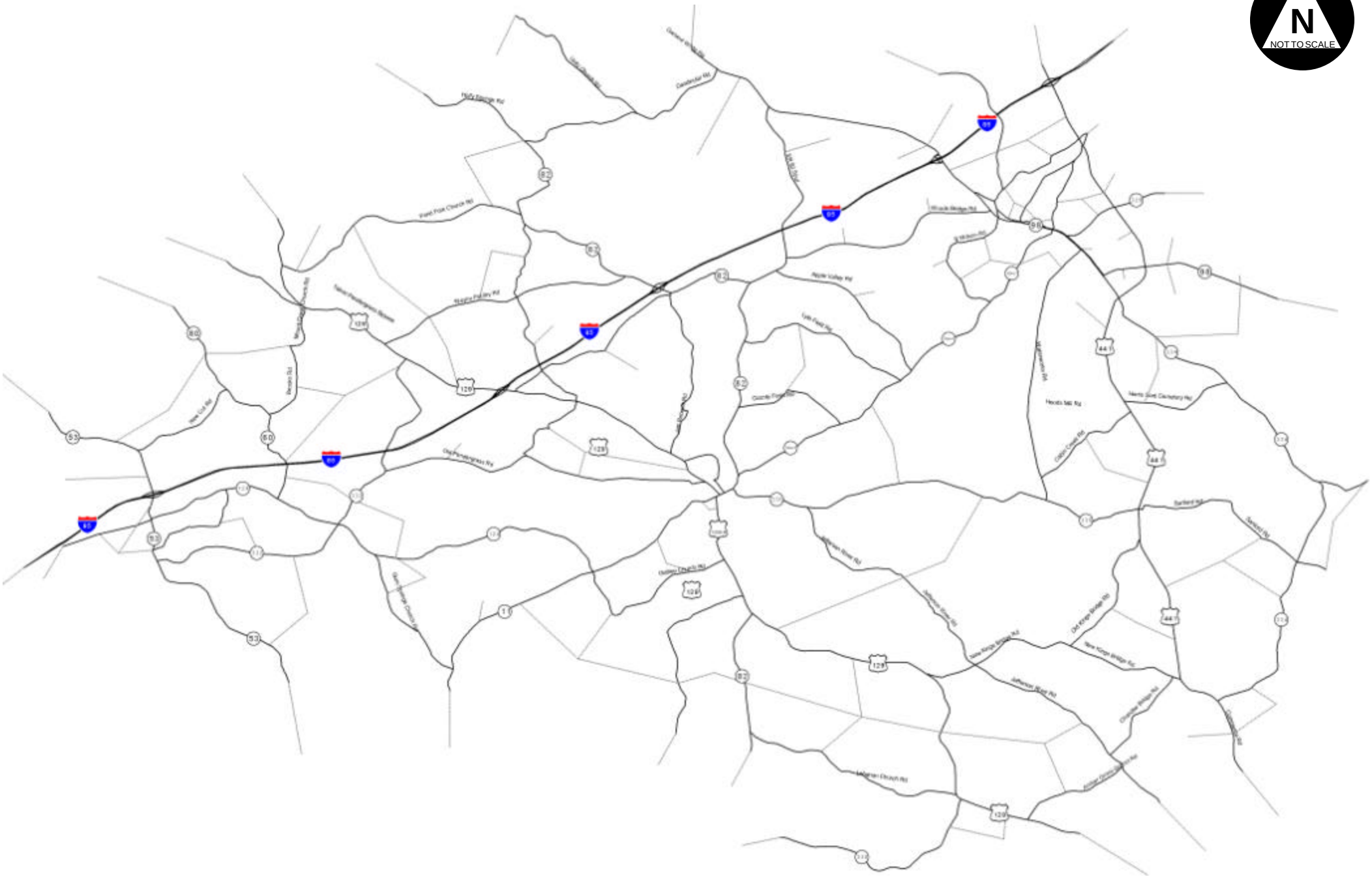


Figure No:	Page No:	Banks-Franklin-Jackson County Multimodal Transportation Study	*Highway Network Banks County*
5.1	62		

Engineers & Planners

Figure No:	Page No:		
5.1	63	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Highway Network Franklin County***

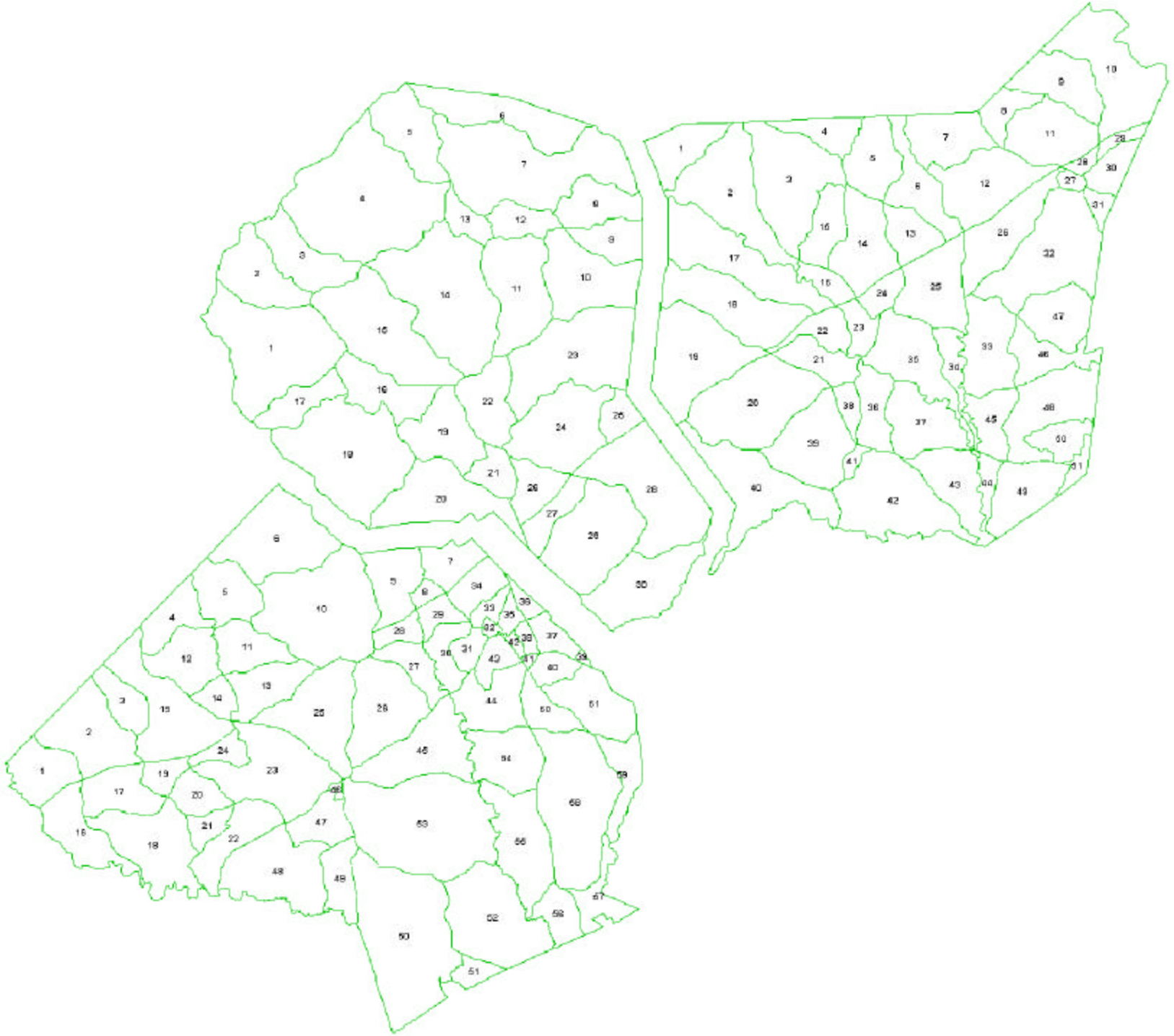


TEI Engineers & Planners	Figure No: 5.1	Page No: 64	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Highway Network Jackson County***

The TAZ boundaries were determined using natural boundaries and GDOT functionally classified roads. Census data and geography was also considered. The TAZ boundary maps are illustrated in Figure 5.2.

Socioeconomic data for all TAZs was developed in consent with GDOT and based on the 2000 census data. For each TAZ in the model, the following socioeconomic variables, standard to transportation modeling, were collected for use in the trip generation process:

- **Occupied Households** : the total number of occupied households in a given TAZ.
- **School Enrollment**: the total number of enrolled students in a given TAZ where the educational facility is located.
- **Retail Employment**: number of employees working for retail businesses in a given TAZ where the business is located.
- **Service Employment**: number of employees working for service based businesses in a given TAZ where the business is located.
- **Manufacture Employment**: number of employees working for manufacture based businesses in a given TAZ where the business is located.
- **Wholesale Employment**: number of employees working for wholesale-based businesses in a given TAZ where the business is located.
- **Total Employment**: the total number of individuals that are working in a given TAZ.
- **Total Population**: the total number of individuals that are residing in a given TAZ.
- **Acreage**: area of a given TAZ in acres.
- **Income:** median household income in a given TAZ in year 2000 dollars.



Engineers & Planners	Figure No: 5.2	Page No: 66	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***TAZ System & Boundaries Tri-County***

5.3 Trip Distribution Model

The trip distribution module allocates trips generated in one zone to all other zones in the study area. The gravity model is employed in the model stream to perform trip distribution. The Gravity Model states that the number of trips between two zones is directly proportional to the number of trip attractions generated by the zone of destination and inversely proportional to a function of travel time between the two zones. Mathematically, the gravity model is expressed as follows:

$$T_{ij} = P_i \left[\frac{A_j F_{ij}}{\sum_j A_j F_{ij}} \right]$$

where,

T_{ij} = number of trips that are produced in zone i and attracted to zone j;
P_i = total number of trips produced in zone i;
A_j = number of trips attracted to zone j; and
F_{ij} = friction factor, a value which is an inverse function of travel time.

The input for the gravity model consists of the productions and attractions from trip generation and a set of travel time impedance factors (friction factors). The friction factors are inversely related to the spatial separation of zones. As the travel time increases, the friction factor decreases.

5.4 Mode Split

Mode split is the determination of what mode of travel will be used to make trips between zones. The FHWA manual *Calibration and Adjustment of Systems Planning Models (FHWA-ED-90-015)*, acknowledges that in small or medium urban areas, transit patronage may be too insignificant to warrant an adjustment to highway volumes for transit trips. Since the transit portion of the trips in the Tri-County area is significantly smaller than the +/- 5% margin of error for the model calibration, the mode split step is eliminated from the four-step modeling process.

Since the model assumes that the automobile is the only mode, the full mode split process is simplified into a factoring calculation to convert person trips to vehicle trips. Occupancy rates were introduced to account for the ridesharing. Since I-E and E-E trips were calculated in terms of vehicle trips at their inception, no adjustments were made for these purposes.

5.5 Traffic Assignment

The last step in the modeling sequence is the assignment of the trip tables to logical routes in the highway network. Trip assignment for the model was accomplished using the equilibrium assignment technique. The traffic assignment algorithm is iterative, running through successive iterations until equilibrium occurs. Equilibrium occurs when no trip can be made on an alternate path without increasing the total travel time of all trips on the network.

The following steps were included in the traffic assignment process:

- Convert daily trips to AM, PM and off-peak trips;
- Apply Volume-Delay functions to calculate peak and off-peak travel time;
- Distribute the work trips using congested travel times, and distribute non-work trips using off-peak travel times estimated from the preliminary trip assignment process; and,
- Assign AM, PM and off-peak trips to the highway network following the peak path.

6.0 Assessment of Transportation Facilities

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

- Existing Roadway Operating Conditions;
- Future Roadway Operating Conditions;
- Safety Assessments;
- Bridge Inventory;
- Bicycle and Pedestrian Facilities;
- Public Transit;
- Freight
- Aviation Facilities; and,
- Public Comment.

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 Existing & Future Operating Conditions

The travel demand model was developed to assist in the evaluation of the existing and future travel conditions through the study area. More detailed information regarding the model and model development process is presented in the *Travel Demand Model Technical Memorandum* (dated June, 2004). 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 (2000) and future (2025) 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 for each type of facility. 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 future operating conditions scenarios for the Models were used to determine future deficient roadway segments. The scenarios were organized across the 2025 horizon year to facilitate the staging of recommended improvements. The following scenarios were analyzed for each County:

- 2007 Near Term
- 2012 Mid Term
- 2025 Long Term

The future operating conditions were analyzed using the existing plus committed network and future year socio-economic data. The committed projects were previously documented in Section 4.0 and included STIP projects. The best approach to determine deficient segments was to analyze the volume of traffic on the roadway segments compared to the actual capacity of those segments. The corresponding V/C ratios were assigned a LOS and all roads with an LOS D or worse for daily operating conditions and LOS E or worse for peak hour operating conditions were identified as deficient.

6.1.1 Banks County Existing (2000) Operating Conditions

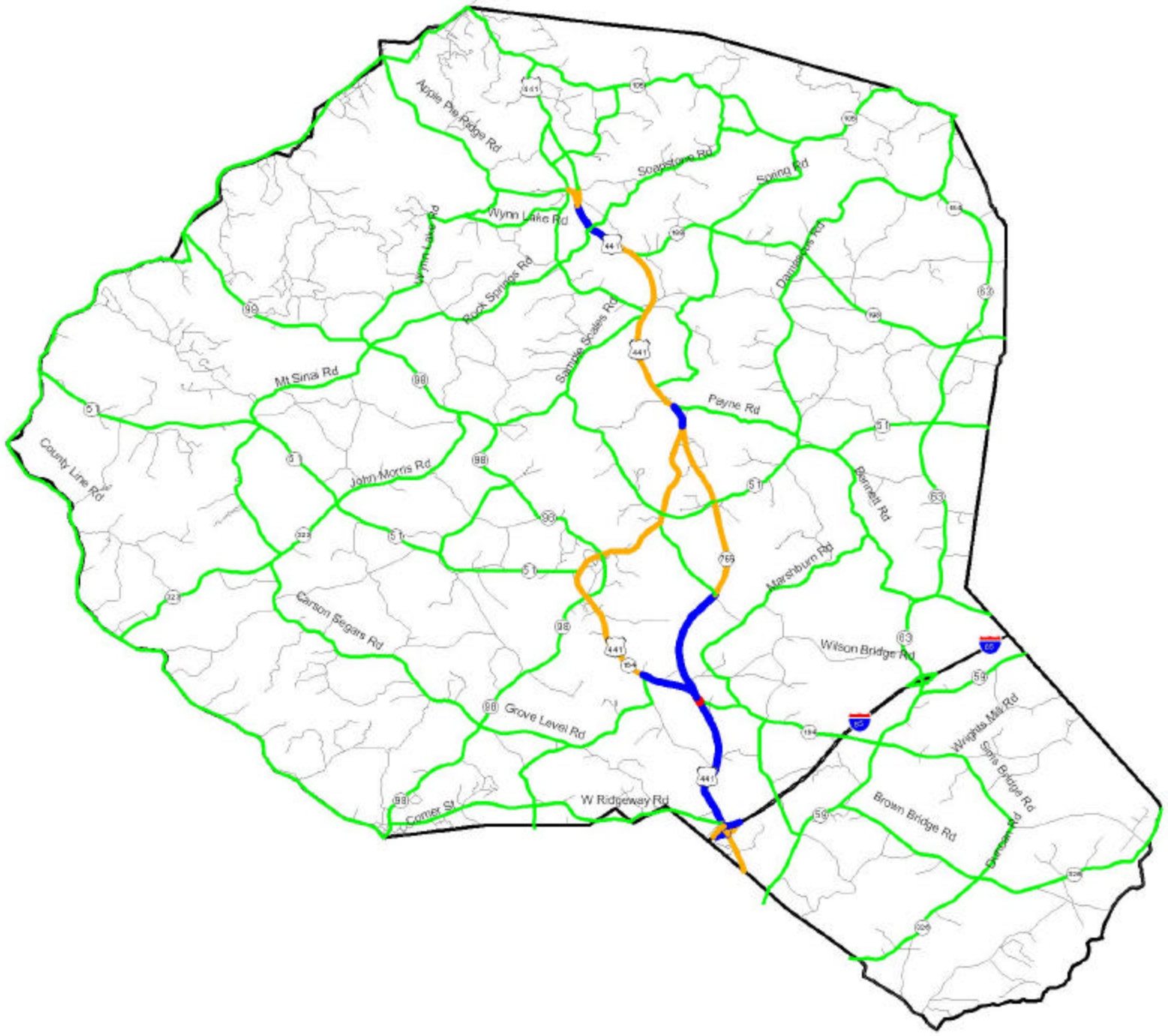
The existing conditions scenario for the Banks County Model was used to determine deficient roadway segments. The existing analysis shows that seven (7) roadway segments can be expected to operate below LOS E during the PM peak period. Of these seven (7) segments, four (4) can be expected to also operate below LOS E during the AM peak period. Twenty-three (23) minor segments can be expected to operate below LOS D under daily conditions.

Table 6.1.1 displays the deficient roadway segments with their LOS for AM peak, PM peak and daily operating conditions. Figure 6.1.1 presents the daily deficient segments.

Table 6.1.1
Existing (2000) Deficient Segments
Banks County

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
SR 164	US 441	SR 51	408	D	394	D	6,944	**D**
SR 164	SR 51	McCoy Bridge Rd	539	D	501	D	9,264	**D**
SR 164	McCoy Bridge Rd	SR 98	522	D	490	D	8,976	**D**
SR 164	SR 98 N	SR 51	524	D	506	D	9,190	**D**
SR 164	SR 51	SR 98 S	545	D	557	D	10,437	**D**
SR 164	SR 98	McDonald Circle	475	D	499	D	9,104	**D**
SR 164	McDonalds Circle	US 441	661	**E**	708	**E**	13,118	**E**
SR 198	Old US 441	US 441	376	C	408	D	8,037	**D**
US 441	SR 164	SR 51	333	C	510	D	9,367	**D**
US 441	SR 98	Moss Mill Rd	1,051	**E**	1,235	**E**	22,841	**E**
US 441	Moss Mill Rd	SR 198	789	D	988	**E**	18,935	**D**
US 441	SR 164	E Ridgeway Rd	850	D	1,048	**E**	19,658	**E**
US 441	SR 164 W	SR 164 E	974	**E**	1,229	**F**	22,598	**F**
US 441	McCoy Bridge Rd	SR 164	340	D	521	**E**	9,556	**E**
US 441	SR 51	McCoy Bridge Rd	328	C	504	D	9,254	**D**
US 441	I-85 NB Ramp	Jackson County	707	C	921	D	18,873	**D**
US 441	E Ridgeway Rd	I-85 SB Ramp	898	D	1,116	D	21,010	**D**
US 441	I-85 SB Ramp	I-85 NB Ramp	816	D	1,051	D	19,945	**D**
US 441	SR 198	Old US 441	693	D	870	D	16,758	**D**
US 441	Old US 441	Old Cornelia Rd	706	D	879	D	17,020	**D**
US 441	Old Cornelia Rd	Martin Rd	707	D	880	D	17,061	**D**
US 441	Martin Rd	Payne Rd	757	D	924	D	17,992	**D**
US 441	Payne Rd	SR 164	742	**E**	905	**E**	16,316	**E**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Banks County Travel Demand Model


N
NOT TO SCALE
Apple Pie Ridge Rd
Soapstone Rd
Spring Rd
Wynn Lake Rd
Rock Springs Rd
Stamps Scales Rd
Douglas Rd
Mt Sinai Rd
Payne Rd
County Line Rd
John Morris Rd
Barnett Rd
Marshburn Rd
Carson Segars Rd
Wilson Bridge Rd
Grove Level Rd
Wrights Mill Rd
Sipis Bridge Rd
W Ridgeway Rd
Brown Bridge Rd
Level of Service
LOS C and Better
LOS D
LOS E
LOS F
Roads
Interstate
Other Roads

6.1.1.1 Banks County Near Term (2008) Operating Conditions

The Near Term scenario was evaluated for 2008 to evaluate the traffic conditions with the existing plus committed (E+C) projects detailed in Section 4. The most significant improvement is the construction of the Homer Bypass. This four-lane facility will provided need relief to US 441. This scenario is beneficial in showing additional projects that should be considered in the near term to maintain safe and efficient roadways within the Counties.

The 2008 analysis shows that nine (9) roadway segments can be expected to operate below LOS E during the PM peak period. Of these nine (9) segments, two (2) can be expected to also operate below LOS E during the AM peak period. Seventeen (17) minor segments can be expected to operate below LOS D under daily conditions.

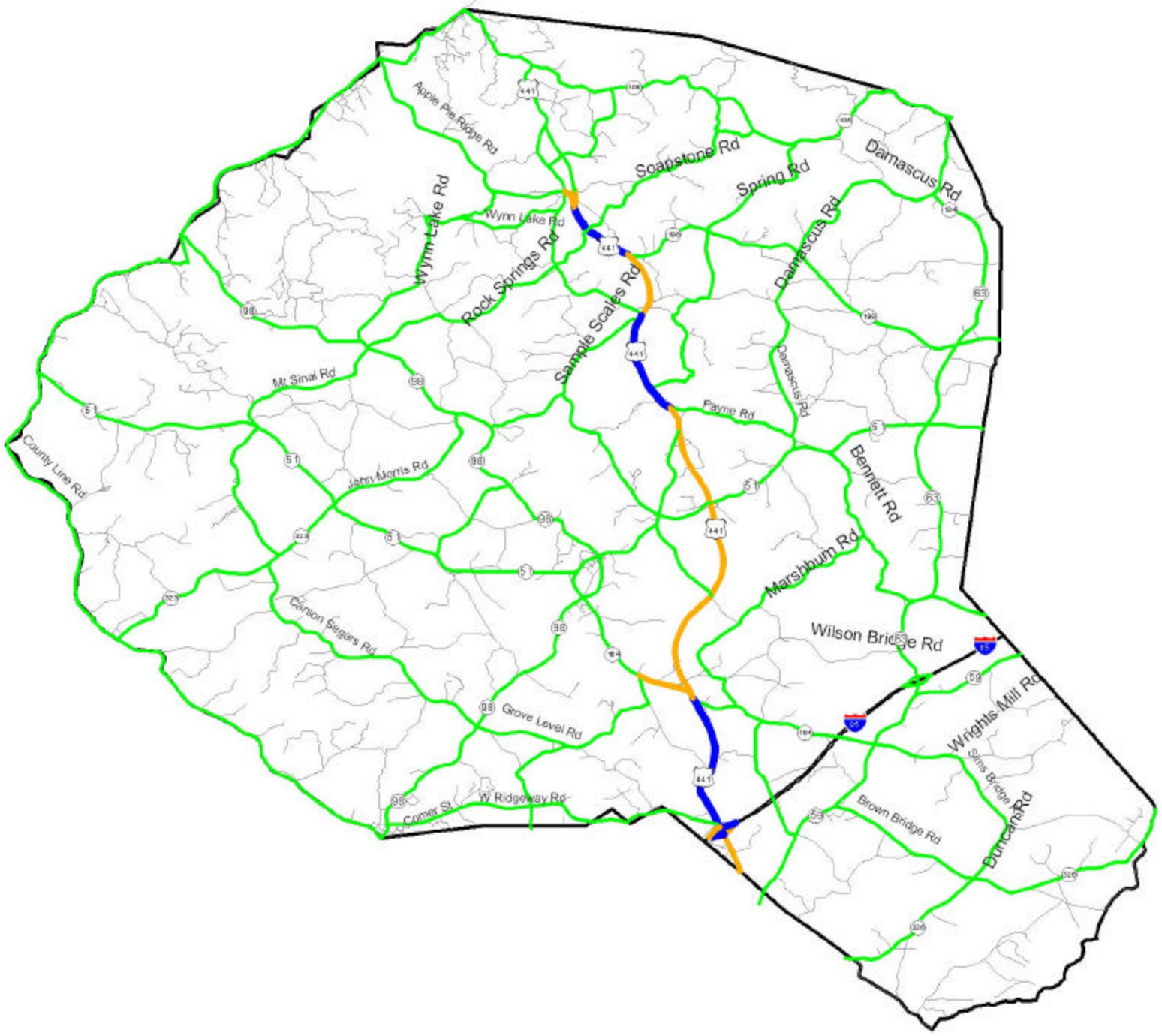
Table 6.1.1.1 displays the 2008 E+C roadway segments operating at an unacceptable LOS.

Table 6.1.1.1
2008 E+C Deficient Segments
Banks County

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
SR 164	McDonalds Circle	US 441	429	D	467	D	8,815	**D**
SR 198	Old US 441	US 441	422	D	462	D	8,843	**D**
US 441[3]	SR 164	SR 51	726	C	915	D	17,734	**D**
US 441	SR 98	Moss Mill Rd	1,145	**E**	1,368	**E**	25,103	**E**
US 441	Moss Mill Rd	SR 198	886	D	1,108	**E**	21,263	**E**
US 441	SR 164	E Ridgeway Rd	1,002	**E**	1,267	**E**	24,904	**E**
US 441	SR 164 W	SR 164 E	1,139	D	1,466	**E**	28,217	**E**
US 441[3]	McCoy Bridge Rd	SR 164	810	D	1,014	D	19,716	**D**
US 441[3]	SR 51	McCoy Bridge Rd	763	D	952	D	18,452	**D**
US 441	I-85 NB Ramp	Jackson County	851	D	1,107	D	22,665	**D**
US 441	E Ridgeway Rd	I-85 SB Ramp	1,058	D	1,328	**E**	26,215	**E**
US 441	I-85 SB Ramp	I-85 NB Ramp	945	D	1,214	D	24,433	**E**
US 441	SR 198	Old US 441	775	D	971	**E**	18,729	**D**
US 441	Old US 441	Old Cornelia Rd	789	D	981	**E**	18,953	**D**
US 441	Old Cornelia Rd	Martin Rd	791	D	983	**E**	18,998	**D**
US 441	Martin Rd	Payne Rd	846	D	1,033	**E**	20,064	**E**
US 441	Payne Rd	SR 164	827	D	1,009	D	19,608	**D**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Banks County Model
(3) – Facility received capacity improvements since 2000.

Figure 6.1.1.1 presents the future daily deficient segments along the existing plus committed roadway network.


N
NOT TO SCALE
Apple Pie Ridge Rd
Soapstone Rd
Spring Rd
Damascus Rd
Wynn Lake Rd
Rock Springs Rd
Sample Scales Rd
Damascus Rd
Mt Sinai Rd
Payne Rd
County Line Rd
John Morris Rd
Bennett Rd
Marshburn Rd
Carson Segars Rd
Wilson Bridge Rd
Wrights Mill Rd
Grove Level Rd
W Ridgeway Rd
Comer St
Brown Bridge Rd
Duncan Rd
Level of Service
LOS C and Better
LOS D
LOS E
LOS F
Roads
Interstate
Other Roads

6.1.1.2 Banks County Mid Term (2015) Operating Conditions

The Mid Term scenario was evaluated for the year 2015. This scenario is beneficial in showing additional projects that should be considered between the near term and the mid term to maintain efficient roadways within the Counties. By staging this second interim scenario seven years from the previous analysis scenario, it was possible to determine incremental changes in travel demand through the study area.

The 2015 analysis shows that nine (9) roadway segments can be expected to operate below LOS E during the PM peak period. Of these nine (9) segments, three (3) can be expected to also operate below LOS E during the AM peak period. Seventeen (17) minor segments can be expected to operate below LOS D under daily conditions. The deficient segments identified previously only experienced modest deterioration form 2008 operating conditions.

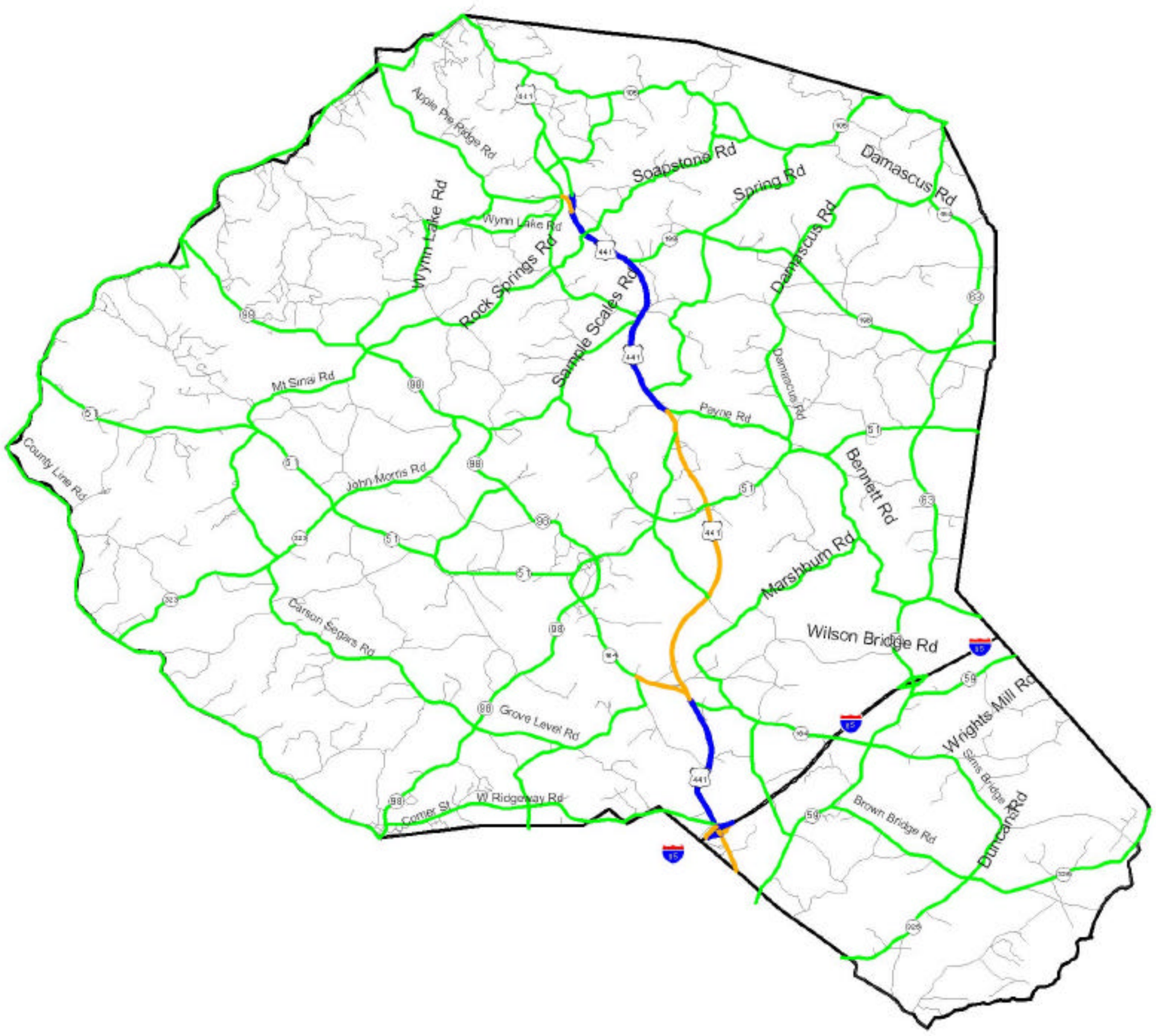
Table 6.1.1.2 displays the 2015 E+C roadway segments operating at an unacceptable LOS.

Table 6.1.1.2
2015 E+C Deficient Segments
Banks County

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
SR 164	McDonalds Circle	US 441	472	D	520	D	9,914	**D**
SR 198	Old US 441	US 441	460	D	509	D	9,728	**D**
US 441	SR 164	SR 51	729	C	920	D	17,841	**D**
US 441	SR 98	Moss Mill Rd	1,234	**E**	1,450	**E**	27,316	**E**
US 441	Moss Mill Rd	SR 198	965	**E**	1,208	**E**	23,266	**E**
US 441	SR 164	E Ridgeway Rd	1,019	**E**	1,287	**E**	25,075	**E**
US 441	SR 164 W	SR 164 E	1,182	D	1,519	**E**	29,341	**E**
US 441	McCoy Bridge Rd	SR 164	811	D	1,016	D	19,782	**D**
US 441	SR 51	McCoy Bridge Rd	762	D	952	D	18,481	**D**
US 441	I-85 NB Ramp	Jackson County	739	C	959	D	19,600	**D**
US 441	E Ridgeway Rd	I-85 SB Ramp	1,085	D	1,361	**E**	26,637	**E**
US 441	I-85 SB Ramp	I-85 NB Ramp	936	D	1,202	D	23,000	**D**
US 441	SR 198	Old US 441	841	D	1,056	**E**	20,444	**E**
US 441	Old US 441	Old Cornelia Rd	861	D	1,075	**E**	20,844	**E**
US 441	Old Cornelia Rd	Martin Rd	863	D	1,077	**E**	20,891	**E**
US 441	Martin Rd	Payne Rd	919	D	1,127	**E**	21,955	**E**
US 441	Payne Rd	SR 164	836	D	1,021	D	19,854	**D**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volume, Banks County Model.

Figure 6.1.1.2 presents the future daily deficient segments along the existing plus committed roadway network.



Engineers & Planners	Figure No: 6.1.1.2	Page No: 76	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***2015 E+C Daily Deficient Segments Banks County***

6.1.1.3 Banks County Long Term (2025) Operating Conditions

The Long Term scenario was evaluated for the year 2025, the study horizon year. This extended horizon provides an opportunity to determine how well the existing plus committed projects will serve 2025 population and employment in Banks County. It is useful to point out that the long-term projections for population and employment are the least reliable. Not due to any inaccuracies with projection techniques but simply because it requires the judgment of stakeholders to assign population and employment for the study area. This in turn impacts estimates of traffic demand. These 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 2025 analysis shows that eleven (11) roadway segments can be expected to operate below LOS E during the PM peak period. Of these eleven (11) segments, seven (7) can be expected to also operate below LOS E during the AM peak period. Seventeen (17) minor segments can be expected to operate below LOS D under daily conditions. The deficient segments identified previously only experienced modest deterioration from 2015 operating conditions. Table 6.1.1.3 displays the 2025 E+C roadway segments operating at an unacceptable LOS.

Table 6.1.1.3
2025 E+C Deficient Segments
Banks County

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
SR 164	McDonalds Circle	US 441	525	D	576	D	11,115	**D**
SR 198	Old US 441	US 441	514	D	573	D	11,377	**D**
US 441	SR 164	SR 51	882	D	1,101	D	21,240	**D**
US 441	SR 98	Moss Mill Rd	1,339	**E**	1,592	**E**	30,537	**E**
US 441	Moss Mill Rd	SR 198	1,076	**E**	1,333	**E**	25,901	**E**
US 441	SR 164	E Ridgeway Rd	1,249	**E**	1,530	**E**	30,997	**E**
US 441	SR 164 W	SR 164 E	1,404	**E**	1,766	**E**	34,744	**E**
US 441	McCoy Bridge Rd	SR 164	987	D	1,210	D	24,027	**D**
US 441	SR 51	McCoy Bridge Rd	928	D	1,132	D	22,443	**D**
US 441	I-85 NB Ramp	Jackson County	1,176	D	1,523	**E**	31,418	**E**
US 441	E Ridgeway Rd	I-85 SB Ramp	1,323	**E**	1,615	**E**	32,956	**E**
US 441	I-85 SB Ramp	I-85 NB Ramp	1,305	**E**	1,662	**E**	32,041	**E**
US 441	SR 198	Old US 441	934	D	1,161	**E**	22,622	**E**
US 441	Old US 441	Old Cornelia Rd	952	D	1,174	**E**	22,907	**E**
US 441	Old Cornelia Rd	Martin Rd	954	D	1,176	**E**	22,956	**E**
US 441	Martin Rd	Payne Rd	1,021	**E**	1,240	**E**	24,307	**E**
US 441	Payne Rd	SR 164	993	D	1,205	D	23,347	**D**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Banks County Model

Figure 6.1.1.3 presents the future daily deficient segments along the existing plus committed roadway network.

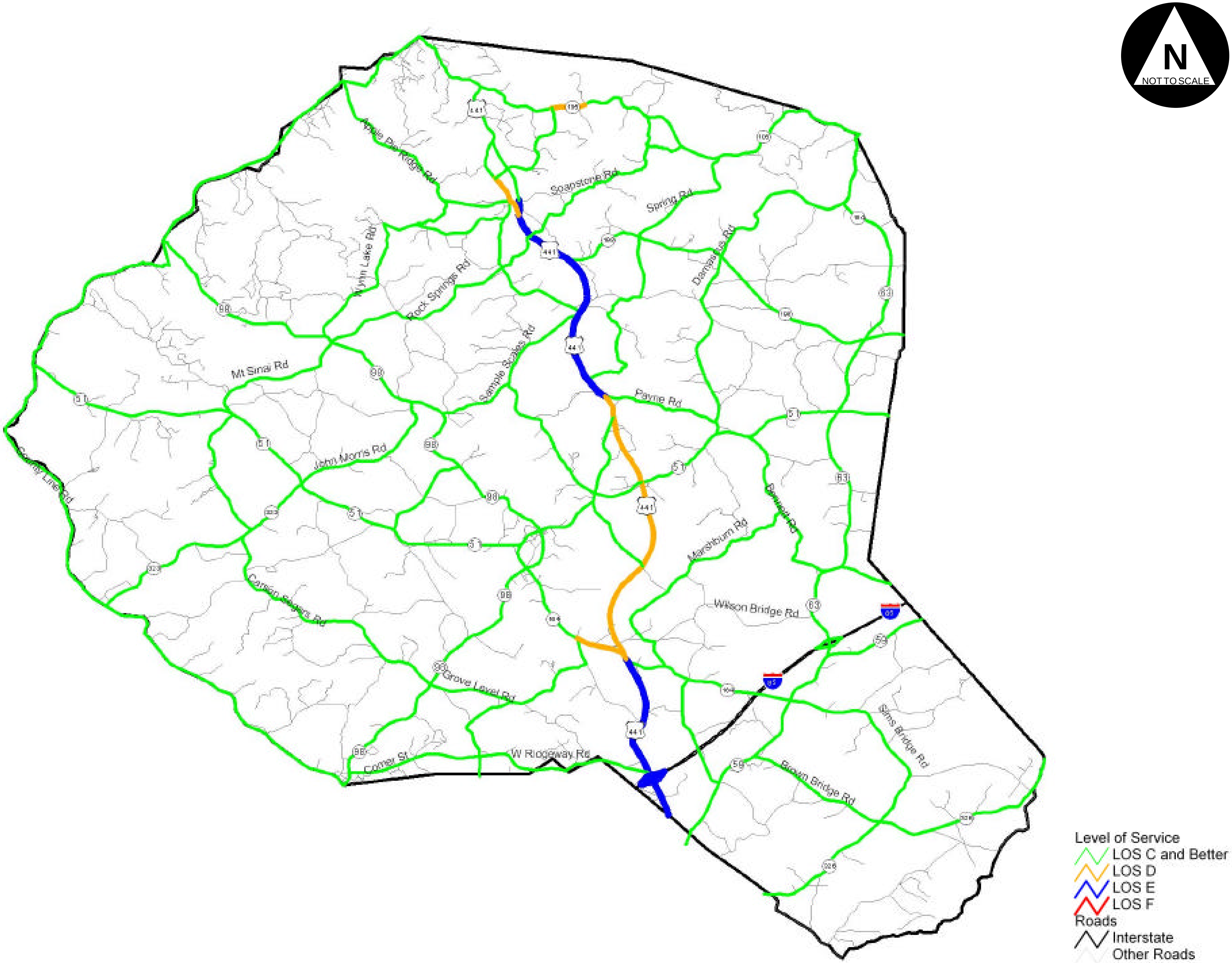


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Figure No:	Page No:		
6.1.1.3	78	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***2025 E+C Daily Deficient Segments Banks County***

6.1.2 Franklin County Existing (2000) Operating Conditions

The existing conditions scenario for the Franklin County Model was used to determine deficient roadway segments. The best approach for determining deficient segments in Franklin County was to analyze the volume of traffic on the roadway segments compared to the actual capacity of those segments and relate these values to a level of service. GDOT has identified the following minimum acceptable level of service (LOS) thresholds for roadway operating conditions. For daily operating conditions any segment with a LOS D or worse is identified as deficient. For peak hour operating conditions any segment identified as LOS E or worse is considered deficient.

The existing analysis shows that ten (10) roadway segments can be expected to operate below LOS E during the PM peak period. Of these ten (10) segments, seven (7) can be expected to also operate below LOS E during the AM peak period. Twenty-seven (27) minor segments can be expected to operate below LOS D under daily conditions.

Table 6.1.2 displays the deficient roadway segments with their LOS for AM peak, PM peak and daily operating conditions.

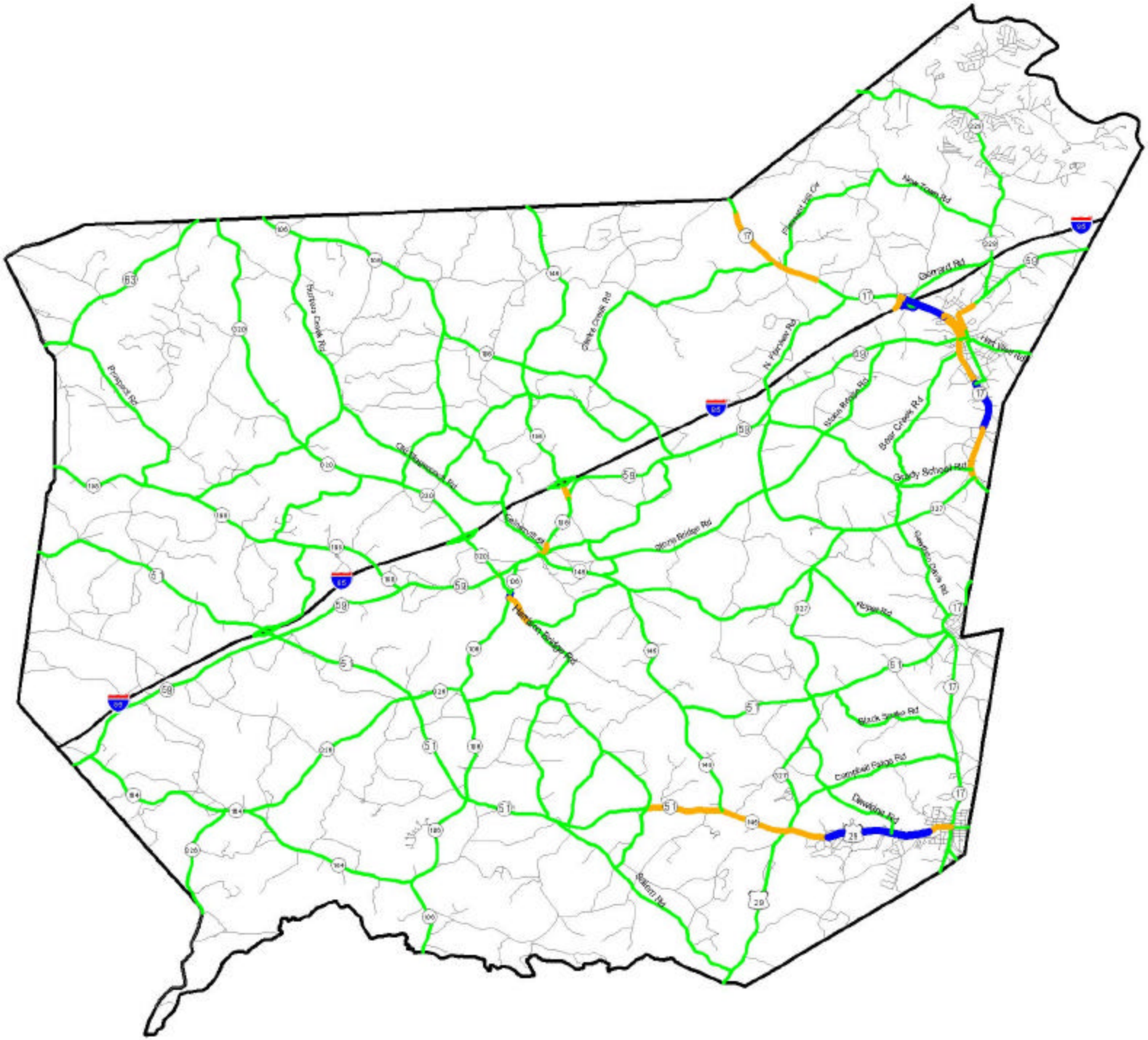
Table 6.1.2
Existing (2000) Deficient Segments
Franklin County

Roadway	From	To	AM		PM		Daily	
			Volume (1)	LOS	Volume (1)	LOS	Volume (2)	LOS
E Main St	SR 59	Grogan St	410	D	402	D	7,650	**D**
Harrison Bridge Rd	SR 106	Hubbard Rd	379	D	433	D	8,037	**D**
SR 106	I-85 NB Ramp	SR 59	267	C	308	D	6,040	**D**
SR 106	Athens St	Gainesville St	357	D	369	D	7,048	**D**
SR 106	Cross Roads Lane	Harrison Bridge Rd	436	D	503	**E**	9,867	**E**
SR 145	US 29	SR 51	406	D	438	D	8,868	**D**
SR 17	Bear Creek Rd	Hall's Circle	551	D	585	**E**	11,368	**D**
SR 17	SR 59	Grogan St	495	D	527	D	10,109	**D**
SR 17	E Main St	SR 59	431	D	533	D	10,219	**D**
SR 17	I-85 NB On Ramp	I-85 NB Off Ramp	823	**E**	1,052	**E**	14,972	**E**
SR 17	I-85 NB On Ramp	I-85 NB On Ramp	647	**E**	831	**E**	12,428	**E**
SR 17	Gerrard Rd	I-85 NB On Ramp	647	**E**	831	**E**	13,313	**E**
SR 17	I-85 SB Off Ramp West	I-85 SB Off Ramp East	617	**E**	791	**E**	9,951	**D**
SR 17	I-85 SB On Ramp	I-85 SB Off Ramp West	641	**E**	823	**E**	10,285	**D**
SR 17	I-85 SB Off Ramp East	Gerrard Rd	617	**E**	791	**E**	12,261	**E**

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
SR 17	I-85 NB Off Ramp	Cornog St	708	**E**	801	**E**	15,756	**E**
SR 17	Grogan St	Bear Creek Rd	550	D	584	**E**	11,367	**D**
SR 17	Hall's Circle	Outz Rd	529	D	550	D	10,984	**D**
SR 17	Clarks Creek Rd	Pleasant Hill Circle	302	C	396	D	7,892	**D**
SR 17	Outz Rd	SR 327	405	D	418	D	8,425	**D**
SR 51	US 145	Noah Crow Rd	373	D	412	D	7,915	**D**
SR 59	SR 328	Bowman St	325	D	305	D	5,721	**D**
SR 59	SR 320	Cross Roads Ln	363	D	426	D	7,948	**D**
US 29	SR 17	Dawkins Rd	440	D	472	D	9,519	**D**
US 29	Dawkins Rd	Spring St	478	D	484	D	9,767	**D**
US 29	Spring St	SR 327	437	D	450	D	9,153	**D**
US 29	SR 327	SR 145	430	D	459	D	9,448	**D**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Franklin County Model

Figure 6.1.2 presents the daily deficient segments graphically.



TGI Engineers & Planners	Figure No: 6.1.2	Page No: 81	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Existing (2002) Daily Deficient Segments Franklin County***

6.1.2.1 Franklin County Near Term (2008) Operating Conditions

The Near Term scenario was evaluated for 2008 to evaluate the traffic conditions with the existing plus committed (E+C) projects. This scenario is beneficial in showing additional projects that should be considered in the near term to maintain safe and efficient roadways within the Counties.

The 2008 analysis shows that six (6) roadway segments can be expected to operate below LOS E during the AM peak period. Additionally, eleven (11) can be expected to operate below LOS E during the PM peak period. Of these roadway segments, six (6) segments operate below LOS E for both the AM and PM peak periods. Under daily conditions, twenty-three (23) roadway segments are expected to operate below LOS D.

Widening Projects on SR 17, detailed in the STIP, results in modest relief to sections of SR 17 not currently expanded to a four-lane section.

Table 6.1.2.1 displays the 2008 E+C roadway segments operating at an unacceptable LOS.

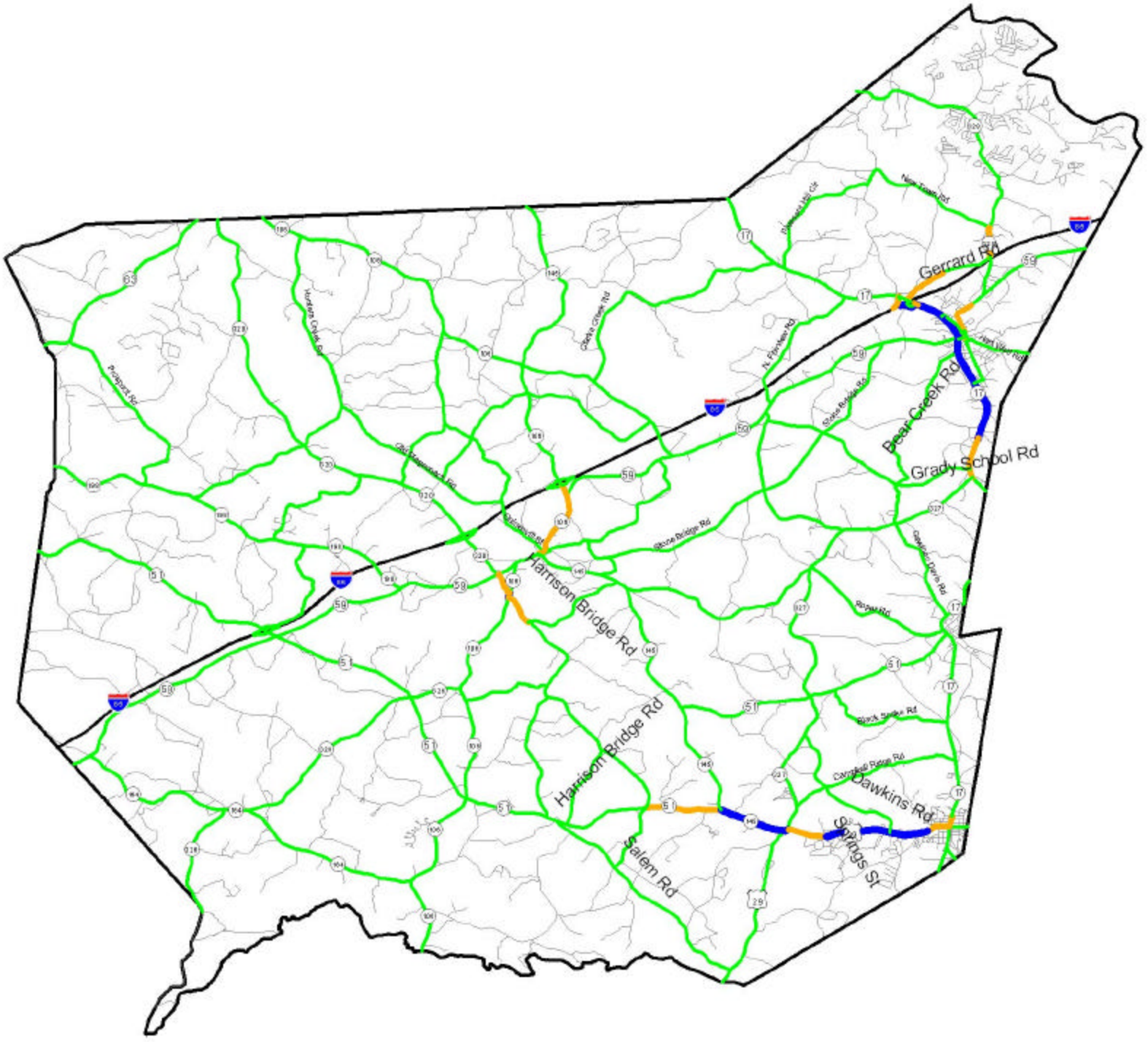
Table 6.1.2.1
2008 E+C Deficient Segments
Franklin County

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
E Main St	SR 59	Grogan St	363	D	357	D	7,092	**D**
Harrison Bridge Rd	SR 106	Hubbard Rd	413	D	433	D	8,442	**D**
SR 106	I-85 NB Ramp	SR 59	283	D	328	D	6,390	**D**
SR 106	Athens St	Gainesville St	381	D	395	D	7,515	**D**
SR 106	Cross Roads Ln	Harrison Bridge Rd	473	D	507	**E**	10,352	**E**
SR 106	SR 59	Gainesville St	258	C	294	D	5,763	**D**
SR 145	US 29	SR 51	445	D	482	**E**	9,727	**E**
SR 17	Bear Creek Rd	Hall's Circle	584	**E**	613	**E**	11,973	**E**
SR 17	SR 59	Grogan St	605	**E**	665	**E**	11,812	**E**
SR 17	E Main St	SR 59	497	D	601	**E**	11,581	**E**
SR 17	I-85 NB On Ramp	I-85 NB Off Ramp	878	D	1,118	D	15,795	**D**
SR 17	I-85 NB Off Ramp	Cornog St	759	**E**	853	**E**	16,778	**E**
SR 17	Grogan St	Bear Creek Rd	583	**E**	612	**E**	11,972	**E**
SR 17	Hall's Circle	Outz Rd	594	**E**	615	**E**	12,269	**E**
SR 17	Outz Rd	SR 327	444	D	461	D	9,208	**D**
SR 328	New Town Rd	Gerrard Rd	422	D	378	D	6,731	**D**
SR 51	US 145	Noah Crow Rd	410	D	455	D	8,550	**D**
SR 59	SR 328	Bowman St	356	D	335	D	6,274	**D**
SR 59	SR 320	Cross Roads Ln	403	D	433	D	8,751	**D**

Roadway	From	To	AM		PM		Daily	
			Volume (1)	LOS	Volume (1)	LOS	Volume (2)	LOS
US 29	SR 17	Dawkins Rd	469	D	506	**E**	10,151	**E**
US 29	Dawkins Rd	Spring St	504	**E**	513	**E**	10,366	**E**
US 29	Spring St	SR 327	458	D	474	D	9,579	**D**
US 29	SR 327	SR 145	454	D	489	**E**	9,994	**E**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Franklin County Model

Figure 6.1.2.1 presents the future daily deficient segments along the existing plus committed roadway network.



TGI Engineers & Planners	Figure No: 6.1.2.1	Page No: 84	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***2008 E+C Daily Deficient Segments Franklin County***

6.1.2.2 Franklin County Mid Term (2015) Operating Conditions

The Mid Term scenario was evaluated for the year 2015. This scenario is beneficial in showing additional projects that should be considered between the near term and the mid term to maintain efficient roadways within the Counties. By staging this second interim scenario seven years from the previous analysis scenario, it was possible to determine incremental changes in travel demand through the study area.

The 2015 analysis shows that ten (10) roadway segments can be expected to operate below LOS E during the AM peak period. Additionally, twelve (12) can be expected to operate below LOS E during the PM peak period. Of these roadway segments, ten (10) segments operate below LOS E for both the AM and PM peak periods. Under daily conditions, twenty-eight (28) roadway segments are expected to operate below LOS D.

Table 6.1.2.2 displays the 2015 E+C roadway segments operating at an unacceptable LOS.

Table 6.1.2.2
2015 E+C Deficient Segments
Franklin County

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
Athens St	SR 145	SR 106	320	D	358	D	6,645	**D**
Brackett Bridge Rd	Vickery Rd	E Main St	385	D	357	D	6,605	**D**
E Main St	SR 59	Grogan St	348	D	385	D	7,192	**D**
Harrison Bridge Rd	SR 106	Hubbard Rd	450	D	437	D	7,967	**D**
SR 106	I-85 NB Ramp	SR 59	298	D	348	D	6,781	**D**
SR 106	Athens St	Gainesville St	404	D	419	D	7,965	**D**
SR 106	Cross Roads Ln	Harrison Bridge Rd	513	**E**	545	**E**	9,956	**E**
SR 106	SR 59	Gainesville St	272	C	311	D	6,092	**D**
SR 145	US 29	SR 51	485	**E**	527	**E**	10,626	**E**
SR 17	Bear Creek Rd	Hall's Circle	624	**E**	656	**E**	12,776	**E**
SR 17	SR 59	Grogan St	695	**E**	739	**E**	13,015	**E**
SR 17	E Main St	SR 59	573	**E**	666	**E**	13,162	**E**
SR 17	I-85 NB On Ramp	I-85 NB Off Ramp	937	D	1,195	D	16,640	**D**
SR 17	I-85 NB Off Ramp	Cornog St	806	**E**	908	**E**	17,790	**E**
SR 17	Grogan St	Bear Creek Rd	623	**E**	655	**E**	12,775	**E**
SR 17	Hall's Circle	Outz Rd	635	**E**	657	**E**	13,072	**E**
SR 17	Outz Rd	SR 327	474	D	490	D	9,749	**D**
SR 328	New Town Rd	Gerrard Rd	462	D	420	D	7,507	**D**
SR 51	I-85 SB Ramps	I-85 NB Ramps	248	C	358	D	6,525	**D**
SR 51	I-85 NB Ramps	SR 59	253	C	349	D	6,878	**D**
SR 51	US 145	Noah Crow Rd	449	D	470	D	9,098	**D**
SR 59	SR 328	Bowman St	386	D	366	D	6,860	**D**

Roadway	From	To	AM		PM		Daily	
			Volume (1)	LOS	Volume (1)	LOS	Volume (2)	LOS
SR 59	SR 320	Cross Roads Ln	442	D	467	D	9,012	**D**
SR 59	E Main St	SR 17	309	C	411	D	6,804	**D**
US 29	SR 17	Dawkins Rd	504	**E**	540	**E**	10,756	**E**
US 29	Dawkins Rd	Spring St	540	**E**	553	**E**	10,991	**E**
US 29	Spring St	SR 327	475	D	502	**E**	10,145	**E**
US 29	SR 327	SR 145	479	D	523	**E**	10,596	**E**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Franklin County Model

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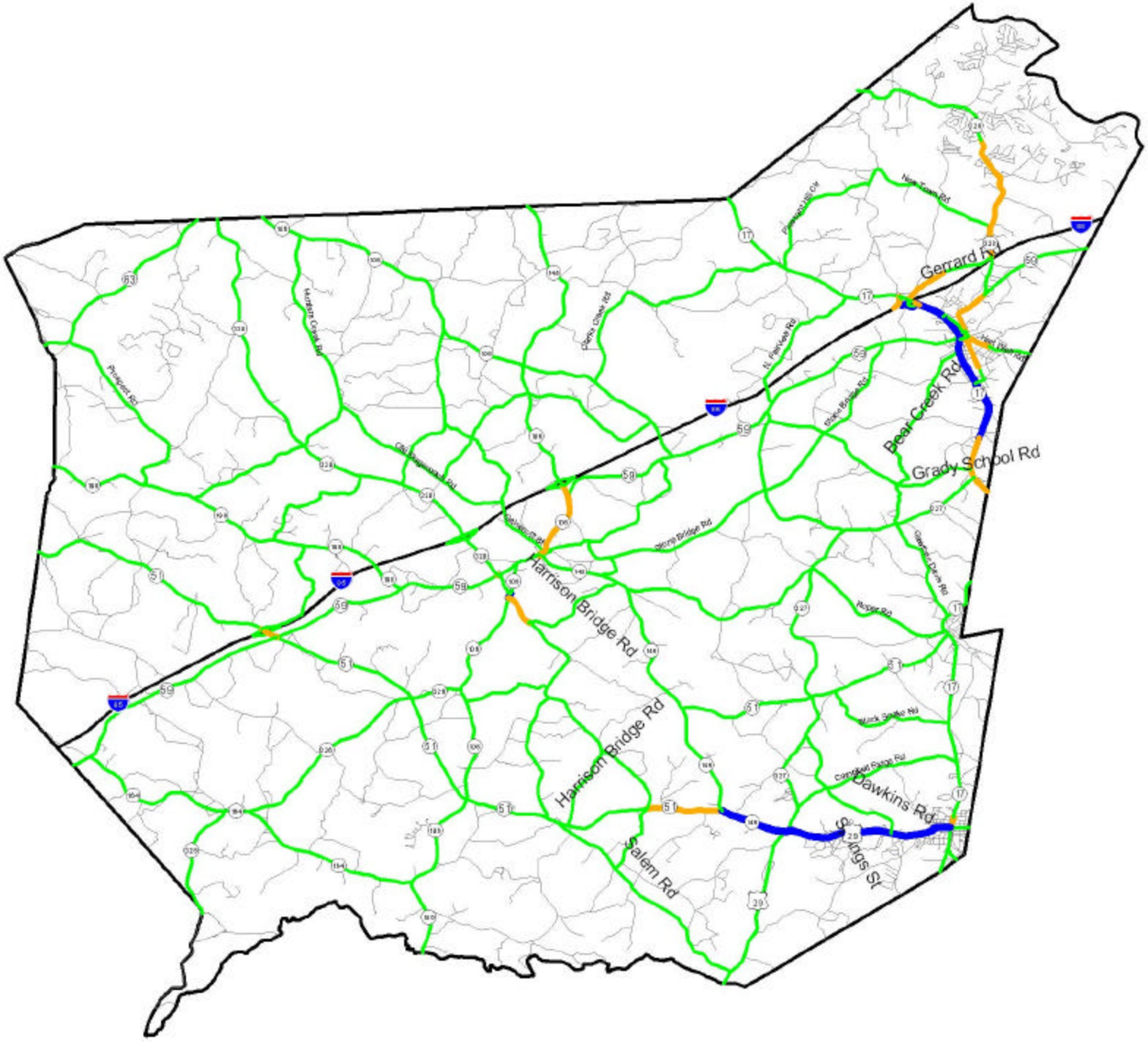
Figure 6.1.2.2 presents the future daily deficient segments along the existing plus committed roadway network.



Engineers & Planners	Figure No: 6.1.2.2	Page No: 87	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***2015 E+C Daily Deficient Segments Franklin County***

6.1.2.3 Franklin County Long Term (2025) Operating Conditions

The Long Term scenario was evaluated for the year 2025, the study horizon year. This extended horizon provides an opportunity to determine how well the existing plus committed projects will serve 2025 population and employment in Franklin County. It is useful to point out that the long-term projections for population and employment are the least reliable. Not due to any inaccuracies with projection techniques but simply because it requires the judgment of stakeholders to assign population and employment for the study area. This in turn impacts estimates of traffic demand. These 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 2025 analysis shows that sixteen (16) roadway segments can be expected to operate below LOS E during the AM peak period. Of these sixteen (16) segments, thirteen (13) can be expected to also operate below LOS E during the AM peak period. Thirty-nine (39) minor segments can be expected to operate below LOS D under daily conditions.

Table 6.1.2.3 displays the 2025 E+C roadway segments operating at an unacceptable LOS.

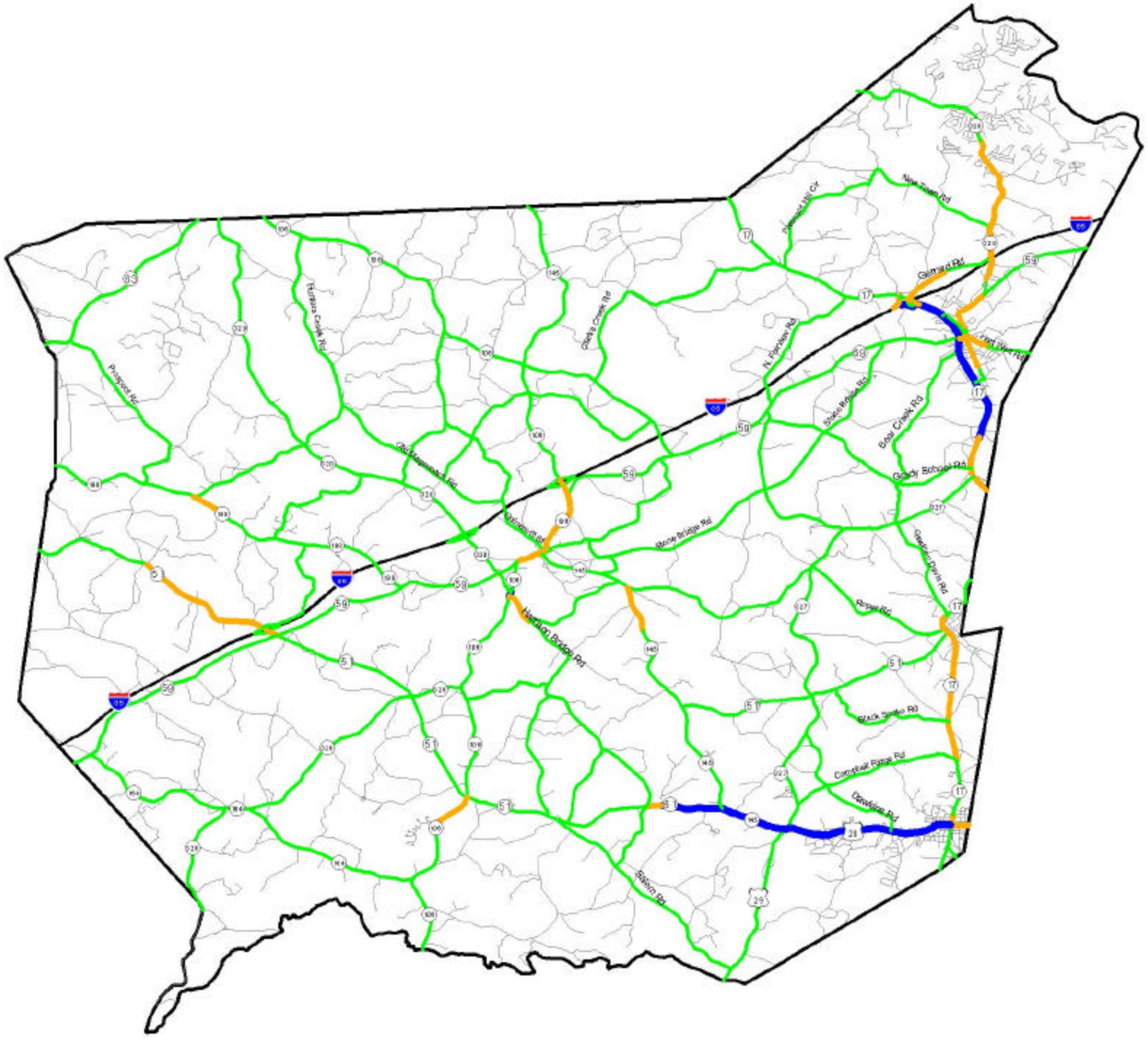
Table 6.1.2.3
2025 E+C Deficient Segments
Franklin County

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
Athens St	SR 145	SR 106	388	D	442	D	8,142	**D**
Brackett Bridge Rd	Vickery Rd	E Main St	426	D	396	D	7,215	**D**
E Main St	SR 59	Grogan St	383	D	426	D	5,793	**D**
Grogan St	Vickery St	E Main St	242	C	268	D	5,593	**D**
Grogan St	E Main St	SR 17	274	D	268	D	5,627	**D**
Harrison Bridge Rd	SR 106	Hubbard Rd	473	D	434	D	8,057	**D**
SR 106	I-85 SB Ramps	I-85 NB Ramps	395	D	372	D	6,119	**D**
SR 106	I-85 NB Ramp	SR 59	319	D	380	D	7,315	**D**
SR 106	Athens St	SR 59	393	D	436	D	8,652	**D**
SR 106	Athens St	Gainesville St	438	D	456	**E**	8,593	**D**
SR 106	Cross Roads Ln	Harrison Bridge Rd	552	**E**	515	**E**	10,063	**E**
SR 106	SR 59	Gainesville St	294	D	337	D	6,531	**D**
SR 145	US 29	SR 51	535	**E**	586	**E**	11,742	**E**
SR 17	Bear Creek Rd	Hall's Circle	677	**E**	716	**E**	13,809	**E**
SR 17	SR 59	Grogan St	807	**E**	829	**E**	16,159	**E**
SR 17	E Main St	SR 59	669	**E**	745	**E**	14,718	**E**
SR 17	I-85 NB On Ramp	I-85 NB Off Ramp	1,025	D	1,302	**E**	17,699	**D**
SR 17	Gerrard Rd	I-85 NB On Ramp	833	D	1,065	D	15,774	**D**

Roadway	From	To	AM		PM		Daily	
			Volume (1)	LOS	Volume (1)	LOS	Volume (2)	LOS
SR 17	I-85 NB Off Ramp	Cornog St	870	**E**	984	**E**	19,022	**E**
SR 17	Grogan St	Bear Creek Rd	676	**E**	715	**E**	13,808	**E**
SR 17	Hall's Circle	Outz Rd	693	**E**	716	**E**	14,190	**E**
SR 17	Outz Rd	SR 327	523	D	530	D	10,663	**D**
SR 17	Cawthon Davis Rd	Roper Rd	369	D	361	C	7,388	**D**
SR 17	Roper Rd	SR 51	373	D	366	D	7,504	**D**
SR 17	Black Snake Rd	Campbell Ridge Rd	390	D	364	C	7,435	**D**
SR 17	SR 327	Hart County	380	C	402	D	8,105	**D**
SR 198	New Bethel Rd	Paynes Rd	323	D	307	D	6,294	**D**
SR 328	New Town Rd	Gerrard Rd	518	**E**	477	**E**	8,582	**D**
SR 51	I-85 SB Ramps	I-85 NB Ramps	286	C	437	D	7,890	**D**
SR 51	US 145	Noah Crow Rd	467	D	528	**E**	10,143	**E**
SR 59	SR 328	Bowman St	428	D	407	D	7,523	**D**
SR 59	SR 320	Cross Roads Ln	496	D	525	D	10,055	**D**
Starrs Bridge Rd			306	D	355	D	7,148	**D**
Starrs Bridge Rd			292	C	412	D	8,492	**D**
US 29	Hart County	SR 17	251	C	330	D	6,799	**D**
US 29	SR 17	Dawkins Rd	535	**E**	569	**E**	11,326	**E**
US 29	Dawkins Rd	Spring St	562	**E**	582	**E**	11,585	**E**
US 29	Spring St	SR 327	496	**E**	533	**E**	10,574	**E**
US 29	SR 327	SR 145	508	**E**	576	**E**	11,745	**E**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes

Figure 6.1.2.3 presents the future daily deficient segments along the existing plus committed roadway network.



TGI Engineers & Planners	Figure No: 6.1.2.3	Page No: 90	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***2025 E+C Daily Deficient Segments Franklin County***

6.1.3 Jackson County Existing (2000) Operating Conditions

The existing conditions scenario for the Jackson County Model was used to determine deficient roadway segments. The best approach for determining deficient segments in Jackson County was to analyze the volume of traffic on the roadway segments compared to the actual capacity of those segments and relate these values to a level of service. GDOT has identified the following minimum acceptable level of service (LOS) thresholds for roadway operating conditions. For daily operating conditions any segment with a LOS D or worse is identified as deficient. For peak hour operating conditions any segment identified as LOS E or worse is considered deficient.

The existing analysis shows that twenty-six (26) roadway segments can be expected to operate below LOS E during the PM peak period. Of these twenty-six (26) segments, twenty-two (22) can be expected to also operate below LOS E during the PM peak period. Sixty-two (62) minor segments can be expected to operate below LOS D under daily conditions.

Table 6.1.3 displays the deficient roadway segments with their LOS for AM peak, PM peak and daily operating conditions.

Table 6.1.3
Existing (2000) Deficient Segments
Jackson County

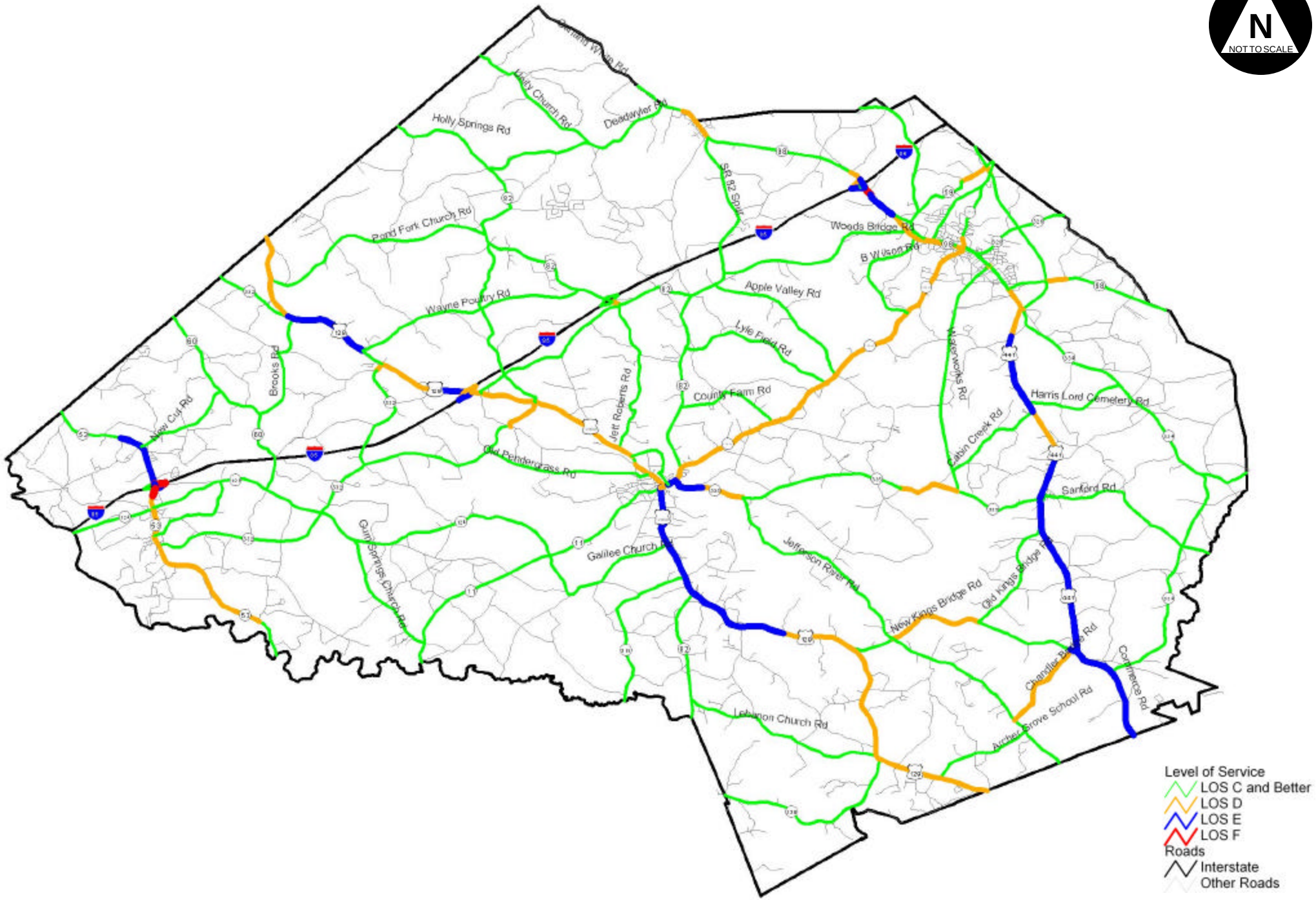
Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
Academy Church Rd	US 129	US 129 BUS	376	D	353	D	6,718	**D**
New Kings Bridge Rd	Old Kings Bridge Rd	Jefferson River Rd	230	C	284	D	5,646	**D**
New Kings Bridge Rd	Chandler Bridge Rd	US 441	392	D	490	**E**	10,244	**E**
SR 15	SR 98	Commerce Bypass	581	D	481	D	9,182	**D**
SR 15 ALT	Martin St	SR 335	771	**E**	792	**E**	15,663	**E**
SR 15 ALT	US 129 BUS	Martin St	477	D	471	D	9,284	**D**
SR 15 ALT	SR 82	SR 335	490	**E**	469	D	8,630	**D**
SR 15 ALT	SR 82	Airport Rd	418	D	422	D	7,716	**D**
SR 15 ALT	Airport Rd	Lyle Field Rd	368	D	369	D	7,168	**D**
SR 15 ALT	Apple Valley Rd	Lyle Field Rd	382	D	376	D	7,118	**D**
SR 15 ALT	B Wilson Rd	Apple Valley Rd	367	D	363	D	6,923	**D**
SR 15 ALT	SR 98	B Wilson Rd	416	D	414	D	8,029	**D**
SR 15 ALT	N Broad St	SR 98	389	D	462	D	8,434	**D**
SR 335	SR 82	Jefferson River Rd	537	**E**	518	**E**	9,398	**E**
SR 52	Deadwyler Rd	SR 82	396	D	365	D	6,416	**D**

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
SR 53	E Jefferson St	SR 322	336	D	371	D	7,423	**D**
SR 53	SR 124	E Jefferson St	339	D	364	D	7,454	**D**
SR 53	SR 124 W	SR 124	412	D	452	D	9,414	**D**
SR 53	Hall County	New Cut Rd	300	C	363	D	7,376	**D**
SR 53	New Cut Rd	I-85 SB Ramps	679	**E**	719	**E**	14,230	**E**
SR 53	I-85 SB Ramps	I-85 NB Ramps	1,283	**F**	1,124	**F**	16,758	**E**
SR 53	I-85 NB Ramps	SR 124 W	601	**E**	648	**E**	12,698	**E**
SR 82	I-85 NB Ramps	Hog Mountain Rd	320	D	326	D	6,330	**D**
SR 98	Between I-85 NB Ramps		884	**E**	967	**E**	12,070	**D**
SR 98	Between I-85 Ramps		873	**E**	953	**E**	12,728	**E**
SR 98	Between I-85 SB Ramps		934	**E**	1,028	**E**	13,360	**E**
SR 98	B Wilson Rd	SR 15 ALT	439	D	398	D	8,273	**D**
SR 98	Washington St	SR 15 ALT	610	C	592	C	6,356	**D**
SR 98	US 441	S Broad St	704	**E**	565	**E**	5,903	C
SR 98	SR 326	Woods Bridge Rd	451	D	409	D	8,269	**D**
SR 98	I-85 NB Ramps	SR 326	646	**E**	594	**E**	12,200	**E**
SR 98	Woods Bridge Rd	B Wilson Rd	510	D	464	D	9,243	**D**
US 129	SR 330	Archer Grove School Rd	299	C	399	D	7,824	**D**
US 129	US 129 BUS	New Kings Bridge Rd	519	D	605	**E**	11,212	**E**
US 129	Lebanon Church Rd	SR 330	330	C	448	D	8,717	**D**
US 129	New Kings Bridge Rd	Lebanon Church Rd	339	D	447	D	8,451	**D**
US 129	Archer Grove School Rd	Clarke County	363	D	477	D	9,818	**D**
US 129	Pond Fork Church Rd	SR 332	455	D	507	D	10,836	**D**
US 129	Mountain Creek Church Rd	Wayne Poultry Rd	435	D	504	**E**	10,464	**E**
US 129	SR 332	Mountain Creek Church Rd	525	**E**	596	**E**	12,662	**E**
US 129	Hall County	Pond Fork Church Rd	295	C	391	D	8,099	**D**
US 129	SR 332	Talmo Pendergrass Bypass	632	D	689	D	13,925	**D**
US 129	Talmo Pendergrass Bypass	I-85 SB Ramps	941	D	952	D	18,621	**D**
US 129	Hog Mountain Rd	US 129 BUS	846	D	831	D	16,502	**D**
US 129	I-85 SB Ramps	I-85 NB Ramps	1,142	**E**	969	D	19,760	**E**
US 129	I-85 NB Ramps	Hog Mountain Rd	1,030	**E**	976	D	19,361	**D**
US 129 BUS	SR 82	US 129	601	**E**	664	**E**	12,098	**E**
US 129 BUS	US 129	Academy Church Rd	846	D	831	D	16,502	**D**
US 129 BUS	Galilee Church Rd	SR 319	747	**E**	768	**E**	13,873	**E**

Roadway	From	To	AM		PM		Daily	
			Volume (1)	LOS	Volume (1)	LOS	Volume (2)	LOS
US 129 BUS	SR 319	SR 82	676	**E**	692	**E**	12,637	**E**
US 129 BUS	Old Pendergrass Rd	SR 15 ALT	771	D	735	D	13,477	**D**
US 129 BUS	Jett Roberts Rd	Elder Dr	727	D	786	D	14,784	**D**
US 129 BUS	SR 11	Galilee Church Rd	598	**E**	623	**E**	11,245	**E**
US 129 BUS	SR 15 ALT	SR 11	924	D	943	D	17,195	**D**
US 129 BUS	Possum Creek Rd	Jett Roberts Rd	662	D	704	D	13,311	**D**
US 441	SR 334	Clarke County	477	D	635	**E**	13,059	**E**
US 441	New Kings Bridge Rd	SR 334	547	**E**	634	**E**	12,142	**E**
US 441	Cabin Creek Rd	SR 335	499	**E**	539	**E**	9,291	**D**
US 441	SR 335	Old Kings Bridge Rd	598	**E**	652	**E**	11,320	**E**
US 441	Old Kings Bridge Rd	New Kings Bridge Rd	566	**E**	594	**E**	10,613	**E**
US 441	SR 15	Harris Lord Cemetery Rd	762	**E**	739	**E**	13,446	**E**
US 441	Harris Lord Cemetery Rd	Cabin Creek Rd	778	**E**	736	**E**	13,437	**E**
US 441	SR 59	Commerce Bypass	890	D	957	D	18,404	**D**
Washington St	SR 326	SR 98	613	**E**	599	**E**	5,956	C

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Jackson County Model.

Figure 6.1.3 presents the peak hour and daily deficient segments



TGI Engineers & Planners	Figure No: 6.1.3	Page No: 94	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Existing (2002) Daily Deficient Segments Jackson County***

6.1.3.1 Jackson County Near Term (2008) Operating Conditions

The Near Term scenario was evaluated for 2008 to evaluate the traffic conditions with the existing plus committed (E+C) projects. This scenario is beneficial in showing additional projects that should be considered in the near term to maintain safe and efficient roadways within the Counties.

The 2008 analysis shows that twenty-five (25) roadway segments can be expected to operate below LOS E during the AM peak period. Additionally, twenty-one (21) can be expected to operate below LOS E during the PM peak period. Of these roadway segments, sixteen (16) segments operate below LOS E for both the AM and PM peak periods. Under daily conditions, seventy-one (71) roadway segments are expected to operate below LOS D.

Table 6.1.3.1 displays the 2008 E+C roadway segments operating at an unacceptable LOS.

Table 6.1.3.1
2008 E+C Deficient Segments
Jackson County

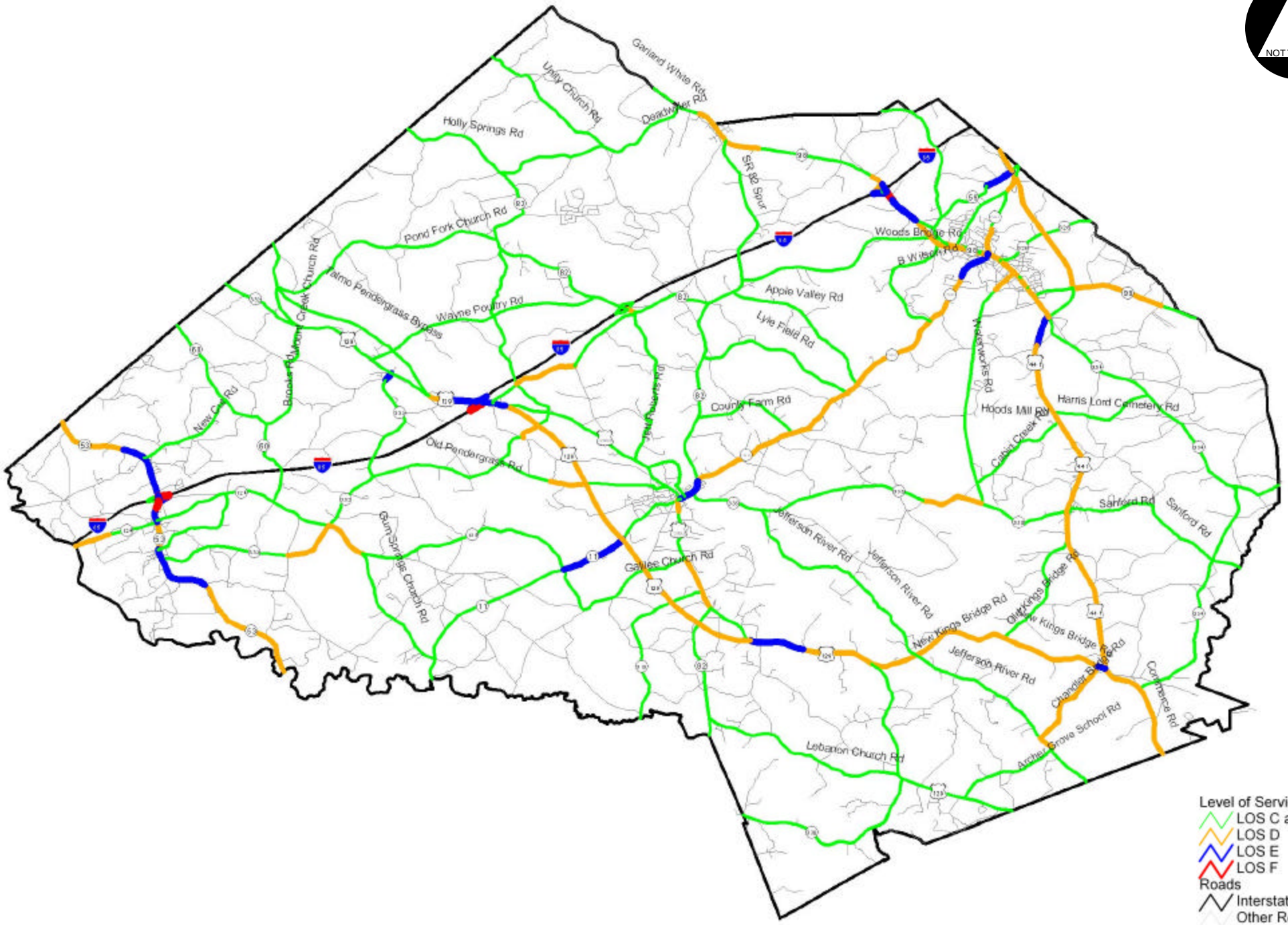
Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
Chandler Bridge Rd	Jefferson River Rd	New Kings Bridge Rd	337	D	393	D	7,504	**D**
Jefferson River Rd	Chandler Bridge Rd	Archer Grove School Rd	257	C	339	D	6,856	**D**
N Broad St	SR 15 ALT	SR 326	994	D	603	C	7,578	**D**
New Kings Bridge Rd	US 129	Jefferson River Rd	229	C	475	D	9,137	**D**
New Kings Bridge Rd	Old Kings Bridge Rd	Jefferson River Rd	202	C	453	**E**	8,242	**D**
New Kings Bridge Rd	Old Kings Bridge Rd	Chandler Bridge Rd	132	C	386	D	7,104	**D**
New Kings Bridge Rd	Chandler Bridge Rd	US 441	416	D	735	**E**	14,612	**E**
S Broad St	SR 326	Scott Street	991	D	619	C	7,649	**D**
Scott St	US 441	S Broad St	356	D	295	D	5,916	**D**
SR 11	SR 124	US 129	485	D	571	**E**	11,387	**E**
SR 124	SR 332	Gum Springs Church Rd	338	D	410	D	7,714	**D**
SR 15	SR 98	Commerce Bypass	858	**E**	516	D	11,545	**D**
SR 15	Scott St	SR 98	824	D	673	C	7,741	**D**
SR 15	SR 326	Scott St	913	D	731	C	9,997	**D**
SR 15	SR 15 ALT	State St	898	D	731	C	9,973	**D**
SR 15 ALT	Martin St	SR 335	623	**E**	704	**E**	13,737	**E**

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
SR 15 ALT	US 129 BUS	Martin St	496	**E**	513	**E**	10,314	**E**
SR 15 ALT	SR 82	SR 335	512	**E**	533	E	9,947	**E**
SR 15 ALT	SR 82	Airport Rd	400	D	418	D	7,608	**D**
SR 15 ALT	Airport Rd	Lyle Field Rd	415	D	438	D	9,082	**D**
SR 15 ALT	Apple Valley Rd	Lyle Field Rd	412	D	438	D	8,972	**D**
SR 15 ALT	B Wilson Rd	Apple Valley Rd	399	D	433	D	8,854	**D**
SR 15 ALT	SR 98	B Wilson Rd	462	D	494	D	9,418	**D**
SR 15 ALT	N Broad St	SR 98	515	**E**	574	**E**	10,253	**E**
SR 15 ALT	US 441	Hospital Rd	359	C	428	D	8,038	**D**
SR 335	Jefferson River Rd	Waterworks Rd	348	D	353	D	6,139	**D**
SR 52	Deadwyler Rd	SR 82	476	D	425	D	7,489	**D**
SR 53	SR 322	Barrow County	396	D	469	D	9,646	**D**
SR 53	E Jefferson St	SR 322	486	D	520	**E**	10,553	**E**
SR 53	SR 124	E Jefferson St	426	D	388	D	8,191	**D**
SR 53	SR 124 W	SR 124	583	**E**	594	**E**	12,421	**E**
SR 53	Hall County	New Cut Rd	383	D	464	D	9,470	**D**
SR 53	New Cut Rd	I-85 SB Ramps	816	**E**	865	**E**	16,679	**E**
SR 53	I-85 SB Ramps	I-85 NB Ramps	1,484	**F**	1,207	**F**	18,743	**E**
SR 53	I-85 NB Ramps	SR 124 W	749	**E**	715	**E**	14,461	**E**
SR 82	I-85 NB Ramps	Hog Mountain Rd	343	D	346	D	7,549	**D**
SR 98	Between I-85 NB Ramps		1,074	**E**	950	**E**	13,253	**E**
SR 98	Between I-85 Ramps		1,065	**E**	936	**E**	14033	**E**
SR 98	Between I-85 SB Ramps		1,167	**F**	1,130	**F**	14,852	**E**
SR 98	B Wilson Rd	SR 15 ALT	572	**E**	332	D	7,800	**D**
SR 98	Washington St	SR 15 ALT	764	D	594	C	6,803	**D**
SR 98	US 441	S Broad St	1,013	**F**	577	**E**	7,533	**D**
SR 98	Commerce Byp	Madison County	315	C	387	D	7,945	**D**
SR 98	SR 326	Woods Bridge Rd	580	**E**	366	D	8,434	**D**
SR 98	I-85 NB Ramps	SR 326	797	**F**	568	**E**	13,311	**E**
SR 98	Woods Bridge Rd	B Wilson Rd	662	**E**	449	D	9,893	**D**
US 129	US 129 BUS	New Kings Bridge Rd	757	D	995	D	18,574	**D**
US 129	Talmo Pendergrass Bypass	I-85 SB Ramps	1,312	**E**	1,246	**E**	25,922	**E**
US 129	Hog Mountain Rd	US 129 BUS	1,105	**E**	1,157	**E**	21,822	**E**
US 129	I-85 SB Ramps	I-85 NB Ramps	1,491	**E**	1,393	**E**	26,380	**E**
US 129	I-85 NB Ramps	Hog Mountain Rd	1,331	**E**	1,330	**E**	25,290	**E**
US 129	US 129 BUS	Academy Church Rd	902	D	936	D	17,990	**D**

Roadway	From	To	AM		PM		Daily	
			Volume (1)	LOS	Volume (1)	LOS	Volume (2)	LOS
US 129	Academy Church Rd	Old Pendergrass Rd	561	C	683	D	12,635	**D**
US 129	Old Pendergrass Rd	SR 11	772	D	869	D	15,865	**D**
US 129	SR 82	US 129 BUS	604	C	822	D	15,391	**D**
US 129	SR 319	SR 82	627	D	860	D	16,185	**D**
US 129	Galilee Church Rd	SR 319	725	D	937	D	17,440	**D**
US 129	SR 11	Galilee Church Rd	724	D	933	D	17,646	**D**
US 129 BUS	Galilee Church Rd	SR 319	411	D	400	D	7,270	**D**
US 129 BUS	SR 319	SR 82	406	D	391	D	7,094	**D**
US 441	SR 334	Clarke County	618	C	821	D	16,897	**D**
US 441	New Kings Bridge Rd	SR 334	702	C	917	D	18,388	**D**
US 441	Cabin Creek Rd	SR 335	993	D	829	D	16,193	**D**
US 441	SR 335	Old Kings Bridge Rd	1,210	**E**	1,060	D	20,168	**D**
US 441	Old Kings Bridge Rd	New Kings Bridge Rd	916	D	862	D	17,216	**D**
US 441	SR 15	Harris Lord Cemetery Rd	1,328	**E**	1039	D	20,630	**D**
US 441	Harris Lord Cemetery Rd	Cabin Creek Rd	1,365	**E**	1,078	D	20,962	**D**
US 441	SR 15 ALT	SR 326	786	D	916	D	16,488	**D**
US 441	SR 59	Commerce Bypass	1,080	D	1,246	**E**	22,498	**D**
US 441	SR 326	SR 98	745	C	890	D	15,774	**D**
US 441	Banks County	SR 59	697	C	953	D	16,466	**D**
Washington St	SR 326	SR 98	804	**E**	485	D	6,015	C

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Jackson County Model

Figure 6.1.3.1 presents the future daily deficient segments along the existing plus committed roadway network.



Engineers & Planners	Figure No: 6.1.3.1	Page No: 98	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***2008 E+C Daily Deficient Segments Jackson County***

6.1.3.2 Jackson County Mid Term (2015) Operating Conditions

The Mid Term scenario was evaluated for the year 2015. This scenario is beneficial in showing additional projects that should be considered between the near term and the mid term to maintain efficient roadways within the Counties. By staging this second interim scenario seven years from the previous analysis scenario, it was possible to determine incremental changes in travel demand through the study area.

It is important to note that the population for Jackson County is expected to exceed the threshold population for a rural county (50,000) between 2010 and 2015. Due to this increased population, Jackson County is considered more suburban/urban than rural. This is important because rural thresholds for congestion differ from those for suburban and urban areas. Simply put, suburban drivers have a higher tolerance for congestion than rural drivers who expect to encounter few if any delays while commuting. Future year scenarios were tested using the rural thresholds and most roads in the County operated at unacceptable levels of service. If rural thresholds were utilized, it would not be feasible to bring most roads into satisfactory operating conditions. For the purpose of analyzing 2015 and 2025 suburban/urban congestion thresholds were used. This is why fewer segments were identified as operating at unacceptable levels of service.

The 2015 analysis shows that eleven (11) roadway segments can be expected to operate below LOS E during the PM peak period. Of these eleven (11) segments, four (4) can be expected to also operate below LOS E during the AM peak period. Nine (9) minor segments can be expected to operate below LOS D under daily conditions.

Improvements in the US 441 and US 129 corridors provided needed relief. In additional, ancillary impacts are experienced on competing routes. Improvements in these corridors have attracted traffic from adjacent routes thereby reducing the congestion levels.

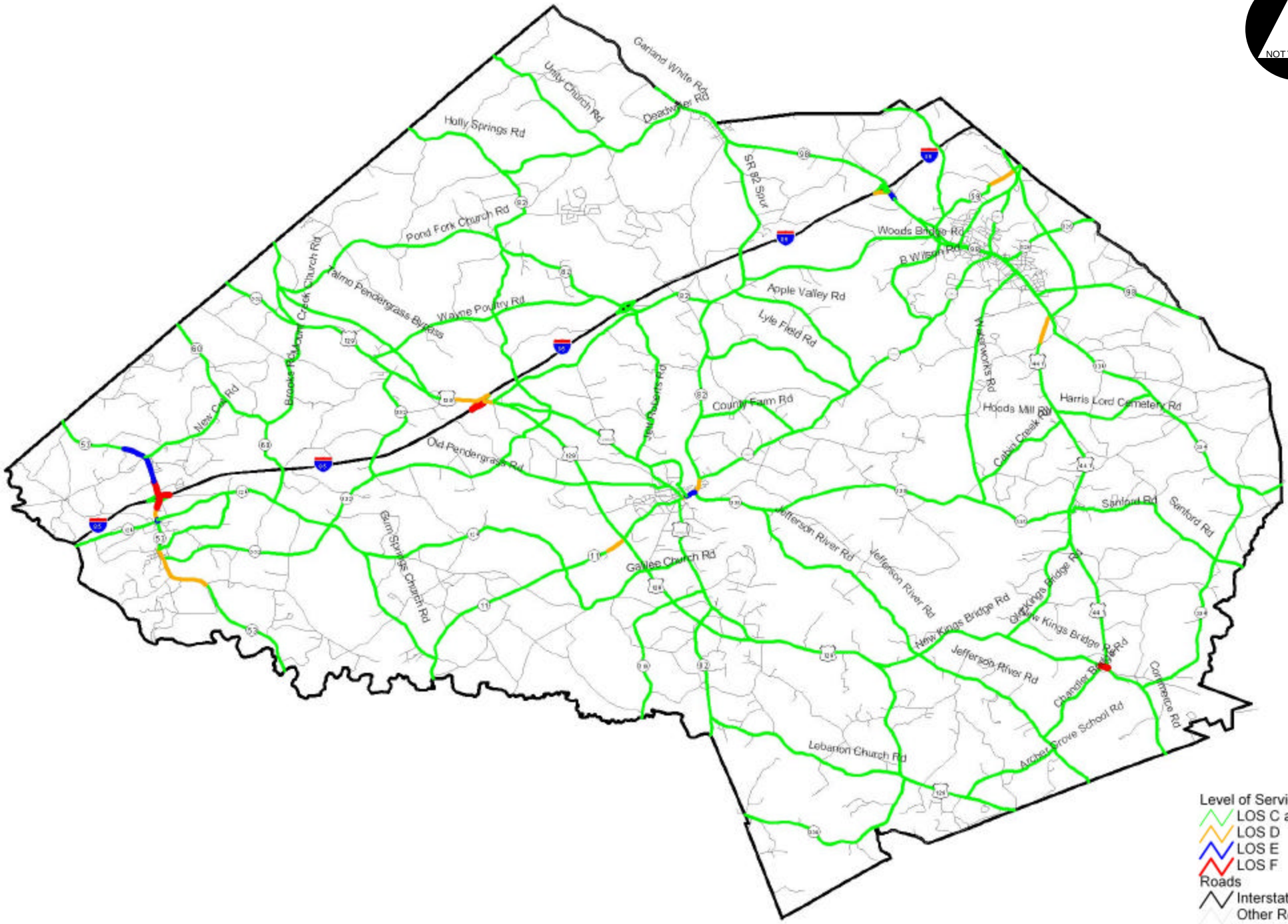
Table 6.1.3.2 displays the 2015 E+C roadway segments operating at an unacceptable LOS.

Table 6.1.3.2
2015 E+C Deficient Segments
Jackson County

Roadway	From	To	AM		PM		Daily	
			Volume [1]	LOS	Volume [1]	LOS	Volume [2]	LOS
New Kings Bridge Rd	Chandler Bridge Rd	US 441	622	D	781	**E**	16,061	**F**
SR 15 ALT	Martin St	SR 335	722	D	810	**E**	16,658	**E**
SR 15 ALT	US 129 BUS	Martin St	585	C	627	D	12,951	**D**
SR 15 ALT	SR 82	SR 335	632	D	656	D	13,038	**D**
SR 53	SR 124 W	SR 124	667	D	781	**E**	15,411	**E**
SR 53	New Cut Rd	I-85 SB Ramps	906	**E**	975	**F**	19,573	**F**
SR 53	I-85 SB Ramps	I-85 NB Ramps	1,417	**F**	1,250	**F**	20,669	**F**
SR 53	I-85 NB Ramps	SR 124 W	767	**E**	822	**E**	15,855	**E**
SR 98	Between I-85 NB Ramps		911	D	1,040	**E**	9,107	C
SR 98	Between I-85 Ramps		903	D	1,030	**E**	11,585	C
SR 98	Between I-85 SB Ramps		1,080	**E**	1,240	**F**	13,999	C
US 129	I-85 NB Ramps	Hog Mountain Rd	1,422	D	1,401	D	27,723	**D**
US 129 BUS	Galilee Church Rd	SR 319	478	C	837	**E**	8,944	C
US 129 BUS	SR 319	SR 82	470	C	826	**E**	8,722	C

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes, Jackson County Model.

Figure 6.1.3.2 presents the future daily deficient segments along the existing plus committed roadway network.



Engineers & Planners	Figure No: 6.1.3.2	Page No: 101	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***2015 E+C Daily Deficient Segments Jackson County***

6.1.3.3 Jackson County Long Term (2025) Operating Conditions

The Long Term scenario was evaluated for the year 2025, the study horizon year. This extended horizon provides an opportunity to determine how well the existing plus committed projects will serve 2025 population and employment in Jackson County. It is useful to point out that the long-term projections for population and employment are the least reliable. Not due to any inaccuracies with projection techniques but simply because it requires the judgment of stakeholders to assign population and employment for the study area. This in turn impacts estimates of traffic demand. These results should be considered preliminary and when the transportation plan is updated every 3 to 5 years the projects should be amended as necessary.

It is important to note that the population for Jackson County is expected to exceed the threshold population for a rural county (50,000) between 2010 and 2015. Due to this increased population, Jackson County is considered more suburban/urban than rural. This is important because rural thresholds for congestion differ from those for suburban and urban areas. Simply put, suburban drivers have a higher tolerance for congestion than rural drivers who expect to encounter few if any delays while commuting. The year 2025 scenarios were tested using the suburban/urban thresholds.

The 2025 analysis shows that eighteen (18) roadway segments can be expected to operate below LOS E during the AM peak period. Of these fourteen (14) segments, thirteen (13) can be expected to also operate below LOS E during the AM peak period. Thirty-two (32) minor segments can be expected to operate below LOS D under daily conditions.

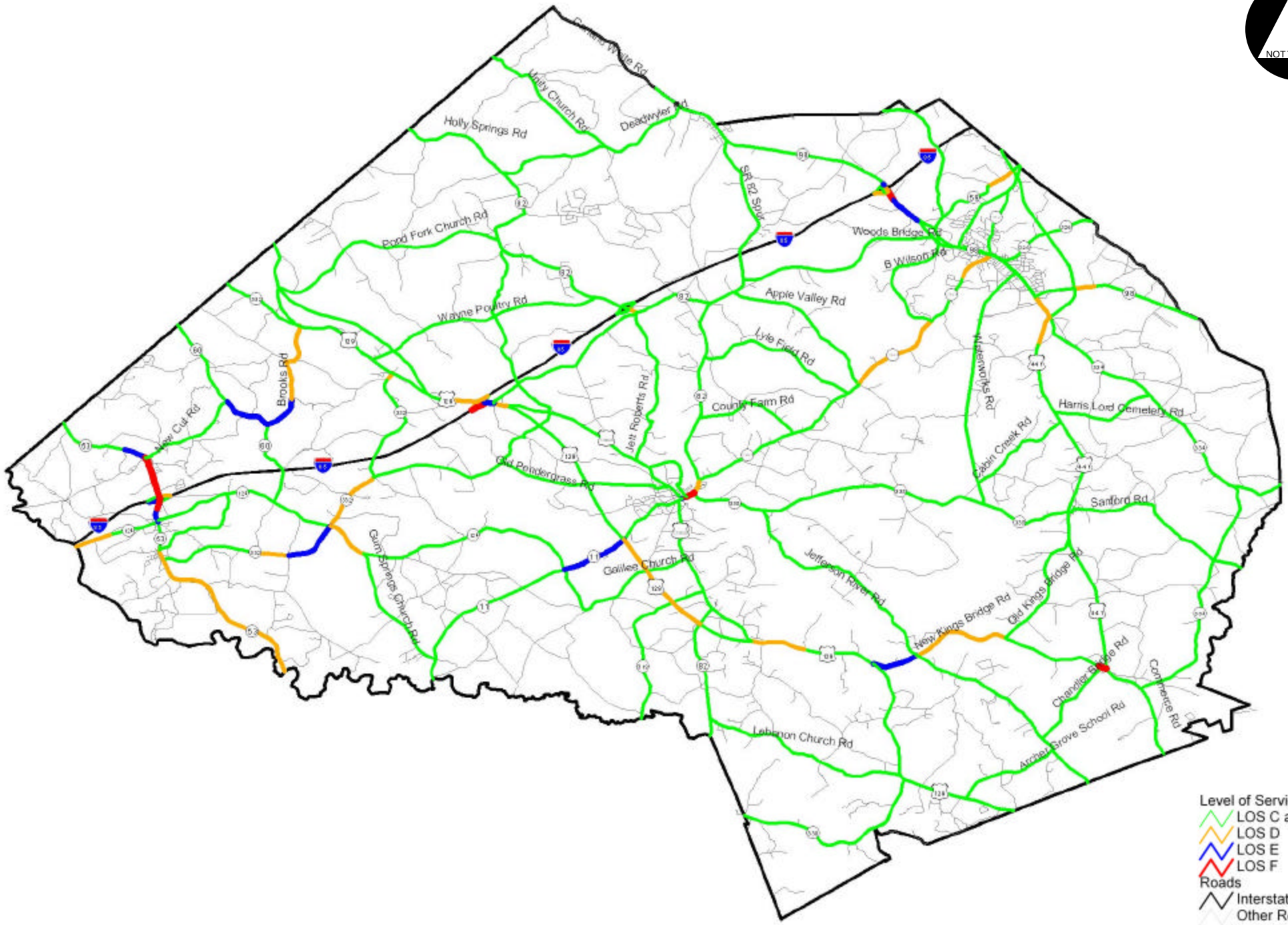
Table 6.1.3.3 displays the 2025 E+C roadway segments operating at an unacceptable LOS.

Table 6.1.3.3
2025 E+C Deficient Segments
Jackson County

Roadway	From	To	AM		PM		Daily	
			Volume (1)	LOS	Volume (1)	LOS	Volume (2)	LOS
Brooks Rd	SR 60	US 129	206	C	601	D	12,159	**D**
New Kings Bridge Rd	US 129	Jefferson River Rd	595	C	739	**E**	14,788	**E**
New Kings Bridge Rd	Old Kings Bridge Rd	Jefferson River Rd	533	C	657	D	12,553	**D**
New Kings Bridge Rd	Chandler Bridge Rd	US 441	835	**F**	1,042	**F**	20,893	**F**
SR 11	SR 124	US 129	821	**E**	846	**E**	17,471	**E**
SR 124	Gwinnett County	SR 53	443	C	586	D	12,095	**D**
SR 124	SR 332	Gum Springs Church Rd	670	D	647	D	13,448	**D**
SR 15 ALT	Martin St	SR 335	943	**F**	1,067	**F**	19,547	**F**
SR 15 ALT	US 129 BUS	Martin St	686	D	825	**E**	15,264	**E**
SR 15 ALT	SR 82	SR 335	725	D	743	D	14,654	**D**
SR 15 ALT	B Wilson Rd	Apple Valley Rd	558	C	695	D	13,709	**D**
SR 322	Old Pendergrass Rd	SR 124	467	C	632	D	13,519	**D**
SR 322	SR 53	SR 124	562	C	655	D	13,405	**D**
SR 53	SR 322	Barrow County	628	C	725	D	15,018	**D**
SR 53	E Jefferson St	SR 322	791	**E**	777	**E**	14,880	**D**
SR 53	SR 124 W	SR 124	878	**E**	874	**E**	17,567	**E**
SR 53	Hall County	New Cut Rd	568	C	680	D	13,784	**D**
SR 53	New Cut Rd	I-85 SB Ramps	1,071	**F**	1,322	**F**	25,435	**F**
SR 53	I-85 SB Ramps	I-85 NB Ramps	1,542	**F**	1,283	**F**	24,680	**F**
SR 53	I-85 NB Ramps	SR 124 W	914	**F**	915	**F**	18,046	**F**
SR 60	New Cut Rd	Brooks Rd	296	C	747	**E**	15,405	**E**
SR 82	I-85 NB Ramps	Hog Mountain Rd	510	C	602	C	12,273	**D**
SR 98	Between I-85 NB Ramps		1,196	**F**	1,120	**F**	16,736	**D**
SR 98	Between I-85 Ramps		1,182	**F**	1,105	**F**	18,083	**D**
SR 98	Between I-85 SB Ramps		1,278	**F**	1,357	**F**	19,611	**E**
SR 98	US 441	S Broad St	966	**F**	841	**E**	10,308	C
SR 98	I-85 NB Ramps	SR 326	792	**E**	723	**E**	15,723	**E**
US 129	Hog Mountain Rd	US 129 BUS	1,410	D	1,434	D	28,329	**D**
US 129	I-85 SB Ramps	I-85 NB Ramps	2,040	**E**	1,605	D	32,222	**D**
US 129	I-85 NB Ramps	Hog Mountain Rd	1,676	**E**	1,648	**E**	32,786	**E**
US 129	SR 319	SR 82	1,404	D	1,372	D	26,515	**D**
US 129	Galilee Church Rd	SR 319	1,362	D	1,538	**E**	26,535	**D**
US 129	SR 11	Galilee Church Rd	1,293	D	1,480	D	25,628	**D**

(1) - Segment volume is the weighted average of directional link volume by distance
(2) - Two-way volumes

Figure 6.1.3.3 presents the future daily deficient segments along the existing plus committed roadway network.


N
NOT TO SCALE
Holly Springs Rd
Mutty Church Rd
Deadwyler Rd
SR 82 Spur
Woods Bridge Rd
B Wilson Rd
Apple Valley Rd
Pond Fork Church Rd
Wayne Poultry Rd
Lyle Field Rd
Brooks Rd
New Cut Rd
Jett Roberts Rd
County Farm Rd
Millenworks Rd
Cabin Creek Rd
Harris Lord Cemetery Rd
Old Pendergrass Rd
Sanford Rd
Gum Springs Church Rd
Galilee Church Rd
Jefferson River Rd
New Kings Bridge Rd
Old Kings Bridge Rd
Chandler Bridge Rd
Commerce Rd
Archer Grove School Rd
Lebanon Church Rd
Level of Service
LOS C and Better
LOS D
LOS E
LOS F
Roads
Interstate
Other Roads

6.2 Summary of Safety Assessments

The latest three years of available crash data from the Georgia Department of Transportation (1997, 2000 and 2001) was collected and analyzed for the Tri-County study area. The crash data was used to determine locations with potential safety deficiencies.

One measure used to determine potential safety deficiencies is crash rate. Crash rates for a particular location or segment are calculated by:

$$CrashRate = \frac{(3YearCrash) * 10^8}{(AverageADT) * (365Days/Year) * (3Years) * (Distance)}$$

This is referred to as the actual crash rate. The actual crash rate is compared to statewide averages for similar facility types maintained by GDOT. If the actual crash rate divided by the statewide average for similar facility types is greater than 1.0, then the location is consider a high crash location. Using this methodology high crash locations were identified for each of the three counties in the study area.

6.2.1 Banks County Safety Assessment

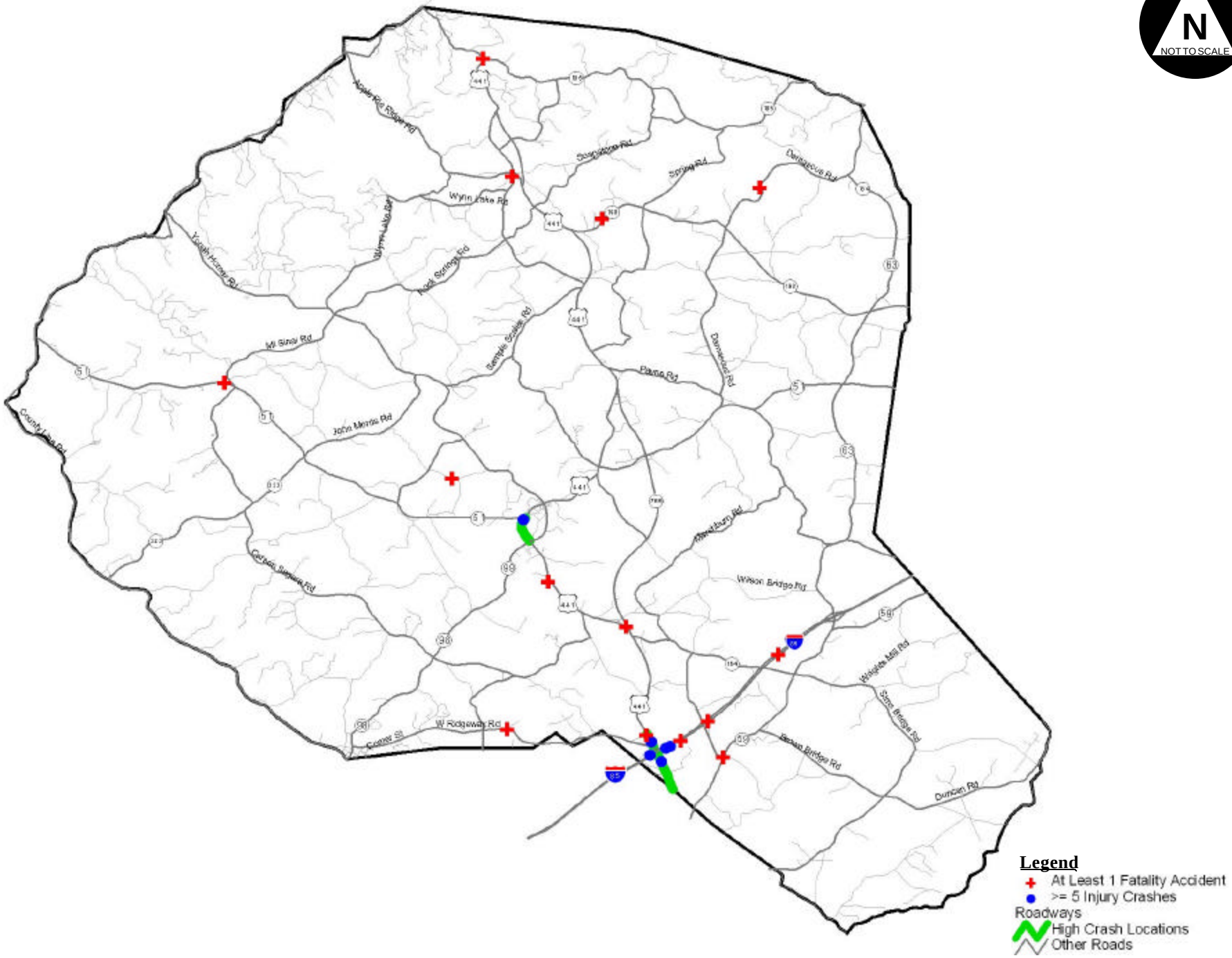
Three years of crash data (1997, 2000 and 2001) was collected and analyzed for Banks County. Table 6.2.1 displays the high crash roadway segments.

Table 6.2.1
High Crash Segments
Banks County

Roadway	Begin MP	End MP	Length (miles)	ADT	3 Year Crashes	Crash Rate	Statewide Crash Rate
US 441	0.99	1.32	0.33	6,482	22	890	141
US 441	0.36	0.78	0.42	19,334	19	214	141

In addition to the high crash segments identified in Table 6.2.1, Figure 6.2.1 also shows intersections with more than five crashes over the three year analysis period as well as fatality crash locations. The following locations experienced at least five (5) injury related crashes:

- US 441 at SR 15
- US 441 at Steven Tanger Boulevard
- US 441 between Pottery Factory Drive and I-85



TGI Engineers & Planners	Figure No: 6.2.1	Page No: 106	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***High Crash Locations Banks County***

The following locations experienced at least one (1) fatality related crash during the three-year analysis period:

- US 441 at SR 105
- US 441 just south of Apple Pie Ridge Road
- SR 198 between Dally Road and Hill Road
- Damascus Road between Damascus Church Road and Brady Creek
- SR 51 just west of Mt. Sinai Road
- Barn Road just west of Otis Ray Street
- US 441 near Banks County High School
- US 441 at SR 765
- W Ridgeway Road near CR 215
- US 441 at Faulkner Road
- SR 59 at Harden Bridge Road

6.2.2 Franklin County Safety Assessment

Three years of crash data (1997, 2000 and 2001) was collected and analyzed for Franklin County. Table 6.2.2 displays the high crash roadway segments.

Table 6.2.2
High Crash Segments
Franklin County

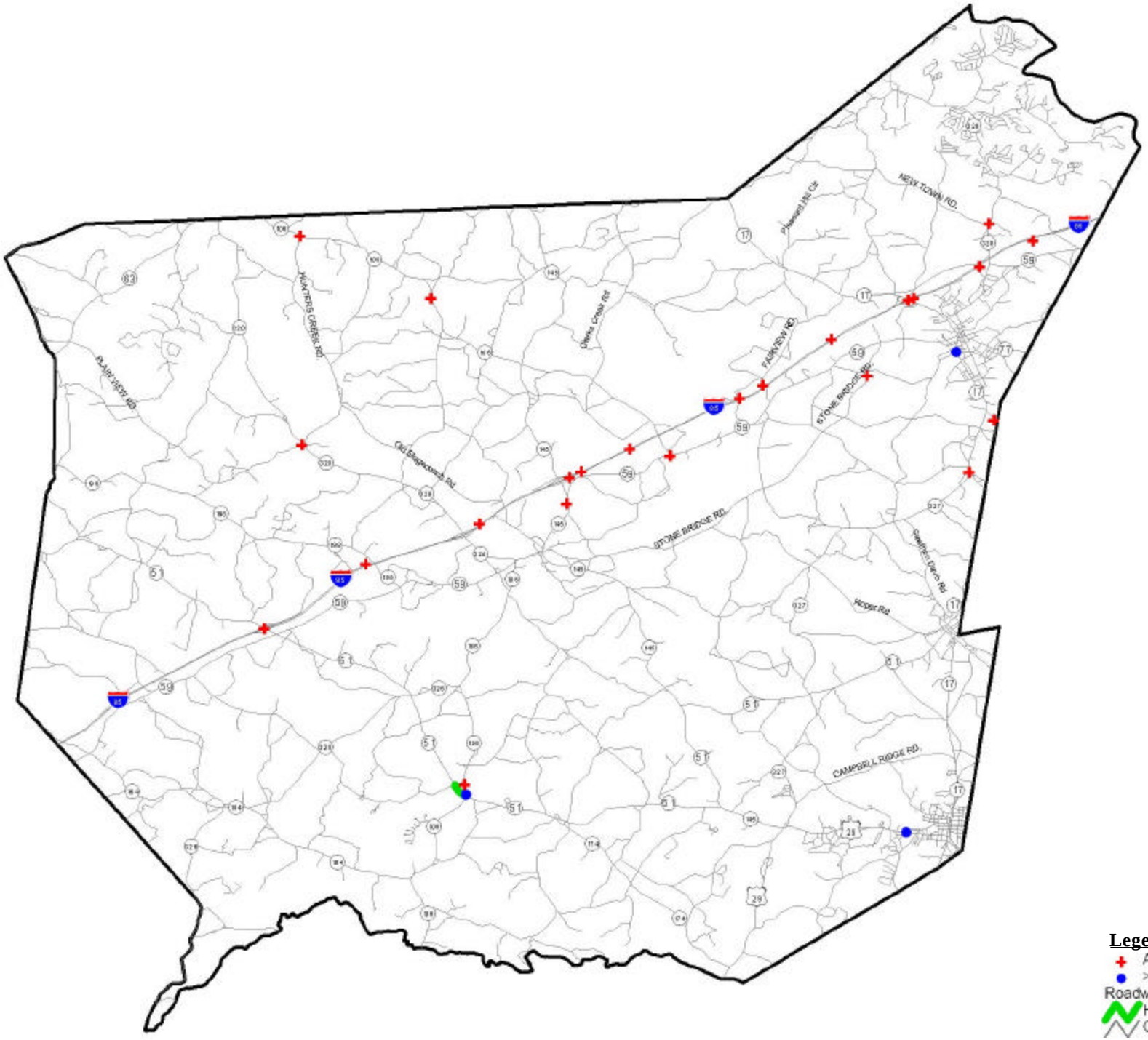
Roadway	Begin MP	End MP	Length (miles)	ADT	3 Year Crashes	Crash Rate	Statewide Crash Rate
SR 51	9.71	10.05	.034	2,120	8	633	205

In addition to the high crash segments identified in Table 6.2.2, Figure 6.2.2 also shows intersections with more than five crashes over the three year analysis period as well as fatality crash locations. The following locations experienced at least five (5) injury related crashes:

- SR 106 at SR 51
- US 29 between Williams Street and Cook Street
- SR 17 at Adams Street

The following locations experienced at least one (1) fatality related crash during the three-year analysis period:

- SR 106 at Hunters Creek Road
- SR 320 at New Bethal Road
- SR 106 at Broad River Church Road


N
NOT TO SCALE
NEW TOWN RD.
HUNTERS CREEK RD.
Davis Creek Rd
FAIRVIEW RD.
STONE BRIDGE RD.
Old Stagecoach Rd
STONE BRIDGE RD.
Hooper Rd
CAMPBELL RIDGE RD
Legend
At Least 1 Fatality Accident
>= 5 Injury Crashes
Roadways
High Crash Locations
Other Roads

- SR 106 between Busha Road and SR 59
- SR 59 at Brown Road SR 106 just south of Neal Road
- Stone Bridge Road just south of Allen Farm Road
- SR 17 between New Hope Ext and SR 327
- Lankford Road between SR 17 and Hart County Line
- SR 328 at New Town Road

6.2.3 Jackson County Safety Assessment

Three years of crash data (1997, 2000 and 2001) was collected and analyzed for the entire County. Table 6.2.3 displays the high crash roadway segments.

Table 6.2.3
High Crash Segments
Jackson County

Roadway	Begin MP	End MP	Length (miles)	ADT	3 Year Crashes	Crash Rate	Statewide Crash Rate
SR 53	2.15	2.49	0.34	5,932	12	543	205
SR 15 ALT	21.64	22.07	0.43	6,736	11	347	141
SR 15 ALT	22.18	22.90	0.72	5,728	12	266	141
SR 124	8.09	9.08	0.99	2,661	10	347	194
Hospital Road	0.33	0.88	0.55	2,700	7	430	194
Ednaville Road	0.80	1.66	0.86	740	5	718	245

In addition to the high crash segments identified in Table 6.2.3, Figure 6.2.3 also shows intersections with more than five crashes over the three year analysis period as well as fatality crash locations. The following locations experienced at least five (5) injury related crashes:

- SR 53 at New Cut Road
- SR 53 at Lagree Duck Road
- US 129 at Hog Mountain Road
- SR 332 at SR 124
- SR 11 at SR 124
- SR 11 at Jackson Trail Road
- US 129 between Magnolia Avenue and Gordon Street
- Sycamore Street at Danielsville Street
- US 129 at New Kings Bridge Road
- US 441 at SR 334
- US 441 at Jefferson Drive
- US 441 at S Elm Street

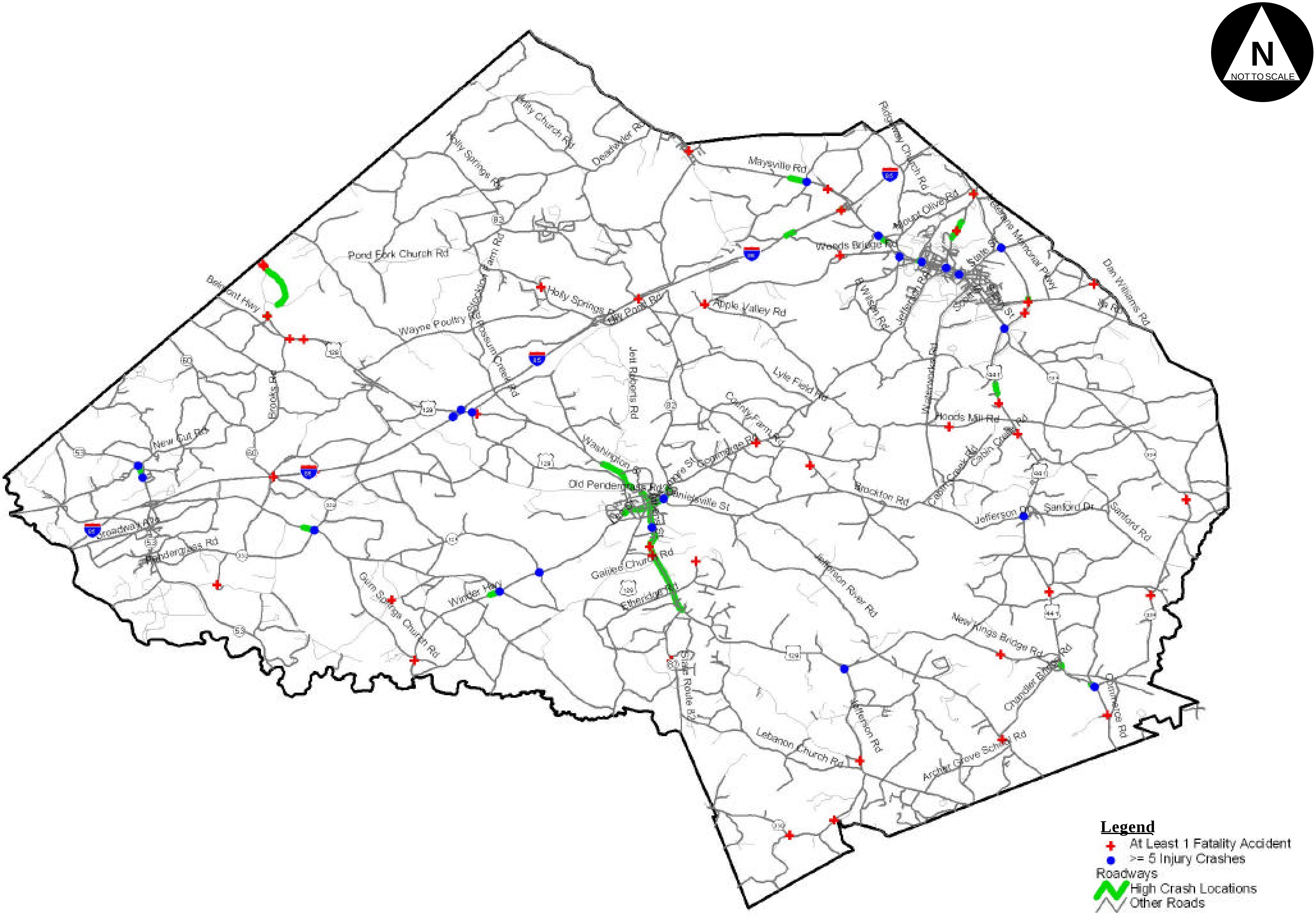


Figure No:	Page No:		
6.2.3	110	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***High Crash Locations Jackson County***

TEI Engineers & Planners

- SR 52 at Yarbrough Ridgeway Road;
- SR 98 at SR 326;
- SR 98 at B Wilson Road;
- SR 98 at Orchard Drive;
- SR 98 at SR 15 ALT;
- SR 98 at Central Avenue; and,
- US 441 at SR 326.

The following locations experienced at least one (1) fatality related crash during the three-year analysis period:

- Indian Creek Road at Jackson Trail Road;
- US 129 between Sosbee Road and Hall County Line;
- US 129 at AJ Irvin Road;
- US 129 between Mountain Creek Church Road and Lois Lane;
- US 129 just east of Lois Lane;
- US 129 just east of Hog Mountain Road;
- Jackson Trail Road between Whippoorwill Circle and Roberts Road;
- SR 11 just south of Gum Springs Church Road;
- US 129 at MLK Ave;
- US 129 between MLK Ave and Harris Lane;
- Rambler Inn Road between Rolling Acres Court and Meadow Lane;
- SR 82 between Windy Hill Road and McCreery Road;
- SR 82 just south of Oak Crest Lane;
- SR 52 at Garnett Street;
- SR 82 Spur at Apple Valley Road;
- SR 330 just east of Bob Wages Road;
- SR 330 at Redstone Creek;
- US 129 at Brock Road;
- Jefferson River Road between Chandler Bridge Rd and Archer Grove School Rd;
- New Kings Bridge Road at Shankles Creek;
- US 441 at Richmar Road;
- US 441 between Cooper Farm Road and Old Athens Drive;
- SR 334 at Short Cut Road;
- SR 334 just south of Seagraves Mill Road;
- Thyatira Brockton Road between Potts Road and Sandy Road;
- SR 15 ALT between Airport Road and McMullan Road;
- Hoods Mill Road just east of Old Hoods Mill Road;
- US 441 just south of Cabin Creek Road;
- US 441 just north of Richey Road;
- US 441 between SR 98 and S Elm Street;
- US 441 at SR 98;
- Blacks Creek Church Road between Allen Duncan Road and D Williams Road;
- SR 15 ALT between Cedar Drive and Beaverdam Creek;
- US 441 between SR 15 ALT at SR 59;
- Woods Bridge Road at Lords Mill Road; and,
- SR 52 between Wheeler Cemetery Road and Harden Orchard Road.

6.3 Summary of Bridge Deficiencies

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. With adequate maintenance any structure with a sufficiency rating of above 75 should maintain an acceptable rating for at least 20 years. Structures with a rating between 65 and 75 are less satisfactory and structures with a sufficiency rating of 65 or lower have a useful life of less than twenty years and will require major rehabilitation or reconstruction work during this period.

All bridges with a sufficiency rating of 75 or lower were identified as potentially deficient within the 2025 study horizon and a more detailed assessment of bridge inventory elements was performed to facilitate the ranking of bridges for potential improvement.

6.3.1 Banks County Bridges

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. A detailed inventory of these structures was completed and presented in Section 3.3.

6.3.2 Franklin County Bridges

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. A detailed inventory of these structures was completed and presented in Section 3.3.

6.3.3 Jackson County Bridges

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. A detailed inventory of these structures was completed and presented in Section 3.3.

6.4 Summary of Pedestrian and Bicycle Facilities

Given the rural nature of the majority of the study area, the limited bicycle and pedestrian transportation network is not unexpected. However, even in rural areas, there are places where bicycle and pedestrian activity occurs and infrastructure should be provided in these areas. In this study area, these places include the historic downtown areas, concentrations of retail development, and educational institutions such as schools and colleges. Some of the areas within the study region possessing pedestrian activity include Downtown Lavonia, Commerce, Jefferson, and Carnesville, the Jefferson High School area, and the outlet mall in Commerce. Additionally, State Bicycle Route 85 – Savannah

River - runs on-road along SR 77 in eastern Franklin County near Lake Hartwell. Paved shoulders are provided along this designated stretch of road.

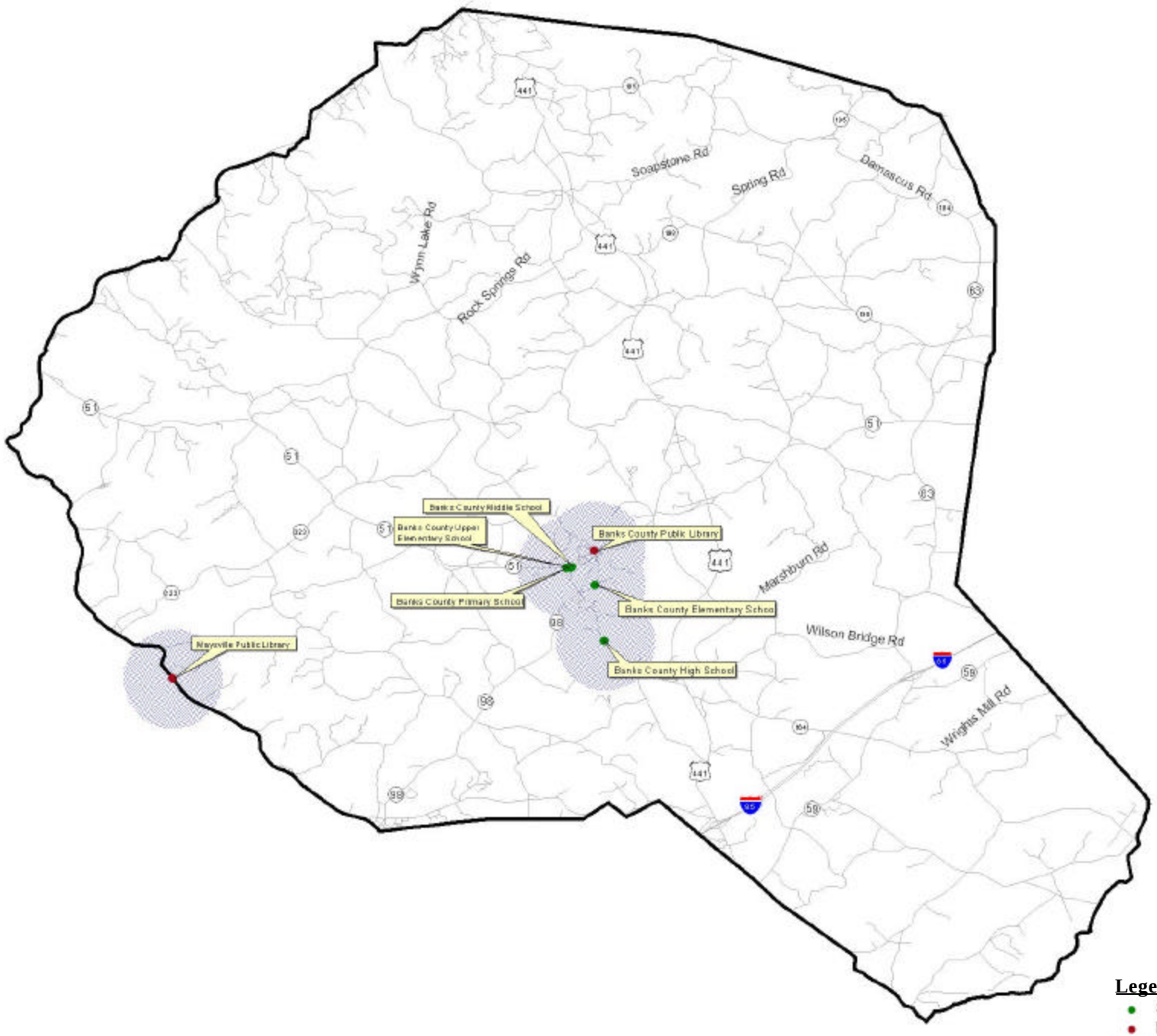
The current condition of the existing bicycle and pedestrian facilities are characterized by a partially developed network with varying level of maintenance. Some areas, notably Downtown Lavonia and Commerce, have significant networks of sidewalks that are maintained. However, other areas such as the downtown areas in Jefferson, Homer, and Carnesville have limited sidewalk networks that need improvement. There are also gaps in the networks at these locations. In some more recently developed areas, such as newer retail areas, and in some areas around schools, effective pedestrian networks are not in place.

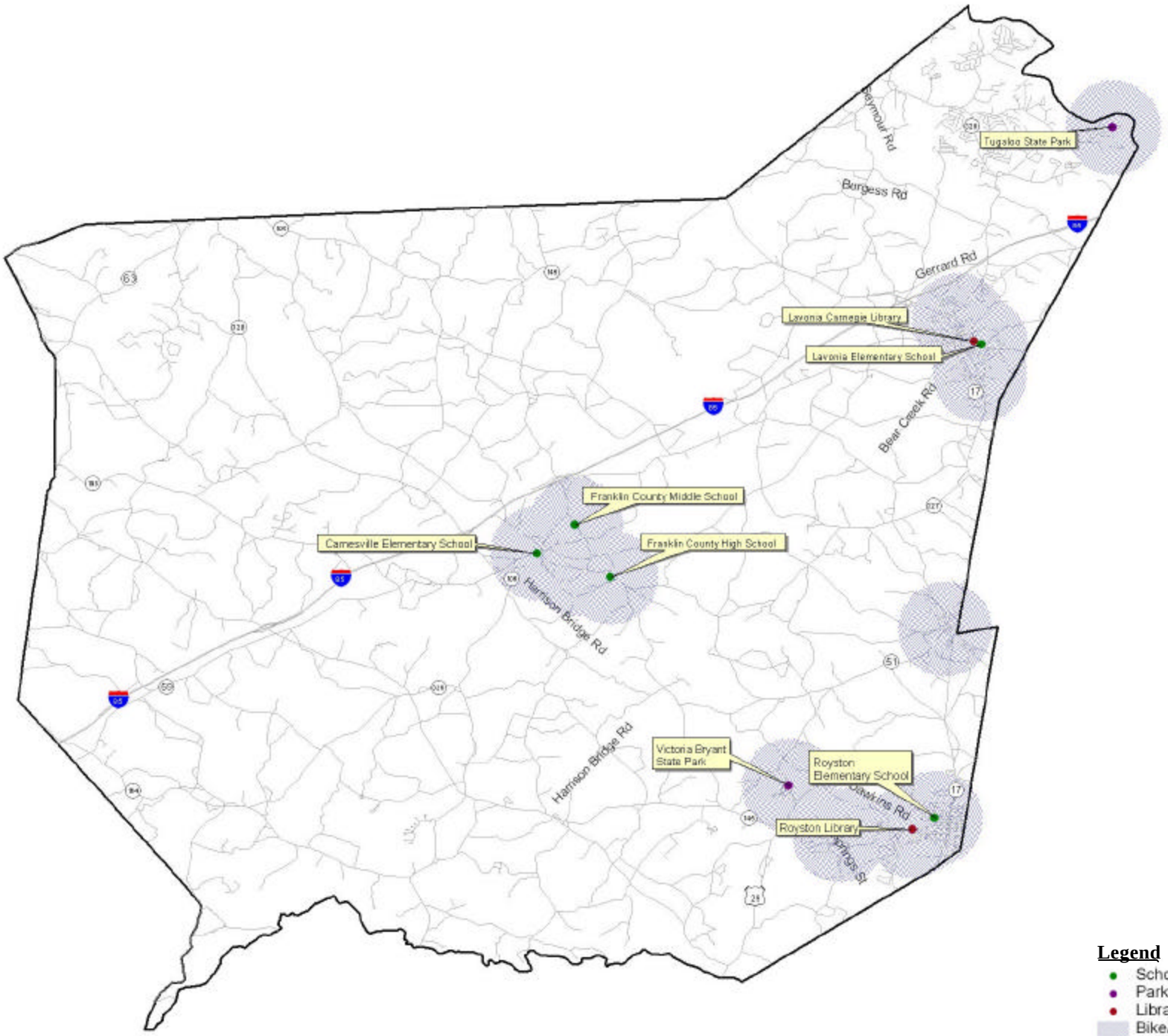
While the demand for bicycle and pedestrian facilities is not present throughout the entire study area, there are important locations where this type of travel activity must be accommodated safely and conveniently. These areas are found within the historic downtown areas, around recent retail developments, and around educational facilities. Even in these areas where there is demand for bicycle and pedestrian networks, the existing facilities are at best adequate. In some key locations, there are significant deficiencies within the bicycle and pedestrian networks.

Criteria were developed to identify and prioritize potential bicycle and pedestrian enhancements beyond those established in the GDOT Statewide Bicycle and Pedestrian Plan. Key bicycle and pedestrian prioritization criteria include:

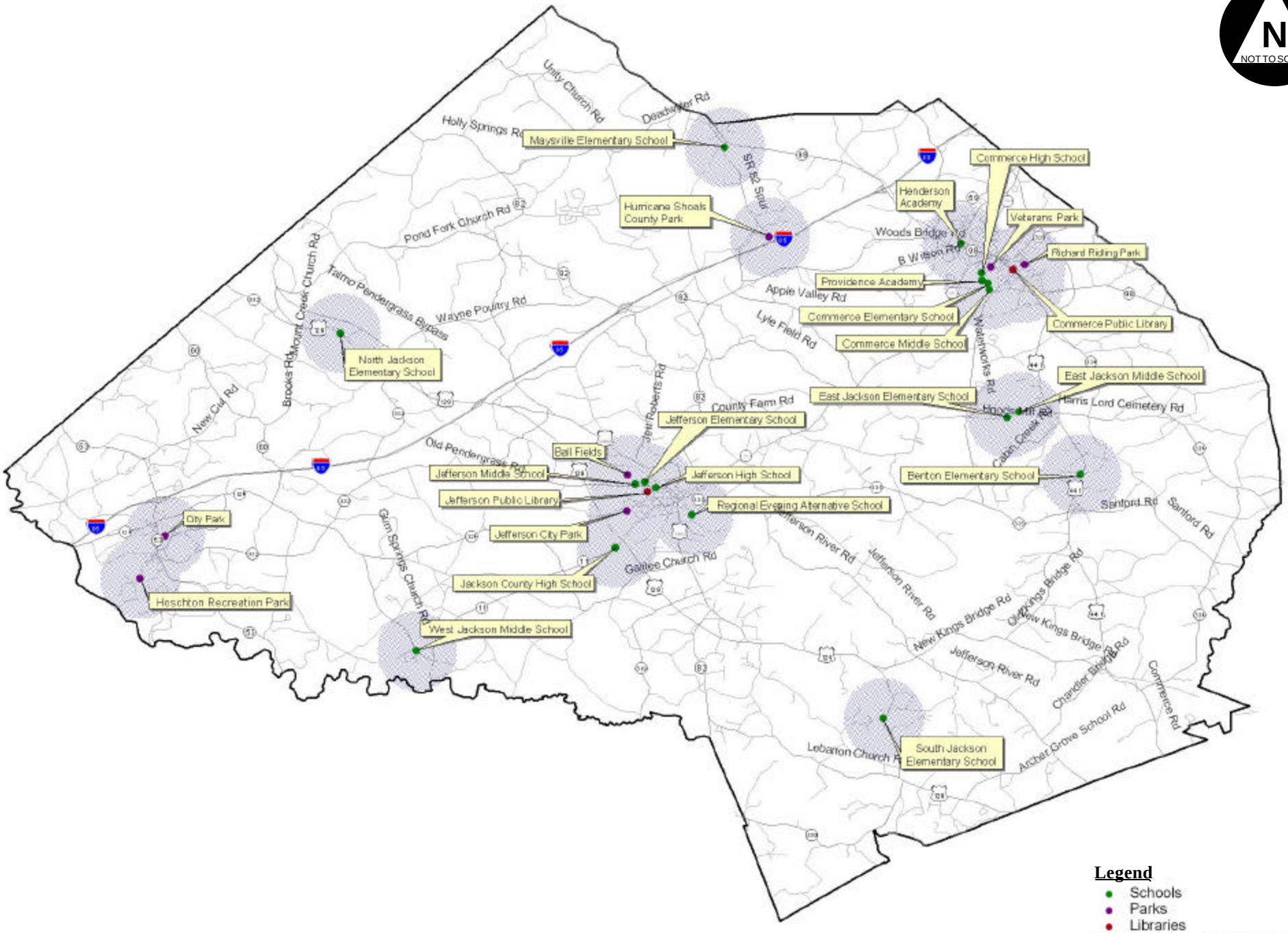
- Proximity to Schools and other public facilities;
- Infill – Connecting existing pieces of the sidewalk network;
- Connectivity – Access between major bicycle and pedestrian origins and destinations;
- Roadway Expansion – Where roads are reconstructed or constructed along new alignments, provide sidewalks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

Bicycle and pedestrian priority improvement areas are displayed in Figure 6.4.1 – 6.4.3


N
NOT TO SCALE
Soapstone Rd
Spring Rd
Damascus Rd
Wynn Lake Rd
Rock Springs Rd
Banks County Middle School
Banks County Upper Elementary School
Banks County Public Library
Banks County Primary School
Banks County Elementary School
Marshburn Rd
Wilson Bridge Rd
Nicholson Public Library
Banks County High School
Wrights Mill Rd
Legend
Schools
Libraries
Bike/Ped. Improvement Areas



TGI Engineers & Planners	Figure No: 6.4.2	Page No: 115	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Bicycle and Pedestrian Improvement Priority Areas Franklin County***



Engineers & Planners	Figure No: 6.4.3	Page No: 116	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Bicycle and Pedestrian Improvement Priority Areas Jackson County***

6.5 Summary of Public Transit Needs

Currently, only Jackson and Banks Counties have public transportation services. This service is provided through the use of Section 5311 funds procured from the Federal Transit Administration (FTA) and are administered through the Georgia Department of Transportation (GDOT). Service is on a dial-a-ride basis where customers' call and request service at a specific time and place, usually at least 24-hours in advance.

- Jackson County provides service with two (2) Ford 10-passenger minibuses. Services are provided Monday through Friday from 7:00 AM to 3:30 PM. About 8,000 riders per year use the service. Trips are frequently made to neighboring counties for medical purposes.

- Banks County Transit provides dial-a ride service with one eight (8)-passenger van with space for two (2) wheelchairs. Services are provided Monday through Friday between 8:00 AM and 5:00 PM with a 24-hour notice. Banks County Transit has averaged around 98 passengers per month in 2003 (or nearly 1,200 per year).

- The Georgia Department of Transportation also maintains a commuter park and ride lot just outside the study area in Braselton (Barrow County). This lot could be used by residents of the study area who participate in ridesharing (carpooling or vanpooling).

Public comment identified that the existing transit service was not able to accommodate the desires of all users, in particular users desiring to travel to Atlanta or other major destinations such as Athens or Gainesville.

The study area has a population of 76,817 people according to the 2000 U.S. Census. Census data reveal that although the study area contains a significant number of jobs, it is still a net exporter of workers. This means that there are more workers in the county than there are jobs. Table 6.5.1 provides the top destinations for workers residing in the study area. Table 6.5.2 presents the top areas where people working in the study area live.

Table 6.5.1
Major Counties of Employment for Study Area Residents

Area of Residence	Area of Employment	Percent of Total Employed Residents
Study Area	Study Area	50%
Study Area	Metro-Atlanta	12%
Study Area	Hall County	12%
Study Area	Clarke County	11%
Study Area	Habersham County	4%

Table 6.5.2
Major Counties of Residence for Study Area Workers

Area of Residence	Area of Employment	Percent of Total Study Area Workforce
Study Area	Study Area	62%
Hart County	Study Area	6%
Hall County	Study Area	5%
Madison County	Study Area	5%
Clarke County	Study Area	4%

This data suggests that most people who work in the study area reside in the study area or in one of the surrounding counties. Secondly, the data suggests that while most workers who live in the study area work in the study area, a significant portion (>10%) of study area residents commute to Metro-Atlanta. Further investigation revealed the most popular metro-area employment counties were, in order, Gwinnett County (8% of all workers), Fulton County (2% of all workers), and DeKalb County (1% of all workers).

This demographic profile suggests two concerns related to the study of non-auto transportation. First, a large and growing commuting population in the study area will likely eventually support transit services to major employment areas such as Metro-Atlanta, Gainesville, and Athens. Provision of transit services also has the potential to encourage new residents to locate in already built areas thereby reinforcing the existing municipalities in the area with their small-town feel and preserving the overall rural nature of the study area. Secondly, a growing elderly population, in the study area, including aging baby boomers, will drive less, walk more if facilities are available, and utilize the public transit system more than the general population. Table 6.5.3 displays the age demographics for the study area.

Table 6.5.3
Age Demographics

County	Banks	Franklin	Jackson	Total
1990 Census				
Population	10,308	16,650	30,005	56,963
Population 0-55 years	8,281	12,300	23,874	44,455
Population 55-65 years	842	1,761	2,525	5,128
Population >65 years	1,185	2,589	3,606	7,380
Percent of population >55 years	19.7%	26.1%	20.4%	22.0%
Percent of population >65 years	11.5%	15.5%	12.0%	13.0%
2000 Census				
Population	14,442	20,285	41,589	76,316
Population 0-55 years	11,483	14,983	33,320	59,786
Population 55-65 years	1,427	2,194	3,948	7,569
Population >65 years	1,512	3,108	4,321	8,941
Percent of population >55 & <65 years	9.9%	10.8%	9.5%	9.9%
Percent of population >65 years	10.5%	15.3%	10.4%	11.7%

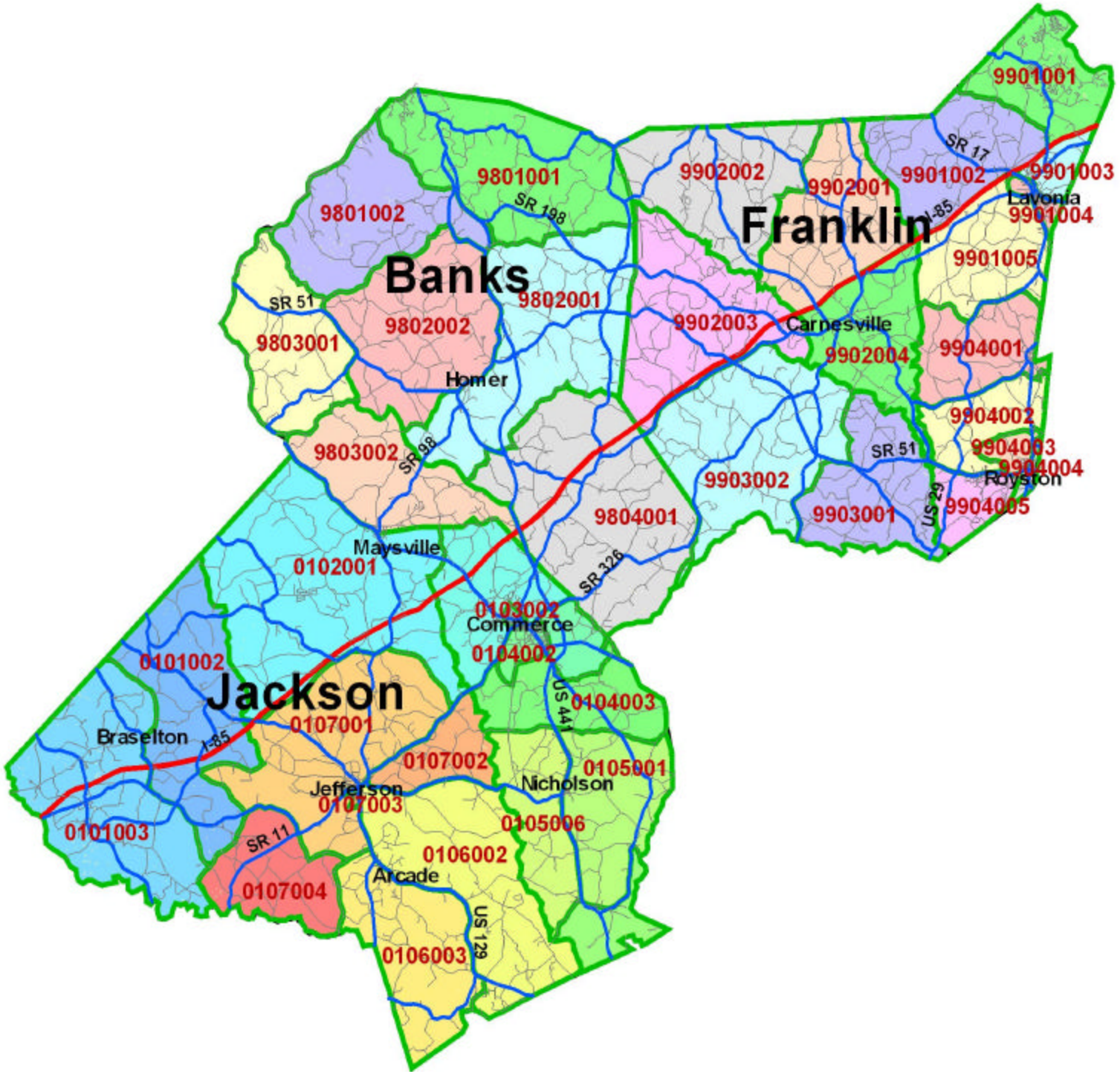
Additionally, several factors were used to evaluate the current need for transit services through the study area such as, socioeconomic data, work travel characteristics, existing transit services and public input. These factors help establish the amount of population identified as transportation disadvantaged and more likely to need and use public transit. This population is typically made up of low-income, elderly and minority persons. Tables 6.5.4 through 6.5.6 display the results of these indicators for the study area. The shaded areas indicate census block groups exceeding the state average and that could serve as potential candidates for transit services and park and ride lots. Figure 6.5 displays the Census Blocks Groups for the study area.

Table 6.5.4
Indicators for Potential Transit Needs
Banks County

Census Block Group	Over 65	Minority	Below Poverty
9801001	**11.3%**	3.3%	11.0%
9801002	9.0%	10.7%	**16.5%**
9802001	**11.2%**	8.3%	8.9%
9802002	**12.4%**	4.6%	**15.7%**
9803001	**10.6%**	4.3%	11.0%
9803002	9.7%	6.4%	5.2%
9804001	9.4%	9.3%	**17.5%**
County	**10.5%**	6.8%	12.5%
Statewide	9.6%	34.9%	13.0%

Table 6.5.5
Indicators for Potential Transit Needs
Franklin County

Census Block Group	Over 65	Minority	Below Poverty
9901001	**16.4%**	5.9%	7.1%
9901002	**10.7%**	11.9%	9.9%
9901003	**18.3%**	30.2%	**28.3%**
9901004	**18.6%**	29.3%	**34.5%**
9901005	**14.3%**	10.6%	**13.6%**
9902001	**15.0%**	4.3%	8.3%
9902002	**12.0%**	3.3%	9.0%
9902003	**12.3%**	8.0%	6.9%
9902004	**14.5%**	15.1%	**17.5%**
9903001	**12.3%**	1.2%	6.2%
9903002	**11.9%**	6.6%	7.1%
9904001	**14.5%**	5.1%	**26.0%**
9904002	**12.8%**	8.0%	**13.5%**
9904003	**19.3%**	12.0%	**21.4%**
9904004	**24.2%**	19.4%	**21.5%**
9904005	**22.8%**	10.1%	11.1%
County	**15.3%**	10.5%	**13.9%**
Statewide	9.6%	34.9%	13.0%



TGI Engineers & Planners	Figure No: 6.5	Page No: 120	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Census Block Groups Tri-County***

Table 6.5.6
Indicators for Potential Transit Needs
Jackson County

Census Block Group	Over 65	Minority	Below Poverty
101002	7.5%	6.1%	11.8%
101003	8.5%	5.7%	9.2%
102001	9.2%	6.2%	13.1%
103001	**19.7%**	22.8%	**14.6%**
103002	**20.9%**	11.2%	10.3%
104001	**15.1%**	3.9%	10.7%
104002	**15.6%**	4.8%	**15.5%**
104003	8.5%	9.4%	10.6%
105001	7.8%	12.1%	10.0%
105005	9.6%	7.3%	7.0%
105006	7.0%	4.9%	10.0%
106002	8.5%	19.8%	**15.7%**
106003	6.1%	14.6%	**14.9%**
107001	**11.2%**	15.1%	10.6%
107002	**15.2%**	6.5%	11.3%
107003	**12.6%**	**37.9%**	**28.7%**
107004	7.1%	8.0%	7.1%
County	**10.4%**	11.0%	12.0%
Statewide	9.6%	34.9%	13.0%

Another transit indicator is a high percentage of carpooling or households without access to automobiles. Banks and Jackson County exceed the state wide average for carpools (14.5%) with 15.0% and 15.5% respectively. The Countywide percentages of households without an automobile are below the statewide average (8.2%) for each of the three counties.

6.6 Summary of Freight Needs

There are four rail lines in the study area – the Norfolk Southern (NS) Mainline, the Gainesville Midland, Lula Secondary, and Hartwell Rail Line. Each of these lines is in operation and provides freight service for the study area. Additionally, Amtrak's Crescent operates over the NS Mainline, though there are no stops in the study area. There are no currently active rail yards in the study area, though some sidings are provided to allow businesses to access the rail lines. Three railroads operate within the study and operate four different lines. The information presented below comes from either the GDOT Office of Intermodal Programs, particularly the 1998 Rail Freight Plan, or the Georgia Geographic Information System (GIS) Clearinghouse.

Two evaluation criteria were established to evaluate freight movement through the study area: safety and commodity flows. Additional discussion is provided in the following sections.

6.6.1 Safety

Between 2000 and 2002, there were five (5) incidents reported to the Federal Railroad Administration (FRA). One involved Amtrak's Crescent in December 2001 in a rail-highway crossing crash along the NS mainline in Banks County. The other crashes occurred along the Lula Secondary and involved three incidents involving low speed collisions or derailments along sidings in 2002 and one incident in 2000 with a low speed train at a rail-highway grade crossing.

6.6.2 Commodities

The major commodities moved by the railroads that originate or terminate within the study area are Pulp/Wood/Paper products and Clay/Concrete/Glass/Stone products. Jackson County is a source for these products while Franklin County is a terminating point for Clay/Concrete/Glass/Stone products. Overall, the State Freight Plan predicts a 1.3% annual growth rate for Concrete/Glass products and an annual growth rate of 1.6% for Pulp and Paper products. Therefore, rail traffic is likely to increase within the study area for Concrete/Glass products in Jackson and Franklin counties, while Jackson County will likely see a reduction in rail traffic for Pulp and Paper products.

6.6.3 Norfolk Southern (NS) Main Line

The Norfolk-Southern Main Line of the Piedmont Division runs along the northern border of Banks County and roughly defines the border between Banks and Habersham Counties. The rail line splits the Cities of Baldwin and Alto. This line is the main freight line between Atlanta and Washington D.C. and consequently carries a large number of trains. This line carries between 27 and 30 million gross ton miles/mile (MGTM/M) annually. Amtrak also operates one train in each direction daily along this line, but

Amtrak has no stops within the study area. Additionally, this line is part of the proposed route for a train carrying nuclear wastes to Yucca Mountain in Nevada.

The NS Mainline is an active freight line. At one point, the line was double-tracked throughout the study area, but is currently operated as single-tracked. As noted previously, there are a number of grade crossings and bridges over the rail line in the study area. The line is also part of the federally designated Southeastern High Speed Rail Corridor. Given this designation and the increasing freight traffic on main rail lines throughout the country, attention should be focused on the preservation of right-of-way and preventing encroachment (new grade crossings) on the existing right-of-way to preserve opportunities for increased rail service in the future.

6.6.4 Gainesville Athens Secondary

This CSX-operated secondary line, the Gainesville Midland Secondary, runs through Jackson County through Jefferson and Arcade, roughly paralleling US 129. This line carries 2.5 MGTM/M annually. In 2001, it was estimated that about six trains per day operated along this line, three in each direction.

The Gainesville Midland is an active freight line running from Gainesville to Athens. Owned by CSX railroad, the line currently handles six (6) trains a day and serves the Jackson County cities of Talmo, Pendergrass, Jefferson, and Arcade. This line is the primary rail access serving the industrial sites around I-85 between Pendergrass and Jefferson and therefore is an important part of Jackson County's economy. Accordingly, efforts should focus on maintaining rail-highway safety devices along the line and preventing unnecessary encroachment on the line (i.e. new grade crossings).

6.6.5 Lula-Athens Secondary

This Norfolk-Southern Lula Secondary lines runs through Banks and Jackson Counties. The line forms part of the western border of Banks County and serves Gillsville, Maysville, Commerce, Nicholson, and Center and carries 1.5 MGTM/M annually. This line roughly parallels the border between Hall and Banks Counties and then US 441 through Jackson County. The line provides the main rail access for industrial sites in eastern Jackson County. Accordingly, efforts should focus on maintaining safety devices along the line and preventing unnecessary encroachment on the line (i.e. new grade crossings).

6.6.6 Hartwell Rail Line

The Hartwell Shortline operates through eastern Franklin County and stretches between Toccoa and Elberton. Roughly paralleling SR17, the line serves Lavonia, Canon, and Royston. According to the 1998 Georgia Rail Freight Plan, this line carried 4,289 carloads annually. This line saw extraordinary growth in freight traffic between 1995 and 1998, increasing from less than 1,500 carloads to the current level.

The Hartwell Rail Line is a privately owned short-line railroad. The line runs parallel to SR 17 in eastern Franklin County and provides the main rail access for industrial sites around Lavonia, Royston, and Canon. Outside of the study area, the GDOT Rail Division provided funds to rehabilitate about 10 miles of track between Hartwell and Bowersville. Inside the study area, the line is marked by the need for better crossing devices. The track is also aging. As the main rail access for industrial sites in Franklin County, this line is important to the study area and efforts should focus on partnerships with the Hartwell Rail Line to improve track conditions and grade crossing warning devices.

6.6.7 Summary

The study area is well served by rail lines in the north-south direction. Most of the lines within the study area are secondary lines connecting the Norfolk Southern Line between Atlanta and Greenville, S.C. and the CSX line between Atlanta and Athens. Consequently, the overall impact of the rail lines on the study area is minimal. However, these low volumes belie some important special circumstances. Because of the historical importance of the railroads, several of the municipalities in the study area grew up around the railroad tracks and are bisected by the tracks. Particularly in Commerce and Maysville, the railroad tracks are bordered on both sides by roadways presenting several rail-highway grade crossings in heavily traveled areas. These railroad tracks also provide a barrier for pedestrians crossing from one side of town to the other, an important consideration in historical areas such as Downtown Commerce, where pedestrian activity is important to the economic success of businesses.

Rail traffic is an important element in the industrial base of the study area. Care should be taken to make sure that any increases in rail traffic do not adversely impact historic areas, residential areas, and other sensitive land uses. Freight traffic needs to be managed well in the study area so that rail lines continue to be a valuable transportation asset for the study area.

6.7 Summary of Aviation Needs

There are currently two active airfields in the study area and one airport located on the edge of the study area. The Jackson County Airport is located off Airport Road and SR 80 northeast of Jefferson. The airport entrance is located on Airport Road. The Franklin-Hart County airport is located west of Canon north of SR 51. Both of these airports are general aviation airports and do not receive regular scheduled commercial service. These airports serve personal, business, and other travel purposes. Small planes use these airports. Additionally, the Habersham County Airport is partially located in Banks County, but is accessed through Habersham County and the City of Cornelia. All of the following information is taken from the GDOT's 2002 Aviation Directory or its General Aviation System Plan.

The nearest commercial aviation airport is located in Athens, which provides commuter service to Atlanta and other locations. Additionally, Hartsfield Atlanta International Airport is located off I-85 approximately 60 miles south, or an hour's drive, of the study area and Greenville-Spartanburg International Airport is located roughly an hour's drive north of the study area along I-85.

6.7.1 Jackson County Airport

The Jackson County Airport is currently listed by GDOT's General Aviation System Plan as a Level II Airport – a business airport of local impact. GDOT has established an objective of a minimum runway length of 5,000 feet for Level II airports. Currently, the Jackson County Airport does not meet this objective; however, a 900-foot extension to Runway 16-34 is planned and would meet GDOT's minimum standard for runway length.

Additional projects currently underway at the Jackson County Airport include a 52-space apron and renovations to the hanger. The expansion of Runway 6-27 is constrained by the presence of SR 82 and Airport Road.

6.7.2 Franklin-Hart County Airport

Located just west of Canon off County Road 27, the Franklin-Hart County Airport provides air service for Franklin and Hart Counties. There is one runway, Runway 8-26, with a length of 3,500 feet. According to the Franklin-Hart Airport Authority, the runway has recently been repaved and there are plans to extend the runway to 5,000 feet. There are hangars available for storage of aircraft. The airport is unattended.

The Franklin-Hart County Airport is currently designated by GDOT as a Level I Airport – a minimum standard general aviation airport. Level I airports have an objective of having a 4,000-foot runway. The Franklin-Hart County Airport will meet this standard if the planned runway extension proceeds. Franklin County noted that future enhancements to the SR 17 corridor should be planned to accommodate the extended runway.

There are 19 aircraft based at the airport with an average of 105 operations per week. Approximately 55% of operations are local general aviation and 45% are transient general aviation operations.

6.7.3 Habersham County Airport

Located in Cornelia and mostly contained within Habersham County, the Habersham County Airport provides service for Habersham and Banks Counties. There is one runway, Runway 8-26, with a length of 4,200 feet. The airport is attended.

The Habersham County Airport is currently designated by GDOT as a Level II Airport – a business airport of local and regional impact. GDOT has established an objective of a

minimum runway length of 5,000 feet for Level II airports. Currently, the Habersham County Airport does not meet this objective.

There are 50 aircraft based at the airport with an average of 49 operations per day. Approximately 61% of operations are local general aviation, 37% are transient general aviation, and 2% are military operations.

6.7.4 Summary

The study area is well served by two general aviation airports located in Jefferson and Canon. The airports are planning future runway extensions and other improvements where possible to benefit the air travelers in the area and achieve the objectives of the Georgia Statewide Aviation System Plan. This study is not recommending any additional enhancements.

6.8 Summary of Public Comment

The following is a summary of public comments with respect to transportation issues and opportunities in Banks County based on input documented in Section 1.4:

- Restripe Wynn Lake Road;
- Bus or rail transportation connecting Banks County to Gainesville and Athens;
- Access points along US441 should be limited by using frontage roads;
- Rails to trails;
- Commuter rail from Banks County to Atlanta;
- Traffic signal at US441 & Faulkner Road;
- Access road between Golden Pantry and Homer Drugs on Old US441;
- More rest areas along I-85;
- Restripe intersection of SR51 & Old US441;
- Traffic signal at US441 & SR98/Evans Street;
- Resurface McCoy Bridge Road;
- Increase turn radius at intersection of Banks and US441;
- Traffic signal at US441 & SR51; and,
- Ride-share programs need to be encouraged to alleviate traffic congestion.

The following is a summary of public comments with respect to transportation issues and opportunities in Franklin County based on input documented in Section 1.4:

- Construct pedestrian bridge and sidewalks from downtown Carnesville to retail area on SR59;
- Sight distance problem at intersection of SR59 and SR198;
- Resurface SR198;
- Alternate route needed for trucks using SR198 around square at SR59;
- Weight restrictions need to be enforced;

- Study for outer loop connector between Carnesville and Adairsville, passing through Dawsonville, north of Lake Lanier;
- Study for Royston – Franklin Springs by-pass;
- Problems turning left onto US29 from Dawkins Road;
- Need to direct large trucks around Royston;
- Pavement damage due to construction traffic in Royston;
- Construct sidewalks on SR106 and SR145 near Franklin Middle & High Schools;
- Traffic problems around the Carnesville Square;
- Widen and pave Lewis Crump Road;
- Problems with passing traffic interfering turns between Hale Crossing Road and SR51;
- Drainage problems on SR320 between milepost 3 and 9, and SR106 near Providence Church;
- Numerous accidents at intersections of Hunter's Creek & SR320 and SR51 & SR106; and,
- Relocate stop sign and add speed bumps at Busha Road and Stone Bridge Road.

The following is a summary of public comments with respect to transportation issues and opportunities in Jackson County based on input documented in Section 1.4:

- Signal at intersection of SR53 & New Cut Road/Ednaville Road in Braselton;
- Rumble strips on Curk Roberts Road to alert drivers of stop sign at New Cut Road;
- Install 4-way stops at major intersections along SR98 in Commerce and Maysville;
- Identify SRs 1 mile ahead of turns;
- Make Mount Olive Road in Commerce a no truck route;
- Intersection of US 441 and Mount Olive Road in Commerce needs to have a signal, prohibit U-turns, and improved signage;
- Need a passenger rail system from Commerce to Athens;
- Passengers rail should be in interstate medians;
- I-85 should be widened from I-985 to SR53, or even beyond to the South Carolina state line;
- Realignment of SR124 and SR53 should be in line with the city of Braselton's plans;
- Need bike path on SR332;
- Relieve traffic on Jefferson Street and throughout town;
- Need to secure land for bike/ped. facilities when acquiring land for recreational facilities;
- Need a southern east-west route to assist in travel from Braselton to Athens;
- Complete a loop around Jefferson to assist in access;
- Do not widen US129 & US441 during projects;
- Need improvements to Jackson County public transportation system;
- Need additional signage on the Jefferson Bypass;
- Need more sidewalks and crosswalks in Jefferson; and,
- Repave Jefferson River Road.

7.0 Goals, Objectives and Policies

This chapter presents Goals, Objectives, and Policies (GOPs) for the Banks, Franklin, and Jackson County Multimodal Transportation Study. It also contains the methodology and rationale used to develop the GOPs. The GOPs were developed so that the LRTP may adhere to all applicable state and federal legislation.

7.1 Background

GOPs 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 alternatives. Goals and Objectives reflect those intentions that the Plan is meant to achieve, while Policies or "evaluation criteria" are quantifiable means of measuring the Goals and Objectives.

Goals, Objectives, and Policies should be consistent with relevant federal, state, and local plans and legislation. Previously, GOPs had to be consistent with the "15 factors" contained in the Intermodal Surface Transportation Efficiency Act (ISTEA). With the passage of the Transportation Equity Act for the 21st Century (TEA-21), seven factors must now be considered when a Metropolitan Planning Organization (MPO) develops the LRTP. **It is understood that these Counties are 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:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety and security of the transportation system for motorized and non-motorized users;
3. Increase the accessibility options available to people and freight;
4. Protect and enhance the environment, promote energy conservation, and improve quality of life;
5. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
6. Promote efficient system management and operation; and
7. Emphasize the preservation of the existing transportation system.

7.2 Methodology

The GOPs were developed based on a review of relevant planning documents including the Banks County 2020 Comprehensive Plan, the Franklin County 2020 Comprehensive Plan, the Jackson County 2020 Comprehensive Plan, and the Georgia Department of Transportation Statewide Transportation Plan. Additionally, through input obtained at various public workshops, development of the GOPs was also tailored to reflect the vision of Tri-County residents and business owners.

Table 7.2, excerpted from the "TEA-21 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 TEA-21 planning factors, depending on whether systems or individual projects are being evaluated.

Table 7.2
Applying the TEA-21 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	• Intermodal facilities • Rail and port access • Public/private partnerships • Land use policies • Economic development • Energy consumption	• Community integration • Long-term, meaningful employment opportunities • Accessibility • Modal connectivity • Infrastructure impacts	• Demand management • System preservation • Planned community development • Transit-oriented design
2. Increase the safety and security of the transportation system for motorized and non-motorized users	• Community access • Transit usage • Social equity • System upgrades	• Benefits across modes • Community integration/impact • Human safety	• Transit facility improvements • Traffic calming • Dedicated right-of-way for different modes
3. Increase the accessibility and mobility options available to people and for freight	• Multimodal considerations • Transit accessibility and level of service	• Prevention of bottlenecks • Segmentation prevented • Intermodal connectivity • Community-based economic development	• System maintenance • Intermodal facilities • Planned Communities • Mixed use zoning • Transit-oriented development • Land use controls
4. Protect and enhance the environment, promote energy conservation, and improve quality of life	• Air and water quality • Energy consumption • Livability of communities --social cohesion, physical connection, urban design, and potential for growth	• Environmental impact • Emissions reductions • Waterway preservation • Preservation and conservation of resources	• Demand management • Scenic and historic preservation • Planned community development • Transit services • Transit-oriented development

Factor	Long Range Considerations	Project Selection Criteria	Sample Projects
5. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	• Intermodal transfer facilities • Rail and port access roads • Container policies • Freight policies/needs	• Intermodal connectivity • Accessibility for people and freight • Congestion relief and improved safety	• Intermodal facilities • Rail extension to ports • Transit or highway access to ports • Modal coordination with social services
6. Promote efficient system management and operation	• Life cycle costs • Development of intermodal congestion strategies • Deferral of capacity increases	• Use of existing system • Congestion impacts • Community and natural impacts • Maintenance of existing facilities	• Traffic, incident and congestion management programs
7. Emphasize the preservation of the existing transportation system	• Maintenance priorities • Demand reduction strategies • Reasonable growth assumptions • Alternative modes	• Maintenance vs. new capacity • Reallocates use among modes • Reflects planning strategies	• Management System development • Maintenance of roads, bridges, highways, rail • Traffic calming • Take-a-lane HOV • Enhancement of alternative modes

Source: TEA-21 Users Guide

7.3 Consistency with Other Planning Documents

In addition to TEA-21, the GOPs should also be consistent with other state and local plans, such as local comprehensive plans and regional policy plans. In this way, the GOP's of the Long Range Transportation Plan support the planning efforts of local governments and agencies. In particular, emphasis was placed on the Comprehensive Plans for Banks, Franklin and Jackson Counties. Relevant goals from each of the County Comprehensive Plans are documented below.

7.3.1 Banks County

Key transportation related goals, objectives and strategies from the Banks County 2020 Comprehensive Plan include:

- Encourage and promote the location of industries which can capitalize on railroad transportation;
- Strive to attract tourists and stopover of passerby traffic through promotion of historic resources;
- Preserve scenic views and sites, where possible;

- Promote low-density rural character;
- Promote compact, rather than sprawled development;
- Encourage the most intensive concentration of commercial land uses to locate near the interchanges of I-85;
- Restrict highway-oriented businesses and strip commercial development to locations near the intersections of major thoroughfares already developed or designated for commercial uses;
- Locate industrial uses in existing areas or those areas served by major thoroughfares;
- Provide for travel needs of residents and the distribution of goods throughout the region and County with appropriate access facilities that minimize travel costs, time, safety hazards, and adverse environmental impacts;
- Ensure adequate right-of-way widths for future road improvements, expansions, and extensions;
- Provide for inter-parcel access between adjacent commercial and office development to reduce ingress and egress to/from major thoroughfares;
- Restrict the number and location of curb cuts and access breaks serving non-residential development to locations that will not interfere with the capacity and safety of through traffic;
- Promote the use of a rural public transportation program;
- Provide safe and adequate pedestrian sidewalks and street crossings within a one-mile radius of schools, along major thoroughfares, and from nearby higher density residential areas to commercial and other activity centers; and,
- Continue annual road improvements with funds from GDOT's Local Assistance Road Program (LARP), based on a priority schedule of needed road improvements.

7.3.2 Franklin County

Key transportation related goals, objectives and strategies from the Franklin County 2020 Comprehensive Plan include:

- Provide an industrial park with appropriate utilities and access to I-85;
- Continue efforts to encourage GDOT to widen SR 17;
- Make road improvements as necessary;
- Pave 20 miles of dirt/gravel roads per year; and,
- Request increased roadway monitoring by State Patrol.

7.3.3 Jackson County

Key transportation related goals, objectives and strategies from the Jackson County 2020 Comprehensive Plan include:

- Respect and maintain prevailing land use patterns;

- Coordinate infrastructure and land use;
- Encourage redevelopment of obsolete or economically deteriorating areas;
- Protect the capacity of major thoroughfares through nodal development techniques;
- Emphasize redevelopment over expansion of commercial uses into unforeseen areas; and,
- Encourage industrial, office, and commercial employment opportunities in appropriate locations.

7.4 Year 2025 Goals, Objectives and Policies (GOPs)

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

GOAL 1.0 Establish an integrated multimodal transportation system consistent with the future transportation needs of the residents, visitors and businesses of the County.

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.

Policy 1.1.1 Additional consideration shall be given to improvements that are included in the 2025 Needs Assessment.

Policy 1.1.2 Additional consideration shall be given to improvements that specifically further the goals of relevant comprehensive plan(s).

Objective 1.2 Consider the overall social, land use compatibility, economic, energy, and environmental effects of transportation decisions in the development of the Long Range Transportation Plan.

Policy 1.2.1 Additional consideration shall be given to transportation system alternatives that result in overall lower emissions, enhanced energy conservation, and noise reduction.

Policy 1.2.2 Additional consideration shall be given to transportation system alternatives that result in the lowest degree of disruption of environmentally sensitive lands.

Policy 1.2.3 Additional consideration shall be given to transportation system alternatives that result in the lowest degree of disruption and enhanced connections between existing neighborhoods, and that are otherwise compatible with existing land use patterns.

Policy 1.2.4 Additional consideration shall be given to transportation projects that support community based activities.

Policy 1.2.5 Encourage that a 'livable streets" philosophy be developed and applied on all new roadway construction and reconstruction projects within activity centers or incorporated areas of the County(ies).

Policy 1.2.6 Recognize that in certain instances, it is in the community interest to accept a reduced level of service standard along certain roadway segments or for certain periods of time in order to maintain a "livable" community environment.

Objective 1.3 Existing and future roadway deficiencies, based on level of service standards established by GDOT, shall be mitigated through a continuous roadway or transportation system improvement program.

Policy 1.3.1 Additional consideration shall be given to transportation system alternatives that result in overall lower volume to capacity (V/C) ratios.

Policy 1.3.2 Additional consideration shall be given to improvements that act as an alternative to travel along I-85.

Policy 1.3.3 Additional consideration shall be given to projects improving mobility to major employment centers such as Athens, Gainesville and Atlanta.

Objective 1.4 In coordination with the County and municipalities, develop a cooperative program to maintain existing transportation facilities in the County.

Objective 1.5 Maximize the use of existing transportation facilities through the use of Transportation System Management (TSM), Transportation Demand Management (TDM), and Access Management strategies.

Policy 1.5.1 Additional consideration shall be given to transportation system alternatives that include TSM/TDM and access management.

Policy 1.5.2 Additional consideration shall be given to intelligent transportation system (ITS) solutions to congestion with a particular emphasis on incident management.

Policy 1.5.3 Access management strategies shall be considered along congested corridors prior to recommending capacity enhancements.

Objective 1.6 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.

Policy 1.6.1 Additional consideration shall be given to improvements, projects and actions that provide for protection and advance acquisition (if a Record of Decision (ROD) has been obtained) of future right-of-way needs for the Transportation Plan.

Objective 1.7 Update the Long Range Transportation Plan a minimum of every five years to evaluate and provide for future needed transportation system links between the County and other urban areas.

Policy 1.7.1 Review the socio-economic data used to develop the LRTP in coordination with local land use amendments.

Objective 1.8 Incorporate the opportunities for transportation activities as part of new construction, reconstruction of existing facilities, and maintenance.

Policy 1.8.1 Additional consideration shall be given to projects that are continuations of or provide connectivity between existing, ongoing, or planned, transportation projects.

Objective 1.9 Landscape transportation rights-of-way with native and/or "low-impact" vegetation on shoulders and medians, in order to conserve water, reduce pesticide use, conserve energy, and reduce costs by minimizing maintenance requirements.

Objective 1.10 ***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.***

Policy 1.10.1 Additional consideration shall be given to improvements that provide access enhancements to the National Highway System.

Objective 1.11 ***The Long Range Transportation Plan will consider federal, state and local energy conservation programs, goals, and objectives that may be incorporated into the plan.***

Objective 1.12 ***All transportation engineering studies and designs shall consider life cycle costs of capital investments.***

GOAL 2.0 Provide for the mobility needs of the citizens of the County without access to automobiles.

Objective 2.1 ***Develop and review annually the Transit Development Plan (TDP) and Transportation Disadvantaged Service Plan (TDSP) to provide for public transit and Paratransit.***

Policy 2.1.1 Additional consideration shall be given to transportation system alternatives that allocate resources for transit and/or paratransit.

GOAL 3.0 Develop a bicycle and pedestrian transportation system that provides access to all major public and private facilities.

Objective 3.1 ***The County shall encourage each local government to implement bicycle and pedestrian improvements in major activity centers, and accessing schools, parks and libraries.***

Policy 3.1.1 As part of the planning and design phase of all road improvement projects each project shall be evaluated for the feasibility of bicycle and pedestrian facility opportunities.

Policy 3.1.2 Any bicycle and sidewalk improvements should be planned so to interconnect with existing facilities.

Policy 3.1.3 As new development is reviewed and permitted bicyclists and pedestrians should be considered to determine the need for improvement or connectivity.

Policy 3.1.4 Bicycle and pedestrian improvements shall be prioritized based on the one-mile buffers around key land uses such as schools, libraries, and activity centers.

GOAL 4.0 Provide a transportation system that is safe for users of any mode.

Objective 4.1 Reduce transportation related accidents, injuries, and deaths.

Policy 4.1.1 Additional consideration shall be given to transportation system alternatives that result in lower incident and fatality rates.

Objective 4.2 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.

Policy 4.2.1 Additional consideration shall be given to transportation improvement projects where existing pavement conditions warrant improvement.

Objective 4.3 Focus on high accident areas for transportation improvements.

Policy 4.3.1 Yearly, the County shall review the evaluation criteria used to prioritize local transportation improvement projects, to identify areas of high accident/injury history, and shall support all efforts to eliminate or reduce any known hazard.

Table 7.4 shows how the Year 2025 Goals and Objectives address the Federal guidelines as describe in the TEA-21 factors.

Table 7.4
LRTP Goals and Objectives
Compared to TEA-21 Planning Factors

LRTP Objective Number	TEI-21 Planning Factors						
	Economic	Safety	Accessibility	Environment	Intermodalism	Efficiency	Preservation
1.1						✓	✓
1.2	✓			✓			
1.3			✓			✓	✓
1.4							✓
1.5	✓					✓	✓
1.6	✓						✓
1.7			✓				
1.8			✓				✓
1.9				✓		✓	
1.10	✓		✓		✓		
1.11	✓		✓		✓		
1.12	✓					✓	
2.1			✓			✓	
3.1			✓		✓		
3.2			✓		✓		
4.1		✓					
4.2		✓			✓		
4.3		✓				✓	

Note: The seven Planning Factors are listed in their entirety on pages 123.

The GOPs were determined to be consistent with the needs and vision for the Counties, based on input from the Georgia Department of Transportation, the Counties and the public. The new GOPs adhere to the TEA-21 planning factors and can be used to rank or choose among individual projects.

8.0 Improvement Development Process

After the existing and future conditions were evaluated, strategies were developed to address identified deficiencies. The requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA), the follow up legislation TEA-21, and the supporting Congestion Management System (CMS) regulations, guided the identification of potential strategies for each of the Counties. These strategies include demand management, operational management and capital-intensive approaches. The CMS regulations require that appropriate consideration be given to all reasonable alternatives and, more specifically, that consideration be given to strategies that reduce single occupant vehicle (SOV) travel. These requirements are consistent with the purpose and intent of the Banks, Franklin, and Jackson County Multimodal Transportation Study. A comprehensive listing of potential strategies is contained in the CMS regulations. It is not, however, the intent of the regulations that all of these potential strategies be exhaustively studied. The key is to identify those strategies that are reasonable for the particular location or specific deficiency.

8.1 Identification of Potential Improvement Strategies

The CMS regulations include a comprehensive listing of strategies broken into twelve (12) categories or groups. The boundaries between these groups are not distinct and individual measures may be included in more than one category. For example, park-and-ride lots both encourage the use of high occupancy vehicles (HOVs) and transit. For the purposes of applying the ISTEA, TEA-21, and CMS requirements to the LRTP, an attempt was made to separate potential strategies into a hierarchical order that considers first those actions which address the fundamental transportation and land use relationships that cause vehicle trips. If the reason for the trip can be eliminated, so can the trip and its contribution to congestion. In successive rounds, the residual trips not mitigated by previous levels of actions are successively dealt with using techniques aimed at the next higher level of concern. This process is described below:

- **Level One**: Actions that decrease the need for trip making (i.e. growth management, activity centers, congestion pricing, and some transportation demand management measures).
- **Level Two**: Actions that place trips into transit or other non-auto modes (i.e. public transit capital and operating improvements, and parking management).
- **Level Three**: Actions that put as many trips as possible into HOVs.
- **Level Four**: Actions that optimize the highway system's operation for SOV trips, and for all other trips using highway facilities/modes (traffic signalization modification, intelligent transportation systems, etc.).
- **Level Five**: Actions that increase the capacity of the highway system for SOVs by adding general-purpose lanes.

While it is not required that this process be followed in order (i.e., Level One then Level Two then Level Three, etc.), this hierarchy responds to the intent of the regulations, as well as the intent of the LRTP. It is anticipated that most relevant improvement strategies will come from levels 4 and 5, selected strategies from other levels may be appropriate as well.

8.1.1 Level One Strategies

The first level includes actions that decrease the need for making the trip by vehicle. This can be accomplished through growth management and the development of activity centers, congestion pricing and also certain types of transportation demand management.

Growth Management / Activity Centers

Land use strategies seek to achieve concurrence between transportation infrastructure and land development. These strategies are often viewed as key to the success of any regional transportation plan, and should be analyzed at the regional scale. Land use strategies that can reduce the demand for SOV travel include locating residential or commercial development along transit corridors and mixed-use development. Mixed-use can be at a micro scale (i.e. individual building or parcel level), or at a macro scale. In addition, growth management practices and activity centers can even eliminate vehicular trips by matching trip productions with attractions at the same site, or by providing good pedestrian, transit and bicycle accessibility. Components of the Growth Management Plan could include:

- Land use policies/regulations, including growth boundaries;
- Stricter design/zoning standards which promote this strategy (such as density bonuses);
- Maintenance/development of a jobs/housing balance; and,
- Mixed-use developments, to include zoning classifications which allow and promote mixed-use developments.

Typical keys to success include strong political support for growth management and the promotion of activity centers; good public information and outreach regarding the benefits of this strategy; an emphasis on providing good pedestrian and bicycle accessibility, internal transit circulation, and permitting mixed use/compact development.

Congestion Pricing

There has been limited practice of congestion pricing in the United States, but this strategy may be implemented more often pending the outcome of several demonstration projects that are underway. Congestion pricing is generally used to charge roadway users at a time-differentiated rate to discourage trips during congested periods. Elements of a congestion pricing scheme could include:

- Road user fees;
- Parking fees;
- Graduated fares;
- Automated collection/billing systems; and,
- Subsidies for low-income commuters.

This strategy can be very controversial and requires an extensive public education and outreach effort, as well as strong political support to follow through on implementation and enforcement. If parking fees are used to implement the road pricing, cooperation and coordination with parking agencies and private sector providers will be necessary.

Transportation Demand Management

Some transportation demand management strategies are effective at eliminating vehicle trips, including telecommuting and trip reduction ordinances. With improvements in communications and reasonably low costs, telecommuting is becoming more acceptable to both employers and employees. This trend is expected to continue, with such recent technological capabilities as computer-to-computer teleconferencing becoming more common. Trip reduction ordinances can be used to eliminate trips, especially through telecommuting.

Keys to success include, understanding private sector operations, getting employers to recognize benefits of telecommuting, quantifying lower operating costs for employers. Employee support is typically high, given the opportunity to work at home and reduce travel time and costs. Transportation Management Organizations can be effective in promoting telecommuting and other transportation demand management strategies.

8.1.2 Level Two Strategies

The second level includes actions which attempt to place the trips not addressed in Level One into transit or other non-auto modes. This can be accomplished through capital investments in public transit, public transit operational improvements, intelligent transportation systems, methods to encourage the use of non-traditional modes and certain types of transportation demand management.

Public Transit Capital Improvements

Transit capital improvements are designed to increase ridership on transit lines by improving transit infrastructure or vehicles. These strategies are generally implemented to address regional or corridor transportation system deficiencies. Potential improvements could include:

- New rail lines, busways, or bus lanes (on exclusive right of way);
- Bus bypass ramps for preferential treatment of buses;
- Fleet expansion;

- Vehicle replacement/upgrades;
- Park-and-ride lots;
- New, expanded, or improved transit stations (intermodal facilities);
- Paratransit services; and,
- Increased transit security.

The main key to success in implementing any of these strategies is a thorough study and understanding of the complicated issues which affect the use of non-automobile modes. It is also important to evaluate the entire trip, from origin to destination, when determining the appropriate strategy for shifting trips away from the personal vehicle. For example, land use densities affect the ability to provide competitive transit travel times at attractive costs. In turn, outside factors, such as parking costs, can determine what is considered an attractive cost for transit service. Good intermodal connections are crucial to providing competitive travel times. These transfers should be efficient and often require coordination between the various modes accessing intermodal facilities to minimize transfer times. It is also important to consider the pedestrian element of any trip to achieve the complete evaluation of the entire trip, from origin to destination. The convenience of alternatives is important, such as the proximity / access of transfer points and the reliability of the system. Finally, transit security should not be overlooked (as required originally by ISTEA) as an important factor which has a direct impact on travelers' decisions to use alternative modes of travel.

Public Transit Operational Improvements

Like capital improvements, operational improvements to the transit system can increase the demand for transit, which reduces the number of vehicles on the road. Operational improvements can be implemented on specific routes or within transit corridors, although regional operational improvements are commonly developed. Some strategies are:

- Increases in service frequency;
- Longer operating hours;
- Improvements in service quality;
- Additional bus routes;
- Restructured or extended bus lines;
- Traffic signal preemption;
- Fare reductions;
- Improvement of coordination and transfers between systems and routes;
- Improved marketing of transit; and,
- Transit passenger information systems.

Several of the operational improvements may require a reallocation of resources to allow for increased service frequencies, hours of operation, additional routes, extensions of current routes, or even farebox reductions on routes. To ensure that the reallocation is justified, it is important to conduct studies to determine the impact on ridership and the

financial implications of the changes. These studies should include the consideration and potential implementation of the keys to success identified for the various strategies.

As identified above, it is important for alternative modes to provide competitive travel times. One way to accomplish this is by providing preferential treatment to transit vehicles using traffic signal preemption. This strategy requires multi-agency coordination and support, as well as planning and impact studies required to build this support.

One of the biggest keys to success for any of the improvement strategies is effectively communicating the benefits to the public. This can take place through marketing, using public and media education and outreach. Another tool is the use of transit information systems to better communicate the services provided and increase the convenience to the user.

Advanced Public Transportation Systems

Advanced Public Transportation Systems (APTS) are a type of Intelligent Transportation System (ITS), and include coordinated operational strategies implemented through technology. Intelligent bus stops and advanced mode choice systems can be used to provide up-to-date travel information to transit patrons.

As with any new technology, its effectiveness often hinges on public education and outreach to create user-friendly systems. To be effective, these information systems should provide data on multiple factors which affect the trip making decision. This typically requires multi-agency coordination to identify traffic conditions created by incidents, or just the current extent of congestion. Elements may include:

- *Travel Planning* - Pre-trip multi-modal travel information and ride-matching services can help travelers determine their optimal mode choice, departure time, and route before their trips.
- *Traveler Information* - Real-time information to guide travelers during trips includes advisory services (to warn of traffic or transit congestion or delays), route guidance systems, and traveler services information.

Non-Motorized Modes

In many areas, walking and bicycling are a viable alternative to vehicle use. In some cases, demand for these non-traditional modes can be increased by improving the transportation system to better accommodate pedestrians and bicyclists. The scale of these measures ranges from a regional approach (i.e., land use strategies) to facility-specific improvements (i.e., bicycle paths). Strategies that can be used include:

- New pedestrian and bicycle facilities;
- Improved facilities (safety, aesthetic, or travel time improvements); and,

- Bicycle storage systems can be installed at transit terminals, on transit vehicles and at work sites.

The keys to these types of improvements include adequate planning to ensure the facilities are effectively implemented within the overall land use plan and transportation system, and public education and outreach to ensure the implemented improvements are consistent with public desires. Often, multi-agency coordination is required to achieve the level of planning needed to fully integrate these strategies within the highway and transit systems.

Parking Management

One aspect of transportation demand management which is effective in shifting automobile travel to other modes is parking management. These strategies can include establishing maximum limits on the total number of spaces in a given area or for each employer, and increased parking charges (which may be reduced or eliminated for carpool/vanpool users).

This can be a very controversial subject and requires a thorough study of the full impacts and implications of alternative strategies. Public education and outreach are important to build consensus between property owners, businesses and employees. Multi-agency coordination is also required to implement, monitor and enforce the management strategies.

8.1.3 Level Three Strategies

The third level includes actions which attempt to place the trips not addressed in Levels One and Two into high occupancy vehicles (HOVs). This can be accomplished through various strategies which encourage HOV use and certain types of transportation demand management.

The key to success with HOV strategies is a holistic approach which considers how to aggregate HOV riders at the residential trip end, how to provide preferential treatment of the line-haul portion of the trip (in terms of time and/or cost savings), preferential treatment on the work trip end (i.e. parking availability, location and costs), as well as flexibility (i.e. guaranteed rides home). Thus, strategies in this level, if constructed into packages, will be more successful than if independently evaluated and implemented.

High Occupancy Vehicle (HOV)

High occupancy vehicle (HOV) facilities are designed to increase person throughput by increasing vehicle occupancies on a facility or in a corridor. Incorporation of HOV elements has generally been encouraged in recent policy statements in the U.S., although conversion of mixed-flow facilities to HOV use is much less popular. Even though most HOV measures are applied to specific facilities, strategies to support HOV use must

occur throughout a transportation corridor to be effective. Measures to encourage HOV use include:

- HOV lanes (lanes on a mixed flow roadway or a dedicated facility);
- HOV signal priority;
- HOV access priority (including queue bypasses at ramp meters, queue jump lanes at arterial signals);
- HOV toll savings;
- Park-and-ride lots;
- Guaranteed ride home programs; and,
- Employer trip reduction ordinances.

The implementation of HOV lanes requires extensive planning on a regional level and at the corridor level. Multi-agency cooperation (i.e. local governments, the Department of Transportation) is typically beneficial. This helps to maximize the effectiveness of the system, by coordinating with transit service and incorporating transit within the HOV system. Public education and marketing campaigns are also effective in building public acceptance and support for HOV travel.

Technical strategies to complement and support HOV travel, such as priority treatments and park-and-ride lots, should be based on sound engineering criteria, and should incorporate multi-agency cooperation.

Guaranteed ride home programs are effective at eliminating barriers to carpooling and can be very effective in the public's acceptance of ridesharing. An effective program needs public education and marketing of the services. As with any strategy that affects employees, high level employer support is very beneficial. Efficient and reliable administration of the program is also critical.

Employer trip reduction ordinances can be used to shift trips from SOVs to higher occupancy vehicles. It is important that the appropriate areas are covered by the ordinances and that flexibility is provided in the ordinance to accomplish the intended purposes. This strategy also requires ongoing oversight and enforcement.

Rideshare Matching Services

A transportation demand management strategy which is effective at shifting trips to higher occupancy vehicles includes providing ride share matching services. This strategy needs effective public education and marketing campaigns to stir interest. Rideshare matching services can be provided by existing agencies, or a new agency, such as a Transportation Management Organization. In addition, a common characteristic of successful ride sharing programs is high level employer support. This typically includes effective communication of the programs to employees as well as preferential treatment for ridesharers, such as special parking spaces and/or rates.

Vanpooling Programs

Another transportation demand management strategy which can be effective at shifting trips to higher occupancy vehicles is the provision of vanpooling programs. These programs are often linked to rideshare matching services, as they both require the same types of information, public education and marketing. As with rideshare matching, high level employer support is important for the program to be successful. This includes preferential treatment for vanpools, such as special parking spaces and/or rates. Vanpool programs typically require a seed agency to provide the initial financial support for the van purchase; however, they can be self supporting. One potential fatal flaw to avoid is to ensure there is adequate parking clearance for the vans -- many parking structures cannot accommodate larger vans.

8.1.4 Level Four Strategies

Despite the best possible results from strategies in the first three levels, a significant portion of trips in the study area will likely remain via the automobile. Thus, the fourth level includes actions to optimize the existing highway system's operation for these residual automobile trips, whether HOV or SOV. This can be accomplished through traffic operational improvements and management, access management and intelligent transportation systems (ITS).

Traffic Operational Improvements

Improvements in traffic operations are designed to allow more effective management of the supply and use of existing roadway facilities. These improvements can increase effective capacity by optimizing traffic operations, especially in recurring congestion conditions. Although some of these strategies may involve the construction of additional lanes, this category encompasses improvements intended to help "optimize" existing capacity on the road system, as opposed to "adding" new capacity. Depending on the specific strategy, traffic operations improvements can be appropriate for a region, corridor, or specific facility. Some strategies can include:

- Intersection geometric improvements, such as the construction of turning lanes to increase turning movement capacity, restriping, and channelization;
- Intersection turn restrictions to eliminate conflicting movements;
- Traffic signal improvements, such as adjustments to signal timing and phasing, and the installation and maintenance of actuated system components (i.e., loops and controllers);
- Traffic control centers, including coordinated signal systems on arterials, and regional control centers with communication systems to interconnected signal systems;
- Advanced traffic surveillance and control centers allow monitoring, dynamic updates to signal systems, and coordinated traffic signal control and can be used to support incident management and traveler information activities;

- Roadway widening, including auxiliary lanes, passing lanes, widened shoulders, and reversible lanes; and,
- Truck restrictions to increase roadway capacity.

The main keys to success for each of these strategies is through engineering studies to identify the appropriate strategy, and the application of appropriate engineering criteria in the design of the improvements. Another important factor is adequate maintenance of traffic signals and loops to ensure the system operates efficiently. Some of these strategies, such as turn and truck restrictions, require public education and outreach.

Access Management

These strategies are designed to improve arterial flow by controlling access to and from arterial roadways. The Georgia Department of Transportation (GDOT) has developed standards which govern road design and driveway connections. In general, these measures are appropriate for application in the study area. However, local governments may wish to enforce more strict access management criteria through the site plan review process. Access management strategies can be used to plan for:

- Driveway control (residential and business);
- Median control; and,
- Frontage roads.

According to GDOT, raised medians increase the capacity of the roadway, reduce accidents, lower congestion, provide pedestrian refuge and often save lives. They may also be landscaped to beautify corridors and may become focal points for community landscaping efforts.

Each of these strategies requires the appropriate application of accepted engineering criteria. For new developments, this access control can be implemented during the permitting process. Retrofitting existing roadways typically requires studies to identify the impact of proposed changes and the identification of alternate access opportunities. Public outreach and education can be beneficial when implementing access control, with special attention placed on property directly impacted.

Intelligent Transportation Systems (ITS)

Intelligent Transportation Systems (ITS) include coordinated operational strategies implemented through technology. These systems can be applied to many of the strategies described above, especially in the areas of traffic operations, transit operations, and incident management. In addition, ITS can be applied throughout a region, along a transportation corridor, or on a specific facility. Samples of ITS effectiveness in improving highway operations include:

- Automated toll collection systems to eliminate congestion and delays at toll booths;
- Advanced Traveler Information Systems (ATIS), which may include:
  - *Travel Planning* - Pre-trip multi-modal travel information and ride matching services can help travelers determine their optimal mode choice, departure time, and route before their trips;
  - *Traveler Information* - Real-time information to guide travelers during trips includes advisory services (to warn of traffic or transit congestion or delays), route guidance systems, and traveler services information;
- Commercial Vehicle Operations (CVO) include weigh station pre-clearance, automated safety inspections, on-board safety monitoring, and commercial fleet management; and,
- Advanced Vehicle Control Systems (AVCS) are being researched to assess the viability of technology that could greatly enhance roadway capacity and safety, including systems for longitudinal collision avoidance, lateral collision avoidance, intersection crash warning and control, vision enhancement, impairment alert, and fully automated vehicles.

One of the keys to success for implementing ITS strategies is the availability of affordable, proven technology. Public outreach and education are also important when implementing new technologies. Some ITS strategies, such as advanced traveler information systems and commercial vehicle operations require multi-agency coordination. GDOT has existing ITS infrastructure through Georgia Navigator that when ready, locals can interconnect to become part of the statewide system.

8.1.5 Level Five Strategies

The fifth level includes strategies to increase the capacity of the highway system by providing additional general purpose lanes.

Addition of General Purpose Lanes

General purpose lanes may be used by all vehicular traffic modes (i.e., SOVs, HOVs, transit, and trucks). The addition of general purpose lanes may include the addition of lanes to an existing facility or the construction of a new facility. These infrastructure improvements may be the best approach to congestion management in some cases, as long as appropriate elements of the other strategies are incorporated into the design and operation of the new or expanded facility. It should also be noted that several measures that would increase the number of general purpose lane miles are also identified under traffic operational improvements (Level Four). The improvements in that section generally refer to smaller scale additions (i.e., turn lanes) or those for specific purposes (i.e., passing lanes).

8.2 Strategy Screening

With such an extensive list of potential strategies identified and documented in Section 8.1, it is desirable to perform an initial screening to determine which strategies are applicable for the Tri-County area. This screening analysis will be followed by a more detailed corridor evaluation of strategies.

This section presents a list of questions that have been identified for each strategy to determine which strategies could possibly be appropriate for a given application in the Tri-County area. Generally, each question does not require an affirmative answer to justify additional analysis; however, the more affirmative answers to multiple questions usually indicate a higher likelihood of application.

The screening questions are presented in the same five tiered hierarchy presented in the previous section. Unless otherwise noted, affirmative answers to the screening questions imply the strategy is potentially applicable. While it is not required to consider the strategies in order (i.e. beginning with Level One, then Two, Three, Four and finally Five), this progression will ensure all reasonable strategies are considered. Specific answers to each of the screening questions are not required. They are to serve only as a guide to assist in the identification of potentially effective strategies.

8.2.1 Level One Strategies

The first level includes actions that decrease the need for making the trip, such as growth management, the development of activity centers, congestion pricing and also certain types of transportation demand management. Table 8.2.1 summarizes the screening questions for this first tier of strategies. Many questions are related to existing and future development levels, as well as existing travel characteristics. Level one strategies which may be appropriate for the Tri-County area include various growth management / activity center strategies and telecommuting.

Table 8.2.1
Level One Strategy Screen

Screening Questions	Result
GROWTH MANAGEMENT/ACTIVITY CENTERS	
Land use policies/ regulations 1. Is significant land available for development? 2. Is projected population and/or employment growth high? 3. Has the corridor been designated as a redevelopment or growth area? 4. Is the corridor's SOV share for work trips high? 5. Is the corridor's transit share for work trips low? 6. Does the corridor pass the transit enhancement / expansion criteria? 7. Will alternative travel modes be available within corridor?	**Strategy is applicable** Much of the study area is currently undeveloped. It is anticipated that significant commercial, industrial and residential development will occur through the horizon year of the study.
Design standards 1. Is commercial office space being developed in corridor? 2. Are there pending building permits in the corridor? (Also see Land use policies/regulations above.)	**Strategy is applicable** Development efforts should include design standards to maintain the character of the Counties.
Locations of jobs and housing 1. Is there a large imbalance between jobs and housing? 2. Has the corridor been designated as a redevelopment or growth area?	**Strategy is applicable** New residential and commercial development is anticipated.
CONGESTION PRICING	
Road user fees 1. Is the v/c ratio on at least 70% of corridor freeway/arterial lane miles greater than 1.1 (or CMS threshold)? 2. Is answer to question 1 still affirmative if proposed roadway for congestion pricing is excluded? 3. Is a limited access facility available in corridor? 4. Are alternative travel modes available within corridor? 5. Will revenues be used for transportation improvement projects? 6. Are tolls on the facility politically acceptable?	**Strategy is not applicable** Road user fees cannot be implemented
Parking fees 1. Are there primarily commercial or retail land uses in the congested area? 2. Are alternative travel modes available within the corridor?	**Strategy is not applicable** Development densities will not support parking costs.
TRANSPORTATION DEMAND MANAGEMENT	
Telecommuting 1. Is the type of employment at activity center/downtown suitable for telecommuting? 2. Is public agency participation likely?	**Strategy is applicable**
Trip reduction ordinances 1. See Employee Trip Reduction Ordinances strategies in Level 3.	**Strategy is not applicable** Employment densities are not high enough to support trip reduction ordinances

8.2.2 Level Two Strategies

The second level includes actions which attempt to place the trips not addressed in Level One into transit or other non-auto modes. This level of strategies includes capital investments in public transit, public transit operational improvements, intelligent transportation systems, methods to encourage the use of non-traditional modes and certain types of transportation demand management. Table 8.2.2 summarizes the screening questions for this second tier of strategies. Many of these questions relate to development densities, existing transit service and use, travel times and the availability of modal choices.

Level Two strategies which may be appropriate for the Tri-County area include: further development of transit services, park and ride facilities, and bicycle and pedestrian facilities.

Table 8.2.2
Level Two Strategy Screen

Screening Questions	Result
PUBLIC TRANSIT CAPITAL IMPROVEMENTS	
Exclusive Right of Way (Rapid Rail) 1. Is the corridor's **net** residential density (the number of dwelling units divided by the area available for residential development) at least 12 d.u./acre, or alternatively, is the gross population density at least 8,600/square mile? 2. Does the corridor's major employment area (downtown, activity center) have at least 50 million square feet of non-residential floor space? 3. Does the corridor's major employment area (downtown, activity center) have at least 70,000 employees? 4. Does the corridor's major employment area (downtown, activity center) have an employment density of at least 15,000/square mile?	**Strategy is not applicable** Population and employment density is not sufficient for this strategy.
Exclusive Right Of Way (Commuter Rail) 1. Is the corridor's **net** residential density at least 1 d.u./acre, or alternatively, is the gross population density at least 350/square mile? 2. Does the corridor's major employment area (downtown, activity center) have at least 75 million square feet of non-residential floor space? 3. Does the corridor's major employment area (downtown, activity center) have at least 150,000 employees? 4. Does the corridor's major employment area (downtown, activity center) have an employment density of at least 15,000/square mile?	**Strategy is not applicable** The population and employment density is not sufficient for this strategy.

Screening Questions	Result
Exclusive Right Of Way (Busways) 1. Is the corridor's **net** residential density at least 3 d.u./acre, or alternatively, is the gross population density at least 1,900/square mile? 2. Does the corridor's major employment area (downtown, activity center) have at least 20 million square feet of non-residential floor space? 3. Does the corridor's major employment area (downtown, activity center) have at least 42,000 employees? 4. Does the corridor's major employment area (downtown, activity center) have an employment density of at least 10,000/square mile? 5. Does the corridor have any sections with a V/C of at least 0.80 with headways of 4 minutes or less in the peak hour?	**Strategy is not applicable** The population and employment density is not sufficient for this strategy.
Exclusive Right Of Way (Bus Lanes) 1. Does the corridor have any sections with at least 8 scheduled buses in the peak hour? 2. If the answer to question 1 is yes, then do any of these sections have peak hour auto volumes of at least 2,000 vehicles per lane? 3. If the answer to question 2 is yes, then do any of these sections meet the following threshold: $$q_b \geq \frac{q_a}{N-1} X$$ where q_A and q_B are hourly volumes of autos and buses, respectively; N is the total number of lanes per direction; and X is the ratio of average auto to bus occupancies?	**Strategy is not applicable** Fixed route bus service is not currently provided in the study area nor are future services anticipated.
Bus Bypass Ramps 1. Does the corridor pass the exclusive ROW busway screen? 2. Does the corridor have any exclusive busway sections? If yes, then go to question 5. 3. Does the corridor have any HOV lane sections? If yes, are there 15 or more buses scheduled on any of these sections in the peak hour? 4. Does the corridor pass the HOV lane screen? 5. Does the corridor have any freeway sections with v/c of at least 0.80 and 15 or more buses scheduled in the peak hour?	**Strategy is not applicable**.
Fleet expansion 1. Does the corridor pass the service enhancement/expansion screen identified later in this table?	**Strategy is not applicable** Fixed route transit service is not currently provided through the study area.

Screening Questions	Result
Transit park and ride facilities 1. Does transit service exist in the corridor? 2. Is there at least one express bus in the corridor with a one-way trip length of at least 8 miles? 3. Is the corridor's HOV mode share greater than 15% for work trips? 4. Is there rapid rail, light rail or commuter rail service in the corridor? 5. Does the corridor pass the HOV lane, rapid rail, light rail, commuter rail or exclusive ROW busway screens?	**Strategy is applicable** High number of trips to employment centers outside of study area – strategy must be supported with implementation of van pools or express transit.
Other intermodal facilities 1. Is there any location in the corridor where there is not an existing intermodal facility and at least two of the following modes in the corridor converge: rapid rail, light rail, commuter rail, express bus, intercity bus, intercity rail or local bus?	**Strategy is not applicable** No intermodal facilities
Paratransit services 1. Are there any areas in the corridor not currently served by paratransit? 2. Are requests for paratransit being denied because of capacity restrictions?	**Strategy is applicable** As development continues to occur within the study area this strategy could become a stronger option and public comment suggests that on demand transit is currently insufficient.
Increased transit security 1. Has the number of crimes related to transit service, or security- related complaints received by the transit agency serving the corridor, increased in each of the last two years?	**Strategy is not applicable**
PUBLIC TRANSIT OPERATIONAL IMPROVEMENTS	
Service enhancement/Service expansion 1. Are there any routes for which the peak hour load factor is greater than 0.8? 2. Is the population density of any zone or census tract in the corridor greater than 3150/square mile or the percentage of low income residents in the corridor greater than 20% ?	**Strategy is applicable** Should focus on provision of vanpools or express transit to select locations.
Traffic signal preemption 1. Does the corridor have transit service? 2. Are there any routes for which the peak hour load factor is greater than 0.8? 3. Is the frequency of service for any of those routes > 6/hr?	**Strategy is not applicable**

Screening Questions	Result
Fare reductions 1. Is transit mode split for work trips in the corridor greater than 2% ? 2. Is the average population density in zones adjacent to these routes greater than 1575/square mile or the percentage of poor in these zones greater than 10% ?	**Strategy is not applicable**
Transit coordination 1. Are there at least 2 transit agencies/operators providing service within the corridor? 2 If yes, are fare payment methods or the transit schedules coordinated? (Negative answer implies potential application.) Are there at least 4 possible transfers within the corridor?	**Strategy is not applicable** Multiple transit service providers do not exist.
Transit marketing 1. Is there at least one activity center with more than 500 employees in the corridor accessible by transit? 2. Is difference in travel time between competing modes < 30%? 3. Can the transit system handle more patrons?	**Strategy is applicable** This effort would focus on park and ride lots and vanpooling.
ADVANCED PUBLIC TRANSPORTATION SYSTEMS	
Intelligent bus stops 1. Is the average population density in any of the zones within 0.25 miles of the route >1,575/square mile or percentage of poor in these zones > 10%? 2. If yes, is the load factor on any route within the corridor < 0.8?	**Strategy is not applicable** Currently no fixed route transit service.
Advanced mode choice system 1. Is the difference in travel time between transit & other competing modes < 30%? 2. If yes, do more than 40% of the links on any route have peak hour V/C ≥ 0.8?	**Strategy is not applicable**
ENCOURAGE THE USE OF NON-MOTORIZED MODES	
Bicycle facilities 1. Does the corridor have any jurisdictions with a bicycle plan? 2. Are at least 15% of the corridor's work trips under 5 miles or 10 minutes in length? 3. Does the corridor have any rail or express bus service? 4. Is the corridor's net residential density at least 4.5 d.u./acre, or alternatively, is the gross population density at least 3,150/square mile? 5. Is the corridor's employment density at least 4,000/square mile? 6. Does the corridor have a college campus?	**Strategy is applicable** Planning documents and public comment indicate that non-motorized transportation is a key issue for residents throughout the study area. Priority should be placed on areas within one mile of pedestrian activity centers.

Screening Questions	Result
Bicycle storage systems 1. Does the corridor have any exclusive ROW bicycle facilities? 2. Does the corridor pass the bicycle facilities screen? 3. Is the corridor's bicycle mode share at least 0.5% for work trips?	**Strategy is not applicable**
Pedestrian facilities 1. Does the corridor have any rail or fixed-route bus service? 2. Is the corridor's net residential density at least 4.5 d.u./acre, or alternatively, is the gross population density at least 3,150/square mile? 3. Is the corridor's employment density at least 4,000/square mile?	**Strategy is applicable** Adequate pedestrian facilities should be provided linking neighborhoods and other key origins and destinations. Priority should be placed on areas within the one-mile buffers of pedestrian activity centers.
TRANSPORTATION DEMAND MANAGEMENT	
Parking management 1. Is there any kind of transit service in the corridor? 2. Are there any HOV lanes in the corridor or does the corridor pass the HOV lane screen? 3. Are there any park-and-ride lots in the corridor or does the corridor pass either the HOV or transit park-and-ride lot screen?	**Strategy is not applicable**

8.2.3 Level Three Strategies

The third level includes actions which attempt to place the trips into high occupancy vehicles (HOV) and includes various strategies which encourage HOV use and certain types of transportation demand management. Table 8.2.3 summarizes the screening questions for this third tier of strategies. Most of these questions relate to existing travel characteristics.

Level Three Strategies which may be appropriate for the Tri-County area include: transportation demand management strategies.

Table 8.2.3
Level Three Strategy Screen

Screening Questions	Result
ENCOURAGE HIGH OCCUPANCY VEHICLE USE	
HOV lanes 1. Are lane additions planned or under consideration for any freeway segments that already have three or more mixed-flow lanes in one direction? 2. Are there any freeway segments of at least three miles with at least 70% of lane miles congested (v/c > 0.9)? 3. Are there any arterial segments of at least two miles with at least 70% of lane miles congested (v/c > 0.9)? 4. Are there 10 or more buses scheduled in the peak hour for a single facility in the corridor? 5. Is there employment of 20,000 or more in the corridor's chief activity center? 6. Is the corridor's HOV mode share greater than 15% for work trips? 7. Does the corridor contain freeway, expressway, or rural principal arterial facilities that connect a residential area to an employment center?	**Strategy is not applicable** Existing and planned roadway system does not support HOV operations.
HOV ramp bypass lanes 1. Does the corridor pass the HOV lane screen? 2. Does the corridor contain other HOV incentives, such as HOV lanes or HOV toll discounts? 3. Is there ramp-metering in the corridor?	**Strategy is not applicable** No HOV facilities available.
HOV toll savings 1. Does the corridor have a toll facility? 2. Is the corridor's HOV mode share greater than 15% for work trips?	**Strategy is not applicable** No toll facilities in study area.

HOV park-and-ride lots 1. Does the corridor pass the HOV lane screen? 2. Does the corridor contain other HOV incentives, such as HOV lanes or HOV toll discounts? 3. If park and ride lots exist in the corridor, is utilization greater than 50%?	**Strategy is applicable** While the study area is not currently conducive for HOV facilities, park and ride lots could benefit users traveling to and from employment centers and making use of carpools and vanpools.
Guaranteed ride home programs 1. Does the corridor pass the HOV lane screen? 2. Does the corridor contain other HOV incentives, such as HOV lanes or HOV toll discounts? 3. Are rideshare matching services available or recommended below?	**Strategy is applicable** With the recommendations for vanpooling and ride matching services, this strategy becomes necessary.
Employer trip reduction ordinances 1. Is the corridor already subject to an employer trip reduction ordinance? 2. Do 20% or more of employees in the corridor work for employers of 100 or more on-site employees? 3. Is the corridor's drive alone mode share at least 60% for work trips? 4. Is the corridor's transit mode share at least 2% for work trips?	**Strategy is not applicable** Existing employment characteristics do not support this strategy.
TRANSPORTATION DEMAND MANAGEMENT	
Ride share matching services 1. Does the corridor pass the parking management screen? 2. Are at least 60% of the corridor's work trips at least 9 miles?	**Strategy is applicable** Long work commutes to Athens, Atlanta and Gainesville could benefit from ride matching.
Vanpooling programs 1. Does the corridor pass the parking management screen? 2. Do 20% or more of employees in the corridor work for employers of 100 or more on-site employees? 3. Are at least 60% of the corridor's work trips at least 9 miles?	**Strategy is applicable** Long work commutes and a growing older driver population makes vanpooling a strong strategy to address transportation needs.

8.2.4 Level Four Strategies

The fourth level includes actions to optimize the existing highway system's operation for automobile trips, whether HOV or SOV, and includes traffic operational improvements and management, access management and intelligent transportation systems. Table 8.2.4 summarizes the screening questions for this fourth tier of strategies. Many of these questions relate to existing traffic characteristics.

Level Four Strategies which may be appropriate for the Tri-County area include: various traffic operational improvements, truck restrictions, access management and ITS applications.

Table 8.2.4
Level Four Strategy Screen

Screening Questions	Result
TRAFFIC OPERATIONAL IMPROVEMENTS	
Intersection improvements 1. Is the deficiency isolated on a specific facility? 2. Is the left turn volume on any shared left/through lane greater than 100 vehicles per hour? 3. Is the left turn volume on any single left turn lane greater than 300 vehicles per hour? 4. Is the right turn volume on any shared right/through lane greater than 300 vehicles per hour?	**Strategy is applicable** Several intersections were identified as needing enhancements through both the public involvement process and study working groups.
Channelization 1. Is the right turn volume at an intersection greater than 500 vehicles per hour? 2. Is there an adjacent signalized intersection within 300 feet? 3. Is the intersection skewed by less than 75 degrees? 4. Does a designated truck route turn at the intersection? 5. Is there a history of accidents due to wrong-way movements?	**Strategy is applicable** Channelization could improve intersection operations and safety.
Intersection turn restrictions 1. Is the deficiency isolated on a specific facility? 2. Can the intersection be widened? 3. Can the restricted movement (usually a left turn) be accomplished using other routes? 4. Is there significant conflicts between pedestrians and turning vehicles?	**Strategy is applicable** Some land uses along key corridors have multiple access/egress points – turn restrictions would reduce conflict points.

Screening Questions	Result
One-Way Pairs 1. Is parallel facility available within one or two blocks? 2. Are sufficient number of cross streets available to permit traffic circulation?	**Strategy is not applicable** Suggested by public comment for Carnesville – implementation would increase travel speeds in an area with significant pedestrian activity.
Signalization improvements (including maintenance) 1. Is the deficiency isolated on a specific facility? 2. Have the signal timings been updated within the last five years? (Negative answer implies potential application.) 3. Is the signal inspected regularly? (Negative answer implies potential application.) 4. Is the left turn volume on any single left turn lane without signal protection greater than 100 vehicles per hour? 5. Does a field inspection, or capacity analysis, identify a need for re-timing?	**Strategy is applicable** Capacity analyses have identified a number of intersections and movements operating at an unacceptable level of service.
Traffic control centers 1. Is the geographic scale of the deficiency either regional or corridor? 2. Are incidents a major cause of congestion? 3. Are alternate routes available within deficient corridors? 4. Do "special events" (i.e. sports events, concerts, etc.) regularly create congestion?	**Strategy is not applicable** No ATMS/ITS system in place or recommended.
Computerized signal systems 1. On major arterials, are all signals within one half mile of adjacent signals interconnected? (Negative answer implies potential application.) 2. Have the timing patterns for existing system been reevaluated within the last five years? (Negative answer implies potential application.)	**Strategy is applicable** Coordinated signal systems are at select locations in the study area.
Traffic surveillance & control systems 1. Does one or more facilities in a corridor experience significant congestion due to incidents, such as accidents? 2. Is ramp metering used, or is planned to be implemented, on the facility? 3. Are congestion patterns irregular?	**Strategy is not applicable**
Roadway widening 1. Are through lane widths less than 12 feet? 2. Does the facility have multiple driveway connections on sections where the speed limit is $\geq$ 45 mph? 3. Does a capacity analysis show a need for additional through lanes? 4. Is the congestion localized between two or three adjacent intersections?	**Strategy is applicable** Future capacity deficiencies show the need for additional travel lanes.

Screening Questions	Result
Truck restrictions 1. Are through lane widths less than 12 feet? 2. Is the percentage of trucks during the peak hours greater than 10 percent? 3. Is there an acceptable alternate truck route available? 4. Do trucks block travel lanes when they load/unload?	**Strategy is applicable** Several heavy vehicle trip generators exist in the County. Future development will dictate the need to consider limiting truck travel within the County.
ACCESS MANAGEMENT	
Driveway control 1. Does the facility have multiple driveway connections on sections where the speed limit is $\geq$ 45 mph? 2. Do accident reports reflect a high incidence of rear end and/or right angle collisions near driveways?	**Strategy is applicable** The roadways should generally conform to GDOT access management standards.
Median control 1. Does the facility have more than two lanes, with a speed limit $\geq$ 45 mph, and no median? 2. Are existing median openings spaced less than one fourth mile apart? 3. Do accident reports reflect a high incidence of right angle collisions near driveways?	**Strategy is applicable** The roadway should generally conform to GDOT access management standards. This strategy is strongly recommended for facilities with limited right of way, insufficient capacity and high numbers of mid-block turning crashes.
Frontage roads 1. Does the facility have multiple driveway connections on sections where the speed limit is $\geq$ 45 mph? 2. Do accident reports reflect a high incidence of rear end and/or right angle collisions near driveways? 3. Is it desirable to convert an existing facility from no, or limited, access control to full access control? 4. Is adequate right of way available for constructing the frontage roads?	**Strategy is applicable** Counties and GDOT looking for alternatives to I-85 during incident travel periods.
INTELLIGENT TRANSPORTATION SYSTEMS	
Automated toll collection 1. Is deficient facility is currently tolled? 2. Are the number of tollbooths sufficient to service the demand without creating long queues? (Negative answer implies potential application.) 3. Is the percentage of trucks during the peak hours greater than 10 percent?	**Strategy is not applicable** No toll facilities in study area.

Screening Questions	Result
Advanced traveler information systems 1. Are there alternative modes of travel available in the region or corridor? 2. Does the region or corridor experience a high level of congestion? 3. Are there alternative routes available?	**Strategy is not applicable** No ITS capabilities
Commercial Vehicle Operations 1. Does the congested facility include a truck weigh station? 2. Are hazardous materials prohibited on the congested facility?	**Strategy is not applicable**
Advanced Vehicle Control Systems This strategy is currently unavailable for implementation.	**Strategy is not applicable**

8.2.5 Level Five Strategies

The fifth level includes strategies to increase the capacity of the highway system by providing additional general purpose lanes. Table 8.2.5 summarizes the screening questions for this tier of strategies. These questions are largely based on volume to capacity ratios, with a check for other planned improvements in a County that may address the deficiency. Based on this screen, adding general purpose lanes to a corridor is an appropriate strategy.

Table 8.2.5
Level Five Strategy Screen

Screening Questions	Results
ADDITION OF GENERAL PURPOSE LANES	
Freeway lanes 1. Are there any freeway segments of at least 3 miles with at least 70% of lane miles congested (v/c > 0.9)? 2. Are there are any new freeways or freeway lane additions in approved regional transportation plans in the corridor?	**Strategy is applicable** The interstate system is not included as part of this study.
Arterial lanes 1. Are there any arterial segments of at least 2 miles with at least 70% of lane miles congested (v/c > 0.9)? 2. Are there are any new arterials or arterial lane additions in approved regional transportation plans in the corridor?	**Strategy is applicable** Existing and future capacity deficiencies show the need for additional lanes.

8.3 Improvements Screening for Deficient Corridors

Based on this preliminary strategy screening analysis, the extensive list of almost sixty (60) strategies has been narrowed to twenty-five (25) strategies applicable to the study area. Further analysis was completed to identify how these strategies could be applied to the transportation system within each County and the anticipated benefit to congested or deficient corridors.

8.3.1 Applicable Strategy Screening

Table 8.3.1 presents a further screening of acceptable strategies for improving travel conditions within the study area. These strategies all address one or more of the deficiencies. However, many strategies are dependent on operating characteristics; land use patterns and densities; and community perceptions and desires that do not currently exist within the Tri-County area, but are likely to exist when considering long term improvements (15 - 20 years). Mid term improvements for this study, through 2015, force the current analysis to focus on existing operating conditions and problems so that solutions can be implemented in the three to ten year range.

Table 8.3.1 documents acceptable strategies and further designates the most appropriate improvement strategies for improving traffic operations along the deficient corridors in the study area. Three terms are used to further describe applicable strategies for improving operation within the Tri-County area:

- **Near Term** - Strategies addressing existing operating deficiencies within the 2008 time frame.
- **Mid Term (2015)** - Strategies based on existing operating deficiencies and existing services but are contingent upon attainment of certain development thresholds that are likely to be reached but currently are not sufficient to warrant this strategy.
- **Long Term (2025)** - Strategies that address some aspect of existing operating deficiencies and make use of some existing services but are contingent upon the development conditions and services that do not currently exist but are likely to exist in the future.

Table 8.3.1
Applicable Strategy Screening

CMS Level (1-5)	Strategy	Screening
1	Land Use Policies / Regulations	Near Term
1	Design Standards	Near Term
1	Locations of Jobs and Housing	Near Term
1	Telecommuting	Near Term
2	Paratransit	Mid Term
2	Service Enhancement / Expansion	Mid Term
2	Transit Marketing	Mid Term
2	Bicycle Facilities	Near Term
2	Pedestrian Facilities	Near Term
3	Park & Ride Lots	Mid Term
3	Guarantee Ride Home Program	Mid Term
3	Ride Share Matching Services	Mid Term
3	Vanpooling	Mid Term
4	Intersection Widening	Near Term/Mid Term
4	Channelization	Near Term/Mid Term
4	Intersection Turn Restrictions	Near Term/Mid Term
4	Signalization Improvements	Near Term/Mid Term
4	Roadway Widening	Near Term/Mid Term/Long Term
4	Truck Restrictions	Mid Term/Long Term
4	Driveway Control	Near Term
4	Median Control	Near Term
5	Construct Freeway Lanes	Mid Term/Long Term
5	Construct Arterial Lanes	Near Term/Mid Term/Long Term

These strategies were carried forward and used to evaluate the transportation system in each County. Improvements were developed for each element of the transportation system:

- Deficient Roadway Corridors;
- Bicycle and Pedestrian;
- Transit;
- Freight;
- Aviation;
- Pavement Management; and,

- Summary of Stakeholder Input.

The following sections document the potential improvements in detail, ultimately producing preferred improvements for each County's transportation system documented in Sections 10, 11 and 12.

8.3.2 Deficient Corridor Screening

The improvements strategies documented in Table 8.3.1 were used to address deficiencies through the study area. Every strategy applicable to a County cannot be applied to each congested corridor segment. Consequently, these strategies were screened for each deficient corridor documented in Section 6.2 resulting in more specific strategies at the corridor level. Removing corridors that are not deficient during daily conditions reduced the list of congested corridors from Section 6.2. GDOT requires facilities to be deficient under daily operating conditions not just peak hour operating conditions to support implementation of capacity improvements.

Additionally, some corridors with existing 4-lane sections were identified as deficient for daily operating conditions. Typically, this would result in identification of strategies for additional capacity. However, field review, public input and input from the Counties identified that capacity enhancements to these facilities would result in substantial impacts to the community and adjacent land uses. Consequently, strategies were identified to alleviate congestion along these facilities through enhancements to parallel corridors or through alternate modes.

Tables 8.3.2.1 – 8.3.2.3 contain the screening results for the deficient corridors in each County.

Table 8.3.2.1
Banks Capacity Deficient Corridor Screening

Project Ref. No.	Facility	From	To	Level 1			Level 2					Level 3				Level 4									Level 5
				Land Use	Design Standards	Tele-commuting	Para Transit	Service Enhancement	Transit Marketing	Bicycle Facilities	Pedestrian Facilities	Ride Share Matching	Van-pooling	Park & Ride Lots	Guarantee Ride Home Program	Intersection Widening	Channelization	Turn Restrictions	Signalization Improvements	Roadway Widening	Truck Restrictions	Driveway Control	Median Control	Frontage Roads	Construct Arterial Lanes
1	SR 164	McDonalds Circle	US 441	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓				✓		✓	✓		✓
2	US 441	SR 98	Payne Rd	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓		✓			✓	✓		
3	US 441	Payne Rd	SR 164	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓		✓			✓	✓		
4	US 441	SR 164	Jackson County	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	

Level 2 Due to population density and rural character of the study area - Level 2 strategies were considered strong candidates to address congestion along deficient corridors

Express transit to key activity centers (Atlanta, Athens, Gainesville) was mentioned through citizen comment, but was not considered a congestion relief strategy.

Level 3 Vanpooling - Considered possible for corridors with high numbers of trip origins due to residential development

Level 4 Signal and related improvements were considered candidates for corridors likely to be more developed in the existing and future scenarios.

Table 8.3.2.2
Franklin Capacity Deficient Corridor Screening

Project Ref. No.	Facility	From	To	Level 1				Level 2				Level 3				Level 4									Construct Arterial Lanes
				Land Use	Design Standards	Jobs & Housing	Tele-commuting	Para Transit	Transit Marketing	Bicycle Facilities	Pedestrian Facilities	Ride Share Matching	Van-pooling	Park & Ride Lots	Guarantee Ride Home Program	Intersection Widening	Channelization	Turn Restrictions	Signalization Improvements	Roadway Widening	Truck Restrictions	Driveway Control	Median Control	Frontage Roads	
1	Harrison Bridge Rd	SR 106	Hubbard Rd	✓	✓		✓	✓	✓			✓	✓		✓	✓				✓		✓			✓
2	SR 106	I-85 SB Ramps	Athens St	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓		✓	✓		✓
3	SR 145	US 29	SR 51	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓	✓		✓		✓	✓		✓
4	SR 17	Cawthon Davis Rd	Campbell Ridge Rd	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓
5	SR 17	Gerrard Rd	Hart County	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓		✓
6	SR 198	New Bethel Rd	Paynes Rd	✓	✓		✓	✓				✓	✓		✓	✓				✓		✓			✓
7	SR 328	New Town Rd	Gerrard Rd	✓	✓		✓	✓	✓			✓	✓	✓	✓	✓				✓	✓	✓			✓
8	SR 51	Thomas Ln	SR 59	✓	✓		✓	✓				✓	✓	✓	✓	✓				✓		✓	✓		✓
9	SR 51	US 145	Noah Crow Rd	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓				✓		✓	✓		✓
10	SR 59	SR 328	Bowman St	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	✓		✓	✓		✓
11	US 29	Hart County	SR 145	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓		✓

Level 2 Bicycle and Pedestrian - Improvements were recommended along corridors identified in the Bike-Ped Improvement Priority Areas

Level 3 Vanpooling - Considered possible for corridors with high numbers of trip origins due to residential development

Level 4 Signal and related improvements were considered candidates for corridors likely to be more developed in the existing and future scenarios.

Table 8.3.2.3
Jackson Capacity Deficient Corridor Screening

Project Ref. No.	Facility	From	To	Level 1				Level 2					Level 3				Level 4									Construct Arterial Lanes
				Land Use	Design Standards	Jobs & Housing	Tele-commuting	Para Transit	Service Enhancement	Transit Marketing	Bicycle Facilities	Pedestrian Facilities	Ride Share Matching	Van-pooling	Park & Ride Lots	Guarantee Ride Home Program	Intersection Widening	Channelization	Turn Restrictions	Signalization Improvements	Roadway Widening	Truck Restrictions	Driveway Control	Median Control	Frontage Roads	
1	Brooks Rd	SR 60	US 129	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓			✓	✓		✓	✓		✓
2	New Kings Bridge Rd	US 129	Old Bridge Rd	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	✓		✓	✓		✓
3	SR 11	SR 124	US 129	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓			✓	✓		✓	✓		✓
4	SR 124	Barrow County	SR 53	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓			✓	✓		✓	✓		✓
5	SR 124	SR 332	Gum Springs Church Rd	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓			✓	✓		✓	✓		✓
6	SR 15 ALT	US 129 BUS	SR 82	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	✓		✓	✓		✓
7	SR 15 ALT	B Wilson Rd	Apple Valley Rd	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓			✓	✓		✓	✓		✓
8	SR 322	Old Pendergrass Rd	SR 124	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓			✓	✓		✓	✓		✓
9	SR 53	E Jefferson St	Barrow County	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
10	SR 53	Hall County	SR 124	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
11	SR 60	New Cut Rd	Brooks Rd	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓			✓	✓		✓	✓		✓
12	SR 98	Between I-85 SB Ramps	SR 326	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓	✓
13	US 129	I-85 SB Ramps	US 129 BUS	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓			✓	✓		
14	US 129	SR 11	SR 82	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓			✓	✓		

Level 2 Paratransit - Enhancements were recommended for state roads based on public comment.

Bicycle and Pedestrian - Improvements were recommended along corridors identified in the Bike-Ped Improvement Priority Areas

Level 3 Vanpooling - Considered possible for corridors with high numbers of trip origins due to residential development

Level 4 Signal and related improvements were considered candidates for corridors likely to be more developed in the existing and future scenarios.

8.3.3 Screening Criteria for Deficient Corridors

Qualitative and Quantitative Evaluation Factors were established so that the potential improvements for each of the Counties could be evaluated objectively by County staff. These factors were developed by TEI with the assistance of the Study Advisory Group, public comment and GDOT. This evaluation serves as a ranking for improvements, resulting in a listing of improvement options to meet the County's transportation needs.

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, Policies and Objectives documented in Section 7.0.

- Continuation of Existing Road Widening Project
- 2025 Long Range Transportation Plan Needs Assessment
- 2025 Long Range Transportation Plan Benefit Cost Analysis
- Governor's Road Improvement Program (GRIP) / National Highway System
- Consistent with the Growth Management Plan
- Right of Way Protection Corridor
- Connectivity
- Construction Designs in Progress
- Development Conditions

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 8.3.3.1 displays the qualitative criteria and the associated scoring.

Table 8.3.3.1
Qualitative Criteria and Scoring

Project Prioritization Criteria	Possible Points
Continuation of Existing Road Widening Project Is the proposed project a continuation of any previously completed, or current project provided added lanes to the specific transportation corridor?	No = 0 Yes = 2
2025 Long Range Transportation Plan Needs Assessment Is the proposed project identified as a deficient segment in the 2025 Long Range Transportation Needs Plan?	No = 0 Yes = 5
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
Consistent with the Growth Management Plan Is the proposed project consistent with the adopted Comprehensive Plan?	No = 0 Yes = 5
Right of Way Protection Corridor Is the proposed project located along any designated corridor for right way protection?	No = 0 Yes = 5
Connectivity Does the proposed project improve access between activity centers or link existing or proposed projects or provide regional connectivity?	No = 0 Yes = 2
Construction Designs in Progress Are the designs for the proposed project already complete or in the process of being completed?	No = 0 Yes = 2
Development Conditions Is the proposed project located within a development area, or, is the specific project part of an approved plan for the redevelopment or revitalization of a developed area, or does the specific project provide access infrastructure to a mixed-use project area?	No = 0 Yes = 3
Does the proposed project complete or link other projects that have been built by a municipality or County?	No = 0 Yes = 2
Was the proposed project developed through an organized public participation process (such as Community charrette) that was sponsored by a municipality or County?	No = 0 Yes = 2
Constrained Facility Is the facility constrained in the AM Peak Period (LOS E or worse)?	No = 0 Yes = 2
Is the facility Constrained in the PM Peak Period (LOS E or worse?	No = 0 Yes = 2
Is the facility constrained during the daily period (LOS D or worse)?	No = 0 Yes = 5
Sub-Total Possible Points	39

The total points established by the Qualitative Criteria range from 0 to 39 points. These points were added to the points received from the Quantitative Criteria, which are documented below.

Quantitative Criteria

Quantitative criteria are 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
- Number of Crashes per 1,000 Vehicle Miles Traveled
- Number of Fatalities

Table 8.3.3.2 displays the quantitative criteria and the associated scoring. Points are assigned to volume to capacity ratios for the AM peak, PM peak and Daily period. Therefore the point range for volume to capacity ratio is 0.75 to 27 points (9 points possible for each period). The total points established by the Quantitative Criteria range from 0.75 to 31 points.

The total points that a facility can receive for both the qualitative and quantitative criteria is 70 points. 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 Counties 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.

Table 8.3.3.2
Quantitative Criteria and Scoring

Roadway Project Prioritization Criteria	Possible Points
Volume to Capacity Ratio (AM, PM, and Daily)	***x3***
0.0001-0.1307	0.25
0.1308-0.1961	0.50
0.1962-0.2611	0.75
0.2612-0.3269	1.00
0.3270-0.3923	1.25
0.3924-0.4577	1.50
0.4578-0.4599	1.75
0.4600-0.5099	2.00
0.5100-0.5599	2.25
0.5600-0.6099	2.50
0.6100-0.6599	2.75
0.6600-0.7099	3.00
0.7100-0.7599	3.25
0.7600-0.8099	3.50
0.8100-0.8599	3.75
0.8600-0.8949	4.00
0.9000-0.9299	4.50
0.9300-0.9649	5.00
0.9650-0.9999	5.50
1.0000-1.1999	6.00
1.2000-1.3999	7.00
1.4000-1.5999	8.00
1.60	9.00
Number of Crashes per 1,000 Vehicle Miles Traveled	
0.01-0.49	0.25
0.50-0.99	0.50
1.00 -1.99	0.75
2.00-2.49	1.00
2.50-2.99	1.25
3.00-3.99	1.50
4.00-5.99	1.75
6.00	2.00
Number of Fatalities	
1	1
2 or more	2
Sub-Total Possible Points	31

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 Tables 8.3.3.3 to 8.3.3.5.

Table 8.3.3.3

Banks County Deficient Corridor Evaluation Criteria

Project Ref. No.	Facility	Segment Limits		Qualitative Criteria	Continuation of Existing Road Widening Project	2025 LRTP Needs Assessment	Governor's Road Improvement Program / National Highway System	Consistent with Banks County Comprehensive Plan	Right of Way Protection Corridor	Alternative LOS Corridor	Regional Connectivity	Construction Design in Progress	Development Conditions	Constrained Facility (GDOT Standards)			*Sub-Total Qualitative Criteria*	Quantitative Criteria	Volume/Capacity Ratio			Number of Accidents/1,000 Vehicle Miles Traveled	Number of Fatalities	*Sub-Total Quantitative Criteria*	Total Score for Project
		From	To											AM Peak	PM Peak	Daily			AM Peak	PM Peak	Daily				
					0-2	*0-5*	*0-2*	*0-5*	*0-5*	*0-2*	*0-2*	*0-2*	*0-7 (1)*	*0-2*	*0-2*	*0-5*									
	Capacity Improvements/New Roadways																								
1	SR 164	McDonalds Circle	US 441			✓										✓	*10.00*		2.00	2.25	2.25	0.44	1	*7.94*	**17.94**
2	US 441	SR 98	Payne Rd		✓	✓		✓			✓		✓	✓	✓	✓	*28.00*		2.50	3.25	3.25	n/a	n/a	*9.00*	**37.00**
3	US 441	Payne Rd	SR 164		✓	✓	✓	✓			✓		✓		✓	✓	*28.00*		2.00	2.50	2.50	n/a	n/a	*7.00*	**35.00**
4	US 441	SR 164	Jackson County		✓	✓	✓	✓			✓		✓	✓	✓	✓	*30.00*		2.50	3.50	3.50	0.60	1	*11.10*	**41.10**

(1) Points range from 2 to 7 points if checked. This is due to a facility meeting the various questions presented in Table 8.3.3.1

Table 8.3.3.4
Franklin County Deficient Corridor Evaluation Criteria

Project Ref. No.	Facility	Segment Limits		Qualitative Criteria													Sub-Total Qualitative Criteria	Quantitative Criteria							Sub-Total Quantitative Criteria	Total Score for Project
		From	To		Continuation of Existing Road Widening Project	2025 LRTP Needs Assessment	Governor's Road Improvement Program / National Highway System	Consistent with Franklin County Comprehensive Plan	Right of Way Protection Corridor	Alternative LOS Corridor	Regional Connectivity	Construction Design in Progress	Development Conditions	Constrained Facility (GDOT Standards)					Volume/Capacity Ratio			Number of Accidents/1,000 Vehicle Miles Traveled	Number of Fatalities			
														AM Peak	PM Peak	Daily			AM Peak	PM Peak	Daily					
					0-2	0-5	0-2	0-5	0-5	0-2	0-2	0-2	0-7 (1)	0-2	0-2	0-5											
	Capacity Improvements/New Roadways																									
1	Harrison Bridge Rd	SR 106	Hubbard Rd			✓							✓			✓	*13.00*		2.00	2.00	1.50	0.00	0	*5.50*	**18.50**
2	SR 106	I-85 SB Ramps	Athens St		✓	✓		✓			✓					✓	*19.00*		1.50	2.00	1.50	1.14	1	*7.14*	**26.14**
3	SR 145	US 29	SR 51		✓	✓		✓			✓		✓	✓	✓	✓	*26.00*		2.50	3.00	3.00	0.33	0	*8.83*	**34.83**
4	SR 17	Cawthon Davis Rd	Campbell Ridge Rd		✓	✓	✓	✓	✓		✓	✓	✓			✓	*31.00*		1.25	1.25	1.25	0.52	0	*4.27*	**35.27**
5	SR 17	Gerrard Rd	Hart County		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	*35.00*		2.50	2.50	2.50	0.54	1	*9.04*	**44.04**
6	SR 198	New Bethel Rd	Paynes Rd			✓		✓								✓	*15.00*		1.25	1.25	1.25	0.52	0	*4.27*	**19.27**
7	SR 328	New Town Rd	Gerrard Rd			✓		✓			✓		✓	✓	✓	✓	*24.00*		2.50	2.50	2.00	0.77	0	*7.77*	**31.77**
8	SR 51	Thomas Ln	SR 59		✓			✓			✓					✓	*14.00*		1.25	2.00	1.50	0.00	0	*4.75*	**18.75**
9	SR 51	US 145	Noah Crow Rd		✓			✓			✓				✓	✓	*19.00*		2.25	2.50	2.50	1.33	0	*8.58*	**27.58**
10	SR 59	SR 328	Bowman St			✓		✓					✓			✓	*15.00*		2.25	2.25	2.00	1.23	0	*7.73*	**22.73**
11	US 29	Hart County	SR 145		✓	✓		✓			✓		✓		✓	✓	*20.00*		2.25	2.50	2.50	0.88	0	*8.13*	**28.13**

(1) Points range from 2 to 7 points if checked. This is due to a facility meeting the various questions presented in Table 8.3.3.1

Table 8.3.3.5
Jackson County Deficient Corridor Evaluation Criteria

Project Ref. No.	Facility	Segment Limits		Qualitative Criteria	Continuation of Existing Road Widening Project	2025 LRTP Needs Assessment	Governor's Road Improvement Program / National Highway System	Consistent with Jackson County Comprehensive Plan	Right of Way Protection Corridor	Alternative LOS Corridor	Regional Connectivity	Construction Design in Progress	Development Conditions	Constrained Facility (GDOT Standards)			*Sub-Total Qualitative Criteria*	Quantitative Criteria	Volume/Capacity Ratio			Number of Accidents/1,000 Vehicle Miles Traveled	Number of Fatalities	*Sub-Total Quantitative Criteria*	Total Score for Project
		From	To											AM Peak	PM Peak	Daily			AM Peak	PM Peak	Daily				
					0-2	*0-5*	*0-2*	*0-5*	*0-5*	*0-2*	*0-2*	*0-2*	*0-7 (1)*	*0-2*	*0-2*	*0-5*										
	Capacity Improvements/New Roadways																								
1	Brooks Rd	SR 60	US 129		✓	✓		✓					✓			✓	*20.00*		0.75	3.50	3.50	0.78	0	*8.53*	**28.53**
2	New Kings Bridge Rd	US 129	Old Bridge Rd			✓		✓					✓			✓	*18.00*		3.00	3.75	3.75	2.58	0	*13.08*	**31.08**
3	SR 11	SR 124	US 129		✓	✓		✓			✓		✓	✓	✓	✓	*3.00*		4.00	4.00	4.50	1.96	0	*14.46*	**17.46**
4	SR 124	Barrow County	SR 53		✓	✓		✓			✓		✓			✓	*3.00*		2.25	3.25	3.25	0.31	0	*9.06*	**12.06**
5	SR 124	SR 332	Gum Springs Church Rd		✓	✓		✓			✓		✓			✓	*3.00*		3.50	3.25	3.50	1.60	0	*11.85*	**14.85**
6	SR 15 ALT	US 129 BUS	SR 82			✓		✓			✓		✓	✓	✓	✓	*5.00*		4.00	6.00	5.00	1.67	0	*16.67*	**21.67**
7	SR 15 ALT	B Wilson Rd	Apple Valley Rd			✓		✓			✓		✓			✓	*5.00*		2.50	3.25	3.25	0.56	0	*9.56*	**14.56**
8	SR 322	Old Pendergrass Rd	SR 124			✓		✓			✓		✓			✓	*20.00*		2.50	3.25	3.50	1.85	0	*11.10*	**31.10**
9	SR 53	E Jefferson St	Barrow County		✓	✓		✓			✓		✓			✓	*24.00*		3.50	3.75	3.75	0.49	0	*11.49*	**35.49**
10	SR 53	Hall County	SR 124		✓	✓		✓			✓		✓	✓	✓	✓	*28.00*		6.00	6.00	6.00	1.31	0	*19.31*	**47.31**
11	SR 60	New Cut Rd	Brooks Rd		✓	✓		✓			✓		✓		✓	✓	*24.00*		1.25	5.00	5.50	1.57	0	*13.32*	**37.32**
12	SR 98	Between I-85 SB Ramps	SR 326			✓		✓			✓		✓	✓	✓	✓	*24.00*		6.00	6.00	4.00	1.28	0	*17.28*	**41.28**
13	US 129	I-85 SB Ramps	US 129 BUS			✓		✓			✓			✓		✓	*19.00*		4.00	3.75	3.75	2.26	1	*14.76*	**33.76**
14	US 129	SR 11	SR 82			✓		✓			✓					✓	*17.00*		3.50	3.75	3.25	n/a	n/a	*10.50*	**27.50**

(1) Points range from 2 to 7 points if checked. This is due to a facility meeting the various questions presented in Table 8.3.3.1

8.4 Bicycle and Pedestrian Improvements

The analysis of existing bicycle and pedestrian systems in the study area revealed that sidewalks are generally present only in the traditional town centers in the study area, and that even in these locations, there are gaps in the sidewalk system. Discussions with stakeholders revealed that priorities for pedestrian improvements were areas around schools and other public facilities such as libraries. Accordingly, schools and libraries in the study area were located in order to assess the condition of the pedestrian network around these areas.

Once the locations of these facilities were known, a targeted examination of these facilities was conducted. In particular, schools and libraries located in town centers or near residential areas were examined since these locations were more likely to have existing pedestrian facilities and existing pedestrian demand. Schools in Jefferson, Commerce, Homer, Lavonia Elementary, Royston Elementary, and West Jackson were identified for closer examination because of the need to provide safe pedestrian paths for children and young adults.

8.4.1 Banks County

Homer

Banks County Primary School, Banks County Elementary School, and Banks County Library are located along SR 51 west of US 441. There are no residential neighborhoods and little other development around these facilities.

Recommendations:

- Add sidewalks along SR 51 in front of the schools and extending to US 441.

8.4.2 Franklin County

Lavonia

Lavonia Elementary School and Lavonia Carnegie Library are located adjacent to each other along Hartwell Road (SR 77 Conn.) southeast of downtown. Sidewalks are located along SR 77, but are not present along the residential roads leading off of SR 77.

Recommendations:

- Add sidewalks along residential roads off Hartwell Road.
- Add a sidewalk between SR 77 at the Carnegie Library connecting to the playground located behind Old Lavonia Elementary.

Carnesville

Residents of Carnesville do not have postal delivery to their homes and must go to the post office in the downtown area to pick up their mail. Sidewalks around the County Courthouse and the streets leading to the center of Carnesville are limited and discontinuous.

Recommendations:

- Add sidewalks around the Carnesville Post Office and major approaches to the post office.
- Add sidewalks from the Magnolia Village Shopping Center to the downtown area along SR 106 and the new housing units to be located nearby.
- Add sidewalks from the downtown area to Carnesville Elementary School (east of downtown) and Rocky Ford Park (located adjacent to the school).
- Add sidewalks along SR 59 from Church Street to the Middle School on Lavonia Street. Seniors use this area to walk.
- Add and/or rehabilitate sidewalks in the downtown area and from the Courthouse to the High School.
- Add sidewalks near the Carnasale housing development (public housing) and the Carnasale Baptist Church to the downtown area.

Royston/Franklin Springs

Royston Elementary School is located west of Downtown Royston along College Street. The school is located in the middle of a residential neighborhood. However, there are limited sidewalks in this neighborhood around the school. Additionally, US 29 leads to Emmanuel College and is lined with retail establishments. Currently, there are sidewalks along at least one side of the street, but not both sides of the street.

Recommendations:

- Add sidewalks along both sides of US 29.
- Add sidewalks in the residential neighborhood around Royston Elementary School.

8.4.3 Jackson County

Jefferson

Jefferson City Schools are located within the City of Jefferson northwest of downtown. The schools are located in close proximity to each other and to several residential neighborhoods. Sidewalks are present in the immediate vicinity of each school, but

limited in several areas around the schools. In particular, there are no sidewalks or shoulders along Old Pendergrass Road leading to the schools from US 129. There are several subdivisions along this road where children attending these schools could walk or ride their bicycles to schools if proper facilities were constructed. Additionally, along Old US 129, sidewalks are located along the eastern side of the street from Jefferson High School to the County Courthouse, but are not present on the western side of the street. However, Jefferson High School is located west of Old US 129. Provision of sidewalks along this stretch of road would improve safety for students walking from the historic residential neighborhood to school.

Recommendations:

- Add sidewalks and shoulders along Old Pendergrass Road between US 129 and Hoschton Street.
- Add sidewalks along western side of Old US 129 between Old Pendergrass Road and the Courthouse area in the downtown.
- Identify and prioritize locations for installation of pedestrian crosswalks and supporting signal hardware.

Commerce

Commerce Elementary, Middle, and High Schools are located in close proximity to each other just west of Downtown Commerce. Lakeview Drive runs around the Middle and High School and leads to the Elementary School. While there are sidewalks along Lakeview Drive, they are sometimes only on one side of the road and provide inadequate connections to the residential areas surrounding the schools.

Commerce also recently hosted at Quality Growth Resource Team Visit sponsored by the Georgia Department of Community Affairs to develop planning concepts for the community. The Resource Team identified the need for a gateway into the City along State Street (SR 326) and a greenway/trail from the new middle school located just east of Jefferson Street (SR 15 Alt.) south of Country Club Lane to the existing ones just west of the downtown area. New sidewalks along Jefferson Street in the vicinity of the school are also needed.

Recommendations

- Improve sidewalks along both sides of Lakeview Drive.
- Construct sidewalks along State Street.
- A new greenway/trail connecting the schools in Commerce.
- New sidewalks along Jefferson Street near the new middle school.

Hoschston and Braselton

The West Jackson Primary and West Jackson Intermediate Schools are located near each other on the Hoschston/Braselton border. West Jackson Intermediate School is located on East Jefferson Street, a primarily residential street off SR 53. There are no sidewalks leading to the school. West Jackson Primary School is located off SR 53 just south of Downtown Braselton. There are sidewalks along SR 53 around the school, but sidewalks are lacking around Downtown Braselton.

Recommendations:

- Add sidewalks along East Jefferson Street to provide a safe path to the schools.
- Inspect existing pedestrian hardware and pushbuttons to ensure good function and conduct a study to determine the need for additional crossings.

8.4.4 Additional Bicycle Needs

While the majority of the study area is rural, there are key locations, such as colleges and schools, where bicycle transportation is important. Improving bicycle transportation, specifically, the continuity of the bicycle transportation network, was a topic discussed by several attendees of the community workshops. The following bicycle system improvements are recommended to facilitate the safe travel of bicyclists in the area.

Recommendations

- Add the sections of SR 17 currently not on the State Bicycle Network to the State Bicycle Network and construct new bike lanes or new bike paths connecting SR 17 to the parks near Lake Hartwell. (Franklin County)
- As new schools and colleges are developed in the study area, consider the need for bike lanes or bike paths to adjacent neighborhoods, town centers, and parks.
- Bicyclists from the college community in Athens travel into South Jackson County along Jefferson River Road. Bicyclists disperse from that corridor to other locations. There are opportunities to improve the bicycle network in this area.

8.5 Transit Improvements

Population in the study area is expected to continue to increase, including a growing elderly population. Accordingly, there may be a need to enhance the rural transportation services provided by Jackson County Transit and Banks County Transit. These service increases could be in the form of expansion of service hours and expansion of routes. If demand materializes in the future, some fixed route services may be needed. Additionally, the growing population in western Jackson County is likely to have a considerable number of people commuting to the Metro Atlanta region, particularly Gwinnett and DeKalb Counties. Jackson County should periodically evaluate the need for a vanpool program and/or commuter-oriented express bus services to selected parts of the

Metro Atlanta region as well as other nearby urban areas. If services are needed, the County should coordinate with the appropriate transit operators in developing the services. These operators could include Gwinnett County Transit, the Georgia Regional Transportation Authority (GRTA), the Metropolitan Atlanta Rapid Transit Authority (MARTA), Hall County Transit, Athens-Clarke County Transit, or other organizations.

8.5.1 Recommendations

- Franklin County should examine at regular intervals (e.g., every three years) the need for a rural transit service, especially for seniors, disabled people and low and moderate income individuals and families.
- Jackson County should examine at regular intervals (e.g., every three years) the demand for a fixed route bus service to Metro Atlanta, particularly connections to major Gwinnett County employment centers and the Downtown Atlanta, Midtown, Buckhead, and Perimeter Center areas. The County should also consider introducing vanpool programs to address commuter transportation needs where projected bus ridership levels may not be high enough to justify service. A potential vanpool service area could be Braselton.
- Locations for park and ride lots should be identified and secured to assure they are available in the future as the commuting population in the area grows. Potential park and ride lot locations in the I-85 corridor at SR 60, SR 82, SR 129, and the north side of SR 53 are recommended. These areas could be used as staging areas for vanpools and carpools early on and later used as parking areas for express bus services to the Metro Atlanta area and other important regional locations.
- Jackson County should examine at regular intervals (e.g., every three years) the demand for a fixed route service in southern Jackson County (Arcade and Nicholson) to be provided by Athens Transit System.
- Jackson County Transit and Banks County Transit should annually evaluate demand for increased services.

8.6 Freight Improvements

There are four rail lines in the study area – the Norfolk Southern (NS) Mainline, the Gainesville Midland, Lula Secondary, and Hartwell Rail Line. Each of these lines is in operation and provides freight service for the study area. Two evaluation criteria were established to evaluate freight movement through the study area: safety and commodity flows. Generally, these two elements are satisfactorily addressed through the study area. However several potential projects were identified to ensure high quality and safe rail service through the study area.

8.6.1 Norfolk Southern (NS) Main Line

- Replace old bridges in Lula.

- Maintain existing grade crossings and encourage closing or grade separation of crossings where feasible.

8.6.2 Gainesville Athens Secondary

- Maintain existing grade crossings.
- Maintain and/or improve grade crossings in conjunction with CSX as the need arises.
- Examine traffic counts on John B. Brooks Road at regular intervals (i.e., five, ten, and fifteen years) to see if growth in the industrial complex has resulted in enough traffic to warrant consideration of a rail-highway grade separation at this location.

8.6.3 Lula-Athens Secondary

- Maintain existing grade crossings.
- Maintain and/or improve grade crossings in conjunction with NS as the need arises.

8.6.4 Hartwell Rail Line

- Work with Hartwell Rail Line to close or upgrade to lighted warning signals all unsignalized rail-highway grade crossings. The numerous crossings around Royston present in ideal area to start this program.
- Partner with Hartwell Rail Line to improve track conditions between Lavonia and the NS Mainline in Toccoa. Part of this partnership should involve improving the reporting of railroad incidents to the Federal Railroad Administration.
- Support the connection of the Hartwell Rail line to the CSX Greenwood Line in Elberton that runs between Atlanta and Greenwood, S.C. through Athens.

8.6.5 Summary

Rail traffic is an important element in the industrial base of the study area. Care should be taken to make sure that any increases in rail traffic do not adversely impact historic areas, residential areas, and other sensitive land uses. Freight traffic needs to be managed well in the study area so that rail lines continue to be a valuable transportation asset for the study area.

8.7 Aviation Improvements

There are currently two active airfields in the study area and one airport located on the edge of the study area. The Jackson County Airport is located off Airport Road and SR 80 northeast of Jefferson. The airport entrance is located on Airport Road. The Franklin-Hart County airport is located west of Canon north of SR 51. Both of these airports are general aviation airports and do not receive regular scheduled commercial service.

The nearest commercial aviation airport is located in Athens, which provides commuter service to Atlanta and other locations. Additionally, Hartsfield Atlanta International Airport is located off I-85 approximately 60 miles south, or an hour's drive, of the study area and Greenville-Spartanburg International Airport is located roughly an hour's drive north of the study area along I-85.

8.7.1 Jackson County Airport

The Jackson County Airport is currently listed by GDOT's General Aviation System Plan as a Level II Airport – a business airport of local impact. GDOT has established an objective of a minimum runway length of 5,000 feet for Level II airports. Currently, the Jackson County Airport does not meet this objective; however, a 900-foot extension to Runway 16-34 is planned and would meet GDOT's minimum standard for runway length.

8.7.2 Franklin-Hart County Airport

The Franklin-Hart County Airport is currently designated by GDOT as a Level I Airport – a minimum standard general aviation airport. Level I airports have an objective of having a 4,000-foot runway. The Franklin-Hart County Airport will meet this standard if the planned runway extension proceeds. Franklin County noted that future enhancements to the SR17 corridor should be planned to accommodate the extended runway.

8.7.3 Summary

The study area is well served by two general aviation airports located in Jefferson and Canon. The airports are planning future runway extensions and other improvements where possible to benefit the air travelers in the area and achieve the objectives of the Georgia Statewide Aviation System Plan. This study is not recommending any additional enhancements.

8.8 Summary of Public Input

Throughout the course of the study public comment and stakeholder input contributed significantly to the development of projects for improving travel conditions through the Tri-County area. Stakeholder groups providing significant contributions included: the Study Advisory Group; the GDOT Study Working Group; the Jackson County Working Group and the Franklin County Working Group. Projects identified by the public and stakeholders are documented in Tables 8.8.1 through 8.8.3. Also documented in following tables for each project is a justification summary and a recommendation for inclusion in the Long Range Transportation Plan.

Table 8.8.1
Banks County Screening of Public and Stake Holder Input

ID	Project	Project Type	Identified Deficiency Type	Recommended for Inclusion in the LRTP	Source	Comments
1	Access Road from Golden Pantry to Homer Drugs	New Alignment	Accessibility	No	Public Comment	Accessibility issues will not reach critical levels during the 25-year planning horizon.
2	Frontage Road from US 441 to SR 98	New Alignment	Accessibility / Mobility	Yes	Chamber of Commerce	Provides additional accessibility to current and future development adjacent to I-85.
3	Homer	Sidewalks	Bicycle & Pedestrian Safety	Yes	Chamber of Commerce	Sidewalk connectivity projects coupled with preventive maintenance / rehabilitation would increase the utility and connectivity of the current bike/pedestrian network.
4	I-85	Widening from SR 63 to SR 51 (Jackson County)	Capacity	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
5	I-85	Widening from SR 98 (Jackson County) to SR 15	Capacity	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub-regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
6	I-85	Widening from SR 15/US 441 to SR 63	Capacity	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
7	Lula	Bridges: Replace old railroad bridges in Lula.	Safety	Yes	Consultant	With increasing demand on the freight system, attention should be forced on the preservation of the existing system.
8	McCoy Bridge Rd	Maintenance	Operations and Maintenance	No	Public Comment	This facility requires preventive maintenance. Roadway surface maintenance projects are traditional addressed through a pavement management system and/or public works department.
9	SR 105	Geometric Correction	Safety	No	GDOT Working Group	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025
10	SR 105 @ Middle Fork Broad River Road	Bridge Improvements	Operations and Maintenance	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	This bridge has been identified as deficient. Repair / Reconstruction / Construction - Increased mobility and safety
11	SR 15 / US 441	Upgrade traffic signals (5 locations)	Operational Improvements	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Identified need by GDOT & County planning staff
12	SR 184 @ Damascus Road	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Safety Improvements / Capacity Improvements Required
13	SR 198	Remove from System	Miscellaneous	No	Public Comment	Additional study required before a facility can be removed from the State/County highway system.
14	SR 198 @ SR 63	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group / Public Comment	Safety Improvements / Capacity Improvements Required
15	SR 323	Geometric Correction & Passing Lanes	Safety	No	GDOT Working Group	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
16	SR 323 @ SR 51	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Safety Improvements / Capacity Improvements Required
17	SR 323 @ SR 52	RR Crossing Improvement	Operational Improvements	Yes	GDOT Working Group	Safety improvements required
18	SR 51	Widening from US 441 East to County Line	Capacity	Yes	Consultant/ Public Comment	This projected is the continuation of the SR 51 widening project in Franklin County.
19	SR 51	Sidewalks: New Construction	Safety	Yes	Consultant	Add sidewalks in the vicinity of the schools
20	SR 51 @ Bennett Road	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	The widening of SR 51 in this part of the County will address current and future capacity and safety deficiencies.
21	SR 51 @ Grove Creek	Bridge Improvements	Operations and Maintenance	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	This bridge has been identified as deficient. Repair / Reconstruction / Construction - Increased mobility and safety
22	SR 51 @ Old US 441	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group / Chamber of Commerce	The widening of SR 51 in this part of the County will address current and future capacity and safety deficiencies.
23	SR 51 near Ervin Chambers Rd	Geometric Correction	Safety	Yes	GDOT Working Group	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
24	SR 51 near Hickory Flat	Geometric Correction	Safety	Yes	GDOT Working Group	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
25	SR 51 south to Lula	Geometric Correction	Safety	No	Public Comment	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
26	SR 59	Geometric Correction & Passing Lanes	Safety	No	GDOT Working Group / Chamber of Commerce	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
27	SR 59	Operational Improvements - Between US 441 and Martin Bridge Rd	Operational Improvements	No	Public Comment	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
28	SR 63 @ SR 184	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Safety Improvements / Capacity Improvements Required
29	SR 63 @ SR 51	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group / Public Comment	Safety Improvements / Capacity Improvements Required
30	SR 98	Geometric Correction & Passing Lanes	Safety	No	GDOT Working Group	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025

Table 8.8.1

Banks County Screening of Public and Stake Holder Input

ID	Project	Project Type	Identified Deficiency Type	Recommended for Inclusion in the LRTP	Source	Comments
31	SR 98 @ Carson Segars/Grove Level	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Safety Improvements / Capacity Improvements Required
32	SR 98 @ SR 15	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group / Chamber of Commerce	Safety Improvements / Capacity Improvements Required
33	Thompson St	Widening - including sidewalk, curb & gutter	Mobility	No	Chamber of Commerce	Currently in design
34	US 441	Install Type B Medians	Safety / High Crash Rate	Yes	GDOT Working Group	Medians will address safety concerns and manage turning vehicles.
35	US 441 @ Faulkner Rd	Intersection Improvement	Operational Improvements	Yes	Public Comment	Safety Improvements / Capacity Improvements Required
36	US 441 @ I-85	Park & Ride Lot	Transit	Yes	GDOT Working Group	Potential usage by car pools and express bus services late in the planning horizon
37	US 441 @ SR 51	Intersection Improvement	Operational Improvements	No	Public Comment	This project will be reconstructed as part of the US 441 widening project.
38	US 441 @ SR 59	Intersection Improvement	Operational Improvements	No	Public Comment	See Jackson County
39	US 441 @ SR 98	Intersection Improvement	Operational Improvements	Yes	Public Comment	Same as SR 98 & SR 15 Project
40	US 441 @ Steven B Tanger Blvd	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Safety Improvements / Capacity Improvements Required
41	West Ridgeway Rd	Widening	Capacity	No	Public Comment	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
42	Yonah Homer Rd	Geometric Correction	Safety	No	Public Comment	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025

Table 8.8.2

Franklin County Screening of Public and Stake Holder Input

ID	Project	Project Type	Identified Deficiency Type	Recommended for Inclusion in the LRTP	Source	Comments
1	Aderhold Rd	Maintenance: Bridge for Box Culvert	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
2	Bellamy Rd	Maintenance: Bridge for BRBLZ	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
3	Blacksnake Rd	Maintenance: Bridge for Double Box Culvert	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
4	Blacksnake Rd	Pave	Capacity / Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
5	Burgess Rd	Pave	Capacity / Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
6	Burke Rd	Under GDOT Contract		No	Franklin County Road Dept.	Currently Underway
7	Busha Rd @ Stonebridge Rd	Intersection Improvement	Capacity / Operations	Yes	Public Comment	Safety Improvements / Capacity Improvements Required
8	Busha Rd	New Alignment: Extend to SR 145	Capacity / Mobility	No	GDOT Working Group	Mobility / Capacity issues have will not reach critical levels during the 25 planning horizon. Candidate Project Beyond 2025
9	New Road - Calhoun to Commerce	Study: East West Connector New Road	Regional Mobility	No	Royston/Franklin Springs Rotary Club	Regional Planning Study Required
10	Carnegie Library	Sidewalk: New construction connecting the SR 77 and the Carnegie Library	Connectivity	Yes	Consultant	Connect the library to the elementary school playground.
11	Carnesville	Sidewalks	Safety	Yes	Public Comment	Sidewalk connectivity projects coupled with preventive maintenance / rehabilitation would increase the utility and connectivity of the current bike/pedestrian network.
12	Carnesville	Study: Circulation Study	Accessibility	No	GDOT Working Group	Beyond the Scope of the LRTP
13	Carnesville Post Office	Sidewalks: Add sidewalks around the post office	Connectivity / Safety	Yes	Consultant	Increase accessibility and expand the network by connecting areas with heavy pedestrian traffic.
14	Cole Rd	Pave	Capacity / Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
15	Cook St	Operations Improvement	Capacity / Operations	Yes	GDOT Working Group	Operational improvements would maximize the efficiency of the current transportation network.
16	Cook St @ Dove Town Rd	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Intersection operational and capacity improvements required
17	Crump Bridge Rd	Pave	Capacity / Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
18	Culpepper Rd	Maintenance: Bridge for Double Box Culvert	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
19	Dillard Bray Rd	Pave	Capacity / Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
20	Downtown	Sidewalks: Construct or rehabilitate sidewalks in the downtown area from the courthouse to the high school.	Connectivity / Safety	Yes	Consultant	Increase accessibility and expand the network by connecting areas with heavy pedestrian traffic.
21	Frontage Rd	New Alignment: SR 106 to SR 51	Accessibility	No	GDOT Working Group	Accessibility / capacity issues will not reach critical levels during the 25 planning horizon. Candidate Project Beyond 2025
22	Ginn St @ SR 320	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Intersection operational and capacity improvements required
23	Hartwell Rd	Sidewalks: New construction on the residential street off Hartwell Rd	Connectivity	Yes	Consultant	Increase accessibility and expand the network by penetrating residential neighborhoods.
24	Hicks Rd	Pave	Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
25	I-85	Widening: SR 320 to SR 17	Capacity / Mobility / Accessibility	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub-regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
26	I-85	Widening: SR 51 to SR 320	Capacity / Mobility / Accessibility	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
27	I-85	Widening: SR 17 to South Carolina State Line	Capacity / Mobility / Accessibility	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
28	I-85	Widening: SR 63 (Banks County) to SR 51	Capacity / Mobility / Accessibility	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
29	I-85	Landscaping		Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Landscaping on I-85 in Franklin and Hart Counties

Table 8.8.2

Franklin County Screening of Public and Stake Holder Input

ID	Project	Project Type	Identified Deficiency Type	Recommended for Inclusion in the LRTP	Source	Comments
30	I-85 @ SR 328	New Interchange	Accessibility	No	Public Comment	Insufficient interchange spacing. Interchanges must be at least 2-miles apart for consideration.
31	Kesler Rd (North)	Pave	Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
32	Kesler Rd (South)	Pave	Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
33	Lavonia Elementary	Study: Circulation Study	Accessibility	No	GDOT Working Group	Beyond the Scope of the LRTP
34	Lewis Crump Rd	Pave	Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
35	Lavonia Bypass	New Alignment: McGee Rd/CR 64 to I-85	Capacity / Mobility	Yes	GDOT: 2004-2009 Construction Work Program	Escalating travel demand places increasing pressure on the existing transportation system resulting in longer travel times and extended delays. Providing alternate routing around congested City centers allows through travelers to bypass congested sections.
36	Neal Little Rd	Maintenance: Bridge for BRBLZ	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
37	Old Stagecoach Rd	Maintenance: Bridge for Box Culvert	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
38	Pearwood Rd	Pave	Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
39	Rice Mill Rd	Under GDOT Contract		No	Franklin County Road Dept.	Currently Underway
40	Royston Elementary	Sidewalks: Construct sidewalks in the adjacent residential neighborhoods.	Connectivity / Safety	Yes	Consultant	Increase accessibility and expand the network by penetrating residential neighborhoods.
41	Royston Elementary	Study: Traffic Plan		No	GDOT Working Group / Royston/Franklin Springs Rotary Club	Beyond the Scope of the LRTP
42	Seymour Rd	Pave	Operations	Yes	Franklin County Road Dept.	A paving program will increase the capacity and operational efficiency of existing gravel or dirt surfaced facilities, and also provide more efficient accessibility and mobility
43	Sheriff Rd	Maintenance: Bridge for Box Culvert	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
44	Skyline Way	Under GDOT Contract		No	Franklin County Road Dept.	Currently Underway
45	SR 106	Sidewalks: Construct sidewalks from the Magnolia Village Shopping Center to the downtown area.	Connectivity / Safety	Yes	Consultant	Increase accessibility and expand the network by connecting areas with heavy pedestrian traffic.
46	SR 106	Sidewalks: Construct sidewalks from the downtown area to the Carnesville elementary school and Rock Ford Park	Connectivity / Safety	Yes	Consultant	Increase accessibility and expand the network by connecting areas with heavy pedestrian traffic.
47	SR 106	Widen: I-85 S. to Madison County	Capacity / Continuation of widening project in Madison County	Yes	Consultant	The widening of SR 106 from I-85 south to SR 561 addresses capacity deficiencies identified through the existing and future conditions assessment. The continuation to the Madison County line completes the project and matches the cross-section proposed by Madison County's LRTP
48	SR 145	Bridge Improvements: @ North Fork Broad River	Bridge Deficiency	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	This bridge has been identified as deficient. Repair / Reconstruction / Construction - Increased mobility and safety
49	SR 145	Widen: SR 51 to US 129	Capacity / Safety / Mobility	Yes	Consultant	The widening of SR 145 addresses identified capacity deficiencies and is also a continuation of the recommended US 29 widening west of Royston.
50	SR 145 @ SR 51	Intersection Improvement	Operational Improvements	Yes	Public Comment	Intersection operational and capacity improvements required.
51	SR 145 @ US 29	Intersection Improvement	Operational Improvements	Yes	Royston/Franklin Springs Rotary Club	The improvements associated with these intersections will be addressed through the proposed widening projects on SR 149 and US 29.
52	SR 17	Bike Lanes: Construct new bike lanes along SR 17 & and add to the Statewide Bike Network.	Connectivity / Safety	Yes	Consultant	Adding bicycle lanes on SR 17 would provide opportunities for cyclist to access recreational amenities such as the parks around Lake Hartwell in a safety fashion.
53	SR 17	Widening: Royston Bypass to Hart County Line	Capacity / Mobility	Yes	GDOT: 2004-2009 Construction Work Program	The widening on SR 17 is currently ongoing and part of the Governor's Road Improvement Program.
54	SR 17	Widening: CR 17/Ross Plane to Stephens County Line	Capacity / Mobility	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	The widening on SR 17 is currently ongoing and part of the Governor's Road Improvement Program.

Table 8.8.2

Franklin County Screening of Public and Stake Holder Input

ID	Project	Project Type	Identified Deficiency Type	Recommended for Inclusion in the LRTP	Source	Comments
55	SR 17	Widening: SR 17 from N of Bowersville, to McGee Rd / CR 64	Capacity / Mobility	Yes	GDOT: 2004-2009 Construction Work Program	The widening on SR 17 is currently ongoing and part of the Governor's Road Improvement Program.
56	SR 17 @ I-85	Park & Ride Lot	Transit	Yes	GDOT Working Group	Potential usage by car pools and express bus services late in the planning horizon
57	SR 174	Remove from System		No	Public Comment	Additional study required before a facility can be removed from the State/County highway system.
58	SR 198 @ SR 59	Intersection Improvement	Operational Improvements	Yes	Franklin County Road Dept. / Public Comment	Intersection operational and safety improvements required.
59	SR 281 @ SR 17	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Intersection operational and safety improvements required.
60	SR 320 (Cross Roads Ln)	New Alignment: Extend to SR 106	Mobility	No	GDOT Working Group	Accessibility / capacity issues have will not reach critical levels during the 25 planning horizon. Candidate Project Beyond 2025
61	SR 320 @ Hunters Creek	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Intersection operational and safety improvements required.
62	SR 320 @ I-85	Park & Ride Lot	Transit	Yes	GDOT Working Group	Potential usage by car pools and express bus services late in the planning horizon
63	SR 326	Remove from System		No	Public Comment	Additional study required before a facility can be removed from the State/County highway system.
64	SR 327	Geometric Correction	Operational Improvements	No	GDOT Working Group	Accessibility / capacity / safety issues will not reach critical levels during the 25 planning horizon. Candidate Project Beyond 2025
65	SR 327 @ SR 51	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Intersection operational and safety improvements required.
66	SR 328	Geometric Correction	Safety	Yes	GDOT Working Group	Geometric improvements required to address identified safety deficiencies will be address through the proposed widening of SR 328.
67	SR 328	Widen: County Boundary to SR 59	Safety / Capacity	Yes	GDOT Working Group / Consultant	The widening of SR 328 addresses the identified capacity deficiencies.
68	SR 328 @ Gerrard Road	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	This deficiency will be addressed by the proposed widening project on SR 328.
69	SR 328 @ SR 59	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	This deficiency will be addressed by the proposed widening project on SR 328.
70	SR 51	Bridge Improvements: @ Nails Creek	Bridge Deficiency	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
71	SR 51	Geometric Correction/Passing Lanes	Safety	Yes	GDOT Working Group	Escalating travel demand places increasing pressure on the existing transportation system resulting in longer travel times and extended delays. The widening of SR 51 addresses identified capacity constraints and increase mobility in Franklin and Jackson Counties
72	SR 51	Widen: Noah Crow Rd to SR 145	Capacity	Yes	GDOT Working Group / Consultant	The widening of SR 51 addresses identified capacity deficiencies along the corridor and increases east-west mobility thought south Franklin County.
73	SR 51 @ SR 106	Intersection Improvement	Operational Improvements	Yes	Franklin County Road Dept.	Addressed by the proposed widening of SR 51
74	SR 51 @ SR 59	Intersection Improvement	Operational Improvements	Yes	GDOT Working Group	Addressed by the proposed widening of SR 51
75	SR 59	Sidewalks: Construct sidewalks from Church St to the Middle School on Lavonia St	Connectivity / Safety	Yes	Consultant	Increase accessibility and expand the network by connecting areas with heavy pedestrian traffic.
76	SR 59 @ SR 106	Intersection Improvement	Operational Improvements	Yes	Public Comment	Intersection operational and safety improvements required.
77	SR 59 @ Turkey Creek	New School Location	Operational Improvements	No	GDOT Working Group	Beyond the scope of the LRTP
78	SR 77 Connector	Geometric Correction	Safety	No	GDOT Working Group	Additional Study Required / Candidate Project Beyond 2025
79	Strange Rd	Maintenance: Bridge for BRBLZ	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety
80	US 29	RR Crossing Improvement	Safety	Yes	GDOT Working Group	Addresses safety deficiencies.
81	US 29	Widen: SR 145 to County Boundary	Capacity	Yes	Consultant	The widening of US 29 addresses identified capacity deficiencies along the corridor and increases east-west mobility thought south Franklin County.
82	US 29	Sidewalks: Construct sidewalks in the Royston City Center	Connectivity / Safety	Yes	Consultant	Increase accessibility and expand the network by connecting areas with heavy pedestrian traffic.
83	US 29 @ Dawkins Rd	Intersection Improvement	Operational Improvements	Yes	Public Comment	Intersection operational and safety improvements required.
84	Wilhite Rd	Maintenance: Bridge for BRBLZ	Bridge Improvement	Yes	Franklin County Road Dept.	Bridge has previously been identified as needing improvements. Repair / Reconstruction / Construction - Increased mobility and safety

Table 8.8.3

Jackson County Screening of Public and Stake Holder Input

ID	Project	Project Type	Identified Deficiency Type	Recommended for Inclusion in the LRTP	Source	Comments
1	Airport	Upgrade Airport to Type II	Accessibility	Yes	Jackson County	Increase the runway length from 4106 to 5000 feet to meet GDOT's Level II airport minimum runway length standard. A supporting improvement to this project is the realignment of SR 82 to increase airport accessibility
2	Braselton Industrial Pkwy	New Alignment: Extension	Accessibility	No	Public Comment	Accessibility / capacity issues will not reach critical levels during the 25-year planning horizon. Candidate Project Beyond 2025
3	City of Jefferson	Sidewalks & Crosswalks	Bicycle & Pedestrian Safety	Yes	Public Comment	Sidewalk connectivity projects coupled with preventive maintenance / rehabilitation would increase the utility and connectivity of the current bike/pedestrian network.
4	Commerce Greenway	New Alignment: Greenway connecting Commerce schools	Connectivity	Yes	Consultant	A Greenway or multiuse trail would provide an non-roadway network to connect area of high bicycle and pedestrian activity.
5	CR 213	Safety: Upgrade railroad crossing	Safety	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Identified need by GDOT & County planning staff
6	Curk Roberts Rd @ New Cut Rd	Intersection Improvements	Capacity / Operations	Yes	Public Comment	This intersection experiences a high number of crashes resulting in the need to investigate potential safety and/or capacity improvements.
7	Curry Creek Bridge	New Alignment: 1-way pair with Kissam	Capacity / Preservation	No	Public Comment	The current and project traffic levels do not warrant any capacity related improvements. However, desire to protect the historic bridge structure could elevate this project into the LRTP in future iterations. Candidate project beyond 2025.
8	Dry Pond Rd @ I-85 Ramps	Intersection Improvements	Capacity / Operations	Yes	Public Comment	The increasing levels of traffic utilizing the Dry Pond Road interchange is resulting in increased delays.
9	Dry Pond Rd/Hog Mountain Rd	New Alignment: Extension to US 129	Accessibility / Mobility	Yes	Jackson County	The construction / extension of Hog Mountain Road would provide additional accessibility to adjacent parcels and also provide a local alternate to I-85.
10	East Jefferson St	Sidewalks: New Construction	Safety	Yes	Consultant	Construction of sidewalks from the schools to the downtown areas.
11	Eastside Jefferson Bypass	New Alignment: SR 82 to SR 124	Capacity / Mobility	Yes	GDOT Working Group / Jackson County / Public Comment	Escalating travel demand places increasing pressure on the existing transportation system resulting in longer travel times and extended delays. Providing alternate routing around congested City centers allows through travelers to bypass congested sections.
12	Frontage Road	New Alignment: Extension to SR 98	Accessibility	Yes	GDOT Working Group	Increases accessibility to adjacent parcels and provides connectivity between US 441 and SR 98.
13	Galilee Church Rd	New Alignment: Extension to SR 11	Mobility / Capacity	Yes	GDOT Working Group	Continuation of the East Jefferson Bypass.
14	I-85	Widening: SR 60 to SR 11	Capacity	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
15	I-85	Widening: SR 11 to SR 82	Capacity	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
16	I-85	Widening: SR 82 to SR 98	Capacity	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
17	I-85	Widening: SR 98 to SR 15	Capacity	Yes	GDOT: 2004-2009 Construction Work Program	Increasing demand for sub regional, regional and national travel warrant the addition of capacity in the I-85 corridor.
18	I-85	HOV lanes	Mobility	No	Jackson County	There is no demonstrated need for HOV lanes in Jackson County prior to 2025. However, as the County becomes more urbanized, HOV lanes and other TDM measures could potentially be applicable. Additional justification required.
19	Industrial Park Rd	New Alignment: Extension to SR 98	Accessibility	No	GDOT Working Group	Sister project to the Frontage Road on the north side of I-85. Increases accessibility and connectivity.
20	Jackson Trail Rd	Geometric Improvements	Safety / Operations	No	Jackson County	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
21	Jefferson Bypass	Improve Signage	Wayfinding	No	Public Comment	Requires additional study, beyond the scope of the LRTP.
22	Jefferson River Rd	Bike Lanes	Bicycle & Pedestrian Safety	Yes	Public Comment	Jefferson River Road is utilized by a high number of cyclists.
23	Jefferson St	Sidewalks: New Construction	Safety	Yes	Consultant	The construction of sidewalks in and around the cluster of Commerce City schools affords student opportunities to walk or bike to school.
24	Jesse Cronic Rd @ I-85	New Interchange	Accessibility / Capacity	No	Public Comment	Insufficient interchange spacing. Interchanges must be at least 2-miles apart for consideration.
25	Lakeview Dr	Sidewalks: Improve along both sides of Lakeview Dr	Safety	Yes	Consultant	The construction of sidewalks in and around the cluster of Commerce City schools affords student opportunities to walk or bike to school.
26	New Kings Bridge Rd	Widening	Capacity	Yes	Jackson County	The widening of Kings Bridge Road addresses capacity deficiencies identified through the existing and future conditions assessment. Additionally, the enhancement of this facility improves mobility by connecting US 29 and US 441.
27	New Liberty Church Rd	Widening	Capacity	No	Public Comment	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025
28	Old Pendergrass Rd	Right of Way Preservation	Planning	No	Jackson County	This is a County Initiative.
29	Old Pendergrass Rd	Sidewalks and Shoulders from US 29 and Hoschton St	Safety	Yes	Consultant	The construction of sidewalks in and around the cluster of Jefferson City schools affords student opportunities to walk or bike to school.
30	Old Swimming Pool Rd	Right of Way Preservation	Planning	No	Jackson County	This is a County Initiative.

Table 8.8.3

Jackson County Screening of Public and Stake Holder Input

ID	Project	Project Type	Identified Deficiency Type	Recommended for Inclusion in the LRTP	Source	Comments
31	Recreation Area	Bike\Ped Improvements	Bicycle & Pedestrian Safety	Yes	Public Comment	Sidewalk connectivity projects coupled with preventive maintenance / rehabilitation would increase the utility and connectivity of the current bike/pedestrian network.
32	SR 11	Corridor Improvements	Operations	No	GDOT Working Group	Currently there are no future year capacity or safety deficiencies identified. Candidate Project Beyond 2025
33	SR 11	Widening: Barrow County to Jefferson Bypass	Capacity	No	Public Comment	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025
34	SR 11 / US 29	Widening: SR 332 to SR 323	Capacity	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Identified need by GDOT & County planning staff
35	SR 11 / US 29 @ Allen Creek	Bridge Improvements	Operations and Maintenance	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	This bridge has been identified as deficient. Repair / Reconstruction / Construction - Increased mobility and safety
36	SR 11 @ SR 124	Intersection Improvements	Operations and Maintenance	Yes	GDOT: 2004-2009 Construction Work Program	Identified need by GDOT & County planning staff
37	SR 11 Bus.	Upgrade Traffic Signals	Operations	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Identified need by GDOT & County planning staff
38	SR 124	Widening: Barrow County to SR 60	Capacity	Yes	GDOT Working Group	The widening of SR 124 addresses capacity deficiencies identified through the existing and future conditions assessment. Additionally, with the proposed new interchange with I-85 on SR 60 the SR 124 corridor will provide additional access to Braselton and Jefferson.
39	SR 124	Widening: SR 60 to SR 11 Bypass	Capacity	Yes	GDOT Working Group	The widening of SR 124 addresses capacity deficiencies identified through the existing and future conditions assessment. Additionally, with the proposed new interchange with I-85 on SR 60 the SR 124 corridor will provide additional access to Jefferson.
40	SR 124 @ SR 53	Intersection Improvements: Realign	Safety / Operations	Yes	Jackson County	Addressed by the widening of SR 124
41	SR 15	EB & WB Passing Lanes	Operations	Yes	GDOT: 2004-2009 Construction Work Program	Identified need by GDOT & County planning staff
42	SR 15	Geometric Improvements: Upgrade	Safety / Operations	Yes	Jackson County / GDOT Working Group	Geometric improvements in this corridor will address operational and safety concerns. The increase in functional classification will increase the carrying capacity of the facility and accommodate the travel demand between Jefferson and Commerce.
43	SR 15 / US 29	Widening: Lavender Drive to SR 330	Capacity	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Identified need by GDOT & County planning staff
44	SR 15 / US 441	Widening: Clarke County to SR 335	Capacity	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Identified need by GDOT & County planning staff
45	SR 15 / US 441	Widening: SR 335 to Commerce Bypass	Capacity	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Identified need by GDOT & County planning staff
46	SR 15 Alt	Widening: SR 330 to Jefferson Bypass	Capacity	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	Identified need by GDOT & County planning staff
47	SR 15 ALT	Bridge improvements: @ Big Curry Creek	Operations and Maintenance	Yes	GDOT: 2004-2006 State Transportation Improvement Program (STIP)	This bridge has been identified as deficient. Repair / Reconstruction / Construction - Increased mobility and safety
48	SR 15 ALT @ Apple Valley	Intersection Improvements	Safety / Operations	Yes	GDOT Working Group	Addressed by the improvements recommended on SR 15.
49	SR 15 ALT @ SR 98	Intersection Improvements	Capacity / Operations	Yes	GDOT Working Group	Addressed by the improvements recommended on SR 15.
50	SR 335	Widening: SR 82 to US 441	Capacity / Operations	No	GDOT Working Group / Public Comment	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025
51	SR 53	Widening: I-85 to SR 211	Capacity	Yes	GDOT: 2004-2009 Construction Work Program	Identified need by GDOT & County planning staff
52	SR 53	Widening: Hall County Boundary to I-85	Capacity / Operations	Yes	Public Comment	SR 53 was identified as the most congested facility in the County. The widening of SR 53 addresses capacity deficiencies identified through the existing and future conditions assessment.
53	SR 53 @ I-85	Park & Ride Lot	Transit	Yes	GDOT Working Group	Potential usage by car pools and express bus services late in the planning horizon.
54	SR 53 @ Neighborhoods	Intersection Improvements	Safety / Operations	Yes	Public Comment	Addressed by the improvements recommended on SR 53 / proposed Braselton Bypass.
55	SR 53 @ New Cut Rd	Intersection Improvements	Safety / Operations	Yes	Public Comment	Addressed by the improvements recommended on SR 53 / proposed Braselton Bypass.
56	SR 53 @ SR 124	Intersection Improvements	Safety / Operations	Yes	Public Comment	Addressed by the improvements recommended on SR 53 / proposed Braselton Bypass.

Table 8.8.3

Jackson County Screening of Public and Stake Holder Input

ID	Project	Project Type	Identified Deficiency Type	Recommended for Inclusion in the LRTP	Source	Comments
57	SR 53 Bypass / Braselton Bypass	New Alignment: I-85 to SR 332	Capacity / Mobility	Yes	GDOT Working Group / Jackson County / Public Comment	Escalating travel demand places increasing pressure on the existing transportation system resulting in longer travel times and extended delays. Providing alternate routing around congested City centers allows through travelers to bypass congested sections.
58	SR 59 @ SR 15 & SR 59 @ SR 15 ALT	Intersection Improvements	Capacity / Operations	Yes	GDOT Working Group	Intersection operational and safety improvements required
59	SR 60	Widening: I-85 to SR 124	Capacity	Yes	Consultant	Widening required as a result of constructing a new interchange with I-85.
60	SR 60	New Alignment: Extend south to SR 53	Mobility	No	Public Comment	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025
61	SR 60 @ I-85	New Interchange	Accessibility / Mobility	Yes	Jackson County	A new interchange on I-85 with SR 60 would relive congestion on SR 53 and provide additional accessibility to western Jackson County.
62	SR 60 @ I-85	Park & Ride Lot	Transit	Yes	Public Comment	Potential usage by car pools and express bus services late in the planning horizon.
63	SR 82	Realignment	Safety / Operations	Yes	GDOT Working Group	To accommodate the expansion of the airport's runway and to increase the accessibility of the airport services SR 82 would be realigned.
64	SR 82 @ I-85	Park & Ride Lot	Transit	Yes	Public Comment	Potential usage by car pools and express bus services late in the planning horizon.
65	SR 82 Realignment	Geometric Improvements	Safety / Operations	Yes	Public Comment	Realignment of SR 82 would allow for the expansion of, and provide greater accessibility to, the Jackson County airport. The airport runway must be at least 5000 ft. to meet the Level II standards.
66	SR 98	RR Wall Improvement	Safety	Yes	GDOT Working Group	Safety improvements required
67	SR 98	Widening: I-85 to Old Maysville Rd	Capacity	Yes	Consultant	The widening of SR 124 addresses capacity deficiencies identified through the existing and future conditions assessment.
68	State St	Widening: Including sidewalk, curb & gutter	Bicycle & Pedestrian Safety	No	Public Comment	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025
69	State St	Sidewalks: New Construction	Safety	Yes	Consultant	The construction of sidewalks in and around the cluster of Commerce City schools affords student opportunities to walk or bike to school.
70	Steven Tanger Blvd	Median Installation	Safety	No	GDOT Working Group	Requires additional study prior to inclusion in the LRTP
71	SW Commerce Bypass	New Alignment: Right of Way Preservation	Capacity / Mobility	No	Public Comment	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025
72	US 129	Sidewalks and Shoulders between Old Pendergrass Rd and the Courthouse	Safety	Yes	Consultant	The construction of sidewalks in and around the cluster of Jefferson City schools affords student opportunities to walk or bike to school.
73	US 129 @ I-85	Park & Ride Lot	Transit	Yes	GDOT Working Group	Potential usage by car pools and express bus services late in the planning horizon.
74	US 129, S of Arcade	Widening	Capacity	No	Public Comment	Currently a 4-lane section
75	Wayne Poultry Rd	Widening: US 129 to SR 82	Capacity	No	GDOT Working Group	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025
76	Zion Church Rd	Rerouting	Operations	No	Public Comment	Currently there are no capacity or safety deficiencies identified. Candidate Project Beyond 2025

9.0 Pavement Management System

The demand on County governments in the maintenance of a high number of assets combined with their age, condition and value, has made effective roadway management challenging. Information systems have been developed to help assess and manage a large number of assets in an attempt to simplify the process and provide current and up-to-date condition assessments and balance schedule and budgetary pressures. From this source, the necessary treatments can be considered and recommendations on programs and funding levels can be established.

While Pavement Management Systems (PMS) provide benefits, they require continuous development and ongoing maintenance to be effective.

9.1 What is a Pavement Management System

Roadways, or more importantly pavements, represent the largest capital investment in today's modern highway infrastructure. Pavement systems, through maintenance activities, require continual investment and balancing. When should maintenance activities be performed? What should those activities include? The management and organization required to answer these difficult questions requires continual information on condition, funding and previously completed activities. Traditionally, these questions have been answered by experienced professionals who select treatments based upon extensive field knowledge and experience. This system is still practiced in many small areas, or on facilities that have low traffic volumes. In urban or high traffic areas it is not uncommon for facilities to compete for maintenance dollars, in addition to introducing scheduling pressures.

9.1.1 Definition

In simple terms, a pavement management system is a method of data collection, analysis and decision-making designed to optimize the resources of the facilities' owner (State, County or Local governments), for preservation and maintenance of roadway assets.

Current PMS's now harness the power of computers to retain, analyze and even forecast the condition of assets. This system enables the owners to systematically analyze historical conditions and optimize maintenance and rehabilitation programs to maximize the use and condition of roadway assets.

A pavement management system is generally comprised of three major components:

(2) A program to regularly collect pavement condition data;

(2) A computer database to store and sort the collected data; and

(3) An analysis methodology to evaluate maintenance and rehabilitation strategies and recommend annual maintenance activities to optimize the condition of roadway assets.

9.1.2 Different Pavement Management Systems

The framework of pavement management systems differs in two ways. First, the level of data required and second, associated collection and analysis procedures. The level of data required results in the categorization of the pavement management systems into "simple" or "sophisticated". The second differential centers around project analysis. Project analysis generally refers to asset management policy variables such as recommendations on when roads require maintenance and the type of treatment, or what investments need to be made and where to maintain a prescribed condition.

Simple versus Sophisticated Systems

A simple pavement management system utilizes a basic analytical model and is called a "simple" system. The data is collected and analyzed in a simple fashion typically ranking assets on scale of 1 (brand new) to 5 (very poor).

The coarse nature of the simple ranking system is an obvious weakness that could potentially result in difficulties distinguishing the condition of assets within the same scoring category. Results of the simple method could produce multiple segments with the same conditions grade, thus requiring additional analysis to determine the priorities within such a group. With such a broad rating system, the variation within the group will not be easily defined.

A "sophisticated" system better defines and identifies the condition of assets. Pavement conditions are categorized by deficient criteria such as cracking, rutting and raveling. With regarding to cracking, a sophisticated structure would identify the crack types, the percentage of the road that is affected, and the width of the cracks. This method provides far greater flexibility than the simple method and enables further prioritization of roadway segments.

The Georgia Department of Transportation has developed a guide for estimating flexible pavement condition that was utilized for this study. The condition-rating scheme includes evaluating roadway segments with regards to the following criteria: rutting, combined cracking, raveling and edge distress, bleeding and flushing, patches and/or potholes and corrugation. Each facility is evaluated based on these criteria and assigned a score of very good through very poor. The assignment of each score is deducted from a perfect rating of 100. The condition rating process is illustrated below.

Table 9.1.2.1
Pavement Condition Evaluation Matrix[1]

	Very Good (Deduct)	Good (Deduct)	Fair (Deduct)	Poor (Deduct)	Very Poor (Deduct)
Rutting	0-5	5-9	9-13	13-17	17-20
Combined Cracking	1-14	14-23	23-32	32-41	41-50
Raveling & Edge Distress	0	1	1-3	3-4	4-6
Bleeding & Flushing	0	0	1	1	2
Patches and/or Potholes	0	1-4	4-6	6-8	8-10
Corrugations	0	0	1	1	2

Table 9.1.2.2
Rating Range Definitions[1]

Condition	Rating	Definition
VERY GOOD	81-99	No maintenance necessary at this time.
GOOD	65-80	Rideability good, some minor repairs needed.
FAIR	45-64	Considerable deterioration – needs major repairs or resurfacing in the near future.
POOR	28-44	Badly deteriorated – needs leveling and resurfacing.
VERY POOR	11-27	Critical condition – needs immediate attention.
DELETE	<=10	Needs to be abandoned.

Project Analysis and Network Analysis

The most simple PMS only produces project level information. This usually consists of an analysis of the roadway condition to produce recommendations, called projects, which require short, mid, and long-term attention. Some more sophisticated systems produce project information comprising recommendations regarding preferred treatments. This level of information is particularly helpful when a wide variety of treatments are applicable.

Network analysis provides information on the complete group of assets (i.e. the entire roadway network) in addition to specific project information. Generally this type of analysis consists of assessing the costs of keeping the asset condition at a desired level.

[1] Systems Inventory Data Collection Coding and Procedures Manual; Georgia Department of Transportation Office of Information Services, 1998 revised edition. Appendix E – pavement Rating Guide and Utility Level Appraisal.

Sophisticated PMS's, in addition to assessing the condition of the asset, can provide recommendations on treatments and scheduling. This reduces the demand for physical site inspections, although site verification will always be integral to the overall success of the program.

For the purpose of this study the rating and evaluation performed by GDOT and reported in the Roadway Characteristics (RC) database was utilized. Assets were evaluated and prioritized based on readily available data.

9.2 Use of Pavement Management Systems

9.2.1 Data Registers

The most basic function served by the pavement management system is a database of relevant roadway assets and pavement condition evaluation criteria for Banks, Franklin and Jackson Counties. With assets spread over the over 2,000-mile roadway network and having a value exceeding $750M, a data register that locates and details segments is a critical management tool for engineers programming specific maintenance services.

The pavement management system ordinarily contains details of the roadway pavement and its surface. It also records information on the sidewalk and curb and gutter where applicable. In addition to inventory and condition rating data registers also record major rehabilitation and preventive maintenance activities and assess the service life of registered assets.

The data registers, or database, developed for Banks, Franklin and Jackson Counties contains all the roadway and pavement attributes and condition ratings[2].

9.2.2 Identification of Assets in the Worst Condition

The next level of pavement management system is used to identify the assets in the worst or most deteriorated condition. This essentially involves a ranking of the overall condition or alternatively, the condition of any defect type (i.e. facilities with the greatest number of potholes).

This information is then used by the County's / GDOT's engineering staff through a series of site visits to refine the list and make decisions on the facilities needing immediate attention, the most appropriate treatment and associated costs. This process is generally how the roadway resurfacing program is developed.

From the roadway characteristic database assets in the worst condition (the lowest PACES score (paved roads only) are detailed below.

[2] Roadway attributes and pavement condition rating were obtained for the Roadway Characteristics Database maintained by GDOT.

Table 9.2.2.1
Worst Rated Pavement Sections
Banks County

Rank	Roadway	Start MP	End MP	Surface Type	Pavement Condition	Ranking
1	Moss Mill Rd	0.00	0.03	4	12	Very High
2	Bone Rd	0.00	0.04	4	20	Very High
	Bone Rd	0.04	0.25	4	20	Very High
3	Hunter St	0.00	0.01	4	28	Very High
	Hunter St	0.01	0.02	4	28	Very High
4	Soapstone St	0.18	0.21	6	30	Very High
5	Gordon Rd	0.00	0.13	4	30	Very High
6	Stonepile St	0.00	0.03	4	35	Very High
7	Stonepile St	0.03	0.05	4	35	Very High
8	Frank Brown Rd	0.51	0.53	4	42	Very High
9	Cross St	0.00	0.10	4	45	Very High
10	Mitchell Rd	3.32	3.34	4	50	Very High

Table 9.2.2.2
Worst Rated Pavement Sections
Franklin County

Rank	Roadway	Start MP	End MP	Surface Type	Pavement Condition	Ranking
1	Burroughs Rd	1.10	1.11	6	5	High
2	Price Rd	1.47	1.48	6	5	High
3	Seymour Rd	3.99	4.00	6	5	High
4	Burroughs Rd	1.63	2.19	4	40	High
5	Manley St	0.00	0.20	4	40	High
	Manley St	0.20	0.63	4	40	High
6	Brown Rd	0.00	0.10	4	40	High
	Brown Rd	0.10	0.45	4	40	High
	Brown Rd	0.45	0.50	6	40	High
	Brown Rd	0.50	0.58	4	40	High
	Brown Rd	0.58	0.68	4	40	High
	Brown Rd	0.68	0.82	4	40	High
	Brown Rd	0.82	1.63	4	40	High
	Brown Rd	1.63	2.13	4	40	High
	Brown Rd	2.13	2.97	4	40	High
	Brown Rd	2.97	3.46	4	40	High
7	N Clarks Creek Rd	0.00	0.52	4	40	High
	N Clarks Creek Rd	0.52	1.23	4	40	High
	N Clarks Creek Rd	1.23	1.66	4	40	High

Rank	Roadway	Start MP	End MP	Surface Type	Pavement Condition	Ranking
	N Clarks Creek Rd	1.66	2.59	4	40	High
	N Clarks Creek Rd	2.59	2.70	4	40	High
	N Clarks Creek Rd	2.70	3.40	4	40	High
8	Little St	0.00	0.24	2	40	High
9	Casey Rd	0.00	1.52	4	41	High
	Casey Rd	1.52	1.74	4	41	High
	Casey Rd	1.74	1.76	6	41	High
	Casey Rd	1.76	2.54	4	41	High
10	Athens St	0.15	0.46	4	41	High
	Athens St	0.46	0.80	4	41	High
	Athens St	0.80	0.82	4	41	High
	Athens St	0.82	0.92	4	41	High
	Athens St	0.92	0.93	4	41	High
	Athens St	0.93	0.95	4	41	High

Table 9.2.2.3
Worst Rated Pavement Sections
Jackson County

Rank	Roadway	Start MP	End MP	Surface Type	Pavement Condition	Ranking
1	OB Garrison Rd	0.00	0.10	4	3	Very High
2	1572066600	0.00	0.01	4	5	Very High
3	Peach Hill Dr	0.00	0.01	4	24	Very High
	Peach Hill Dr	0.01	0.27	4	24	Very High
4	1573075803	0.00	0.12	4	25	Very High
5	New St	0.00	0.12	4	35	Very High
	New St	0.12	0.26	4	35	Very High
6	Pine St	0.00	0.01	4	40	Very High
	Pine St	0.01	0.02	4	40	Very High
7	1573079307	0.00	0.05	4	40	Very High
	1573079307	0.05	0.10	4	40	Very High
8	Jackson Concourse	0.00	0.18	4	42	Very High
	Jackson Concourse	0.18	0.20	4	42	Very High
9	Jefferson River Rd	4.03	4.98	2	45	Very High
	Jefferson River Rd	4.98	5.35	2	45	Very High
10	Wilbanks Rd	0.00	0.23	4	45	Very High

9.2.3 Optimization of Funding

Additional more sophisticated management systems can provide more information than the basic lists of the worst segments/roads, with a summary or score of the condition. As previously mentioned, there are more sophisticated pavement management systems that also make recommendations on the most appropriate treatments. These recommendations are generally based on statistical or theoretical probabilities and trends.

The ability of the pavement management system to make these decisions is totally dependant on the way the program is tailored to the conditions of the County. Effectively, the evaluation process that County engineers have traditionally used when selecting appropriate treatments can be built into the system. Once developed, this type of program provides a more objective and consistent approach to the process, although the degree of accuracy is still subject to the quality of the condition rating data collected.

With this type of system the decision-making process can be further extended. Once the pavement management system has allocated a treatment for a particular location, it can also assign a cost to the same selection. This then allows the system to optimize projects to obtain the most effective cost benefit from the available funding.

"Sophisticated" pavement management systems, such as one described above, provide valuable asset management information; however, the resultant recommendations are still based on the quality of data fed into the program. If, for instance, the pavement management ratings are inaccurate, or not of sufficient detail, the recommendations produced maybe incorrect or off target. This reinforces the need to follow up with site verification visits and continual system improvement.

9.3 Strategic Road Management

The use of network level analysis, as detailed in Section 9.2, is an advanced level of information that is produced by sophisticated pavement management systems. When used effectively, this information can be powerful strategic planning and budgeting tool.

Network level pavement management systems analyze the condition of the network and predict the cost to keep it at any pre-determined standard. This then allows the possibility of establishing the annual cost necessary to keep the assets in the same average condition. Alternatively, the cost of improving the condition can also be established.

This is achieved through systems that can make predictions on the likely deterioration of pavement condition over time. This information coupled with the recommended treatments enables the cost of maintaining roadway assets to be forecasted over time.

9.4 Ranking and Prioritization Methodology

The RC database was further employed to rank/prioritize pavement conditions. The methodology and results of the prioritization process are detailed in the following subsections.

In order to prioritize each roadway segment based on condition and use, five broad criteria were developed: pavement condition rating; surface type; functional classification; remaining service; and average daily traffic. In the ranking process segments were analyzed individually by assigning points to each criteria based on available and collected data. The relation between the priority measure and the number of assigned points is detailed in this section. A higher score indicated a higher priority.

9.4.1 Prioritization Criteria

The following descriptions outline all of the criteria and priority measures utilized to rank the assets.

Pavement Rating

The pavement rating criteria is the most important criterion and is designed to increase the priority of assets that do not meet acceptable condition standards. This criterion is considered to be the most important for prioritizing assets as its performance measures directly relate to pavement condition. This measure is based on Data Item 44: Pavement Condition Rating (PACES) in the RC database. Each segment will be assigned a rating of 0 to 30 and the following table details the pavement rating ranges and corresponding ordinal ratings.

Table 9.4.1
Pavement Condition Ordinal Rating Scheme

Pavement Condition		Rating
VERY GOOD	81-99	0
GOOD	65-80	6
FAIR	45-64	12
POOR	28-44	18
VERY POOR	11-27	24
DELETE	<=10	30

Surface Type

The surface type describes the materials used to form the roadway surface. A key element in assessment of pavement condition is the use of pavement. The surface type criterion is designed to identify those facilities with a bituminous surface for prioritization. This measure is based on Data Item 25B/26B: Divided Highway (Surface

Type) – 25B or Undivided Highway (Surface Type) – 26B in the RC database. Each segment will be assigned a rating of 0 to 6 and the following table details the pavement rating ranges and corresponding ordinal ratings.

Table 9.4.2
Surface Type Ordinal Rating Scheme

Surface Type		Rating
A	Primitive Road	N/A
B	Unimproved Road	N/A
C	Graded and Drained. A road of natural earth aligned and graded to permit reasonable convenience by motor vehicles	N/A
D	Soil-surface road	N/A
E	Gravel or Stone road.	N/A
F	Bituminous surface treated.	0
G	Mixed bituminous pavement (low type)	2
I	High Flexible	4
J	High Rigid	6
K	Brick	6
L	Block	6

Functional Classification

The functional classification criterion is designed to increase the priority of high capacity facilities designed to carry heavy volumes of traffic. This measure is based on Data Item 30: Functional Classification in the RC database. A rating of 1 to 7 will be assigned, depending upon the classification of the facility. The following table details the functional classification ordinal rating scheme.

Table 9.4.3
Functional Classification Ordinal Rating Scheme

Surface Type		Rating
01/11	Interstate Principal Arterial	7
12	Urban Freeway and Expressway	6
02/14	Urban Principal Arterial / Principal Arterial	5
06/16	Minor Arterial / Minor Arterial Street	4
07/17	Major Collector / Collector Street	3
08	Minor Collector	2
09/19	Local	1

Maintenance Year and Type

The maintenance year and type criterion is designed to investigate previous maintenance activities and identify those segments where the service life is approaching expiration. Facilities within the last three years of service life are given a higher priority. This measure is based on Data Item 28: Maintenance (Year and Type of Construction) on State Roads and Other Roads when information is available in the RC database. A rating of 0 to 9 will be assigned, dependant on the remaining service life of each segment.

Table 9.4.4
Remaining Service Life Ordinal Rating Scheme

Remaining Service Life	Rating
<0	9
1-3 years	6
4-10 years	3
11-20 years	0

The remaining service life was calculated based on the maintenance year and type information provided in the RC database. Table 9.4.1.5 illustrates the maintenance type and assumed service life.

Table 9.4.5
Maintenance Type and Service Life

Maintenance Life		Service Life
1	New or Reconstruction	20 years
2	Resurface	10 years
3	Reseal (slurry)	5 years
4	Widening	20 years
5	Under construction	20 years
6	Unknown	N/A
7	Spot patching	5 years
8	Grinding / Roto Mill	15 years
9	Reseal (chip)	5 years
0	Widen and Resurface	10 years

Sample Calculations:

Maintenance Year and Type Code: 001
New or reconstruction in 2000, Service life +20 years to 2020, Remaining service life = 2020-2004 = 16 years; therefore, the remaining service life ordinal rating score = 0.

Maintenance Year and Type Code: 892
Resurface in 1989, service life +10 years to 1999, Remaining service life = 1999-2004 = -5 years; therefore, the remaining service life ordinal rating score = 9.

Maintenance Year and Type Code: 978
Grinding / Roto Mill in 1997, service life +10 years to 2007, remaining service life = 2007-2004 = 3 years; therefore, the remaining service life ordinal rating score = 6.

Average Daily Traffic
Average daily traffic will be used to identify and increase the ratings of segments that carry the heaviest traffic volumes. This measure is based on Data Item 41: Last Year's Average Daily Traffic in the RC database. A rating of 0 to 30 will be assigned, depended on the average daily traffic on each segment.

Table 9.4.6
Average Daily Traffic Ordinal Rating Scheme

Remaining Service Life	Rating
< 2500	0
2,500 – 4,999	10
5,000 – 9,999	20
> 10,000	30

Weighting Scheme

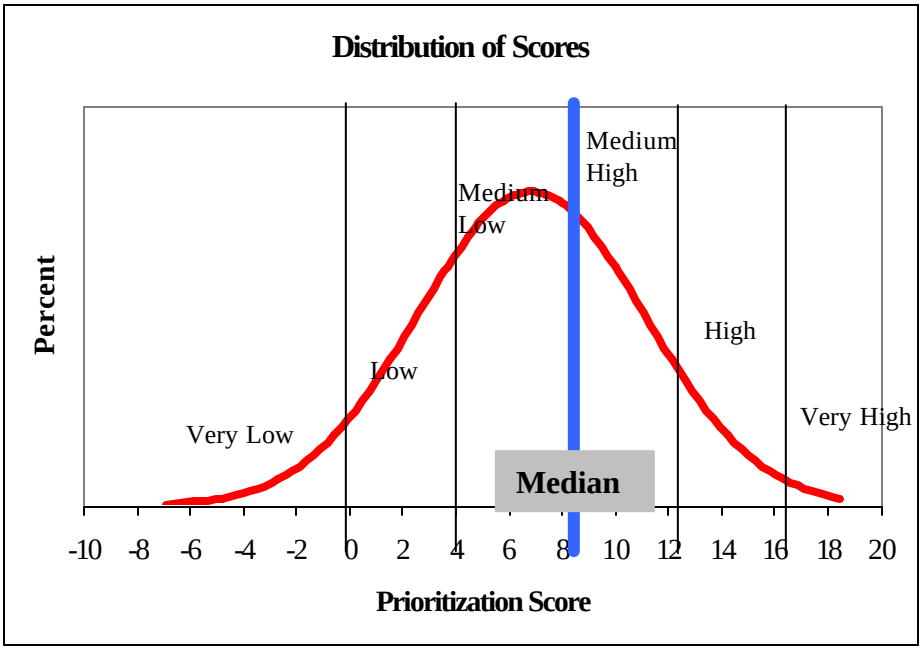
The primary purpose of the ranking and prioritization program is to develop a systematic approach to setting and implementing preventive maintenance activities. Because priorities revolve around pavement condition, the weighting scheme is design to assign 60 percent of all possible points to the pavement condition criterion. The remaining 40 percent of all possible points were distributed between the other criterions. The following table provides a detail break down of the criteria and points assigned.

Table 9.4.7
PMS Criteria and Priority Measure by Weight

Priority Measure	Points	Weight %
Pavement Condition Rating	30	60%
Surface Type	6	5%
Functional Classification	7	10%
Remaining Service Life	9	15%
Average Daily Traffic	30	10%

Application of the weighting scheme results in a composite score indicating the priority of the segment relative to all other segments. The scores are then statistically grouped based on their relationship to the mean score. This relationship is displayed in Figure 9.4.1.

Figure 9.4.1
Statistical Grouping of Pavement Scores



9.5 Pavement Management in Banks, Franklin & Jackson Counties

Banks, Jackson and Franklin Counties currently do not maintain a pavement management system. As part of this study effort, a simple pavement management system has been established to aid in the identification and prioritization of maintenance activities. Based on the availability of data and time and budgetary constrains a "simple" system was established.

As detailed in section 9.1.2 that discusses "simple" versus "sophisticated" systems, one drawback of the simple system is the inability to develop treatment options and manage assets over time. It can identify the worst (say) 5 facilities in need of treatment.

The pavement management system developed as part of this study lists the roadway segments for consideration without any recommendations on treatment. The finalization of the segments / roads and treatments needs to be established through further site examination of all potential project candidates.

The system also has an additional weakness in the structure, primarily as a result of the age of the database. Keeping the data fresh will continue to be challenging since database maintenance activities are centralized for all Counties in Georgia. Therefore, the resulting dataset could potential be up three years old before review and update. The production of reports necessary to establish a forward plan could be difficult due to the maturity of the data in the system.

It is recommended that independent datasets be established for the purposes of pavement management within each County. This would allow the responsible staff to refresh the data on a more frequent basis and establish criteria and data necessary to predict future pavement conditions and establish a work plan that optimizes budget and schedule constraints.

The pavement management system framework developed under this study relies on information within the RC database. A prioritization process was developed and applied to group segments into broad categories ranging from Very High to Very Low priority ratings. The development process is detailed in the following subsections. This initial simple framework was not designed to forecast or predict future roadway pavement conditions or establish funding requirements to maintain a prescribed condition level, but rather to develop a snapshot of current conditions and a coarse prioritization level.

9.5.1 Localizing the Pavement Management System

As discussed earlier, a pavement management system must be tailored for the particular conditions of the user. This is the process of setting up different models within the system. The degree to which projects can be correctly prioritized hinges not only on the data but also how well the system is set up to cater to local conditions.

9.5.2 Different Models for Different Programs

Different models are normally developed for different program types. For example, the resurfacing of a road is a different type of rehabilitation than the reconstruction of a road, and treatments are triggered by different circumstances. The assessment of priorities for each program would require separate forecasting models.

This is achievable as the information on the condition of the assets is collected and recorded by rating (scoring) each asset separately by condition criteria. Most assets have more than one way of deteriorating, each being called a distress. During the condition rating of the assets, all significant distress types are recorded and scored. The current pavement condition assessment rates by condition; however; the composite score is recorded in the RC database.

The GDOT model is generic in the sense that it combines a variety of distress criteria. Each criterion is then assessed and scored relative to each other and summed for the overall rating. The relative weights of each criterion are established by the range of score, from very good to very poor, a facility earns. The GDOT distress type and scoring methodology were presented in Section 9.4.

This method allows greater flexibility in the prioritization of programs, particularly as the most appropriate distress can be emphasized. An example of this would be the development of a model for the resurfacing program that would include skid resistance (surface texture) and road cracking as primary criteria. On the other hand, a model for the reconstruction program would place minimal emphasis on skid resistance, as it has no bearing on the structure of a facility, but include distress criteria such as rutting and corrugations.

9.6 Condition Rating

The pavement management system can only make direct statistical comparisons once it has information on the condition of all roadway assets under consideration. The process of condition rating is a laborious process that requires substantial field survey. For this initial assessment the condition rating or pavement condition was extracted directly from the RC database. As explained previously, the prioritizing of projects includes additional criteria above and beyond the pavement condition rating in an attempt to elevate strategic facilities. In addition to pavement condition, surface type, latest inspection date, functional classification, average daily traffic, and remaining service life are also included in the ranking process.

Based on the analysis performed as part of this study, a listing of the highest-ranking roadway segments is presented below for each County. The analysis included an evaluation of all segments regardless of length, but did require that the facility be currently paved and have a PACES condition rating more recent than the last major maintenance activity. For each segment several informational elements were summarized including: facility; limits, prioritization score; statistical ranking; and composite score along the entire section.

For the successful implementation of a pavement management system it is recommended that additional engineering and field review be conducted prior to programming treatments.

The top five projects resulting from the prioritization analysis are listed in Tables 9.6.1 to 9.6.3 and presented in Figures 9.6.1 – 9.6.3.

Table 9.6.1
Prioritized Pavement Segments
Banks County

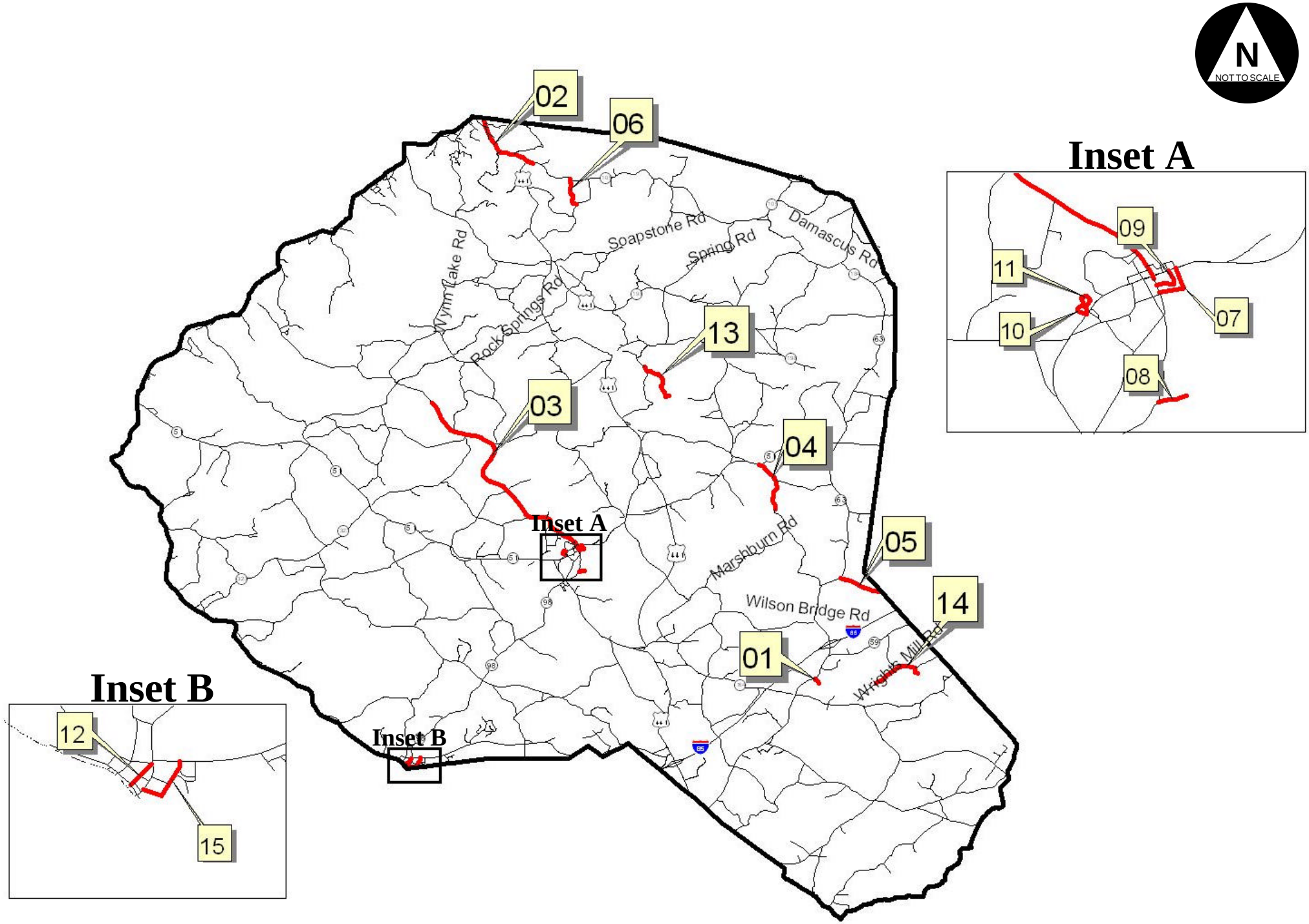
ID	Facility	From	To	Start	End	Ranking	Composite Score
01	Gordon Rd	SR 164/SR 59	END	0.00	0.13	High	11.50
02	SR 105	Habersham Co	Mile 8.14	8.14	9.83	Med-High	9.25
03	Yonah Homer Rd	Coondog Trail	Mile 9.36	2.94	9.36	Med-High	9.05
04	Bennett Rd	SR 51	Mile 1.30	0.00	1.30	Med-High	8.82
05	Bell Rd	Martin Bridge Rd	Mile 0.92	0.00	0.92	Med-High	8.85
06	Ferguson Rd	SR 105	Harmony Ch Rd	0.00	0.73	Med-High	8.85
07	Candier St	Main St	Athens St	0.11	0.31	Med-High	8.85
08	Baker St	Evans St	END	0.00	0.12	Med-High	8.85
09	York Circle	Main St	Athens St	0.00	0.12	Med-High	8.85
10	Brown St	Poker Hill St	US 441	0.00	0.08	Med-High	8.85
11	Poker Hill St	US 441	US 441	0.00	0.17	Med-High	8.85
12	Hogan St	Homer St	N Main St	0.00	0.20	Med-High	8.81
13	Brown Cemetery Rd	Martin Rd	END	0.00	1.24	Med-High	8.25
14	CR 92	Borders Dr	END (CR 93)	0.00	1.18	Med-High	8.21
15	Fair St / Ellison St	W Ridgeway Rd	Homer St	0.00	0.40	Med-High	8.13

Table 9.6.2
Prioritized Pavement Segments
Franklin County

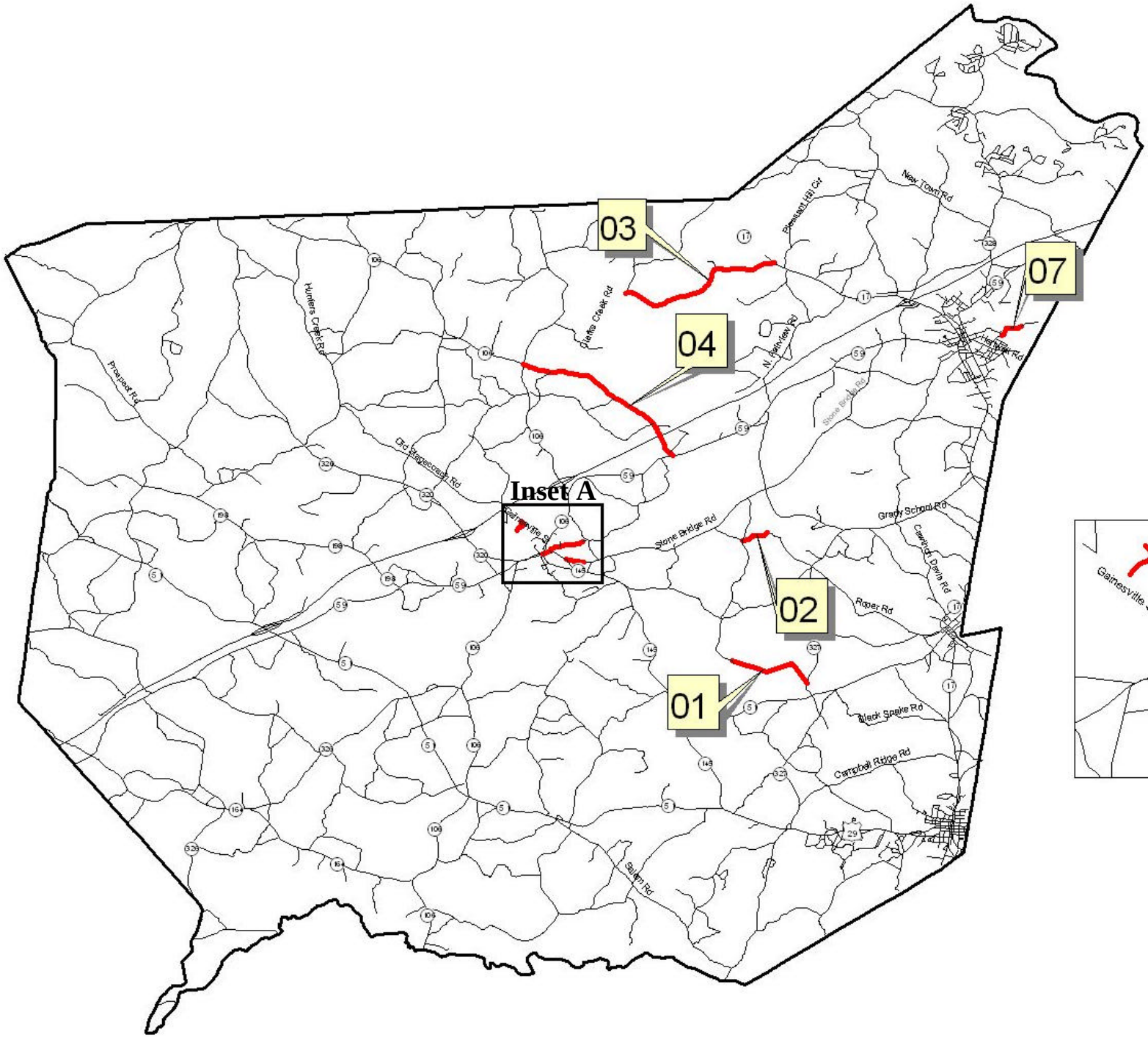
ID	Facility	From	To	Start	End	Ranking	Composite Score
01	Casey Rd	Johns Bridge Rd	New Franklin Church Rd (SR 327)	0.00	2.54	Very High	12.45
02	Burroughs Rd	Stone Bridge Rd	Carroll Church Rd	1.63	2.19	Very High	12.45
03	N Clarks Creek Rd	Greater Hope Rd	SR 17	0.00	3.40	Very High	11.97
04	Brown Rd	Lavonia Rd (SR 59)	Toms Creek Rd (SR 145)	0.00	3.46	Very High	11.65
05	Athens St	Royston Rd	Oliver St	0.82	0.95	Very High	11.55
06	Manley St	Bowersville Rd	Mile 0.76	0.00	0.63	Very High	11.55
07	Parkertown Rd	Grogan St	Wiley Rd	0.35	0.76	Very High	11.55
08	Little St	Gainesville St	END	0.00	0.24	Very High	11.45
09	Bowersville Rd	Ayers St	Stevens Creek	0.15	0.46	Very High	11.11

Table 9.6.3
Prioritized Pavement Segments
Jackson County

ID	Facility	From	To	Start	End	Ranking	Composite Score
01	Peach Hill Dr	Sycamore St	Peach Hill Circle	0.00	0.27	Very High	15.15
02	New St / Locust St	Scott St	S Elm St	0.00	0.26	Very High	11.50
03	S Elm & S Broad Connector	Oak St	College Ave	0.00	0.02	Very High	11.50
04	N Broad St	Hospital Rd	Washington St	0.00	0.47	Very High	10.10
05	SR 332	Hall County Line	Indian Creek Bridge	2.00	13.77	Very High	8.95



TEI Engineers & Planners	Figure No: 9.6.1	Page No: 205	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Prioritized Pavement Segments Banks County***



TGI Engineers & Planners	Figure No: 9.6.2	Page No: 206	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Prioritized Pavement Segments Franklin County***

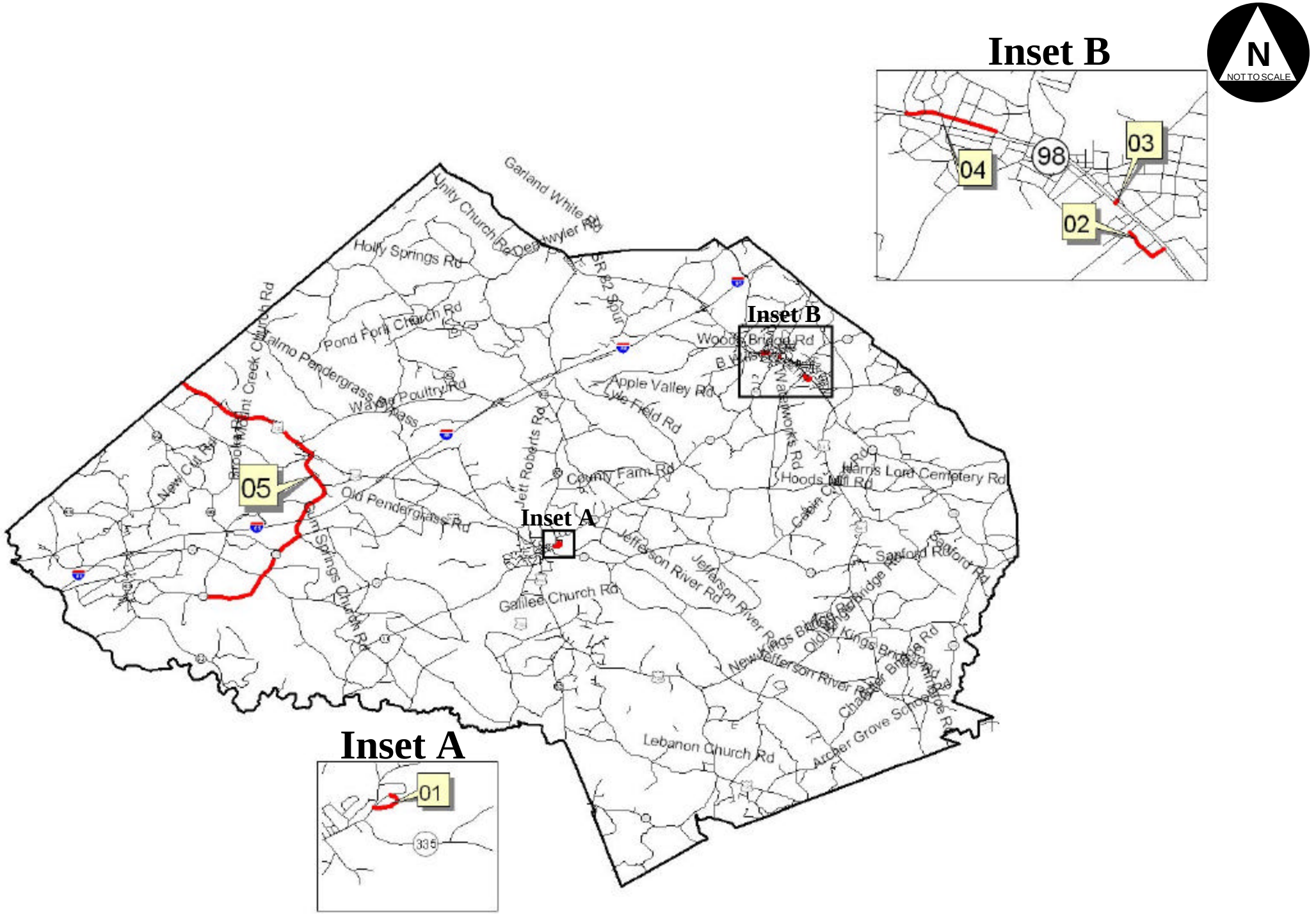


Figure No:	Page No:		
9.6.3	207	**Banks-Franklin-Jackson County Multimodal Transportation Study**	***Prioritized Pavement Segments Jackson County***

9.7 Conclusion

The management of any roadway network and the various associated assets is not a simple exercise. This is further complicated by the accountability of the maintenance activities from State to County to local government. A systematic approach to pavement management provides substantial support in the organization of preventive maintenance activities.

Pavement management systems have provided road asset managers with an opportunity to use the power of computers to achieve more objective road management, particularly with respect to the selection of appropriate road segments for treatment, given the available funding. It is anticipated that the pavement management system will be further developed over time and supplemented by new information resulting from repeat condition ratings that will allow a better measure of the ongoing need / deterioration of the roadway assets.

Along with this initial development, it is recommended that a regular assessment of the benefits of migrating to a more sophisticated system be revisited every couple of years. While the pavement management system provides a valuable tool in the management of road related assets, road managers will need to continue to keep in touch with the road network through regular monitoring and inspection.

10.0 Banks County Improvement Recommendations

Banks County has received significant growth over the last two decades. This growth is expected to continue 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:

- Capacity;
- Safety;
- Bicycle and Pedestrian;
- Transit;
- Freight;
- Aviation; and,
- Bridges.

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

10.1 Estimated Costs

An important element of the LRTP is estimating the costs associated with the numerous recommended improvements. It will not be feasible for Banks County to do every improvement recommended in the LRTP. This is one reason the recommended improvements were previously ranked, to establish a priority. Now an estimated cost needs to be associated with each project to aid the County in planning for, and funding of, the recommended improvements.

The estimated costs were generated for planning purposes and may be higher or lower than 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.

Estimating recommended project costs is an extremely important part of the planning process. In order to accurately calculate project costs it is useful to obtain historic cost estimates for various types of projects. GDOT maintains a cost database which was useful in estimating the costs for new roadways and roadway widening projects associated with this study. To enhance the accuracy these cost estimates, GDOT has divided the costs by regions. The costs used for the Tri-County area were obtained from the North Georgia Region and can be found in Table 10.1.1.

Table 10.1.1
North Georgia Roadway Enhancement Costs
(per mile)

Improvement Type	Grad & Drain Project	Base & Pave Project	Lump Items Project	Misc. Project	E & C 10% Project	Total Cost Per Mile
Rural New Location						
4 lanes with 44' grassed median	4,031,720	882,200	287,100	217,800	541,882	**5,960,702**
4 lanes with 20' Raised Median	3,799,400	851,400	292,600	172,700	511,610	**5,627,710**
4 Lanes with 0' Median (48' Pavement)	3,374,690	851,400	177,100	91,300	449,449	**4,943,939**
4 Lanes with 4' Flush Median (52' Pavement)	3,431,560	918,500	177,100	99,000	462,616	**5,088,776**
4 Lanes with 12' Flush Median (60' Pavement)	3,545,300	1,050,500	177,100	114,400	488,730	**5,376,030**
4 Lanes with 14' Flush Median (62' Pavement)	3,570,710	1,083,500	177,100	117,700	494,901	**5,443,911**
3 Lanes with 36' Pavement	3,204,080	653,400	145,200	66,000	406,868	**4,475,548**
2 Lanes with 24' Pavement	3,031,050	456,500	133,100	82,500	370,315	**4,073,465**
Urban New Location						
4 lanes with 20' Raised Median	3,559,820	906,400	282,700	172,700	492,162	**5,413,782**
4 Lanes with 0' Median (48' Pavement)	3,129,060	906,400	136,400	118,800	429,066	**4,719,726**
4 Lanes with 4' Flush Median (52' Pavement)	3,202,870	984,500	136,400	128,700	445,247	**4,897,717**
4 Lanes with 12' Flush Median (60' Pavement)	3,352,910	1,135,200	136,400	148,500	477,301	**5,250,311**
4 Lanes with 14' Flush Median (62' Pavement)	3,389,210	1,172,600	136,400	154,000	485,221	**5,337,431**
2 Lanes with 24' Pavement	2,781,790	455,400	111,100	64,900	341,319	**3,754,509**
3 Lanes with 36' Pavement	2,956,030	680,900	111,100	91,300	383,933	**4,223,263**
Rural Widening						
2 to 4 Lanes with 44' Grassed Median	1,090,210	644,600	160,600	71,500	196,691	**2,163,601**
2 to 4 Lanes with 20' Raised Median widen Symmetrical	404,140	786,500	224,400	150,700	156,574	**1,722,314**
2 to 4 Lanes with 20' Raised Median widen on one Side	684,860	597,300	174,900	95,700	155,276	**1,708,036**
2 to 4 Lanes with 0' Median (48' Pavement)	522,720	597,300	149,600	69,300	133,892	**1,472,812**
2 to 4 Lanes with 4' Flush Median (52' Pavement)	548,130	680,900	149,600	74,800	145,343	**1,598,773**
2 to 4 Lanes with 12' Flush Median (60' Pavement)	603,790	849,200	149,600	86,900	168,949	**1,858,439**
2 to 4 Lanes with 14' Flush Median (62' Pavement)	614,680	892,100	149,600	89,100	174,548	**1,920,028**
3 to 4 Lanes with 14' Flush Median (62' Pavement)	417,450	639,100	149,600	71,500	127,765	**1,405,415**
Urban Widening						
2 to 4 Lanes with 20' Raised Median widen Symmetrical	748,990	831,600	203,500	216,700	200,079	**2,200,869**
2 to 4 Lanes with 20' Raised Median widen on one Side	861,520	559,900	171,600	128,700	172,172	**1,893,892**
2 to 4 Lanes with 0' Median (48' Pavement)	450,120	559,900	145,200	113,300	126,852	**1,395,372**
2 to 4 Lanes with 4' Flush Median (52' Pavement)	487,630	654,500	145,200	132,000	141,933	**1,561,263**
2 to 4 Lanes with 12' Flush Median (60' Pavement)	567,490	839,300	145,200	170,500	172,249	**1,894,739**
2 to 4 Lanes with 14' Flush Median (62' Pavement)	586,850	886,600	145,200	179,300	179,795	**1,977,745**
3 to 4 Lanes with 14' Flush Median (62' Pavement)	429,550	607,200	145,200	123,200	130,515	**1,435,665**

Source: GDOT Planning

To further supplement this data, research of other state DOT's was conducted to determine whether planning level cost estimates were available for various types of improvements. The most detailed planning level cost estimates were available from the Florida Department of Transportation (FDOT). It was found that the FDOT summarizes bid tabulations for all projects and this information is available for each pay item. This results in an extensive reference of costs from the state for all area types (urban, rural, suburban). This information was taken by FDOT to develop planning level cost estimates for typical transportation improvements. This approach was determined to be more accurate than using selected bid tabulations and selectively applying limited cost information. The following additional costs were used in estimating the total costs for roadway improvements:

- Sidewalk (6' on both sides) - $378,000 per mile;
- Bikeway (5' on both sides) - $622,000 per mile; and,
- Landscaping - $25,000 per mile.

These estimates were used to estimate costs for the recommended improvements found in Table 10.1.2. 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.

Table 10.1.2
Banks County Corridor Project Cost Estimate

Roadway and Limits	**Facility**	SR 51
	To	Franklin County
	From	US 441
	Length (C/L mi)	5.10
	Existing Facility Description / Configuration	2
Roadway Costs	**Urban (U) or Rural (R)**	R
	Existing Condition	2U
	# of Lanes Upon Completion	4
	Unit Cost/Mile ($'s, Millions)	2.1636
	# of Intersections	2
	COST of Intersections ($'s Millions)	0.286
	Roadway Subtotal ($'s, Millions)	*11.320*
Enhancement Features	**Sidewalk Projects One (1) or Both (2)**	0
	Sidewalk Costs ($'s Millions)	0.000
	Bikeway Projects w/Shldr (C) or Sep (S)	0
	Bikeway Costs ($'s Millions)	0.000
	Landscaping ($'s Millions)	0.025
	Enhancement Subtotal ($'s, Millions)	*0.025*
	Roadway + Enhancement ($'s, Millions)	11.345
Additional Engineering Costs	**Preliminary Engineering ($'s Millions)**	1.849
	Maintenance/Operation ($'s Millions)	0.023
	CEI ($'s Millions)	2.235
	Additional Eng. Costs Sub -Total ($'s, Millions)	*4.107*
	TOTAL ($'s, Millions)	**15.452**

U - Undivided
D -Divided
CEI - Construction Engineering and Inspection

10.2 Summary of Recommended Improvements

Based on the analysis completed as part of this study, a listing of recommended projects was created for Banks County. This information is presented in Table 10.2. This listing includes capacity improvements, TDM/TSM improvements, intersection enhancements, bridge improvements, bicycle and pedestrian enhancements and transit recommendations. For each recommendation several information elements were produced including: facility; limits; existing and improved configuration; comments; improvement type; need addressed; 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 include identified funding mechanisms, political support with public recognition of the project need and benefit.

10.2.1 Additional Improvements

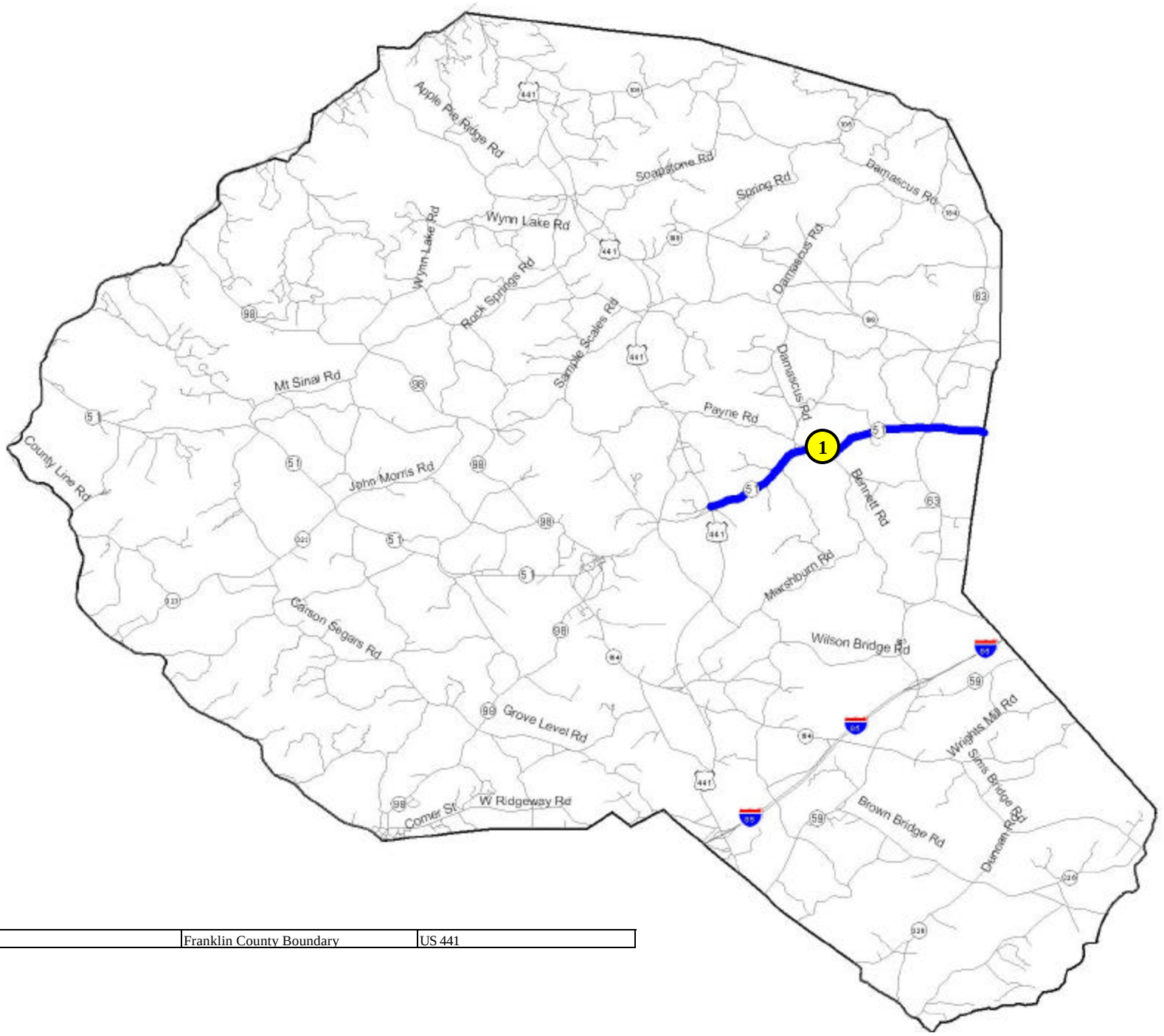
Several improvements were developed through the public involvement process. These improvements require additional study to make a determination on their need and deficiency. The following intersections were are recommended for further study before they are included in the recommended improvements:

- SR 184 @ Damascus Road;
- SR 198 @ SR 63;
- SR 323 @ SR 51;
- SR 51 @ Bennett Road;
- SR 51 @ Old US 441;
- SR 63 @ SR 184;
- SR 63 @ SR 51;
- SR 98 @ SR 15;
- SR 98 @ Carson Segars/Grove Level;
- US 441 @ Faulkner Road;
- US 441 @ SR 98; and
- US 441 @ Steven B. Tanger Boulevard.

Table 10.2
Banks County Recommended Improvements

Project Ref. No.	Facility	Segment Limits From	Segment Limits To	Existing Lane Configuration	Improved Lane Configuration	Notes/Comments	Program	Project	Need	Anticipated Benefit	Implementation Near	Implementation Mid	Implementation Long	Implementation Candidate	Estimated Cost	Potential Funding Source Federal	Potential Funding Source State	Potential Funding Source County	Potential Funding Source Local	Potential Funding Source Private
Capacity Improvements/New Roadways																				
1	SR 51	Franklin County Boundary	US 441	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety			✓		$15,452,000		✓	✓	✓	
2	Frontage Road	US 441	SR 98	4	6		Recommended	New Roadway	Connectivity	Connectivity				✓	-		✓	✓	✓	
3	I-85	SR 63	SR 51	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
4	I-85	SR 98	US 441	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
5	I-85	US 441	SR 63	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
TDM/TSM Improvements																				
6	SR15/US 441					5 Locations	STIP	Upgrade Traffic Signals	Operational Issues	Improved Operations	✓						✓	✓	✓	
7	US 441						Recommended	Type B Medians	Operational Issues	Improved Operations				✓	-		✓	✓	✓	
Geometric Corrections																				
8	SR 51	near Ervin Chambers Road					Recommended	Geometric Corrections	Geometric Issues	Improved Safety & Operations				✓	-		✓	✓	✓	
9	SR 51	near Hickory Flat					Recommended	Geometric Corrections	Geometric Issues	Improved Safety & Operations				✓	-		✓	✓	✓	
10	SR 51	south to Lula					Recommended	Geometric Corrections	Geometric Issues	Improved Safety & Operations				✓	-		✓	✓	✓	
Bridge Improvements																				
11	CR 6/McCoy Bridge Road	Hudson River	approx. 2.5 mi SE of Homer		9,504 sq ft	7.57 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$427,680		✓	✓	✓	
12	CR 284/Soapstone Road	Middle Fork Broad River	approx. 8.5 mi N of Homer		7,040 sq ft	15.17 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$316,800		✓	✓	✓	
13	CR 107/Shady Grove Road	Garrison Creek	approx. 3.7 mi NE of Homer		1,276 sq ft	15.73 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$57,420		✓	✓	✓	
14	CR 189/Boiling Road	Middle Fork Broad River	approx. 8.5 mi N of Homer		4,444 sq ft	23.75 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$199,980		✓	✓	✓	
15	CR 155/Wynn Lake Road	Hudson River	approx. 6.9 mi NW of Homer		5,280 sq ft	26.35 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$237,600		✓	✓	✓	
16	CR 6/Mashburns Road	Webb Creek	approx. 2.7 mi SE of Homer		2,772 sq ft	27.13 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$124,740		✓	✓	✓	
17	CR 63/Duncan Road	Hudson River Trib.	approx. 9.9 mi SE of Homer		3,564 sq ft	27.99 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$160,380		✓	✓	✓	
18	CR 37/Hickory Creek Road	Hickory Level Creek	approx. 3.2 mi SW of Homer		2,552 sq ft	31.04 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$114,840		✓	✓	✓	
19	SR 105	Middle Fork Broad River	approx. 9.6 mi N of Homer		5,940 sq ft	32.54 sufficiency rating	STIP	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$267,300		✓	✓	✓	
20	CR 16/Wilson Bridge Road	Hudson River	approx. 3.4 mi SE of Homer		7,260 sq ft	33.56 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$326,700		✓	✓	✓	
21	CR 196/Spring Road	Middle Fork Broad River	approx. 8.5 mi N of Homer		8,712 sq ft	34.15 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$392,040		✓	✓	✓	
22	CR 16/Harden Bridge Road	Grover Creek	approx. 5.8 mi SE of Homer		7,260 sq ft	35.06 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$326,700		✓	✓	✓	
23	CR 231/Yonah Homer Road	Hudson River	approx. 6.4 mi NW of Homer		4,488 sq ft	39.81 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$201,960		✓	✓	✓	
24	CR 92/Wrights Mill Road	Hudson River	approx. 7.3 mi SE of Homer		6,248 sq ft	44.11 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$281,160		✓	✓	✓	
25	SR 51	Grove Creek	approx. 7 mi N of Homer		3,564 sq ft	44.89 sufficiency rating	STIP	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$160,380		✓	✓	✓	
26	SR 59	Grove Creek	approx. 6.5 mi SE of Homer		12,364 sq ft	44.99 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$556,380		✓	✓	✓	
27	CR 224/Moss Farm Road	Mountain Creek	approx. 6 mi N of Homer		1,848 sq ft	47.75 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$83,160		✓	✓	✓	
28	CR 50/Hembree Road	Hickory Level Creek	approx. 4.6 mi S of Homer		2,420 sq ft	50.37 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$108,900		✓	✓	✓	
29	SR 51	Webb Creek	At East Homer City Limit		8,844 sq ft	54.12 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$397,980		✓	✓	✓	
30	CR 231/Yonah Homer Road	Hudson River Trib.	approx. 6.8 mi NW of Homer		5,016 sq ft	55.02 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$225,720		✓	✓	✓	
31	CR 301/Damascus Road	Middle Fork Broad River	approx. 8.4 mi N of Homer		13,640 sq ft	56.68 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$613,800		✓	✓	✓	
32	SR 63	Middle Fork Broad River	approx. 9.4 mi NE of Homer		13,332 sq ft	59.58 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$599,940		✓	✓	✓	
33	CR 227/Brown Bridge Road	Beaverdam Creek	approx. 8.1 mi SE of Homer		5,280 sq ft	60.72 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$237,600		✓	✓	✓	
34	SR 326	Hudson River	approx. 10.5 mi E of Homer		8,360 sq ft	61.86 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$376,200		✓	✓	✓	
35	SR 98	Grove Creek	approx. 4.3 mi SW of Homer		7,964 sq ft	61.88 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$358,380		✓	✓	✓	
36	SR 15/US 441	Hudson River	In Homer		10,693 sq ft	62.35 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$481,194		✓	✓	✓	
37	CR 142/Wheeler Street	Southern Railroad	In Alto		5,544 sq ft	62.36 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$249,480		✓	✓	✓	
38	SR 63	Nails Creek Trib.	approx. 6.5 mi E of Homer		3,564 sq ft	63.65 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$160,380		✓	✓	✓	
39	SR 98	Hickory Level Creek	approx. 3.5 mi SW of Homer		5,544 sq ft	65.06 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$249,480		✓	✓	✓	
40	SR 59	Hudson River	approx. 6 mi SE of Homer		12,848 sq ft	65.46 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$578,160		✓	✓	✓	
41	CR 62/Sims Bridge Road	Grove Creek	approx. 8.1 mi SE of Homer		8,360 sq ft	67.10 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$376,200		✓	✓	✓	
42	SR 323	Grove Creek	approx. 6.5 mi W of Homer		6,600 sq ft	67.73 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$297,000		✓	✓	✓	
43	CR 77/Hebron Road	Hudson River	approx. 8.2 mi SE of Homer		10,560 sq ft	69.04 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$475,200		✓	✓	✓	
44	SR 15/US 441 SB	Grove Creek	approx. 4.8 mi SE of Homer		11,731 sq ft	71.45 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$527,877		✓	✓	✓	
45	SR 63	Carlan Creek	approx. 5.6 mi E of Homer		1,408 sq ft	71.47 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$63,360		✓	✓	✓	
46	CR 232/West Ridgeway Road	Grove Creek Trib.	approx. 5.2 mi S of Homer		968 sq ft	72.29 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$43,560		✓	✓	✓	
47	SR 59	Hudson River Trib.	approx. 6.5 mi SE of Homer		1,408 sq ft	72.53 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$63,360		✓	✓	✓	
48	CR 125/Welborn Road	Hickory Level Creek	approx. 4.4 mi W of Homer		968 sq ft	72.54 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$43,560		✓	✓	✓	
49	CR 155/Wynn Lake Road	Mountain Creek	approx. 6.7 mi NW of Homer		1,408 sq ft	72.67 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$63,360		✓	✓	✓	
Bicycle & Pedestrian Improvements																				
50	SR 51	Banks County Primary School	US 441				Recommended	Sidewalks	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
51	SR 51	Banks County Elementary School	US 441				Recommended	Sidewalks	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
52	New Schools	adjacent neighborhoods, town centers and parks					Recommended	Bike Route	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
53	Homer						Recommended	Sidewalks	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
	Countywide					5 miles of bike/ped facilities					✓				$945,000	✓	✓	✓	✓	✓
	Countywide					6 miles of bike/ped facilities						✓			$945,000	✓	✓	✓	✓	✓
	Countywide					7 miles of bike/ped facilities							✓		$945,000	✓	✓	✓	✓	✓
Rail																				
54	Norfolk Southern Mainline Railroad	Lula					Recommended	Bridge Replacement	Rail Issues	Improve Safety & Operation		✓			Rail Company	✓	✓	✓		
55	Norfolk Southern Mainline Railroad					under utilized crossings	Recommended	Close Crossings	Rail Issues	Improve Safety & Operation	✓				Rail Company	✓	✓	✓		
56	SR 323 & SR 52						Recommended	Crossing Improvement	Rail Issues	Improve Safety & Operation		✓			Rail Company	✓	✓	✓		
Transit Improvements																				
57	I-85	US 441					Recommended	Park & Ride Lots	Capacity Deficiency	Commute Options			✓		$100,000	✓	✓	✓		

Notes: 1. Bridge replacement costs are based off of GDOT's cost estimate of $45 per square foot
2. Costs for Bike/Ped improvements were developed for 5 miles of facilities for each term.



1	SR 51	Franklin County Boundary	US 441

Legend

Project Year
2015
2025

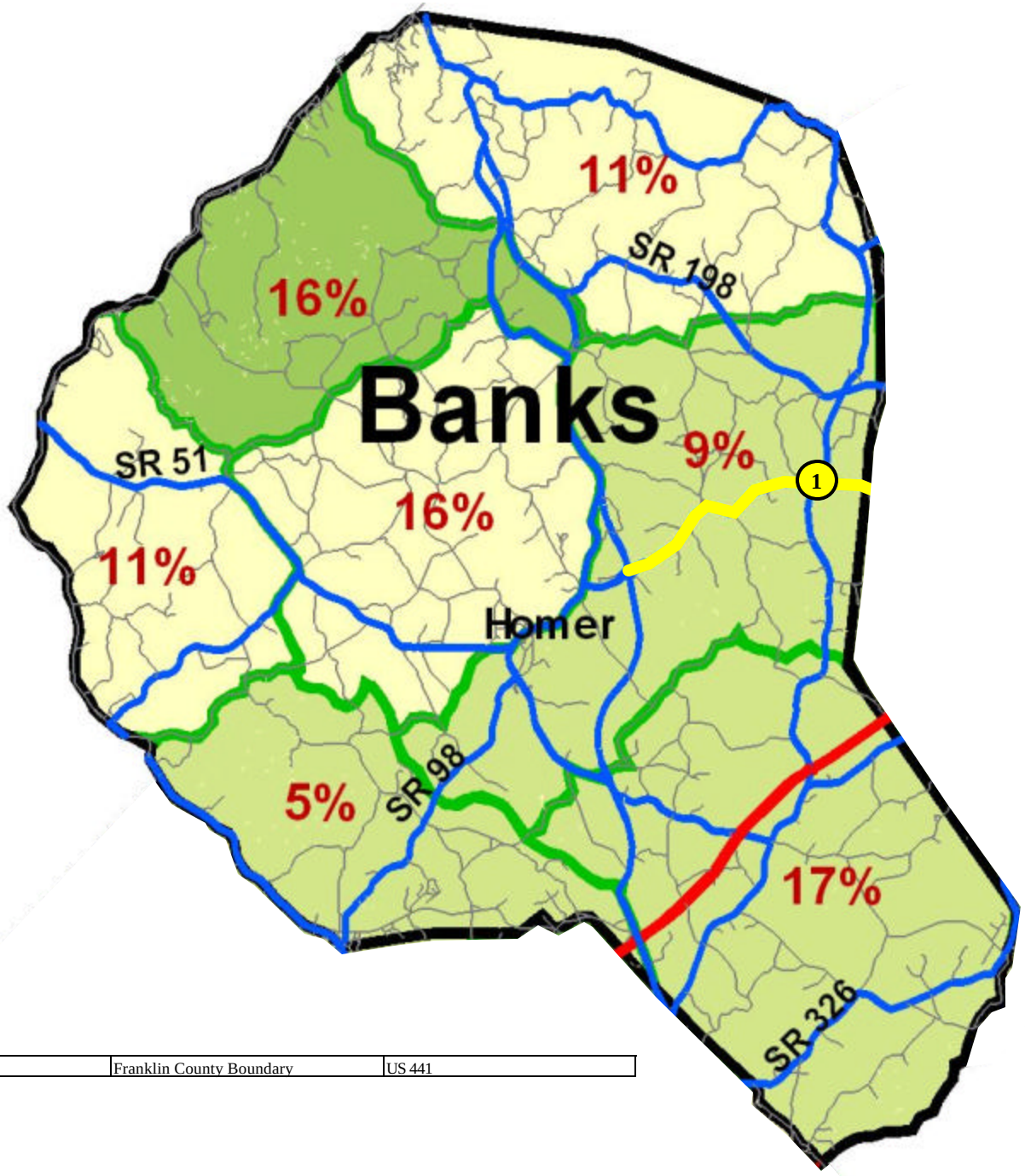
10.3 Environmental Justice Considerations

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 recommended improvements will improve safety, mobility and access for all users on a countywide basis.

These projects include the need for roadway widening and the possibility of additional right of way. Review of these projects acknowledges that they do not impact the surrounding EJ areas. Additional projects adopted to benefit the EJ communities include: bicycle and pedestrian improvements; transit park and ride lots along I-85; and, numerous safety and capacity enhancements throughout the study area.

In addition to the technical analysis documented above, outreach activities were conducted throughout the course of the study to facilitate input and dialogue with EJ communities. In particular, information was distributed in these areas documenting study activities and workshops and community leaders in the area were conducted throughout the study to facilitate dialogue and exchange of information.

Figure 10.3 shows the recommended projects on the environmental justice map.



1	SR 51	Franklin County Boundary	US 441

11.0 Franklin County Improvement Recommendations

Franklin County has received significant growth over the last two decades. This growth is expected to continue 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:

- Capacity;
- Safety;
- Bicycle and Pedestrian;
- Transit;
- Freight;
- Aviation; and,
- Bridges.

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

11.1 Estimated Costs

An important element of the LRTP is estimating the costs associated with the numerous recommended improvements. It will not be feasible for Franklin County to do every improvement recommended in the LRTP. This is one reason the recommended improvements were previously ranked, to establish a priority. Now an estimated cost needs to be associated with each project to aid the County in planning for, and funding of, the recommended improvements.

The estimated costs were generated for planning purposes and may be higher or lower than 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.

Estimating recommended project costs is an extremely important part of the planning process. In order to accurately calculate project costs it is useful to obtain historic cost estimates for various types of projects. GDOT maintains a cost database which was useful in estimating the costs for new roadways and roadway widening projects associated with this study. To enhance the accuracy these cost estimates, GDOT has divided the costs by regions. The costs used for the Tri-County area were obtained from the North Georgia Region and can be found in Table 11.1.1.

Table 11.1.1
North Georgia Roadway Enhancement Costs
(per mile)

Improvement Type	Grad & Drain Project	Base & Pave Project	Lump Items Project	Misc. Project	E & C 10% Project	Total Cost Per Mile
Rural New Location						
4 lanes with 44' grassed median	4,031,720	882,200	287,100	217,800	541,882	**5,960,702**
4 lanes with 20' Raised Median	3,799,400	851,400	292,600	172,700	511,610	**5,627,710**
4 Lanes with 0' Median (48' Pavement)	3,374,690	851,400	177,100	91,300	449,449	**4,943,939**
4 Lanes with 4' Flush Median (52' Pavement)	3,431,560	918,500	177,100	99,000	462,616	**5,088,776**
4 Lanes with 12' Flush Median (60' Pavement)	3,545,300	1,050,500	177,100	114,400	488,730	**5,376,030**
4 Lanes with 14' Flush Median (62' Pavement)	3,570,710	1,083,500	177,100	117,700	494,901	**5,443,911**
3 Lanes with 36' Pavement	3,204,080	653,400	145,200	66,000	406,868	**4,475,548**
2 Lanes with 24' Pavement	3,031,050	456,500	133,100	82,500	370,315	**4,073,465**
Urban New Location						
4 lanes with 20' Raised Median	3,559,820	906,400	282,700	172,700	492,162	**5,413,782**
4 Lanes with 0' Median (48' Pavement)	3,129,060	906,400	136,400	118,800	429,066	**4,719,726**
4 Lanes with 4' Flush Median (52' Pavement)	3,202,870	984,500	136,400	128,700	445,247	**4,897,717**
4 Lanes with 12' Flush Median (60' Pavement)	3,352,910	1,135,200	136,400	148,500	477,301	**5,250,311**
4 Lanes with 14' Flush Median (62' Pavement)	3,389,210	1,172,600	136,400	154,000	485,221	**5,337,431**
2 Lanes with 24' Pavement	2,781,790	455,400	111,100	64,900	341,319	**3,754,509**
3 Lanes with 36' Pavement	2,956,030	680,900	111,100	91,300	383,933	**4,223,263**
Rural Widening						
2 to 4 Lanes with 44' Grassed Median	1,090,210	644,600	160,600	71,500	196,691	**2,163,601**
2 to 4 Lanes with 20' Raised Median widen Symmetrical	404,140	786,500	224,400	150,700	156,574	**1,722,314**
2 to 4 Lanes with 20' Raised Median widen on one Side	684,860	597,300	174,900	95,700	155,276	**1,708,036**
2 to 4 Lanes with 0' Median (48' Pavement)	522,720	597,300	149,600	69,300	133,892	**1,472,812**
2 to 4 Lanes with 4' Flush Median (52' Pavement)	548,130	680,900	149,600	74,800	145,343	**1,598,773**
2 to 4 Lanes with 12' Flush Median (60' Pavement)	603,790	849,200	149,600	86,900	168,949	**1,858,439**
2 to 4 Lanes with 14' Flush Median (62' Pavement)	614,680	892,100	149,600	89,100	174,548	**1,920,028**
3 to 4 Lanes with 14' Flush Median (62' Pavement)	417,450	639,100	149,600	71,500	127,765	**1,405,415**
Urban Widening						
2 to 4 Lanes with 20' Raised Median widen Symmetrical	748,990	831,600	203,500	216,700	200,079	**2,200,869**
2 to 4 Lanes with 20' Raised Median widen on one Side	861,520	559,900	171,600	128,700	172,172	**1,893,892**
2 to 4 Lanes with 0' Median (48' Pavement)	450,120	559,900	145,200	113,300	126,852	**1,395,372**
2 to 4 Lanes with 4' Flush Median (52' Pavement)	487,630	654,500	145,200	132,000	141,933	**1,561,263**
2 to 4 Lanes with 12' Flush Median (60' Pavement)	567,490	839,300	145,200	170,500	172,249	**1,894,739**
2 to 4 Lanes with 14' Flush Median (62' Pavement)	586,850	886,600	145,200	179,300	179,795	**1,977,745**
3 to 4 Lanes with 14' Flush Median (62' Pavement)	429,550	607,200	145,200	123,200	130,515	**1,435,665**

Source: GDOT Planning

To further supplement this data, research of other state DOT's was conducted to determine whether planning level cost estimates were available for various types of improvements. The most detailed planning level cost estimates were available from the Florida Department of Transportation (FDOT). It was found that the FDOT summarizes bid tabulations for all projects and this information is available for each pay item. This results in an extensive reference of costs from the state for all area types (urban, rural, suburban). This information was taken by FDOT to develop planning level cost estimates for typical transportation improvements. This approach was determined to be more accurate than using selected bid tabulations and selectively applying limited cost information. The following additional costs were used in estimating the total costs for roadway improvements:

- Sidewalk (6' on both sides) - $378,000 per mile;
- Bikeway (5' on both sides) - $622,000 per mile; and,
- Landscaping - $25,000 per mile.

These estimates were used to estimate costs for the recommended improvements found in Table 11.1.2. 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.

Table 11.1.2
Franklin County Corridor Project Cost Estimates

Project Ref. No.	Roadway and Limits: Facility	To	From	Length (C/L mi)	Existing Facility Description / Configuration	Roadway Costs: Descriptive Elements: State (S) or County (C)	Urban (U) or Rural (R)	New (N) or Improved (I)	Existing Condition (None, 1U, 2U, 2O, 4U, 4D, 6U)	# of Lanes Upon Completion	Unit Cost/Mile ($'s, Millions)	# of Intersections	COST of Intersections ($'s Millions)	# of Interchanges	COST of Interchanges ($'s Millions)	Miles of Bridges	COST of Bridges ($'s Millions)	*Roadway Subtotal ($'s, Millions)*	Enhancement Features: Descriptive Elements: Sidewalk Projects One (1) or Both (2)	Sidewalk Costs ($'s Millions)	Bikeway Projects w/Shldr (C) or Sep (S)	Bikeway Costs ($'s Millions)	Landscaping ($'s Millions)	*Enhancement Subtotal ($'s, Millions)*	Roadway + Enhancement ($'s, Millions)	Additional Engineering Costs: Preliminary Engineering ($'s Millions)	Maintenance/Operation ($'s Millions)	CEI ($'s Millions)	*Additional Eng. Costs Sub-Total ($'s, Millions)*	TOTAL ($'s, Millions)
1	SR 328	County Boundary	SR 59	6.10	2	S	R	I	2U	4	2.1636	3	0.429	0	0.000	0	0.000	*13.627*	0	0.000	0	0.000	0.025	*0.025*	13.652	2.225	0.027	2.689	*4.942*	18.593
2	SR 17 (Lavonia Bypass)	Hart County	Exit Ramp of I-85	4.20	0	S	R	N	2U	4	5.9607	4	0.571	0	0.000	0	0.000	*25.606*	2	1.588	2	0.000	0.025	*1.613*	27.219	4.437	0.019	5.362	*9.817*	37.036
3	SR 17	Hart County	US 29	5.00	2	S	R	I	2U	4	2.1636	4	0.571	0	0.000	0	0.000	*11.389*	2	1.890	2	0.000	0.025	*1.915*	13.304	2.169	0.022	2.621	*4.812*	18.116
4	SR 51	Noah Crow Rd	SR 145	1.30	2	S	R	I	2U	4	2.1636	2	0.286	0	0.000	0	0.000	*3.098*	0	0.000	0	0.000	0.025	*0.025*	3.123	0.509	0.006	0.615	*1.130*	4.254
5	SR 145	SR 51	US 129	1.20	2	S	R	I	2U	4	2.1636	2	0.286	0	0.000	0	0.000	*2.882*	0	0.000	0	0.000	0.025	*0.025*	2.907	0.474	0.005	0.573	*1.052*	3.959
6	US 29	SR 145	County Boundary	3.30	2	S	R	I	2U	4	2.1636	4	0.571	0	0.000	0	0.000	*7.711*	2	1.247	2	0.000	0.025	*1.272*	8.984	1.464	0.015	1.770	*3.249*	12.232
7	SR 106	I-85	County Boundary	11.20	2	S	R	I	2U	4	2.1636	6	0.857	0	0.000	0	0.000	*25.089*	2	4.234	2	0.000	0.025	*4.259*	29.348	4.784	0.049	5.782	*10.615*	39.963
8	SR 51	County Boundary	Noah Crow Rd	13.30	2	S	R	I	2U	4	2.1636	8	1.143	0	0.000	0	0.000	*29.919*	0	0.000	0	0.000	0.025	*0.025*	29.944	4.881	0.059	5.899	*10.839*	40.782

TOTAL	**174.936**

Legend
U - Undivided
D -Divided
O - One-Way
A- Auxiliary
ln - Lane
CEI - Construction Engineering and Inspection

11.2 Summary of Recommended Improvements

Based on the analysis completed as part of this study, a listing of recommended projects was created for Banks County. This information is presented in Table 11.2. This listing includes capacity improvements, TDM/TSM improvements, intersection enhancements, bridge improvements, bicycle and pedestrian enhancements and transit recommendations. For each recommendation several information elements were produced including: facility; limits; existing and improved configuration; comments; improvement type; need addressed; 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 include identified funding mechanisms, political support with public recognition of the project need and benefit.

10.2.1 Additional Improvements

Several improvements were developed through the public involvement process. These improvements require additional study to make a determination on their need and deficiency. The following intersections were are recommended for further study before they are included in the recommended improvements:

- Busha Road @ Stonebridge Road;
- Cook Street @ Dove Town Road;
- Ginn Street @ SR 320;
- SR 145 @ SR 29;
- SR 145 @ SR 51;
- SR 198 @ SR 59;
- SR 281 @ SR 17;
- SR 320 @ Hunters Creek;
- SR 327 @ SR 51;
- SR 328 @ Gerrard Road;
- SR 328 @ SR 59;
- SR 51 @ SR 106;
- SR 51 @ SR 59;
- SR 59 @ SR 106; and,
- US 29 @ Dawkins Road.

Table 11.2
Franklin County Recommended Improvements

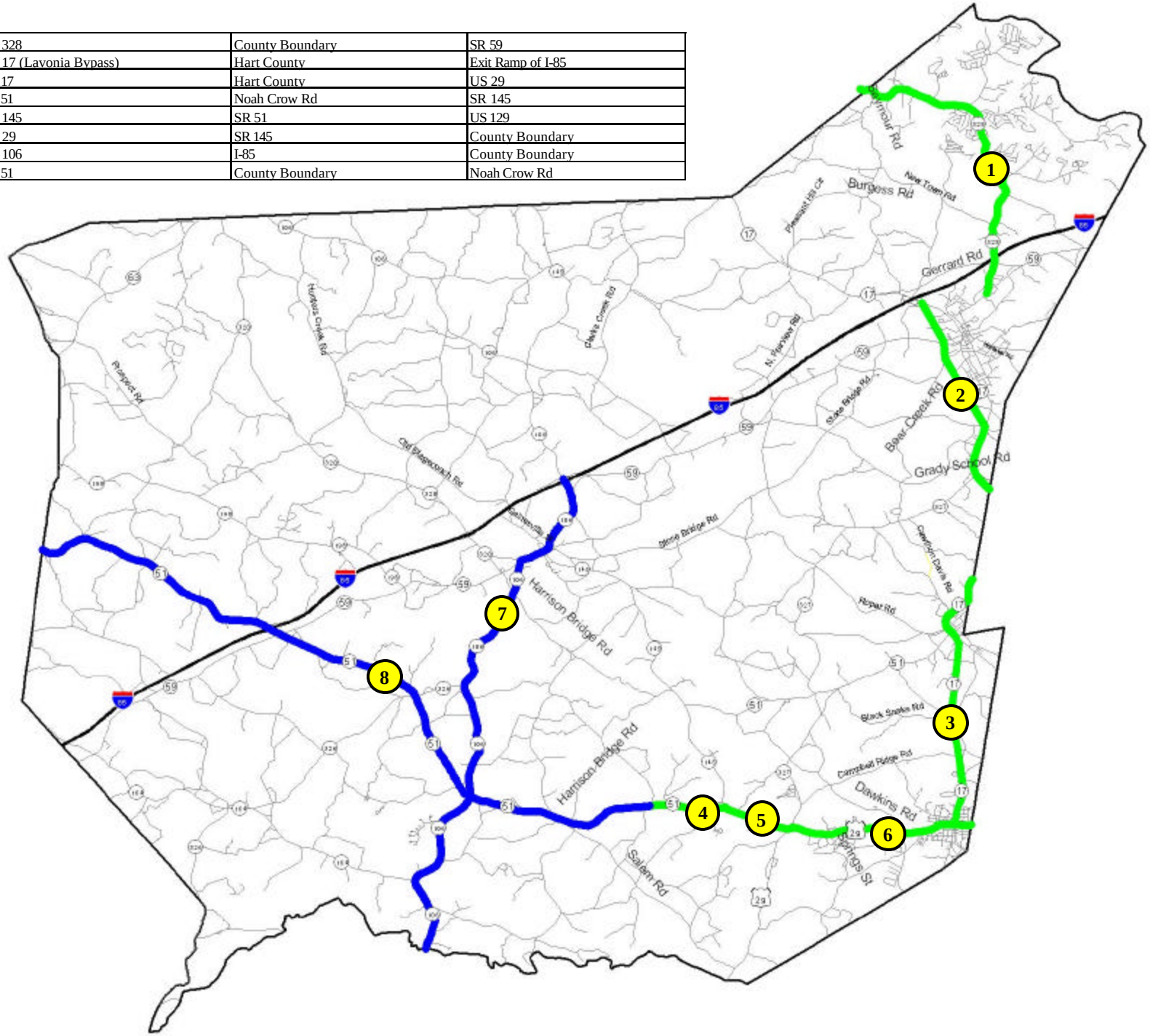
Project Ref. No.	Facility	Segment Limits From	Segment Limits To	Existing Lane Configuration	Improved Lane Configuration	Notes/Comments	Program	Project	Need	Anticipated Benefit	Implementation Near	Implementation Mid	Implementation Long	Implementation Candidate	Estimated Cost	Potential Funding Source Federal	Potential Funding Source State	Potential Funding Source County	Potential Funding Source Local	Potential Funding Source Private
Capacity Improvements/New Roadways																				
1	SR 328	County Boundary	SR 59	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$18,593,044		✓	✓	✓	
2	SR 17 (Lavonia Bypass)	Hart County	Exit Ramp of I-85		4		Work Program	New Roadway	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$37,036,368		✓	✓	✓	
3	SR 17	Hart County	US 29	2	4		Work Program	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$18,116,128		✓	✓	✓	
4	SR 51	Noah Crow Rd	SR 145	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$4,253,567		✓	✓	✓	
5	SR 145	SR 51	US 129	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$3,958,876		✓	✓	✓	
6	US 29	SR 145	County Boundary	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$12,232,439		✓	✓	✓	
7	SR 106	I-85	County Boundary	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety			✓		$39,962,870		✓	✓	✓	
8	SR 51	County Boundary	Noah Crow Rd	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety			✓		$40,782,273		✓	✓	✓	
9	I-85	SR 320	SR 17	0	2		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
10	I-85	SR 51	SR 320	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
11	I-85	SR 17	South Carolina	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
12	I-85	SR 63	SR 51	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
TDM/TSM Improvements																				
13	Cook Street						Recommended	Operations Improvement	Operational Issues	Improved Operations				✓	-		✓	✓	✓	
Geometric Corrections																				
14	SR 328						Recommended	Geometric Improvements	Geometric Issues	Improved Safety & Operations				✓	-		✓	✓	✓	
15	SR 51						Recommended	Geometric Improvements & Passing Lanes	Geometric Issues	Improved Safety & Operations				✓	-		✓	✓	✓	
Maintenance																				
16	Aderhold Road						Franklin County Road Dept.	Bridge for Box Culvert			✓				Franklin County		✓	✓	✓	
17	Bellamy Road						Franklin County Road Dept.	Bridge for BRBLZ			✓				Franklin County		✓	✓	✓	
18	Blacksnake Road						Franklin County Road Dept.	Maintenance: Bridge for Double Box			✓				Franklin County		✓	✓	✓	
19	Blacksnake Road						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
20	Burgess Road						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
21	Cole Road						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
22	Crump Bridge Road						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
23	Culpepper Road						Franklin County Road Dept.	Bridge for Double Box Culvert			✓				Franklin County		✓	✓	✓	
24	Dillard Bray Road						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
25	Hicks Road						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
26	Kesler Road (North)						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
27	Kesler Road (South)						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
28	Lewis Crump Rd						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
29	Neal Little Road						Franklin County Road Dept.	Bridge for BRBLZ			✓				Franklin County		✓	✓	✓	
30	Old Stagecoach Road						Franklin County Road Dept.	Bridge for Box Culvert			✓				Franklin County		✓	✓	✓	
31	Pearwood Road						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
32	Seymour Road						Franklin County Road Dept.	Pave			✓				Franklin County			✓	✓	
33	Sheriff Road						Franklin County Road Dept.	Bridge for Box Culvert			✓				Franklin County		✓	✓	✓	
34	Strange Road						Franklin County Road Dept.	Bridge for BRBLZ			✓				Franklin County		✓	✓	✓	
35	Wilhite Road						Franklin County Road Dept.	Bridge for BRBLZ			✓				Franklin County		✓	✓	✓	
Bridge Improvements																				
36	CR 191/Goalsby Bridge Road	Whiten Creek	approx. 4.2 mi NW of Carnesville		1,804 sq ft	15.09 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$81,180		✓	✓	✓	
37	CR 216/Goolsby Bridge Road	Middle Fork Broad River	approx. 3.7 mi NW of Carnesville		2,948 sq ft	15.09 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$132,660		✓	✓	✓	
38	CR 252/E. Ariail Road	Nails Creek	approx. 8.4 mi W of Carnesville		1,232 sq ft	15.41 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$55,440		✓	✓	✓	
39	CR 284/Little Road	Nails Creek	approx. 6 mi SW of Carnesville		2,112 sq ft	15.41 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$95,040		✓	✓	✓	
40	CR 32/Starrett Road	Double Branch	approx. 1.6 mi NW of Canon		1,364 sq ft	15.73 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$61,380		✓	✓	✓	
41	CR 214	Indian Creek	approx. 3.7 mi W of Carnesville		1,716 sq ft	15.73 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$77,220		✓	✓	✓	
42	CR 187/Stagecoach Road	Stephens Creek	approx. 3 mi NW of Carnesville		1,232 sq ft	18.52 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$55,440		✓	✓	✓	
43	CR 267/Wilhite Road	Nails Creek	approx. 5.9 mi SW of Carnesville		2,420 sq ft	21.43 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$108,900		✓	✓	✓	
44	CR 283/Voyles Road	Nails Creek Trib.	approx. 4.5 mi SW of Carnesville		1,232 sq ft	21.82 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$55,440		✓	✓	✓	
45	CR 316/Strange's Road	Nails Creek	approx. 7.4 mi W of Carnesville		2,156 sq ft	22.57 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$97,020		✓	✓	✓	
46	CR 119	Gum Log Creek	approx. 4.7 mi NW of Lavonia		1,056 sq ft	22.61 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$47,520		✓	✓	✓	
47	CR 48/Jackson Bridge Road	Uniwatti Creek	approx. 3.5 mi W of Canon		5,280 sq ft	24.33 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$237,600		✓	✓	✓	
48	SR 51	Nails Creek Trib.	approx. 8.3 mi W of Carnesville		4,224 sq ft	32.39 sufficiency rating	STIP	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$190,080		✓	✓	✓	
49	CR 12/Blacksnake Road	Rice Creek	approx. 2.4 mi SW of Canon		1,760 sq ft	33.07 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$79,200		✓	✓	✓	
50	CR 18/Park Road	Rice Creek	approx. 1.6 mi NW of Franklin Springs		2,596 sq ft	34.90 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$116,820		✓	✓	✓	
51	CR 282/Thunder Road	Nails Creek Trib.	approx. 5.5 mi SW of Carnesville		1,100 sq ft	40.10 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$49,500		✓	✓	✓	
52	CR 103/Sheriff Road	Toms Creek	approx. 7 mi NW of Lavonia		1,188 sq ft	40.82 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$53,460		✓	✓	✓	
53	CR 145	North Fork Broad River	approx. 5.7 mi N of Carnesville		6,688 sq ft	41.57 sufficiency rating	STIP	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$300,960		✓	✓	✓	
54	CR 414/E County Line Road	Blacks Creek Trib.	approx. 11 mi SE of Carnesville		1,364 sq ft	43.08 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$61,380		✓	✓	✓	
55	SR 51	Middle Fork Broad River	approx. 2.1 mi W of Franklin Springs		8,976 sq ft	44.77 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$403,920		✓	✓	✓	
56	CR 294/Bold Springs Church	Little's Creek	approx. 7.3 mi SW of Carnesville		3,960 sq ft	45.30 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$178,200		✓	✓	✓	
57	CR 47/Burroughs Road	Uniwatti Creek	approx. 3.8 mi NW of Canon		2,816 sq ft	46.05 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$126,720		✓	✓	✓	
58	CR 388/Prospect Rd.	Middle Fork Broad River	approx. 8.5 mi NW of Carnesville		7,920 sq ft	47.43 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$356,400		✓	✓	✓	
59	SR 145	North Fork Broad River	approx. 1.7 mi W of Franklin Springs		9,900 sq ft	48.58 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$445,500		✓	✓	✓	
60	CR 205/Akins Bridge Road	North Fork Broad River	approx. 7.3 mi NW of Carnesville		5,280 sq ft	49.25 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$237,600		✓	✓	✓	
61	CR 163/Atkinson Bridge Road	Middle Fork Broad River	approx. 3.7 mi SE of Carnesville		3,168 sq ft	50.73 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$142,560		✓	✓	✓	
62	CR 219/New Bethal Bridge	Middle Fork Broad River	approx. 5 mi NW of Carnesville		7,700 sq ft	50.75 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$346,500		✓	✓	✓	
63	CR 285/Shelton Road	Little's Creek	approx. 6.2 mi SW of Carnesville		2,288 sq ft	52.30 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$102,960		✓	✓	✓	
64	CR 48/Jackson Bridge Road	North Fork Broad River	approx. 3 mi SE of Canon		9,108 sq ft	52.40 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$409,860		✓	✓	✓	
65	SR 106	Nails Creek	approx. 7 mi S of Carnesville		7,788 sq ft	52.76 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$350,460		✓	✓	✓	
66	CR 46/Johns Bridge Road	Double Branch	approx. 4 mi W of Canon		5,676 sq ft	53.11 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$255,420		✓	✓	✓	
67	SR 328	I-85	approx. 1.7 mi N of Lavonia		13,904 sq ft	55.21 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$625,680		✓	✓	✓	
68	CR 379/Carson Road	Blacks Creek	approx. 11.5 mi SW of Carnesville		1,408 sq ft	55.97 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$63,360		✓	✓	✓	
69	CR 97/Brown Road	I-85	approx. 3.2 mi NE of Carnesville		11,616 sq ft	56.83 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$522,720		✓	✓	✓	
70	SR 59	Middle Fork Broad River	approx. 1.7 mi SW of Carnesville		11,264 sq ft	57.55 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$506,880		✓	✓	✓	
71	SR 198	I-85	approx. 3 mi SW of Carnesville		11,748 sq ft	57.58 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$528,660		✓	✓	✓	
72	SR 17	I-85	approx. 1 mi NW of Lavonia		18,444 sq ft	58.26 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$829,980		✓	✓	✓	
73	SR 328	Gumlog Creek	approx. 3.8 mi N of Lavonia		8,272 sq ft	58.73 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$372,240		✓	✓	✓	
74	SR 106	Middle Fork Broad River	approx. 2.3 mi S of Carnesville		8,360 sq ft	58.83 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$376,200		✓	✓	✓	
75	SR 59	Nails Creek	approx. 6.2 mi SW of Carnesville		6,600 sq ft	59.84 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$297,000		✓	✓	✓	
76	CR 383/Fairview Road	I-85	approx. 3.5 mi SW of Lavonia		12,760 sq ft	60.58 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$574,200		✓	✓	✓	
77	CR 101/Clark's Creek Road	North Fork Broad River	approx. 6 mi W of Lavonia		6,600 sq ft	62.01 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$297,000		✓	✓	✓	
78	CR 382/South Fairview Road	Unawatti Creek	approx. 4 mi NW of Canon		5,280 sq ft	62.25 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$237,600		✓	✓	✓	
79	CR 154/Archibold Road	Stephens Creek	approx. 6.4 min W of Canon		1,364 sq ft	62.92 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$61,380		✓	✓	✓	
80	SR 63	Leatherwood Creek	approx. 10 mi NW of Carnesville		5,808 sq ft	63.10 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$261,360		✓	✓	✓	
81	CR 384/Stone Bridge Road	North Fork Broad River	approx. 2 mi E of Carnesville		11,704 sq ft	63.25 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$526,680		✓	✓	✓	
82	SR 59	Stephens Creek	Inside Carnesville, GA		5,720 sq ft	63.30 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$257,400		✓	✓	✓	
83	CR 250/Bellamy Road	Nails Creek	approx 7.8 mi W of Carnesville		2,024 sq ft	65.43 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$91,080		✓	✓	✓	
84	CR 273/Holbrook Road	Little's Creek	approx. 7.3 mi SW of Carnesville		2,244 sq ft	65.54 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$100,980		✓	✓	✓	
85	CR 118/Gumlog Creek Road	Gum Log Creek	approx. 4.4 mi NW of Lavonia		2,640 sq ft	66.93 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$118,800		✓	✓	✓	
86	SR 51/Starrs Bridge Road	North Fork Broad River	approx. 5 mi SW of Canon		8,052 sq ft	66.98 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$362,340		✓	✓	✓	
87	CR 387/Cedar Ridge Road	I-85	approx. 7.5 mi SW of Carnesville		12,188 sq ft	67.89 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$548,460		✓	✓	✓	
88	CR 108/Stagecoach Road	I-85	approx. 1.1 mi NW of Carnesville		12,364 sq ft	68.02 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$556,380		✓	✓	✓	
89	SR 326	Little's Creek	approx. 6.3 mi SW of Carnesville		8,800 sq ft	68.40 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$396,000		✓	✓	✓	
90	CR 175/Carytown Road	Nails Creek	approx. 5.4 mi SW of Franklin Springs		6,600 sq ft	68.46 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$297,000		✓	✓	✓	
91	CR 84/Whitworth Road	I-85	approx. 2.7 mi NE of Lavonia		12,452 sq ft	69.19 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$560,340		✓	✓	✓	
92	SR 326	Nails Creek	approx. 5 mi SW of Carnesville		13,376 sq ft	70.00 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$601,920		✓	✓	✓	
93	CR 258/Neal Road	I-85	approx. 9.3 mi SW of Carnesville		12,848 sq ft	70.48 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$578,160		✓	✓	✓	
94	CR 225/Red Hill Road	Whiten Creek	approx. 7 mi NW of Carnesville		1,320 sq ft	70.79 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$59,400		✓	✓	✓	
95	CR 158	Middle Fork Broad River	approx. 3.7 mi S of Carnesville		8,316 sq ft	71.89 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$374,220		✓	✓	✓	

Table 11.2
Franklin County Recommended Improvements

Project Ref. No.	Facility	Segment Limits From	Segment Limits To	Existing Lane Configuration	Improved Lane Configuration	Notes/Comments	Program	Project	Need	Anticipated Benefit	Implementation Near	Implementation Mid	Implementation Long	Implementation Candidate	Estimated Cost	Potential Funding Source Federal	Potential Funding Source State	Potential Funding Source County	Potential Funding Source Local	Potential Funding Source Private
96	CR 256/Wilkinson Road	Crockett Creek	approx. 7.6 mi SW of Carnesville		924 sq ft	72.29 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$41,580		✓	✓	✓	
97	CR 219/Hunters Creek Road	Hunters Creek	approx. 4.6 mi NW of Carnesville		1,584 sq ft	72.37 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$71,280		✓	✓	✓	
98	CR 64/McGee Road	Bear Creek	approx. 2.6 mi SW of Lavonia		1,628 sq ft	72.45 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$73,260		✓	✓	✓	
99	CR 74/Grady School Road	Unawatti Creek	approx. 3 mi SW of Lavonia		1,936 sq ft	72.45 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$87,120		✓	✓	✓	
100	CR 159/Brays Lake Road	Brays Lake Creek	approx. 4.3 mi S of Carnesville		1,100 sq ft	72.45 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$49,500		✓	✓	✓	
101	CR 223/Brunette Road	Whiten Creek	approx. 5.9 mi NW of Carnesville		968 sq ft	72.45 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$43,560		✓	✓	✓	
102	CR 156/Hubbard Road	Stephens Creek	approx. 1.5 mi S of Carnesville		3,960 sq ft	72.97 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$178,200		✓	✓	✓	
103	SR 59	Little's Creek	approx. 8.2 mi SW of Carnesville		5,280 sq ft	74.02 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$237,600		✓	✓	✓	
104	SR 403/I-85 NBL	Nails Creek	approx. 6.5 mi SW of Carnesville		6,870 sq ft	74.63 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$309,137		✓	✓	✓	
Bicycle & Pedestrian Improvements																				
105	East Jefferson St	West Jackson Intermediate School					Recommended	Sidewalks	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
106	Hartwell Rd (SR 17)	Lavonia Elementary School and Lavonia Carnegie Library					Recommended	Sidewalks	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
107	College Street	Royston Elementary School	Emanuel College				Recommended	Sidewalks	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
108	SR 17	SR 17	Lake Hartwell				Recommended	Bike Lanes or Path	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
109	New Schools	adjacent neighborhoods, town centers and parks					Recommended	Bike Route	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
110	Carnesville						Recommended	Sidewalks	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
	Countywide					5 miles of bike/ped facilities					✓				$945,000	✓	✓	✓	✓	✓
	Countywide					6 miles of bike/ped facilities						✓			$945,000	✓	✓	✓	✓	✓
	Countywide					7 miles of bike/ped facilities							✓		$945,000	✓	✓	✓	✓	✓
Rail																				
111	Hartwell Rail Line					under utilized crossings	Recommended	Close Crossings	Rail Issues	Improve Safety & Operation	✓				Rail Company	✓	✓	✓		
112	Hartwell Rail Line	Royston Area					Recommended	Flashing Warning Signals	Rail Issues	Improve Safety & Operation	✓				Rail Company	✓	✓	✓		
113	Hartwell Rail Line	Lavonia	Norfolk-Southern Mainline in Toccoa				Recommended	Improve Track Conditions	Rail Issues	Improve Safety & Operation	✓				Rail Company	✓	✓	✓		
114	US 29						Recommended	Railroad Crossing Improvement	Rail Issues	Improve Safety & Operation		✓			Rail Company	✓	✓	✓		
Transit Improvements																				
115	Park & Ride Lot	SR 320 & I-85					Recommended	Park & Ride Lots	Capacity Deficiency	Commute Options			✓		$100,000	✓	✓	✓		
116	Park & Ride Lot	SR 17 & I-85					Recommended	Park & Ride Lots	Capacity Deficiency	Commute Options			✓		$100,000	✓	✓	✓		
117	Rural Public Transit						Recommended	Rural Transit	Capacity Deficiency	Commute Options			✓		$250,000	✓	✓	✓		

Notes: 1. Bridge replacement costs are based off of GDOT's cost estimate of $45 per square foot
2. Costs for Bike/Ped improvements were developed for 5 miles of facilities for each term.

1	SR 328	County Boundary	SR 59
2	SR 17 (Lavonia Bypass)	Hart County	Exit Ramp of I-85
3	SR 17	Hart County	US 29
4	SR 51	Noah Crow Rd	SR 145
5	SR 145	SR 51	US 129
6	US 29	SR 145	County Boundary
7	SR 106	I-85	County Boundary
8	SR 51	County Boundary	Noah Crow Rd



Engineers & Planners		Figure No: 11.2	Page No: 224	**Banks-Franklin-Jackson County Multimodal Transportation Study**

Recommended Improvements Franklin County

11.3 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 recommended improvements will improve safety, mobility and access for all users on a countywide basis. However, the following capacity enhancement projects could have potential impacts to these populations:

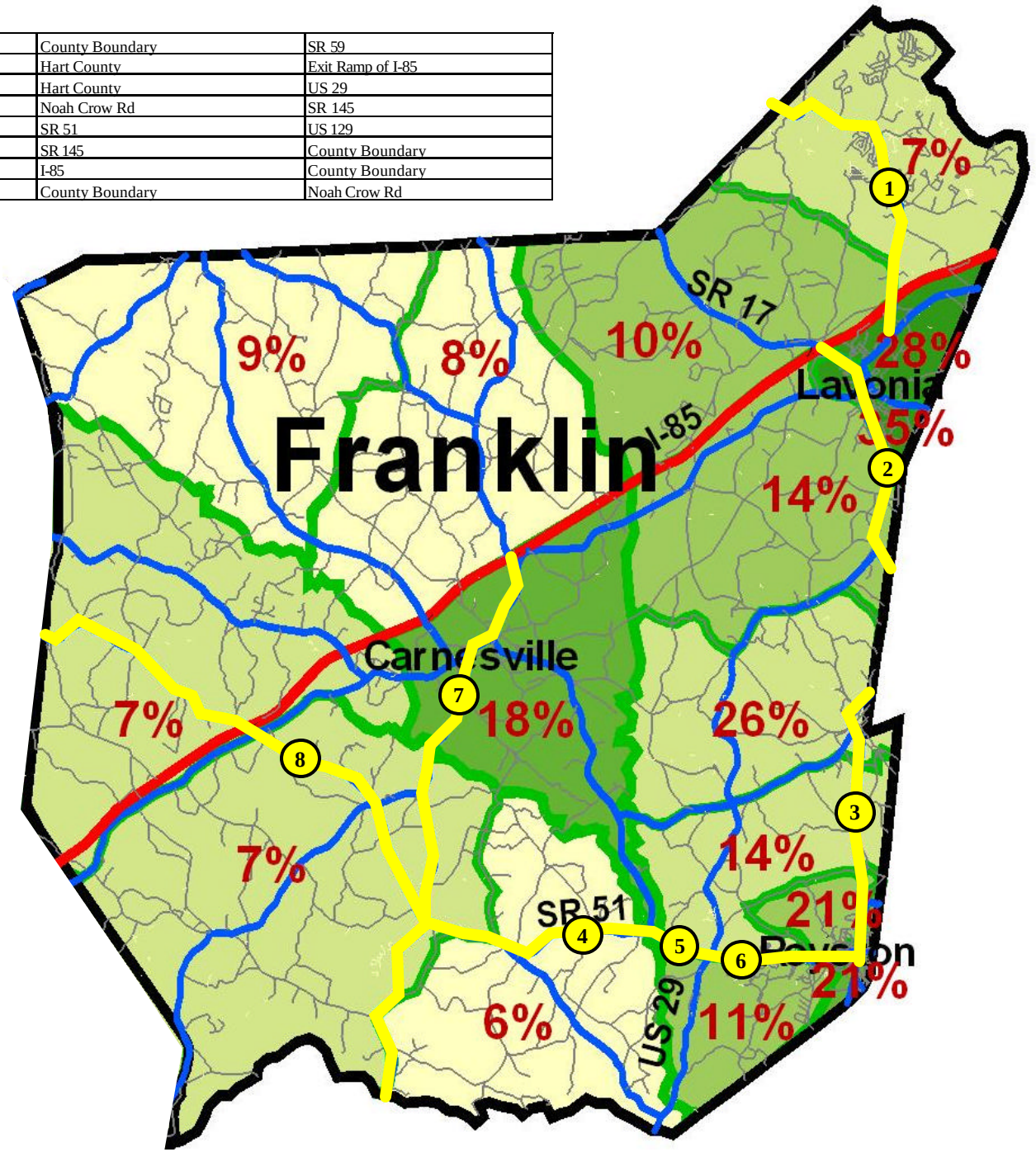
- Project #1 SR 328 from County Boundary to SR 59
- Project #2 SR 17 (Lavonia Bypass) from Hart County to Exit Ramp of I-85
- Project #3 SR 17 from Hart County to US 29
- Project #6 US 29 from SR 145 to County Boundary
- Project #7 SR 106 from I-85 to County Boundary

These projects include the need for roadway widening and the possibility of additional right of way. Review of these projects acknowledges that they are anticipated to benefit and not disproportionately impact the surrounding EJ areas. Additional projects adopted to benefit the EJ communities include: bicycle and pedestrian improvements; transit park and ride lots along I-85; and, numerous safety and capacity enhancements throughout the study area.

In addition to the technical analysis documented above, outreach activities were conducted throughout the course of the study to facilitate input and dialogue with EJ communities. In particular, information was distributed in these areas documenting study activities and workshops and community leaders in the area were conducted throughout the study to facilitate dialogue and exchange of information.

Figure 11.3 shows the recommended projects on the environmental justice map.

1	SR 328	County Boundary	SR 59
2	SR 17 (Lavonia Bypass)	Hart County	Exit Ramp of I-85
3	SR 17	Hart County	US 29
4	SR 51	Noah Crow Rd	SR 145
5	SR 145	SR 51	US 129
6	US 29	SR 145	County Boundary
7	SR 106	I-85	County Boundary
8	SR 51	County Boundary	Noah Crow Rd



TEI Engineers & Planners		Figure No: 11.3	Page No: 226	**Banks-Franklin-Jackson County Multimodal Transportation Study**

Environmental Justice
Proposed Project Evaluation
Franklin County

12.0 Jackson County Improvement Recommendations

Jackson County has received significant growth over the last two decades. This growth is expected to continue 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:

- Capacity;
- Safety;
- Bicycle and Pedestrian;
- Transit;
- Freight;
- Aviation; and,
- Bridges.

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

12.1 Estimated Costs

An important element of the LRTP is estimating the costs associated with the numerous recommended improvements. It will not be feasible for Jackson County to do every improvement recommended in the LRTP. This is one reason the recommended improvements were previously ranked, to establish a priority. Now an estimated cost needs to be associated with each project to aid the County in planning for, and funding of, the recommended improvements.

The estimated costs were generated for planning purposes and may be higher or lower than 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.

Estimating recommended project costs is an extremely important part of the planning process. In order to accurately calculate project costs it is useful to obtain historic cost estimates for various types of projects. GDOT maintains a cost database which was useful in estimating the costs for new roadways and roadway widening projects associated with this study. To enhance the accuracy these cost estimates, GDOT has divided the costs by regions. The costs used for the Tri-County area were obtained from the North Georgia Region and can be found in Table 12.1.1.

Table 12.1.1
North Georgia Roadway Enhancement Costs
(per mile)

Improvement Type	Grad & Drain Project	Base & Pave Project	Lump Items Project	Misc. Project	E & C 10% Project	Total Cost Per Mile
Rural New Location						
4 lanes with 44' grassed median	4,031,720	882,200	287,100	217,800	541,882	**5,960,702**
4 lanes with 20' Raised Median	3,799,400	851,400	292,600	172,700	511,610	**5,627,710**
4 Lanes with 0' Median (48' Pavement)	3,374,690	851,400	177,100	91,300	449,449	**4,943,939**
4 Lanes with 4' Flush Median (52' Pavement)	3,431,560	918,500	177,100	99,000	462,616	**5,088,776**
4 Lanes with 12' Flush Median (60' Pavement)	3,545,300	1,050,500	177,100	114,400	488,730	**5,376,030**
4 Lanes with 14' Flush Median (62' Pavement)	3,570,710	1,083,500	177,100	117,700	494,901	**5,443,911**
3 Lanes with 36' Pavement	3,204,080	653,400	145,200	66,000	406,868	**4,475,548**
2 Lanes with 24' Pavement	3,031,050	456,500	133,100	82,500	370,315	**4,073,465**
Urban New Location						
4 lanes with 20' Raised Median	3,559,820	906,400	282,700	172,700	492,162	**5,413,782**
4 Lanes with 0' Median (48' Pavement)	3,129,060	906,400	136,400	118,800	429,066	**4,719,726**
4 Lanes with 4' Flush Median (52' Pavement)	3,202,870	984,500	136,400	128,700	445,247	**4,897,717**
4 Lanes with 12' Flush Median (60' Pavement)	3,352,910	1,135,200	136,400	148,500	477,301	**5,250,311**
4 Lanes with 14' Flush Median (62' Pavement)	3,389,210	1,172,600	136,400	154,000	485,221	**5,337,431**
2 Lanes with 24' Pavement	2,781,790	455,400	111,100	64,900	341,319	**3,754,509**
3 Lanes with 36' Pavement	2,956,030	680,900	111,100	91,300	383,933	**4,223,263**
Rural Widening						
2 to 4 Lanes with 44' Grassed Median	1,090,210	644,600	160,600	71,500	196,691	**2,163,601**
2 to 4 Lanes with 20' Raised Median widen Symmetrical	404,140	786,500	224,400	150,700	156,574	**1,722,314**
2 to 4 Lanes with 20' Raised Median widen on one Side	684,860	597,300	174,900	95,700	155,276	**1,708,036**
2 to 4 Lanes with 0' Median (48' Pavement)	522,720	597,300	149,600	69,300	133,892	**1,472,812**
2 to 4 Lanes with 4' Flush Median (52' Pavement)	548,130	680,900	149,600	74,800	145,343	**1,598,773**
2 to 4 Lanes with 12' Flush Median (60' Pavement)	603,790	849,200	149,600	86,900	168,949	**1,858,439**
2 to 4 Lanes with 14' Flush Median (62' Pavement)	614,680	892,100	149,600	89,100	174,548	**1,920,028**
3 to 4 Lanes with 14' Flush Median (62' Pavement)	417,450	639,100	149,600	71,500	127,765	**1,405,415**
Urban Widening						
2 to 4 Lanes with 20' Raised Median widen Symmetrical	748,990	831,600	203,500	216,700	200,079	**2,200,869**
2 to 4 Lanes with 20' Raised Median widen on one Side	861,520	559,900	171,600	128,700	172,172	**1,893,892**
2 to 4 Lanes with 0' Median (48' Pavement)	450,120	559,900	145,200	113,300	126,852	**1,395,372**
2 to 4 Lanes with 4' Flush Median (52' Pavement)	487,630	654,500	145,200	132,000	141,933	**1,561,263**
2 to 4 Lanes with 12' Flush Median (60' Pavement)	567,490	839,300	145,200	170,500	172,249	**1,894,739**
2 to 4 Lanes with 14' Flush Median (62' Pavement)	586,850	886,600	145,200	179,300	179,795	**1,977,745**
3 to 4 Lanes with 14' Flush Median (62' Pavement)	429,550	607,200	145,200	123,200	130,515	**1,435,665**

Source: GDOT Planning

To further supplement this data, research of other state DOT's was conducted to determine whether planning level cost estimates were available for various types of improvements. The most detailed planning level cost estimates were available from the Florida Department of Transportation (FDOT). It was found that the FDOT summarizes bid tabulations for all projects and this information is available for each pay item. This results in an extensive reference of costs from the state for all area types (urban, rural, suburban). This information was taken by FDOT to develop planning level cost estimates for typical transportation improvements. This approach was determined to be more accurate than using selected bid tabulations and selectively applying limited cost information. The following additional costs were used in estimating the total costs for roadway improvements:

- Sidewalk (6' on both sides) - $378,000 per mile;
- Bikeway (5' on both sides) - $622,000 per mile; and,
- Landscaping - $25,000 per mile.

These estimates were used to estimate costs for the recommended improvements found in Table 12.1.2. 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.

Table 12.1.2
Jackson County Corridor Project Cost Estimates

Project Ref. No.	Roadway and Limits: Facility	To	From	Length (C/L mi)	Existing Facility Description / Configuration	Roadway Costs: Descriptive Elements: State (S) or County (C)	Urban (U) or Rural (R)	New (N) or Improved (I)	Existing Condition (None, 1U, 2U, 2O, 4U, 4D, 6U)	# of Lanes Upon Completion	Unit Cost/Mile ($'s, Millions)	# of Intersections	COST of Intersections ($'s Millions)	# of Interchanges	COST of Interchanges ($'s Millions)	Miles of Bridges	COST of Bridges ($'s Millions)	*Roadway Subtotal ($'s, Millions)*	Enhancement Features: Descriptive Elements: Sidewalk Projects One (1) or Both (2)	Sidewalk Costs ($'s Millions)	Bikeway Projects w/Shldr (C) or Sep (S)	Bikeway Costs ($'s Millions)	Landscaping ($'s Millions)	*Enhancement Subtotal ($'s, Millions)*	Roadway + Enhancement ($'s, Millions)	Additional Engineering Costs: Preliminary Engineering ($'s Millions)	Maintenance/Operation ($'s Millions)	CEI ($'s Millions)	*Additional Eng. Costs Sub-Total ($'s, Millions)*	TOTAL ($'s, Millions)
1	I-85 Interchange	at SR 60		0.00	0	S	R	N	2U	0	0.0000	0	0.000	1	7.800	0	0.000	*7.800*	0	0.000	0	0.000	0.025	*0.025*	7.825	1.275	0.000	1.542	*2.817*	10.642
2	Frontage Road	US 441	SR 98	2.80	0	C	R	N	2U	2	4.0735	2	0.286	0	0.000	0	0.000	*11.692*	0	0.000	0	0.000	0.025	*0.025*	11.717	1.910	0.012	2.308	*4.230*	15.947
3	SR 53	Hall County Boundary	I-85	3.20	2	S	R	I	2U	4	2.1636	3	0.429	0	0.000	0	0.000	*7.352*	2	1.210	2	0.000	0.025	*1.235*	8.587	1.400	0.014	1.692	*3.105*	11.692
4	SR 53 Bypass	I-85	SR 332	2.00	0	S	R	N	2U	4	5.9607	3	0.429	0	0.000	0	0.000	*12.350*	2	0.756	2	0.000	0.025	*0.781*	13.131	2.140	0.009	2.587	*4.736*	17.867
5	SR 53	SR 332	Barrow County Boundary	4.10	2	S	R	I	2U	4	2.1636	3	0.429	0	0.000	0	0.000	*9.299*	2	1.550	2	0.000	0.025	*1.575*	10.874	1.772	0.018	2.142	*3.933*	14.807
6	SR 11 Bypass	SR 82	SR 124	6.10	0	S	R	N	2U	4	5.9607	5	0.714	0	0.000	0	0.000	*37.075*	0	0.000	0	0.000	0.025	*0.025*	37.100	6.047	0.027	7.309	*13.383*	50.482
7	SR 98	I-85	Old Maysville Road	1.20	2	S	R	I	2U	4	2.1636	2	0.286	0	0.000	0	0.000	*2.882*	2	0.454	2	0.000	0.025	*0.479*	3.361	0.548	0.005	0.662	*1.215*	4.576
8	SR 124	SR 60	SR 11 Bypass	7.30	2	S	R	I	2U	4	2.1636	4	0.571	0	0.000	0	0.000	*16.366*	0	0.000	0	0.000	0.025	*0.025*	16.391	2.672	0.032	3.229	*5.933*	22.324
9	SR 60	I-85	SR 124	1.00	2	S	R	I	2U	4	2.1636	2	0.286	0	0.000	0	0.000	*2.449*	0	0.000	0	0.000	0.025	*0.025*	2.474	0.403	0.004	0.487	*0.895*	3.369
10	SR 124	Barrow County Boundary	SR 60	4.50	2	S	R	I	2U	4	2.1636	3	0.429	0	0.000	0	0.000	*10.165*	0	0.000	0	0.000	0.025	*0.025*	10.190	1.661	0.020	2.007	*3.688*	13.878
11	New Kings Bridge Road	US 129	US 441	5.40	2	S	R	I	2U	4	2.1636	3	0.429	0	0.000	0	0.000	*12.112*	2	2.041	2	0.000	0.025	*2.066*	14.178	2.311	0.024	2.793	*5.128*	19.306
12	SR 82 Realignment			2.60	0	S	R	N	2U	2	4.0735	3	0.429	0	0.000	0	0.000	*11.020*	0	0.000	0	0.000	0.025	*0.025*	11.045	1.800	0.011	2.176	*3.988*	15.032

TOTAL 199.923

Legend

U - Undivided
D -Divided
O - One-Way
A- Auxiliary
ln - Lane
CEI - Construction Engineering and Inspection

12.2 Summary of Recommended Improvements

Based on the analysis completed as part of this study, a listing of recommended projects was created for Jackson County. This information is presented in Table 12.2. This listing includes capacity improvements, TDM/TSM improvements, intersection enhancements, bridge improvements, bicycle and pedestrian enhancements and transit recommendations. For each recommendation several information elements were produced including: facility; limits; existing and improved configuration; comments; improvement type; need addressed; 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 include identified funding mechanisms, political support with public recognition of the project need and benefit.

12.2.1 Additional Improvements

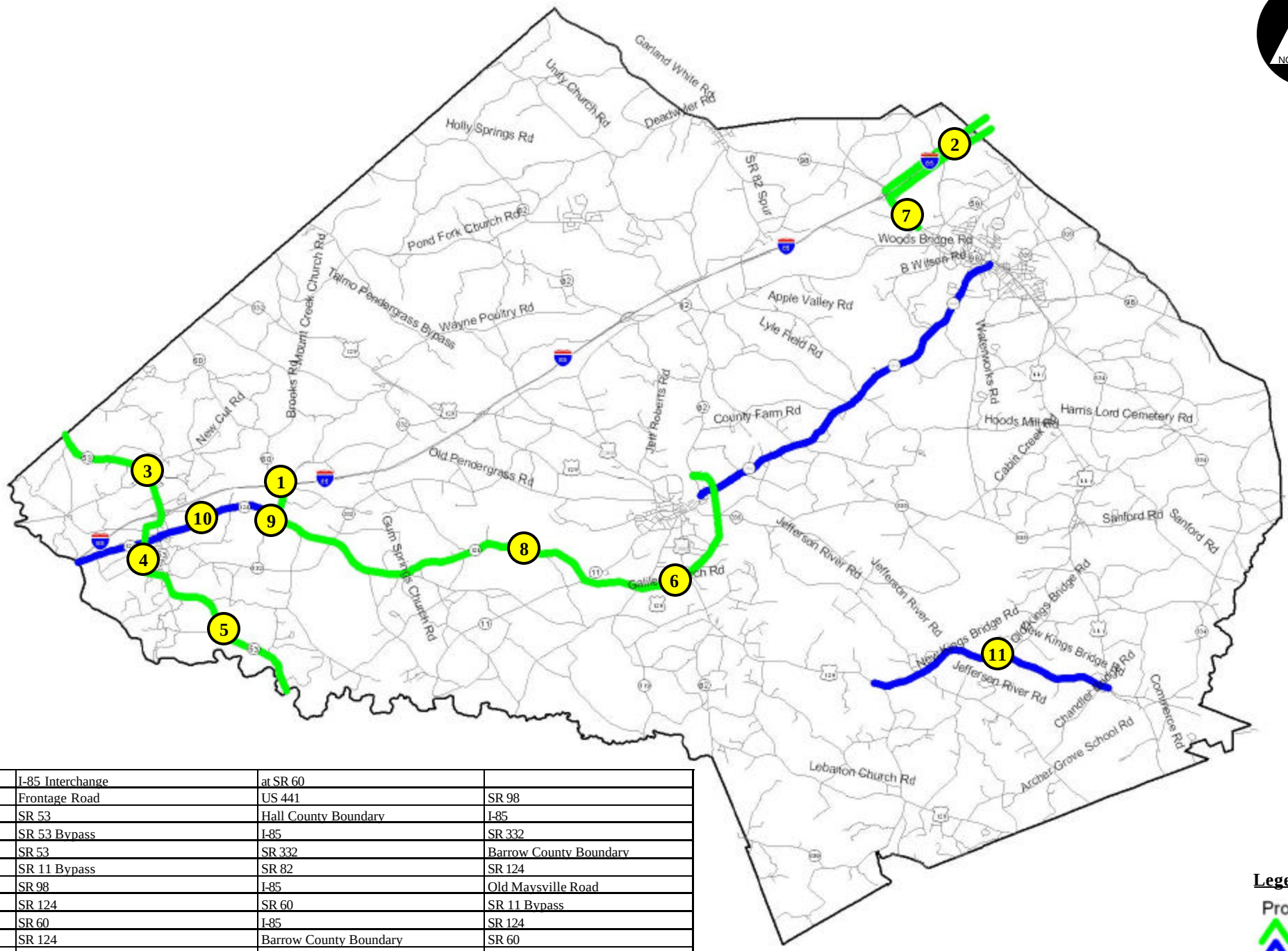
Several improvements were developed through the public involvement process. These improvements require additional study to make a determination on their need and deficiency. The following intersections were are recommended for further study before they are included in the recommended improvements:

- SR 11 @ SR 124;
- Curk Roberts Road @ New Cut Road;
- Dry Pond Road @ I-85 Ramps;
- SR 15 ALT @ Apple Valley;
- SR 15 ALT @ SR 98;
- SR 53 @ Neighborhoods;
- SR 53 @ New Cut Road;
- SR 53 @ SR 124; and,
- SR 59 @ SR 15 & SR 59 @ SR 15 ALT.

Table 12.2
Jackson County Recommended Improvements

Project Ref. No.	Facility	Segment Limits From	Segment Limits To	Existing Lane Configuration	Improved Lane Configuration	Notes/Comments	Program	Project	Need	Anticipated Benefit	Implementation Near	Implementation Mid	Implementation Long	Implementation Candidate	Estimated Cost	Potential Funding Source Federal	Potential Funding Source State	Potential Funding Source County	Potential Funding Source Local	Potential Funding Source Private
Capacity Improvements/New Roadways																				
1	I-85 Interchange	at SR 60		0	1		Recommended	New Interchange	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$10,642,000		✓	✓	✓	
2	Frontage Road	US 441	SR 98	0	1		Recommended	New Roadway	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$15,946,838		✓	✓	✓	
3	SR 53	Hall County Boundary	I-85	2	4		Work Program	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$11,692,050		✓	✓	✓	
4	SR 53 Bypass	I-85	SR 332	0	4		Recommended	New Roadway	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$17,866,969		✓	✓	✓	
5	SR 53	SR 332	Barrow County Boundary	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$14,806,944		✓	✓	✓	
6	SR 11 Bypass	SR 82	SR 124	0	4		Recommended	New Roadway	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$50,482,365		✓	✓	✓	
7	SR 98	I-85	Old Maysville Road	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$4,575,772		✓	✓	✓	
8	SR 124	SR 60	SR 11 Bypass	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$22,323,631		✓	✓	✓	
9	SR 60	I-85	SR 124	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$3,369,493		✓	✓	✓	
10	SR 124	Barrow County Boundary	SR 60	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety			✓		$13,877,982		✓	✓	✓	
11	New Kings Bridge Road	US 129	US 441	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety			✓		$19,306,236		✓	✓	✓	
12	SR 11	Barrow County Boundary	Jefferson Bypass	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
13	SR 335	SR 82	US 441	2	2		Recommended	New Roadway	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
14	SR 82 Realignment			2	2		Recommended	Realignment	Capacity Deficiency	Increased Capacity & Improved Safety		✓			$15,032,252		✓	✓	✓	
15	Wayne Poultry Rd	US 129	SR 82	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
16	Dry Pond Rd/Hog Mountain Rd	Extension to US 29		0	2		Recommended	Realignment	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
17	Eastside Jefferson Bypass	Extension to SR 124		0	2		Recommended	Realignment	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
18	Galilee Church Road	Extension to SR 11		0	2		Recommended	Realignment	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
19	SR 11	Barrow County Boundary	Jefferson Bypass	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
20	SR 124	SR 60	SR 11	2	4		Recommended	Arterial Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
21	I-85	SR 60	SR 11	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
22	I-85	SR 11	SR 82	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
23	I-85	SR 82	SR 98	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
24	I-85	SR 98	SR 15	4	6		Work Program	Freeway Widening	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-	✓	✓	✓		
25	SR 15	Commerce	Jefferson	2	2		Work Program	Passing Lanes	Capacity Deficiency	Increased Capacity & Improved Safety				✓	-		✓	✓	✓	
TDM/TSM Improvements																				
26	US 441	SR 82	SR 98				Work Program	Type B Medians	Capacity Deficiency	Increased Capacity & Improved Safety			✓		GDOT		✓	✓	✓	
27	Jefferson Bypass signage						Recommended	Operations Improvement	Operational Issues	Improved Operations				✓	-		✓	✓	✓	
Geometric Improvements																				
28	SR 15						Recommended	Geometric Improvements	Geometric Issues	Improved Safety & Operations				✓	-		✓	✓	✓	
Bridge Improvements																				
29	CR 143/Galilee Church Road	Middle Oconee River	approx. 3.7 mi SW of Jefferson		11,616 sq ft	20.11 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$522,720		✓	✓	✓	
30	CR 367/Whites Bottom Road	Walnut Creek	approx. 2.5 mi NE of Braselton		2,156 sq ft	21.73 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$97,020		✓	✓	✓	
31	CR 86/Jefferson River Road	Curry Creek	approx. 3.6 mi E of Arcade		1,760 sq ft	25.99 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$79,200		✓	✓	✓	
32	CR 246/Lipscomb Lake Road	Pond Fork Creek	approx. 3.5 mi N of Pendergrass		1,760 sq ft	42.40 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$79,200		✓	✓	✓	
33	CR 424/Woods Bridge Road	North Oconee River	approx. 3.5 mi W of Commerce		10,208 sq ft	45.90 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$459,360		✓	✓	✓	
34	CR 89/Chandler Bridge Road	North Oconee River	approx. 1.9 mi SW of Center		15,840 sq ft	47.31 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$712,800		✓	✓	✓	
35	CS 802/Kissam Road	Curry Creek	In City of Jefferson		1,408 sq ft	47.52 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$63,360		✓	✓	✓	
36	CR 217/O. Pendergrass Road	Middle Oconee River	approx. 3.2 mi SE of Pendergrass		10,560 sq ft	47.65 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$475,200		✓	✓	✓	
37	CR 254/Deadwyler Road	North Oconee River	approx. 8.8 mi NW of Jefferson		5,148 sq ft	47.69 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$231,660		✓	✓	✓	
38	CR 426/Wayne Poultry Road	Allen Creek	approx. 0.7 mi N of Pendergrass		7,920 sq ft	48.95 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation	✓				$356,400		✓	✓	✓	
39	CR 432/New Kings Br Road	North Oconee River	approx. 7.3 mi SE of Jefferson		8,096 sq ft	53.09 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$364,320		✓	✓	✓	
40	SR 15/SR 15 ALT-SR 82	Curry Creek	In Jefferson		6,688 sq ft	53.51 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$300,960		✓	✓	✓	
41	CR 62/Smith Overhead Road	Southern Railroad	approx. 1.5 mi N of Nicholson		3,608 sq ft	53.64 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$162,360		✓	✓	✓	
42	CR 68/Sandford Road	Sandy Creek	approx. 2.6 mi SE of Nicholson		4,224 sq ft	55.69 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$190,080		✓	✓	✓	
43	SR 334	Sandy Creek	approx. 11.5 mi SE of Jefferson		6,336 sq ft	56.60 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$285,120		✓	✓	✓	
44	CR 426/Wayne Poultry Road	Pond Fork Creek	approx. 1.6 mi NE of Pendergrass		6,336 sq ft	58.22 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$285,120		✓	✓	✓	
45	CR 229/Possum Creek Road	I-85(SR 403)	approx. 4.5 mi NW of Jefferson		12,012 sq ft	58.70 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$540,540		✓	✓	✓	
46	CR 248/Harmony Church Road	E. Fork Pond Fork Creek	approx. 4.2 mi NE of Talmo		2,860 sq ft	61.60 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$128,700		✓	✓	✓	
47	CR 266/Diamond Hill Ch Road	North Oconee River	approx. 7 mi NE of Pendergrass		2,728 sq ft	61.68 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$122,760		✓	✓	✓	
48	SR 82/SR 82 SPUR	North Oconee River	approx. 6.8 mi N of Jefferson		8,712 sq ft	63.09 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$392,040		✓	✓	✓	
49	SR 332	I-85(SR 403)	approx. 2.2 mi S of Pendergrass		14,212 sq ft	63.26 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$639,540		✓	✓	✓	
50	SR 332	Walnut Creek Overflow	approx. 1.5 mi S of Pendergrass		3,564 sq ft	63.62 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$160,380		✓	✓	✓	
51	SR 332	Walnut Creek	approx. 1.45 mi S of Pendergrass		5,280 sq ft	63.87 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$237,600		✓	✓	✓	
52	CR 250/Plainview Road	I-85(SR 403)	approx. 5.6 mi N of Jefferson		11,484 sq ft	63.93 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$516,780		✓	✓	✓	
53	SR 60	Walnut Creek	approx. 3 mi SW of Pendergrass		6,600 sq ft	64.21 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$297,000		✓	✓	✓	
54	SR 11	Middle Oconee River	approx. 2.5 mi SW of Jefferson		25,088 sq ft	65.89 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$1,128,960		✓	✓	✓	
55	CR 422/Cooper Farm Road	Sandy Creek	approx. 2.7 mi SE of Nicholson		5,984 sq ft	66.60 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$269,280		✓	✓	✓	
56	CR 130/Lebanon Church Road	Middle Oconee River Trib.	approx. 3 mi S of Arcade		1,760 sq ft	67.12 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$79,200		✓	✓	✓	
57	SR 403/I-85 NBL	CR 296 Ridgeway Church	approx. 3.3 mi N of Commerce		4,701 sq ft	67.72 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$211,536		✓	✓	✓	
58	CR 261/Dixon Bridge Road	North Oconee River	approx. 8.3 mi NW of Jefferson		4,400 sq ft	68.89 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$198,000		✓	✓	✓	
59	CR 568/FAS 2918	Middle Oconee River	approx. 5.4 mi S of Jefferson		10,208 sq ft	70.70 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$459,360		✓	✓	✓	
60	SR 403/I-85 SBL	Walnut Creek	approx. 1.7 mi SE of Pendergrass		10,728 sq ft	71.19 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$482,760		✓	✓	✓	
61	CR 177/Liberty Church Road	I-85(SR 403)	approx. 0.9 mi W of Braselton		16,280 sq ft	71.79 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$732,600		✓	✓	✓	
62	SR 403/I-85 SBL	CR 296 Ridgeway Church	approx. 3.3 mi N of Commerce		5,040 sq ft	72.77 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$226,800		✓	✓	✓	
63	CR 253/Chandler Cem Road	North Oconee River	approx. 7.9 mi N of Jefferson		4,444 sq ft	73.65 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$199,980		✓	✓	✓	
64	SR 11/US 129	Allen Creek	approx. 0.5 mi N of Talmo		5,280 sq ft	73.91 sufficiency rating	Recommended	Replace Bridge	Deficient Bridge	Improve Safety & Operation		✓			$237,600		✓	✓	✓	
Bicycle & Pedestrian Improvements																				
65	Jefferson River Rd						Recommended	Bike Lanes	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
66	Old Pendergrass	US 129	Hoschton St				Recommended	Sidewalk	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
67	Old US 129	Old Pendergrass Rd	Downtown Commerce				Recommended	Sidewalk	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
68	East Jefferson St	West Jackson Intermediate School & West Jackson Primary School					Recommended	Sidewalk	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
69	SR 323 & SR 52						Recommended	New Schools	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
70	City of Jefferson						Recommended	Sidewalks & Crosswalks	Bike/Ped Facilities	Enhanced Multimodal System	✓					✓	✓	✓	✓	✓
	Countywide					5 miles of bike/ped facilities					✓				$945,000	✓	✓	✓	✓	✓
	Countywide					6 miles of bike/ped facilities						✓			$945,000	✓	✓	✓	✓	✓
	Countywide					7 miles of bike/ped facilities							✓		$945,000	✓	✓	✓	✓	✓
Airport																				
71	Lengthen Runway to 5,000 feet						Recommended	Upgrade to Level II	Deficient Runway Length	Upgrade Airport Facilities	✓				Jackson County	✓	✓	✓		
Rail																				
72	SR 98						Recommended	Replace Wall	Rail Issues	Improve Safety & Operation	✓				Rail Company	✓	✓	✓		
73	Norfolk Southern Mainline Railroad					under utilized crossings	Recommended	Close Crossings	Rail Issues	Improve Safety & Operation	✓				Rail Company	✓	✓	✓		
74	Gainesville Midland Line						Recommended	Improve Crossings	Rail Issues	Improve Safety & Operation		✓			Rail Company	✓	✓	✓		
75	John B. Brooks Road					monitor for grade separation	Recommended	Grade Separation	Rail Issues	Improve Safety & Operation			✓		Rail Company	✓	✓	✓		
76	Lula Secondary Line						Recommended	Improve Crossings	Rail Issues	Improve Safety & Operation		✓			Rail Company	✓	✓	✓		
Transit Improvements																				
77	Park & Ride Lot	SR 53 & I-85					Recommended	Park & Ride Lots	Capacity Deficiency	Commute Options		✓				✓	✓	✓		
78	Park & Ride Lot	US 129 & I-85					Recommended	Park & Ride Lots	Capacity Deficiency	Commute Options		✓				✓	✓	✓		
79	Express Bus Service	vicinity of Braselton					Recommended	Express Bus Service	Capacity Deficiency	Commute Options		✓				✓	✓	✓		
80	Vanpooling	vicinity of Braselton					Recommended	Vanpooling	Capacity Deficiency	Commute Options		✓				✓	✓	✓		
81	Park & Ride Lots	Near I-85	carpools, vanpools, public transit				Recommended	Park & Ride Lots	Capacity Deficiency	Commute Options		✓				✓	✓	✓		

Notes: 1. Bridge replacement costs are based off of GDOT's cost estimate of $45 per square foot
2. Costs for Bike/Ped improvements were developed for 5 miles of facilities for each term.



1	I-85 Interchange	at SR 60	
2	Frontage Road	US 441	SR 98
3	SR 53	Hall County Boundary	I-85
4	SR 53 Bypass	I-85	SR 332
5	SR 53	SR 332	Barrow County Boundary
6	SR 11 Bypass	SR 82	SR 124
7	SR 98	I-85	Old Maysville Road
8	SR 124	SR 60	SR 11 Bypass
9	SR 60	I-85	SR 124
10	SR 124	Barrow County Boundary	SR 60
11	New Kings Bridge Road	US 129	US 441

Legend

Project Year
2015
2025

12.3 Environmental Justice Considerations

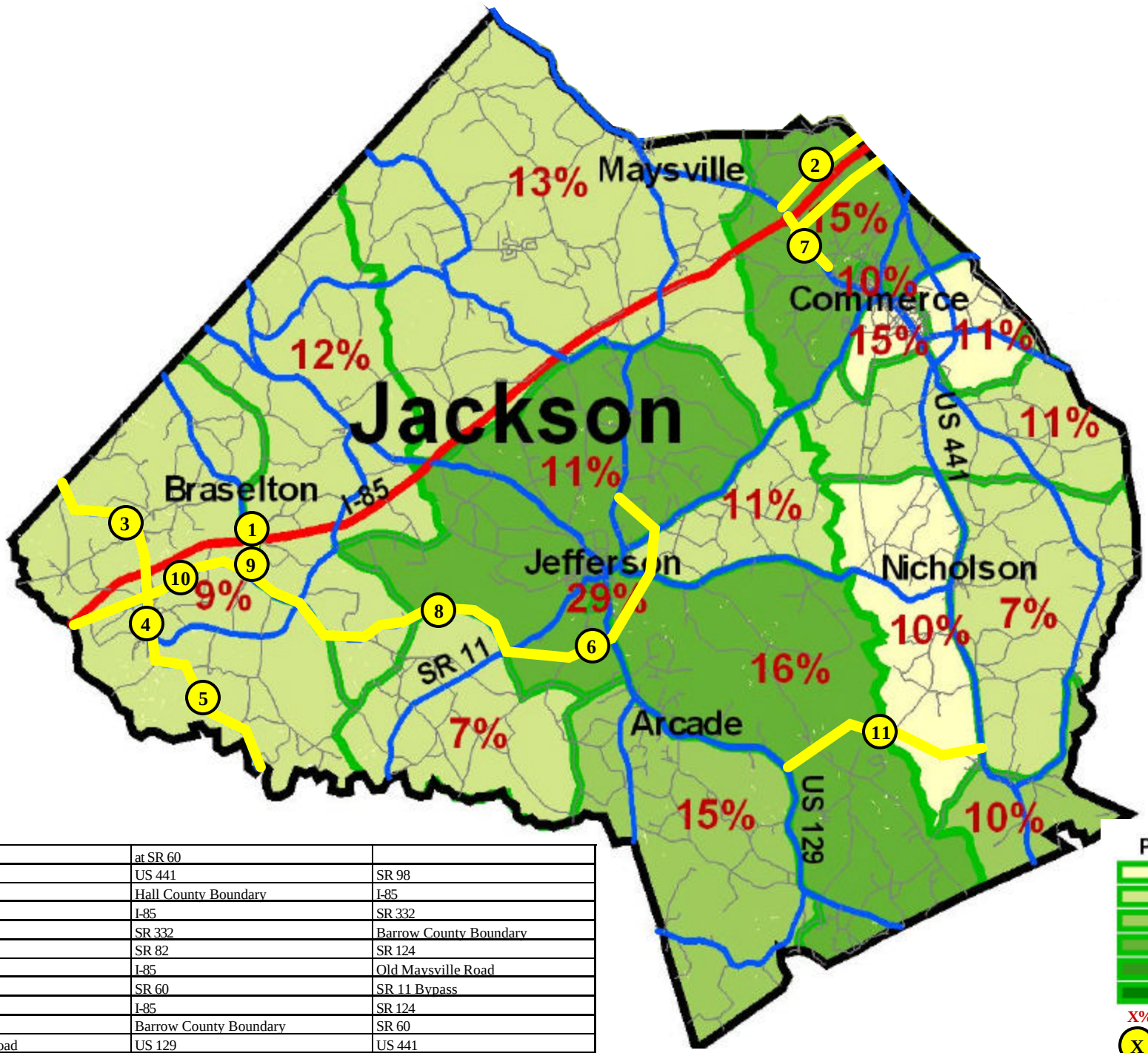
Another key point of concern in evaluating proposed transportation improvements is environmental justice. This ensures that areas with high concentrations of low-income or minority populations are not adversely impacted by transportation improvements. The recommended improvements will improve safety, mobility and access for all users on a countywide basis. However, the following capacity enhancement projects could have potential impacts to these populations:

- Project #2 Frontage Road from US 441 to SR 98
- Project #6 SR 11 Bypass from SR 82 to SR 124
- Project #7 SR 98 from I-85 to Old Maysville Road
- Project #8 SR 124 from SR 60 to SR 11 Bypass
- Project#11 New Kings Bridge Road from US 129 to US 441

These projects include the need for roadway widening and the possibility of additional right of way. Review of these projects acknowledges that they are anticipated to benefit and not disproportionately impact the surrounding EJ areas. Additional projects adopted to benefit the EJ communities include: bicycle and pedestrian improvements; transit park and ride lots along I-85; and, numerous safety and capacity enhancements throughout the study area.

In addition to the technical analysis documented above, outreach activities were conducted throughout the course of the study to facilitate input and dialogue with EJ communities. In particular, information was distributed in these areas documenting study activities and workshops and community leaders in the area were conducted throughout the study to facilitate dialogue and exchange of information.

Figure 12.3 shows the recommended projects on the environmental justice map.



1	I-85 Interchange	at SR 60	
2	Frontage Road	US 441	SR 98
3	SR 53	Hall County Boundary	I-85
4	SR 53 Bypass	I-85	SR 332
5	SR 53	SR 332	Barrow County Boundary
6	SR 11 Bypass	SR 82	SR 124
7	SR 98	I-85	Old Maysville Road
8	SR 124	SR 60	SR 11 Bypass
9	SR 60	I-85	SR 124
10	SR 124	Barrow County Boundary	SR 60
11	New Kings Bridge Road	US 129	US 441

13.0 Funding

All of the recommended projects are not expected to be funded by Banks, Franklin or Jackson Counties respectively. 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 the study area are either operated by the GDOT or the Counties. Should a County desire to accelerate projects on state owned and maintained facilities, it is highly likely that local funds could accelerate the process.

Funding for most transportation projects in the Tri-County area comes either in part or entirely through the GDOT. To understand the ability of GDOT to continue to provide funds to the Tri-County area 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.

13.1 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 U.S. Congress authorizes federal transportation funding to the states and other public entities generally every six years. The last authorization was known as the "Transportation Efficiency Act for the 21st Century" or TEA 21. The reauthorization of TEA 21 was expected to occur by mid-2003, but has been delayed due to differences in Congressional and Administration funding levels. The reauthorization is expected to be finalized by late 2004. The acronym for the new authorization is termed "SAFETEA" – Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2004.

Based on the Administration's proposal for the reauthorization, Table 13.1.1 illustrates funding levels for major highway transportation programs and apportionments and

allocations to Georgia over the six-year time frame (FY 2004, 2005, 2006, 2007, 2008, and 2009).

Table 13.1.1
Estimated Six-Year SAFETEA Highway Apportionments and Allocations*
SAFETEA – Administration Proposal

Area	A	B	C	D	E	F	G
Georgia	$ 963	$ 906	$ 1,109	$ 342	$ 176	$ 258	$ 211
U.S.	$ 25,380	$ 30,124	$ 31,485	$ 21,768	$ 8,607	$ 7,321	$ 6,000
Area	**H**	**I**	**J**	**K**	**L**	**M**	**Total**
Georgia	$ 117	$ 9	$ 42	$ 2,152	$ 25	$ 3	$ 6,312
U.S.	$ 2,662	$ 355	$ 1,708	$ 43,487	$ 810	$ 156	$ 179,963

***** In millions of dollars (rounded to the nearest million) for FY 2004 through 2010.
Source: U.S. Department of Transportation

Key:
A = Interstate Maintenance
B = National Highway System
C = Surface Transportation Program
D = Bridge Replacement/Rehabilitation
E = Congestion Mitigation and Air Quality
F = Highway Safety
G = Infrastructure Preservation and Maintenance
H = Appalachian Developmental Highways
I = Recreational Trails
J = Metropolitan Planning
K = Minimum Guarantee
L = Intelligent Transportation System
M = Transportation, Community, and System Preservation
Total = Sum of all major programs

Federal funding for the majority of highway system improvements (excluding interstate highways) planned in the Banks-Franklin-Jackson Tri-County area is expected to come from the Surface Transportation Program (STP) and Minimum Guarantee Program. Locally-sponsored projects within the study area 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 (TEA Funds)

  Currently, the TEA 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. In the past, TEA funds were approved for beautification and sidewalks in the Homer-Banks Crossing corridor and for sidewalks in the City of Hoschton. The TEA program is very popular with local governments; thus, GDOT has received many more proposals for projects than the available funds can support. Therefore, GDOT is not accepting any new TEA applications for projects until 2005.

13.2 Federal Funds for Public Transportation

The need for better mobility and access to transportation extends far beyond city limits. In the Tri-County area, 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 the study area evolves, each County in the study area 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 13.2.1 shows the estimated federal funds included in the Administration's version of SAFETEA. Generally, for public transit projects proposed in the Banks-Franklin-Jackson County area, the federal funding programs will be the Non-Urbanized Area Program ("C"); the Rural Transit Assistance Program ("D"); Transit for Elderly and Disabled Persons ("E"), Job Access and Reverse Commute ("F"); and SAFETEA's New Freedom Program ("G").

Table 13.2.1
Six-Year Apportionments and Allocations for Public Transportation
SAFETEA (Administration Proposal)

Area	A	B	C	D	E
Georgia	$ 389	$ 169	$ 77	$ 1	$ 14
U.S.	$ 21,730	$ 7,615	$ 2,206	$ 38	$ 546
Area	**F**	**G**	**H**	**I**	**Total**
Georgia	$ 25	$ 26	$ 17	$ 3	$ 723
U.S.	$ 941	$ 909	$ 680	$ 142	$ 34,447

***** in millions of dollars (rounded to the nearest million) for the period from FY 2004 – 2010.
Source: U.S. Department of Transportation

Key:
A = Urban Areas (Section 5307)
B = Urban Area – Fixed Guideway (Sec. 5307)
C = Non-Urbanized Areas (Section 5311)
D = Rural Transit Assistance Program (RTAP)
E = Elderly & Persons with Disabilities
F = Job Access/Reverse Commute Program
G = New Freedom Initiative
H = Metropolitan Planning
I = State Planning
Total = sum of major public transit programs

13.3 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 U.S.

An important 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 the Georgia Department of Transportation. 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.

One of the State's most important north-south GRIP corridors is U.S. 441 which traverses the center of the three-county study area. The widening of U.S. 441 from two lanes to four lanes is proceeding through Banks County. U.S. 1/GA 17 is also a north-south GRIP corridor which skirts the eastern edge of Franklin County near Lake Hartwell. The construction of this roadway widening is not yet funded.

13.4 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 Special Purpose Local Option Taxes (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, including those in the study area, 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 each county's expenditures for transportation were not available.

According to the Georgia Department of Community Affairs (DCA), the total of each 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 13.4 illustrates this data. In 2000, two of the three counties (Franklin and Jackson) in the study area had per capita own source amounts less than the statewide average of $611.

Table 13.4
Own Source Revenues
Banks, Franklin, and Jackson Counties

County	1996 Own Source Revenues	2000 Own Source Revenues	% Change from 1996 to 2000	Per Capita Amount*
Banks County	$ 4.4 million	$ 9.1 million	107.3%	$ 631
Franklin County	$ 7.1 million	$ 9.4 million	33.2%	$ 464
Jackson County	$ 13.5 million	$ 18.4 million	36.4%	$ 441
Total	$ 25 million	$ 36.9 million	47.6%	$ 480

* Statewide per capita amount equals $ 611.
Source: Georgia Department of Community Affairs

13.5 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. The latest version of the STIP was approved on November 4, 2003.

In its 2004-2006 STIP, GDOT estimated that nearly $ 7.2 billion were allocated for various transportation functions throughout Georgia. Table 13.5.1 shows the allocation of these funds across major functional areas.

Table 13.5.1
FY 2004 – 2006
STIP Fund Allocations
Banks, Franklin and Jackson Counties

Transportation Function	Amount Allocated	Percent of Total
New Construction	$ 458,725	6.4
Reconstruction and Rehabilitation	$ 2,208,769	30.9
Bridges	$ 1,148,832	16.1
Safety	$ 316,417	4.4
Maintenance	$ 548,237	7.7
Transportation Enhancement	$ 423,878	5.9
Transit	$ 1,415, 375	19.8
Other	$ 628, 840	8.8
Total	**$ 7,149,073**	**100.0**

Additionally, GDOT develops its 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 Banks, Franklin, and Jackson Counties, a total of 16 major projects have been programmed utilizing over $40 million in federal and state funds. Table 13.5.2 summarizes these programmed amounts.

Table 13.5.2
GDOT State Transportation Improvement Program (STIP)
Banks, Franklin, and Jackson Counties (excluding Bond-funded projects)

County	Project/Phase	Total Funds Programmed
Banks	Upgrade traffic signals at five locations along SR 15/US 441	$400,000
	Replacement bridge at SR 51 at Grove Creek seven miles west of Homer (construction phase)	$946,542
	Replacement bridge on SR 105 at Middle Fork of the Broad River miles north of Homer (construction phase)	$1,313,000
Franklin	Landscaping on I-85 in Franklin and Hart Counties (construction phase)	$562,000
	Widen SR 17 from SE CR 67/Ross PL N Lavonia to SE Stephens CL & BR (construction phase)	$11,450,000
	Replace bridge on SR 51W Middle Fork of Broad River 2.1 miles west of Franklin Springs (right-of-way and construction after 2006)	$10,000
	Replace bridge on SR 145 at North Fork of Broad River 1.7 miles west of Franklin Springs (right-of-way and construction after 2006)	$15,000
	Replace bridge on SR 51 at Nails Creek 8.3 miles west of Carnesville (right-of-way; construction after 2006)	$10,000
Jackson	Upgrade traffic signals at various locations along SR 11 Business and SR 98 (construction phase)	$693,000
	Rail-highway crossing improvement at CR 213/John Brooks Road at the CSX Railroad (construction phase)	$210,000
	Replace bridge on SR 11/US 129 at Allen Creek North of Talmo (construction in 2006)	$500,000
	Preliminary Engineering and right-of-way for the widening SR 11/US 129 from SR 332 at Talmo in Jackson County to SR 323 in Hall County (construction after 2006)	$5,615,000
	Preliminary Engineering and right-of-way for widening SR 15 Alt./US 129 from Lavender Drive in Clarke County to SR 330 in Jackson County (construction in 2005)	$11,515,000

County	Project/Phase	Total Funds Programmed
	PE and right-of-way for widening SR 15 Alt/US 129 from SR 330 to Jefferson bypass at CR 104 (construction after 2006)	$4,068,000
	Bridge rehabilitation on SR 15 Alt. in Jefferson at Big Curry Creek (right-of-way)	$400,000
	Replace bridge at CR 86/Jefferson River Road at Curry Creek 3.6 miles east of Arcade	$2,487,000
TOTAL PROGRAMMED FUNDS		**$ 40,194,542**

13.6 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.

14.0 Corridor Preservation Planning

In order to meet the future transportation needs of the citizens of Banks, Franklin, and Jackson Counties, a proactive approach to protecting transportation corridors should be taken. By protecting these corridors, transportation capacity of various kinds (roadway, rail, sidewalk, etc.) can be provided at the locations where it is needed, making the best use of the public funds invested. In short, the right kind of transportation investment can be made in the right place to serve the right needs.

Each of the three counties in the study area has differing community characters, demographic and economic characteristics, assets, and community goals and visions. Jackson County is the only county in the study area to develop countywide land development regulations, which are currently in the process of being adopted. Thus, a single approach for the entire study area to preserving transportation corridors would not be workable. However, there are some principles which each county can use and adapt to its own particular situation to enable land use and transportation to be coordinated well, thus insuring a higher quality of life for its residents and visitors.

14.1 Future Land Use and Development Conditions

Currently, Jackson County is the fastest growing of the three counties and is expected to remain so throughout the planning period. The County's location near the Athens-Clarke County urban area, the Gainesville/Hall County urban area, and the northern Gwinnett/Sugarloaf Parkway area make it an increasingly desirable residential and business location. While current and future growth rates for Franklin and Banks Counties as a whole are slower than for Jackson County, the portions of these two counties near the I-85 corridor are likely to see much higher rates of growth, especially for non-residential (commercial and industrial) development in the next 20 years.

The access to I-85, a significant interstate highway corridor through four southern states (North Carolina, South Carolina, Georgia, and Alabama) is an important incentive for new companies to locate in the study area. Efficient connections to the interstate highways and inter-regional roadways and the presence of rail lines will be important to existing and future businesses locating in the study area.

In terms of residential development, many of the new households forming in the study area are people leaving more congested areas in Metro Atlanta. These new residents expect a higher quality of life, a lower level of congestion and travel difficulties, and fewer negative impacts of transportation on their homes and neighborhoods. All of these factors point to a need to proactively plan for residential and non-residential land uses together with the development of a multimodal transportation system for people and goods that meets all of these community needs.

14.2 Land Use – Transportation Planning and Policy Coordination

The following general guidelines can be used to organize the land use and transportation planning process to focus on corridor level plans for important transportation arteries in the study area.

14.2.1 Identify Priority Growth Corridors

As part of the comprehensive planning process, communities and counties identify where new growth and redevelopment is anticipated and desired. This aspect of the comprehensive planning process should be examined in detail at the corridor level for both residential and non-residential land uses. Once the locations, sizes (in terms of floor area or square footage), types, intensities and densities of the various land uses are known in the corridor, the transportation needs can be identified and multimodal transportation solutions (road, transit, pedestrian, bicycle, truck, etc.) can be developed to meet these needs. The solutions must address both passenger and goods movement.

14.2.2 Allow Mixed Use Developments

Some communities are examining the need to encourage mixed use developments within their jurisdictions. Traditional zoning ordinances generally do not allow the "mixing" of two or more land uses on one parcel of land. This approach to zoning has protected our homes and neighborhoods from certain negative aspects of commercial and industrial land uses, such as traffic, noise, air pollution, etc. Mixed use developments provide more opportunities to walk or bicycle for short trips. This approach to land use and zoning can produce compact development patterns which are more efficient and less costly in terms of public investments in infrastructure.

14.2.3 Create Master Plans for Commercial and Industrial Areas Along Major Thoroughfares

Special attention should be given to managing access (the width, location, and spacing of driveways, etc.) in areas anticipated to be developed with commercial and industrial land uses. Master planning these areas will promote efficient transportation movement and safety of motorists, pedestrians, trucks, and bicyclists.

14.2.4 Provide Truck-Friendly Transportation Corridors

The study area will continue to be an attractive location for new businesses and industries well into the future because of the excellent access that I-85 and U.S. 441 provide to major markets in Georgia. Care should be taken as new industrial, manufacturing, and transportation/warehouse/distribution areas are developed to assure that the roadway system facilitates the movement of trucks efficiently and safely. This may mean special ramps for trucks at interchanges, special information systems for truckers, special rest areas for trucks, wider roadway geometrics to allow better truck maneuverability.

14.2.5 Use Flexible Parking Requirements

In corridors where there is a significant amount of commercial and/or office activity, parking areas for employees and customers must be addressed. In order to optimize the use of existing parking areas and reduce the amount of impervious area (pavement), some communities include provisions in their land development ordinances to allow the sharing of parking areas among various land uses where the peak activity times for the uses differ and the parking areas can accommodate the demand.

14.2.6 Create Sidewalk Networks in Key Locations

The ability of people to walk to places within their neighborhoods and communities is important for people of all ages. Children and seniors are especially important to consider in the provision of sidewalks near schools, libraries, parks, senior centers, shopping areas, retirement homes, and other areas where they are likely to gather. Several cities in the study area, including Braselton, Jefferson, and Commerce have plans to enhance their pedestrian systems.

Many communities require the provision of sidewalks in neighborhoods. Commercial areas and office parks are also areas where sidewalk networks are important for both employees and customers. Depending on the needs of the community, the land development regulations should address the need for sidewalks within all urban land use categories to assure that a community-wide focus on safe pedestrian systems is achieved.

14.3 Future Actions

The individual counties in the study area have the ability to customize their approach to coordinated land use and transportation planning in corridors depending on the unique character and needs of their communities. As part of the comprehensive planning process, there is an opportunity to identify important local and regional transportation corridors along with land use considerations for each of them. As these important corridors are identified, specific land use and transportation plans can be developed which will guide the future design of the community.

15.0 Conclusions

Due to population growth in Banks, Franklin and Jackson Counties and the resulting increase in travel demand, the Georgia Department of Transportation (GDOT) Office of Planning in conjunction with the Counties initiated a study to develop a Long-Range Transportation Plan (LRTP) to serve the Tri-County study area through the planning horizon, 2025. 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.

As part of this effort County travel demand models were developed to represent the transportation network of each County. The purpose of this study was to identify existing and future operating conditions for the transportation system within each of the Counties. Ultimately the study identified multimodal improvements and prioritized project implementation in the form of a Long Range Transportation Plan.

TEI coordinated with GDOT, County planning and engineering staff, cities within the County and other partners in the planning, development, review, and approval of study alternatives and the LRTP. Additionally, a comprehensive and interactive public involvement program was conducted to ensure 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 planned improvements to the transportation network.

The end product for this study was a Long Range Transportation Plan (LRTP) that provided for the efficient movement of people and goods within and through the Tri-County area through the horizon year of this study (2025). Interim year analysis was conducted for the years 2008 and 2015. As part of this effort existing and future operating conditions were documented for the following modes: highways, 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 Banks, Franklin and Jackson County's transportation planning efforts and a starting point for addressing transportation needs.