

Dooly County Long Range Transportation Plan

Southwest Georgia Multi-County
Transportation Study

October
2010

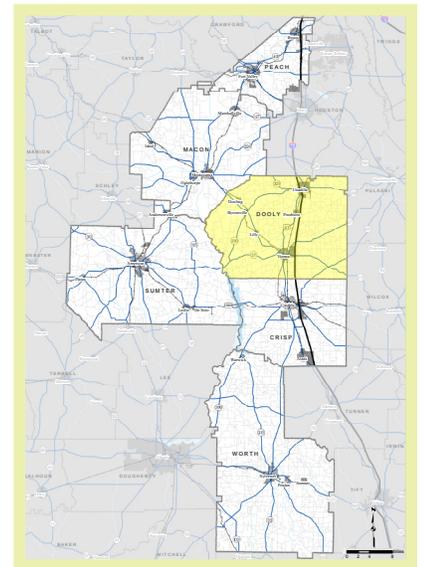
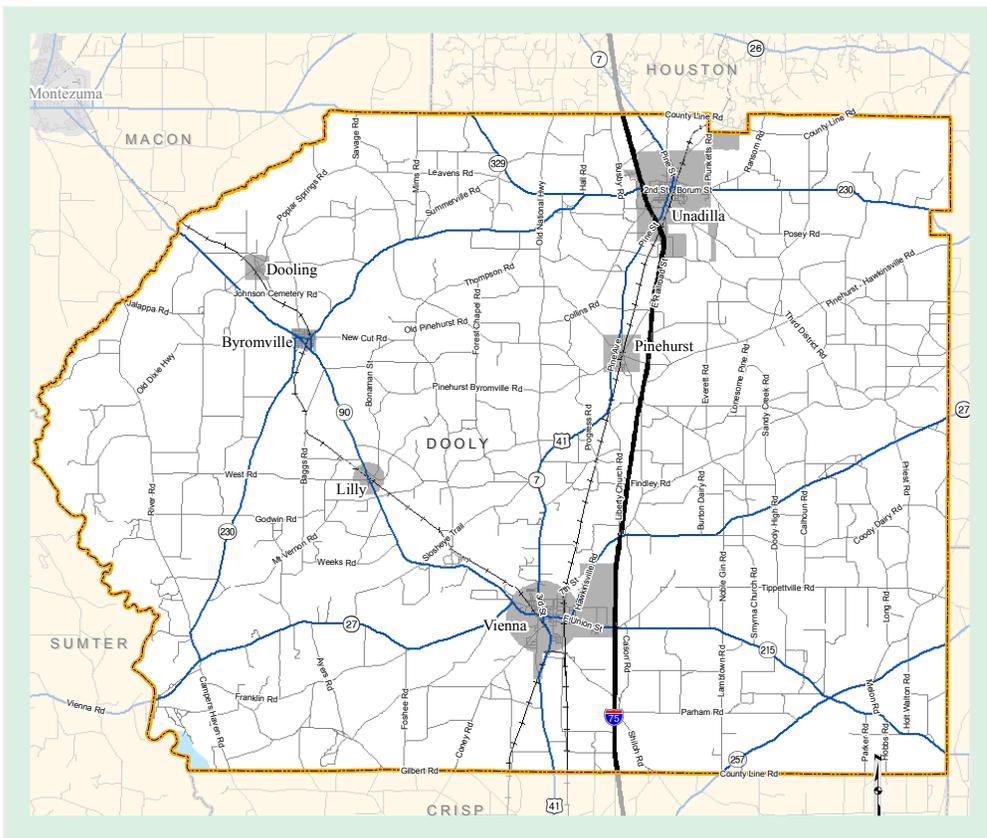


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1. INTRODUCTION

The Georgia Department of Transportation (GDOT) Office of Planning initiated the Southwest Georgia Multi-County Transportation Study in cooperation with the counties of Crisp, Dooly, Macon, Peach, Sumter and Worth; the River Valley, Southwest Georgia, and Middle Georgia Regional Commissions (RCs), and other planning partners. The objective of the study was to identify and recommend transportation improvements necessary within each county to meet existing and future transportation needs through the year 2035. Results and recommendations of this study will be important in identifying transportation deficiencies. The study began in October 2008 and was completed in October 2010.

1.1 STUDY PURPOSE

The ability of the transportation system to meet existing and future travel needs is essential to the economic viability of these six counties. This study will recommend transportation improvements that complement state, regional, and local objectives regarding economic development, quality of life, and the interconnection of people, goods, and services. The final result of this study process will be a 2035 Long Range Transportation Plan (LRTP) for each of the six counties in the study area. The focus of this report is Dooly County. The Dooly County LRTP will provide a prioritized outline of improvements necessary to address its existing, short term, and long term transportation needs of the county.

1.2 GENERAL DESCRIPTION OF THE SIX-COUNTY STUDY AREA

The study area is located in southwest Georgia from south of Macon to south and east of Albany. The six-county study area includes Crisp, Dooly, Macon, Peach, Sumter and Worth Counties. The study area includes a small portion of the Warner Robins Metropolitan Planning Organization area found in Peach County, which includes the city of Byron.

The six-county study area covers 2,300 square miles and a number of areas of interest that are significant to the state's natural, cultural, and social environments. A map of Dooly County can be found in **Figure 1.1** on page 2 and a map of the six-county study area can be found in **Figure 1.2** on page 3. Key local assets include:

- Georgia Veterans Memorial State Park in Crisp County, which features a museum; Lake Blackshear, a privately operated conference center and golf club; and the Savannah, Americus, and Montgomery (SAM) Shortline Excursion Train, which runs from Cordele to Plains, GA.
- Flint River Wildlife Management Area (WMA) in Dooly County, located ten miles south of Montezuma. Activities in the WMA include hunting, fishing, hiking, bird watching and horseback riding.
- Andersonville National Historic Site in Macon County, located just east of the City of Andersonville. This site includes Camp Sumter, which served as the largest Confederate prison during the Civil War; the Andersonville National Cemetery, and the National Prisoner of War Museum.

SOUTHWEST GEORGIA MULTI-COUNTY TRANSPORTATION STUDY
DOOLY COUNTY LONG RANGE TRANSPORTATION PLAN

FIGURE 1.1: MAP OF DOOLY COUNTY

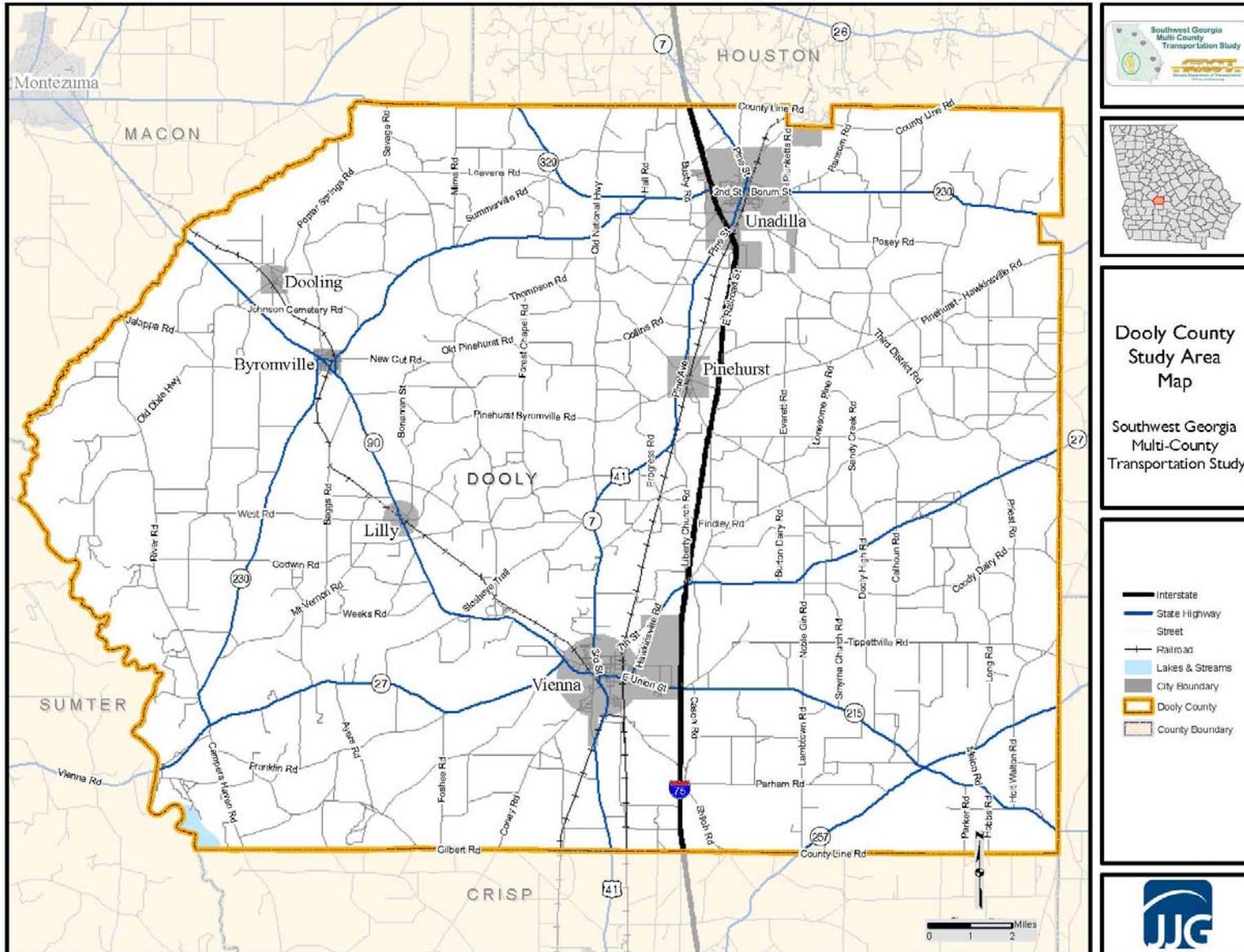
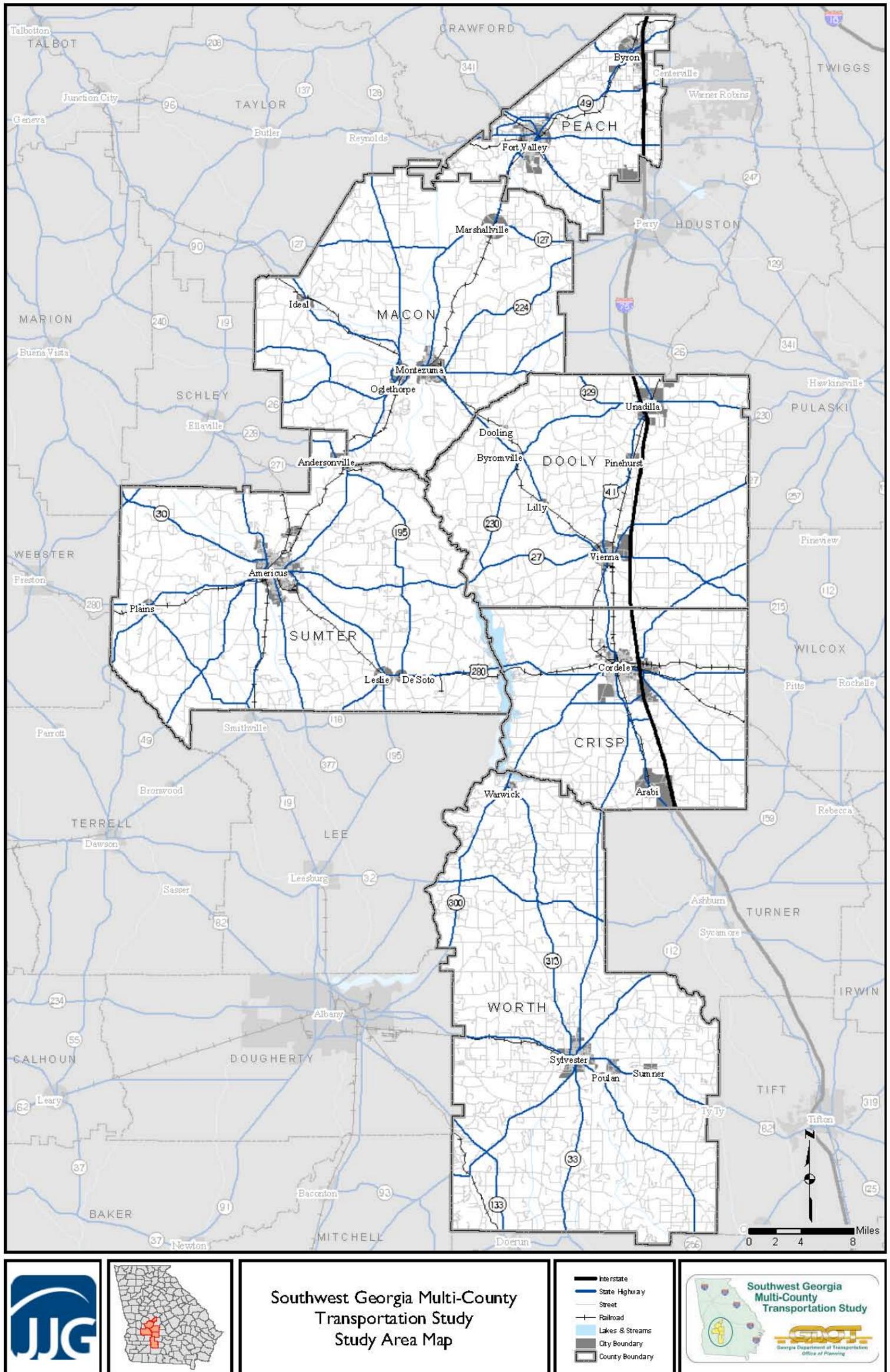


FIGURE 1.2: MAP OF THE SIX-COUNTY STUDY AREA



- Fort Valley State University in Peach County, a Historically Black Land Grant University located in the City of Fort Valley.
- Jimmy Carter National Historic Site in Sumter County. This historic area includes the thirty-ninth president's current residence, boyhood farm, school, and the town railroad depot, which served as his campaign headquarters during the 1976 Presidential Election.
- Worth County's annual Georgia Peanut Festival, held in Sylvester each October.

1.3 OVERVIEW OF DATA SOURCES

The data presented in the Southwest Georgia Multi-County Transportation Study include a variety of sources ranging from GDOT, counties within the six-county study area, Middle Georgia RC, River Valley RC, Southwest Georgia RC, U.S. Census Bureau, National Wetlands Inventory and key stakeholders in the region. See **Appendix A** for an inventory of all GIS data sources.

Demographic and socioeconomic data were collected primarily from the U.S. Census Bureau, local comprehensive plans and other various planning documents. In addition, this report includes other local studies and data sources from the Georgia Department of Labor (GDOL) and U.S. Department of Commerce.

In order to analyze existing and future travel patterns and traffic conditions, a travel demand model was developed for the six-county study area. A travel demand model utilizes information such as roadway networks, population, and employment data to calculate the existing or future demand for transportation facilities. The travel demand model originally developed for the Southwest Georgia Interstate Study (2009) was modified and recalibrated for use in this study.

1.4 STUDY PROCESS

This study began with the collection of transportation data within the six-county study area, including a review of studies previously conducted in the region. Input from local agencies, stakeholders, and the general public regarding transportation issues and growth patterns was solicited and considered during the development of this study.

A travel demand model was prepared for the six county area based on much of the data presented in this report. This information includes demographic and land use data, existing transportation infrastructure and traffic conditions, as well as planned and programmed projects within each county.

Based on the information gathered, existing conditions and projected future conditions were evaluated. With the aid of stakeholders, the study goals and objectives were developed based on the counties' comprehensive plans. With these goals in mind, transportation recommendations were developed and prioritized for each county. This final transportation study is the result and documentation of these previous steps.

2. DEMOGRAPHICS

The types of demographic information discussed in this section includes general population, employment, and for environmental justice purposes, minority population and low-income households. Demographics in this section are presented by Census Block Group, Census Tract, and Traffic Analysis Zone (TAZ). TAZs are relatively small units of geography used in travel demand modeling to relate different land-use patterns with trip purposes and trip end frequency.

2.1 EXISTING POPULATION

The U.S. Census estimates show Dooly County to have a population just over 11,700 in 2006. The Greater Dooly Comprehensive Plan (2006) examined the long term growth trends from 1970 to 2000, and found overall pattern of steady growth, but Greater Dooly has lagged behind the overall growth percentage rates experienced in the River Valley RC region. Between 1990 and 2000, Dooly County added over 16 percent to its population with an annual growth rate of 1.53. Most of this growth occurred in the City of Unadilla with the City's annexation of the Dooly State Prison, which holds more than 1,100 prisoners (about 40 percent of Unadilla's total population). Therefore, when ignoring the affects of the added prison, there has been very little, if any, increase in population in the county. It is also important to recognize that the incarcerated populations were not considered in the travel demand modeling since they do not contribute to the overall vehicle trips made in the county.

As depicted in **Table 2.1** below, between the years of 1990 and 2000, the percentage of growth and annual rate of growth exhibited in the state of Georgia outpaced that of Dooly County. This growth was due primarily to the annexation of the Dooly State Prison into the City of Unadilla.

Between the years of 2000 and 2006, Dooly County experienced moderate growth of 0.32 percent per year, for a net addition of 223 residents, while the state of Georgia maintained its strong growth trend of 2.3 percent per year. Although Dooly County continued to add new residents, its rate of growth has declined since 2000.

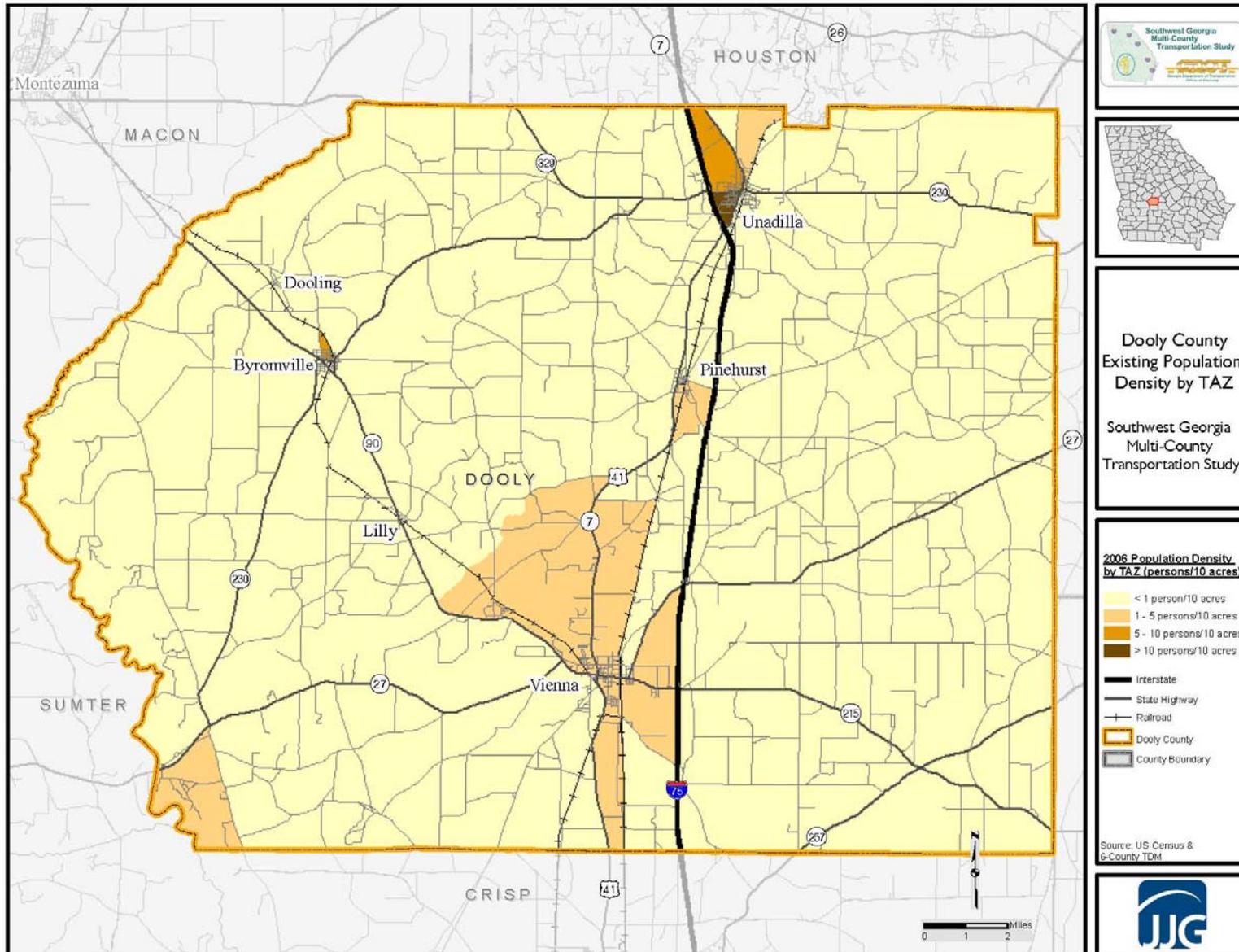
TABLE 2.1: HISTORIC POPULATION GROWTH FOR DOOLY COUNTY

	1990	2000	2006	1990 - 2000		2000 - 2006	
				Percent Change	Annual Growth Rate	Percent Change	Annual Growth Rate
Dooly County	9,901	11,525	11,748	16.4%	1.53%	1.9%	0.32%
State of Georgia	6,478,216	8,186,453	9,363,941	26.4%	2.37%	14.4%	2.27%

Source: 2000 US Census

Dooly County's 2006 population density is illustrated in **Figure 2.1** on page 6. Most of the county is characterized by extremely low population densities, with 89 percent of the county having more than ten acres of land for every one person. Pockets of moderate to higher density areas are located near the incorporated areas. The triangular area bounded by 2nd Street (SR 230), Pine Street (US 41) and I-75 within Unadilla has the highest population density in the county with 16 persons per ten acres. Due to the overall rural nature of Dooly County, the population density maps herein are expressed in persons per ten acres rather than persons per acre.

FIGURE 2.1: DOOLY COUNTY EXISTING (2006) POPULATION DENSITY BY TAZ



2.2 FUTURE POPULATION

Table 2.2 below presents the population forecast for Dooly County. The population of Dooly County is expected to grow by nine percent in the next 30 years to 12,818. This increase translates to a modest 0.30 yearly growth rate between 2006 and 2035.

TABLE 2.2: POPULATION FORECAST FOR DOOLY COUNTY

	2006	2035	2006 - 2035	
			Percent Change	Annual Growth Rate
Dooly County	11,748	12,818	9.1%	0.30%

Source: Travel Demand Model

Figure 2.2 on page 8 illustrates the 2035 population density in Dooly County. Dooly County's comprehensive plan uses the projection estimates maintained by the Georgia Department of Community Affairs (DCA), which assumed the same Census trends from 1980 to 2000 into the future. The results are very close to that of the population estimates used in this study. In addition, representatives of Dooly County were interviewed to ascertain the county's high-growth areas.

Future population for the six-county study area was determined by using growth rates based on continuation of past trends and growth assumptions outlined in the individual county comprehensive plans. The population estimates shown in the county comprehensive plans are very similar to the projections used in this study. A detailed methodology used to develop the future population data is included in the separate Travel Demand Model Development technical report. For much of the study area, a uniform growth rate was applied. For counties with high growth areas or expected land use changes, population projections were modified to account for these changes.

2.3 EXISTING EMPLOYMENT

In 2006, Dooly County was home to over 3,700 jobs, as depicted in **Table 2.3** below. In 2006, the goods-producing and service sectors made up close to three-quarters of Dooly County employment. Appropriately, Dooly County's five largest employers include Dooly County State Prison, Flint River Services, Neff Company, Roseburg Forest Products, and Tyson Food. As indicated in its comprehensive plan, historically, the economy in Dooly County has been largely based on agricultural production and processing. Despite the agricultural, mining and construction sector composing just four percent of its population, Dooly County continues to lead the State of Georgia in cotton production.

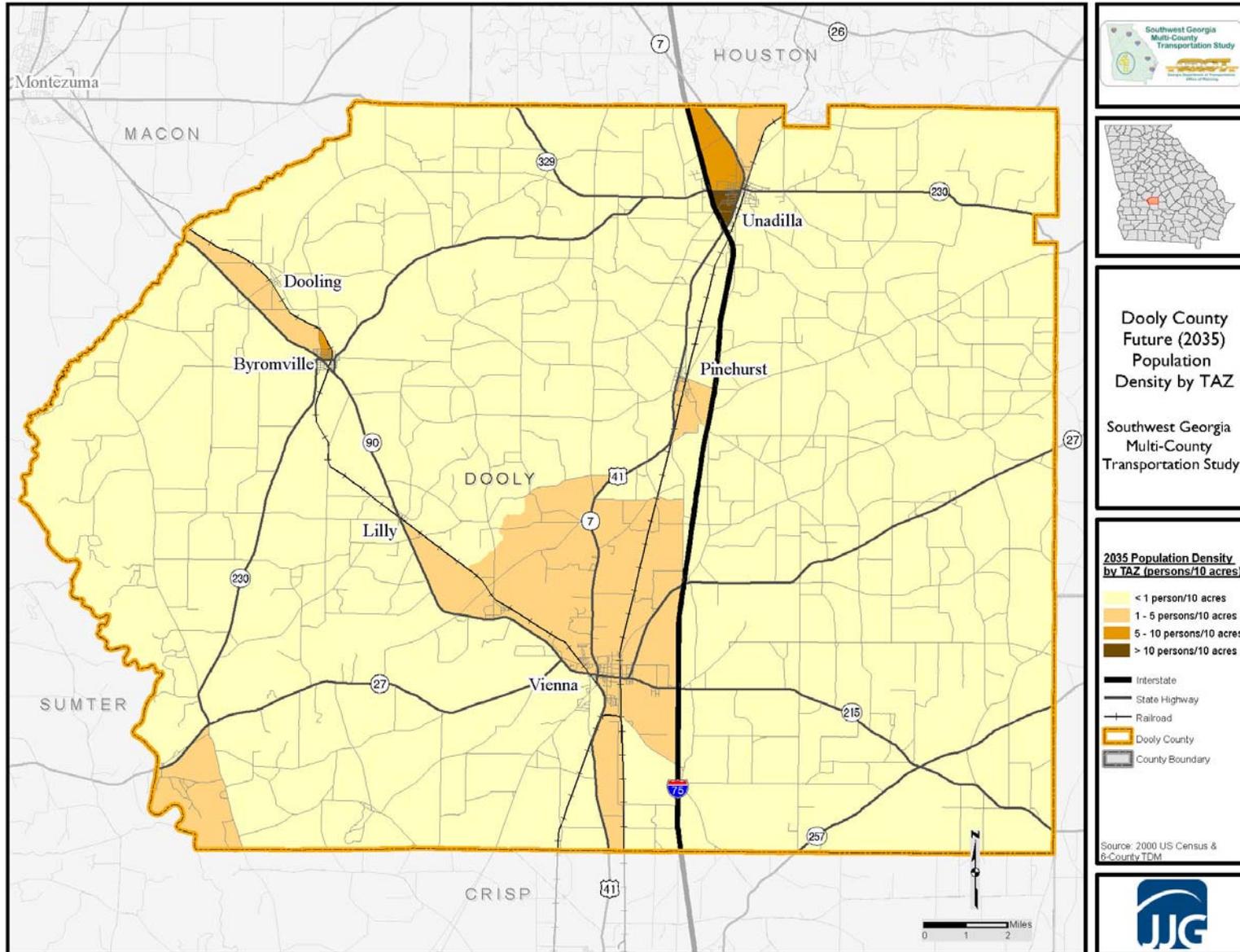
TABLE 2.3: CURRENT EMPLOYMENT

County	AMC	MFG	WTW	RET	SER	Total
Dooly County 2006	161	1,336	433	364	1,436	3,731
Share of County Employment	4%	36%	12%	10%	38%	100%

Note: AMC – Agricultural, Mining and Construction employment
WTW – Wholesale, Trucking and Warehouse employment
SER-Service employment

MFG – Manufacturing employment
RET – Retail employment
Source: GDOL; U.S. Bureau of Labor Statistics

FIGURE 2.2: DOOLY COUNTY FUTURE (2035) POPULATION DENSITY BY TAZ



As illustrated in **Figure 2.3** on page 10, Dooly County has the least variance of employment densities among its areas. The higher density areas (one to ten jobs per ten acres) are located along US 41 through the cities of Vienna and Unadilla. Due to the rural nature of Dooly County, employment density is presented in terms of jobs per ten acres.

2.4 FUTURE EMPLOYMENT

Dooly County employment is anticipated to increase by 87 percent between 2006 and 2035, with the addition of 3,250 new jobs (**Table 2.4** below). Over 44 percent of job growth in Dooly County is expected to occur in the manufacturing sector. The greater part of the manufacturing job increase can be attributed to the proposed joint Crisp/Dooly County Industrial Park and the Unadilla Industrial Park identified in the then River Valley RC's *Economic Development Strategy Report*.

TABLE 2.4: DOOLY COUNTY FUTURE EMPLOYMENT FORECAST

County	AMC	MFG	WTW	RET	SER	Total	Annual Growth Rate
Dooly County 2006	161	1,336	433	364	1,436	3,731	
Dooly County 2035	215	3,785	577	485	1,915	6,981	2.18%
Growth	33.5%	183.3%	33.3%	33.2%	33.4%	87.1%	

AMC – Agricultural, Mining and Construction employment
WTW – Wholesale, Trucking and Warehouse employment
SER-Service employment

MFG – Manufacturing employment
RET – Retail employment

Source: GDOL; U.S. Bureau of Labor Statistics.

As can be seen in **Table 2.5** below, by 2035 the manufacturing sector is expected to account for 54 percent of county employment. As a result, all other sectors are expected to have a comparatively diminished presence in the county. Most notably, the service sector's share of employment is expected to fall from its 36 percent share in 2006 to 27 percent by 2035.

TABLE 2.5: DOOLY COUNTY FUTURE EMPLOYMENT CONSTITUTION

County	AMC	MFG	WTW	RET	SER	Total
Dooly County 2035	215	3,785	577	485	1,915	6,981
Share of 2035 county employment	3%	54%	8%	7%	27%	100%

AMC – Agricultural, Mining and Construction employment
WTW – Wholesale, Trucking and Warehouse employment
SER-Service employment

MFG – Manufacturing employment
RET – Retail employment

Source: GDOL; U.S. Bureau of Labor Statistics.

As shown in **Figure 2.4** on page 11, the new areas of high density employment that result from the planned industrial parks are the areas just south of Unadilla along I-75 and at the border of Crisp County along US 41.

In order to forecast employment for the six-county study area in the year 2035, linear growth estimates were developed at the county level based on GDOL 1990 to 2006 annual employment estimates by county. County level employment data for the 17-year period between 1990 and 2006 did not display a clear directional trend; individual county employment rose and fell during the time period. In addition to the linear growth rate, plans for future developments were also taken into account. Employment estimates are based on the assumption that all currently planned developments will reach build out by 2035.

FIGURE 2.3: EXISTING (2006) DOOLY COUNTY EMPLOYMENT DENSITY BY TAZ

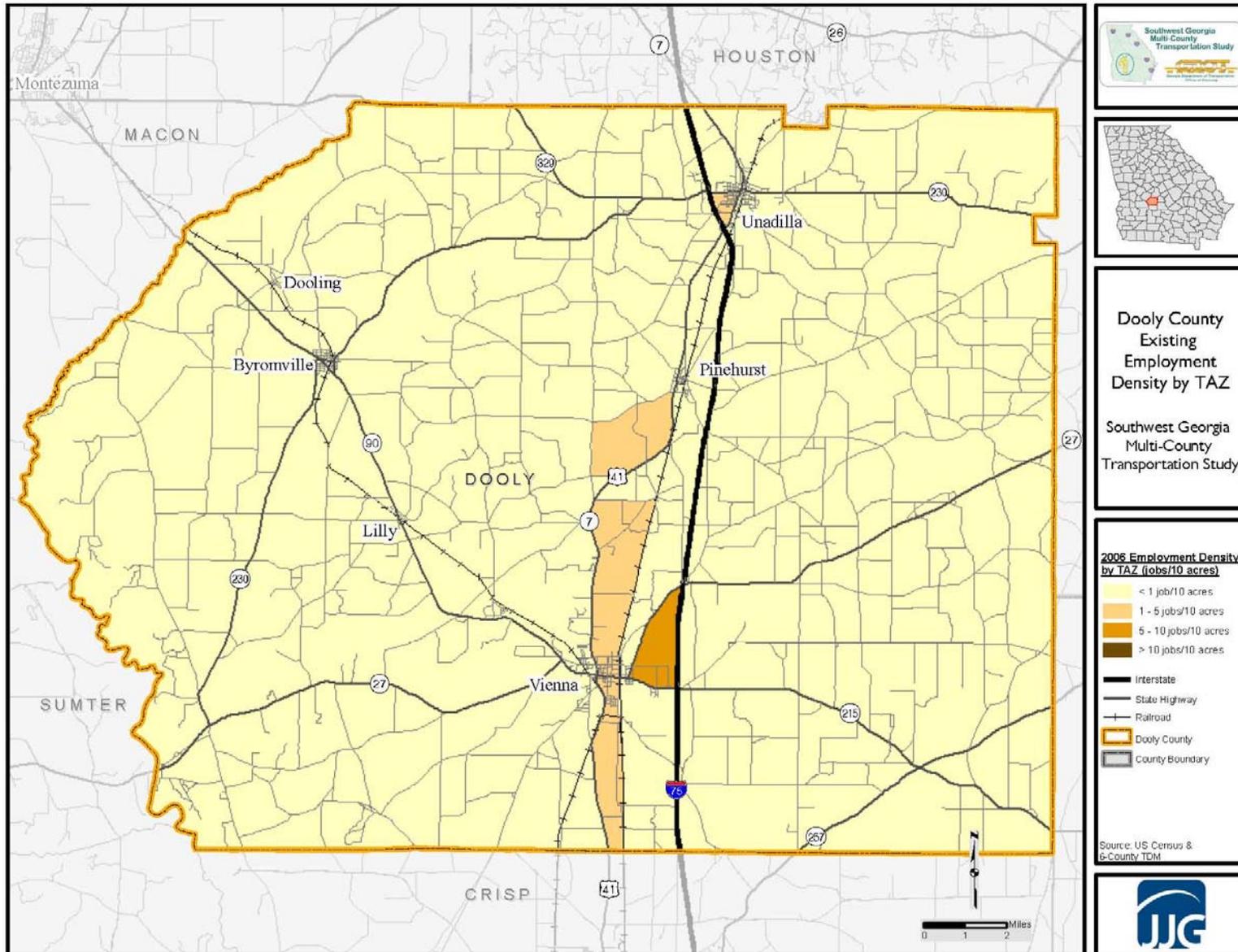
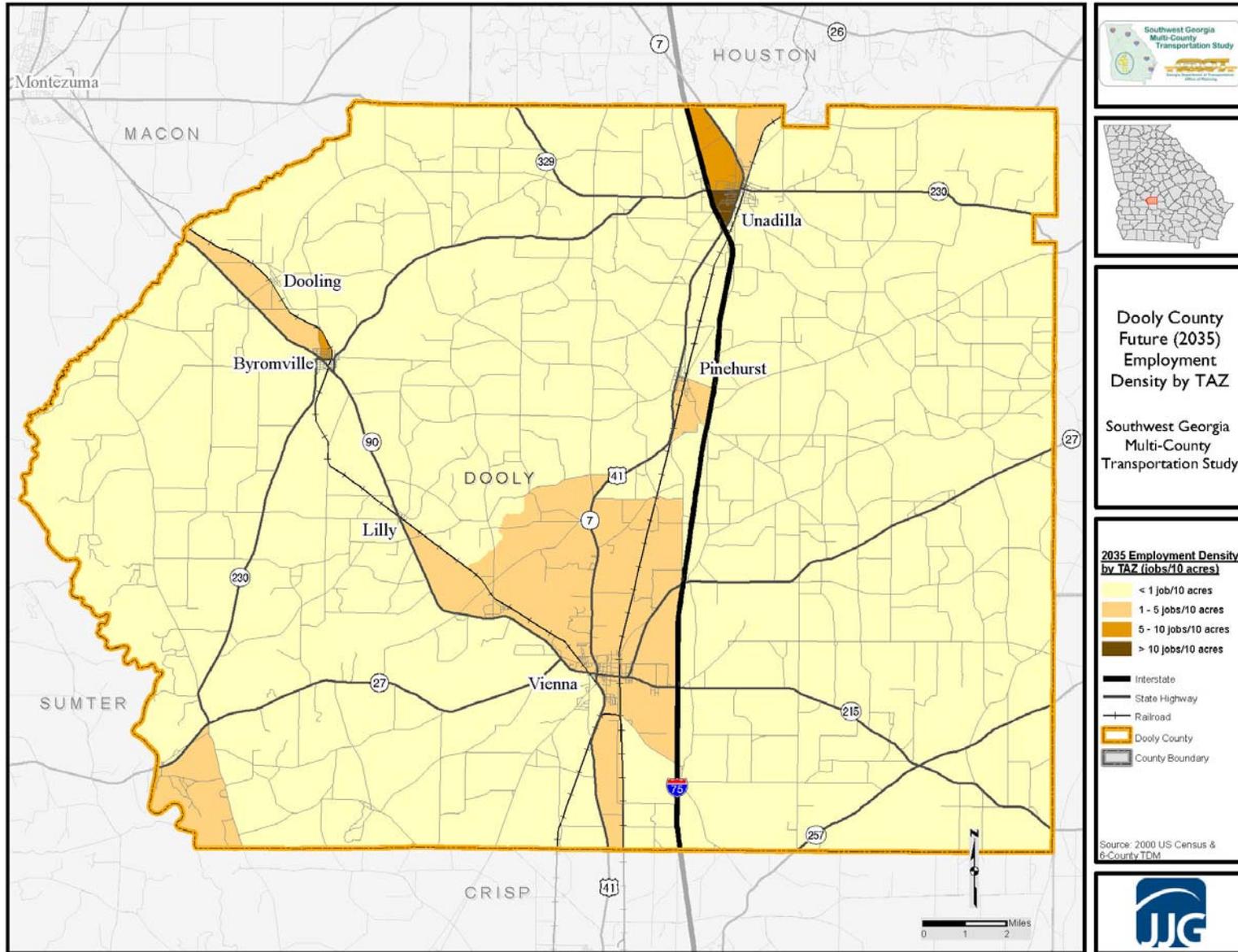


FIGURE 2.4: DOOLY COUNTY FUTURE (2035) EMPLOYMENT DENSITY BY TAZ



2.5 ENVIRONMENTAL JUSTICE

Title VI of the Civil Rights Act of 1964 and related statutes assure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, and disability. Executive Order 12898 Federal Actions to Address Environmental Justice to Minority Populations and Low Income Populations, signed by President Clinton requires federal agencies to consider impacts to minority and low income populations as part of environmental analyses to ensure that these populations do not receive a disproportionately high number of adverse human health impacts as a result of a federally funded project. In 1998, FHWA issued a guidance document that established policies and procedures for complying with EO 12898 in relation to federally-funded transportation projects. This guidance defines a “disproportionately high and adverse effect” as one that is predominantly borne by, suffered by, or that is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the non-minority population and/or non-low-income population.

Minority persons are defined as those people belonging to the following groups: Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Hispanic or Latino. Census 2000 defines the first five groups as races, and Hispanic or Latino as an ethnicity. As such, people of this minority group can belong to any racial group but are still considered minorities with respect to Environmental Justice. Low-income persons are defined as those whose median household income is at or below the U.S. Department of Health and Human Services poverty threshold.

Census 2000 data from the P4 (Hispanic or Latino and Not Hispanic or Latino by Race) and P92 (Poverty Status is 1999 of Households by Household Type by Age of Householder) sample datasets were utilized to provide a quantitative analysis of the counties in the study area with respect to minority and ethnic populations and low-income households. Census data are grouped together by geographic area, of which blocks are the smallest and most precise form. The sensitivity of some information requires the Census Bureau to release it in the more general form of block groups. The data for this study were gathered at the most accurate level for which they were available: for race and ethnicity, at the block level; for income, at the block-group level.

2.5.1 MINORITY POPULATION

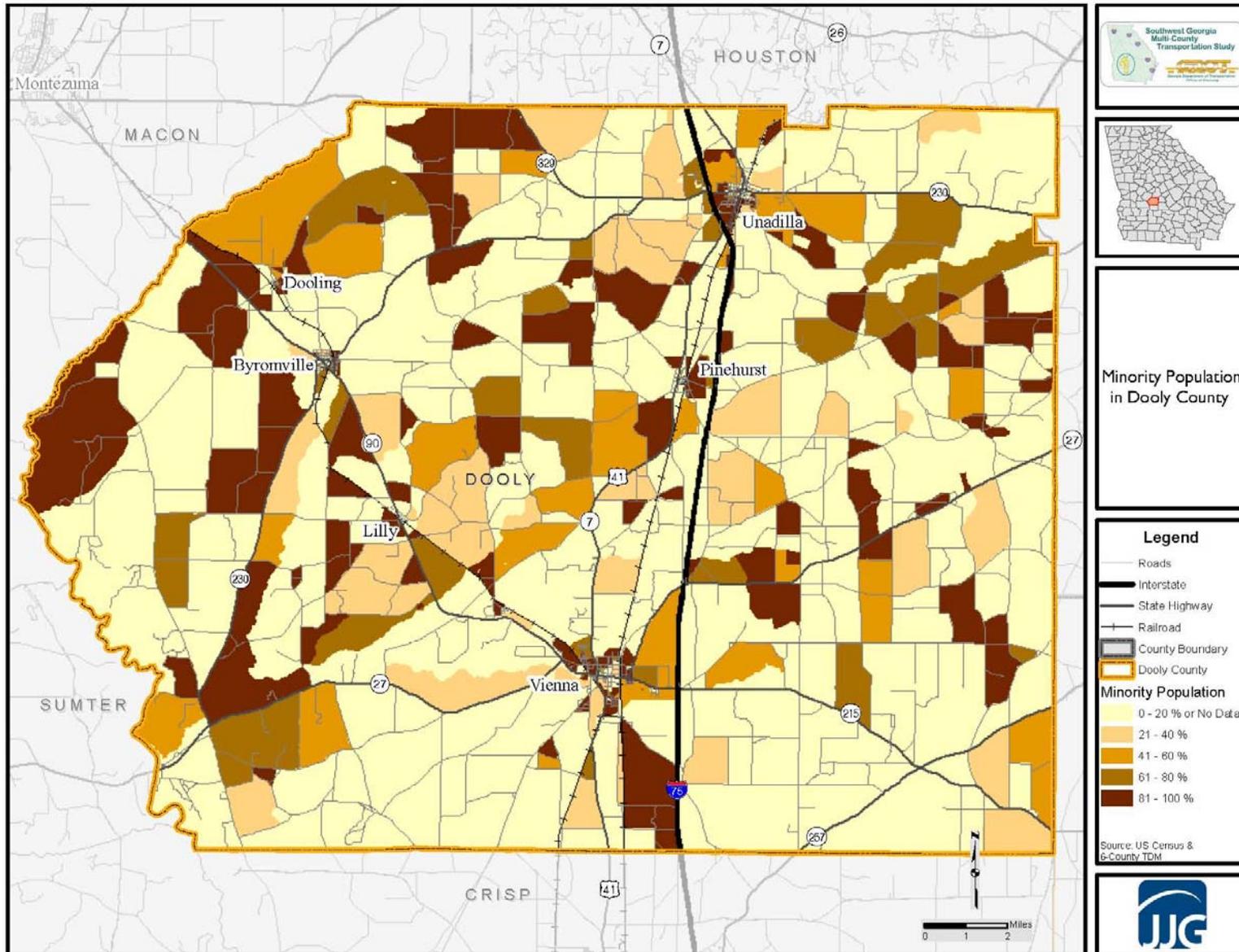
Table 2.6 below, presents the percentage of the Dooly County population that is made up of racial and ethnic minorities. The population of Dooly County is 55.2 percent minority, higher than the statewide average of 37.4 percent minority. Census blocks with populations that are 81 to 100 percent minority are dispersed across the county. A map of the minority population in Dooly County can be found in **Figure 2.5** on page 13.

TABLE 2.6: MINORITY POPULATION IN DOOLY COUNTY

	Dooly County	State of Georgia
Total Population	11,525	8,186,453
Minority Population	6,364	3,057,792
Percent Minority	55.2%	37.4%

Source: 2000 US Census

FIGURE 2.5: MINORITY POPULATION IN DOOLY COUNTY (2000)



2.5.2 LOW INCOME HOUSEHOLDS

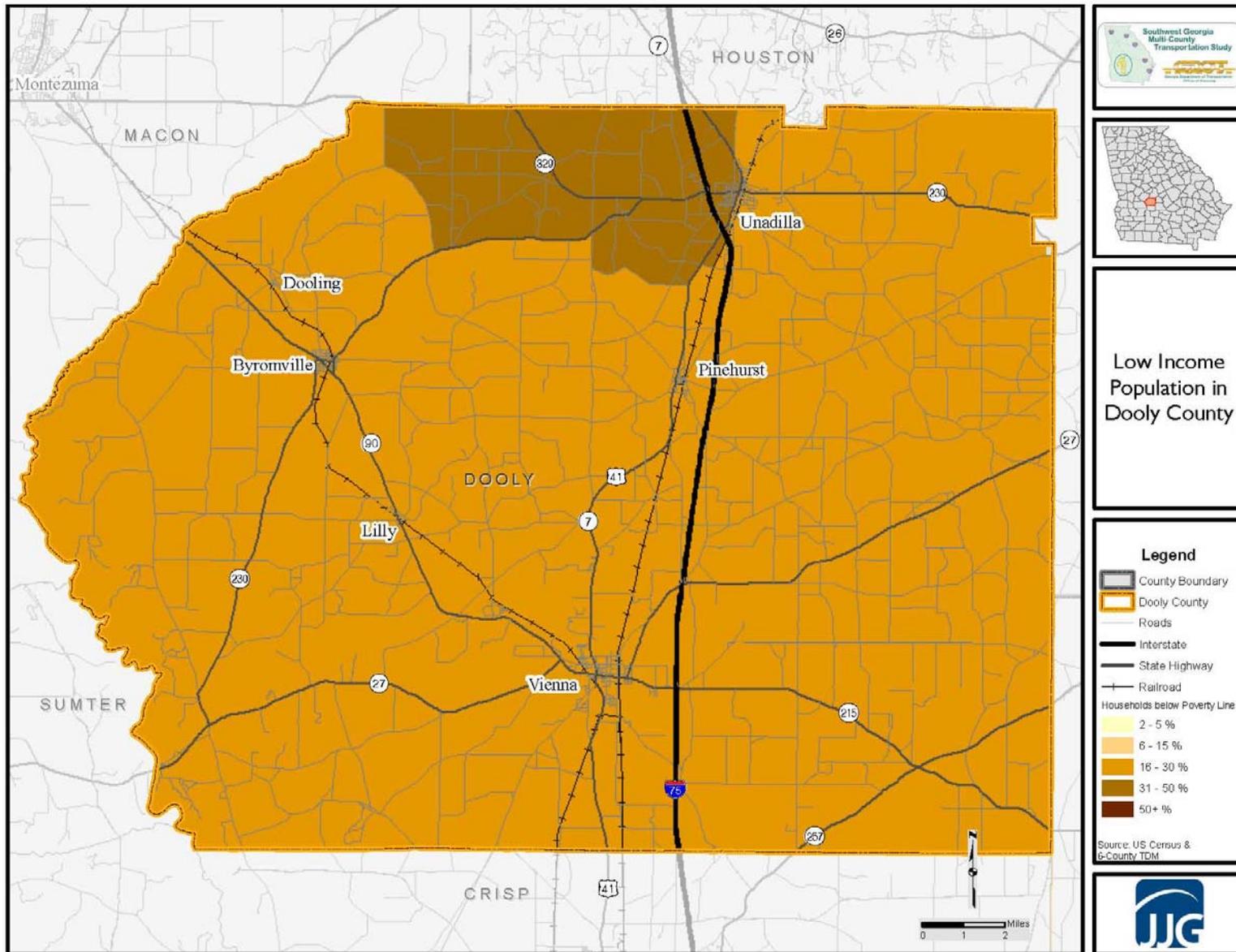
Table 2.7 below, presents the percentage of Dooly County households that have incomes under the poverty rate as determined by the federal government and reported by the US Census Bureau. In Dooly County, 22.3 percent of households have incomes under the poverty level, higher than the statewide average of 12.6 percent. As can be seen in **Figure 2.6** on page 15, the highest percentage of low income households is found in a Census block group at the county's northern line.

TABLE 2.7: LOW INCOME POPULATION IN DOOLY COUNTY

	Dooly County	State of Georgia
Total Households	3,897	3,006,369
Households with incomes below the poverty level, 1999	868	380,369
Percentage of low income households	22.3%	12.6%

Source: 2000 US Census

FIGURE 2.6: LOW INCOME HOUSEHOLDS IN DOOLY COUNTY (2000)



3. LAND USE

This section presents current and future land use in Dooly County, including protected areas and anticipated development. Parks and wetlands are presented here, but further, detailed analysis of park and wetland resources will be necessary for any transportation project to proceed.

3.1 EXISTING LAND USES

Current development patterns in Dooly County have been shaped by two major factors: In western Dooly County, the Flint River floodplain and its surrounding wetlands present a natural impediment to development, while in eastern Dooly County, I-75 runs north-south through Pinehurst, Unadilla and Vienna, spurring development along its corridor.

Greater Dooly is primarily rural, with almost 93 percent of its total land being used for agricultural uses. In unincorporated Dooly County, two percent of land is used for transportation, communication or utility purposes, another two percent is residential in nature, and one percent is used for parks and recreation.

Incorporated Dooly County is found in the county's six cities, Byromville, Dooling, Lilly, Pinehurst, Unadilla and Vienna. Within these cities, too, agriculture has a strong presence, making up as much as 74 percent of the total land in Dooling. Byromville has the highest percentage of its land in residential uses, while Unadilla supports the highest percentage of commercial. A map of existing land use in Dooly County can be found in **Figure 3.1** on page 17.

3.2 FUTURE LAND USE

According to the Dooly County Comprehensive Plan (2006), the county is expected to continue to be dominated by agricultural land uses, particularly in unincorporated areas through 2025. Unincorporated Dooly County plans to retain its rural character by directing urban development to one of the six incorporated cities, industrial development to the Interstate interchanges and to cities, and new residential development to clusters in or near existing development. Unincorporated Dooly County is willing to site new industrial development near the railroads or Interstate when the proposed development is too large for, or its uses are incompatible with, incorporated areas. A map of future land use in Dooly County can be found in **Figure 3.2** on page 18.

The largest pending development in the unincorporated county is the proposed "Lake Dooly" that would result from damming two watersheds where they enter the Flint River. A new lake such as this would create many development opportunities, particularly for residences, but the project is uncertain until its impacts on the hydrogeology and current utility structure of Dooly County are clear.

Incorporated areas in Dooly County are expected to do the following:

- Byromville plans to redevelop its historic downtown and may annex additional developed land where utility capacity is sufficient.
- As Dooling and Lilly have no public sewer systems and limited water systems, these communities are expected to stay low-density and rural in nature. The towns intend to concentrate new development in their former town centers.
- Pinehurst may experience growth due to annexation of the lands between the city limits and the I-75 interchange. Industrial uses are expected to move away from the center of the city.

FIGURE 3.1: DOOLY COUNTY EXISTING LAND USE (2006)

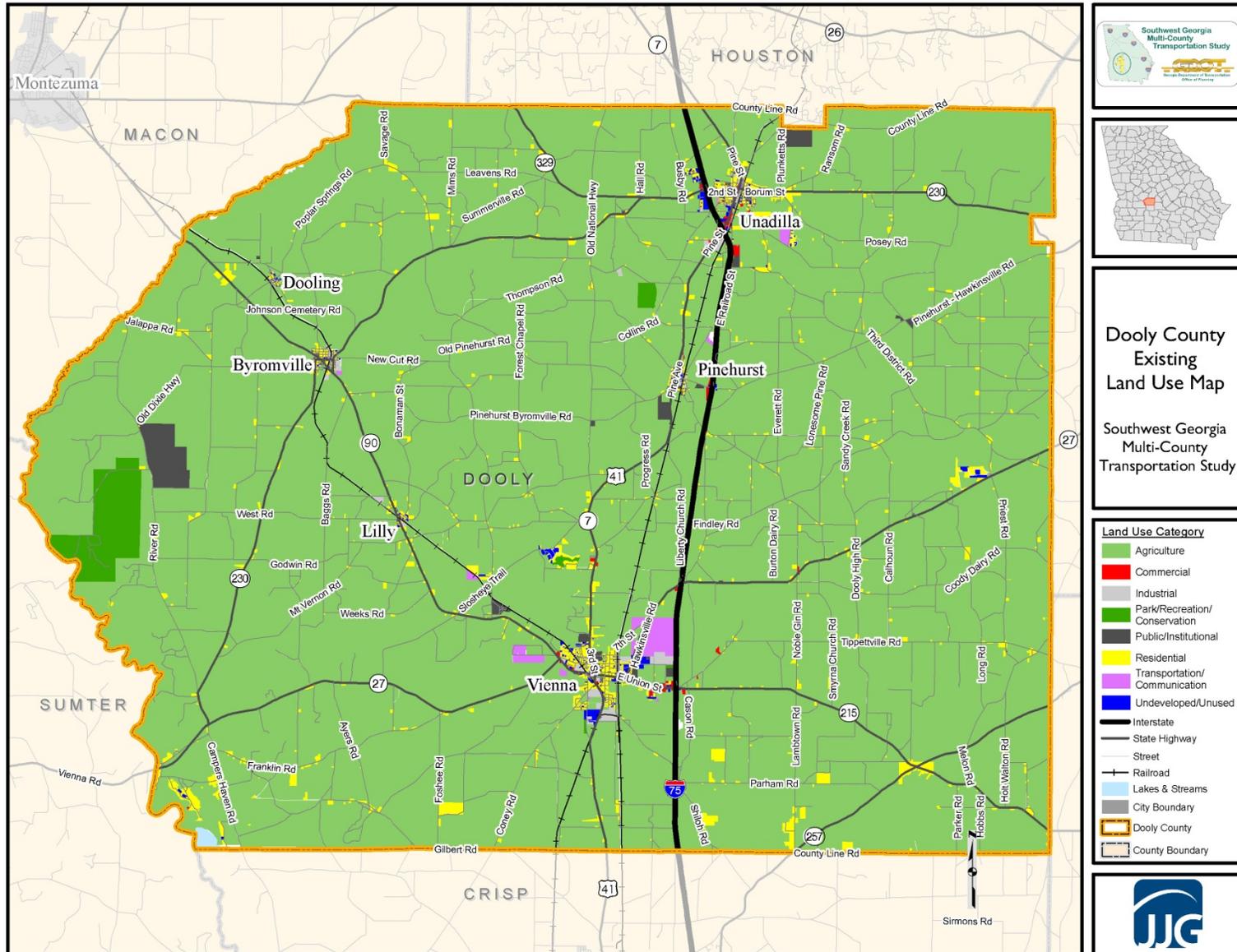
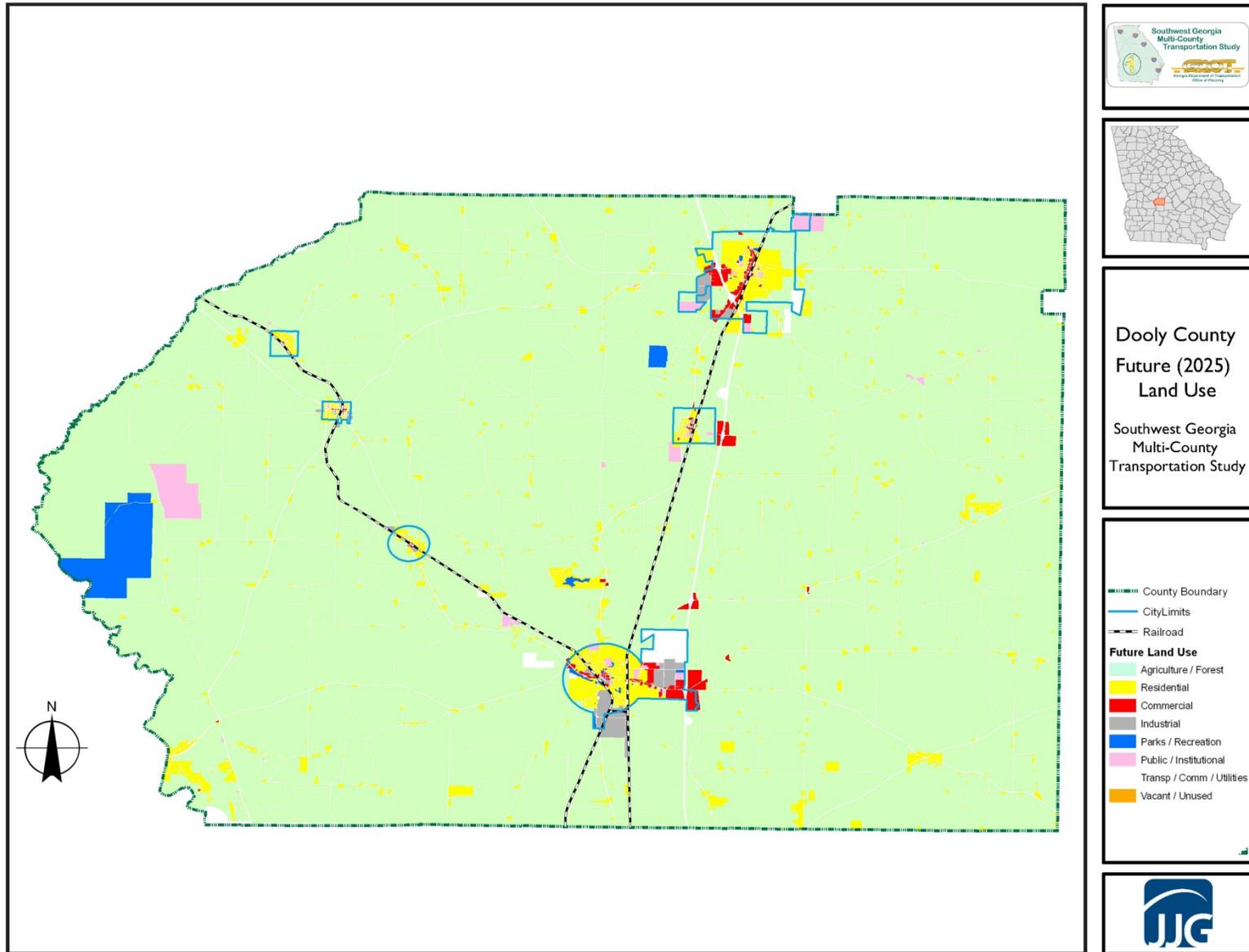


FIGURE 3.2: DOOLY COUNTY FUTURE LAND USE (2035)



- Unadilla plans to intensify commercial uses at its two I-75 interchanges with a frontage road between the two areas. Other uses will be focused downtown for its redevelopment. .
- Possible growth in Vienna would be the result of annexations. Vienna's successful historic downtown will continue to be a focus of residential and commercial development with additional commercial development intended for the two Vienna I-75 interchanges.

3.3 PROTECTED AREAS

Protected areas are locations which receive protection because of their environmental, cultural or similar value. A large number of protected areas exist which vary by level of protection and by the enabling laws. Examples include parks, reserves, wetlands, wildlife management areas (WMAs), natural areas (NAs), and places and structures of a historic nature. The identification of environmental resources and parks is important in the preparation of a transportation study for two main reasons. First, the preservation of these resources is important to all local, state, and federal stakeholders. Second, the early identification of resources is important when developing transportation plans since their existence could serve to preclude potential transportation facilities or alignments. This discussion focuses on parks, wetlands, and historic locations.

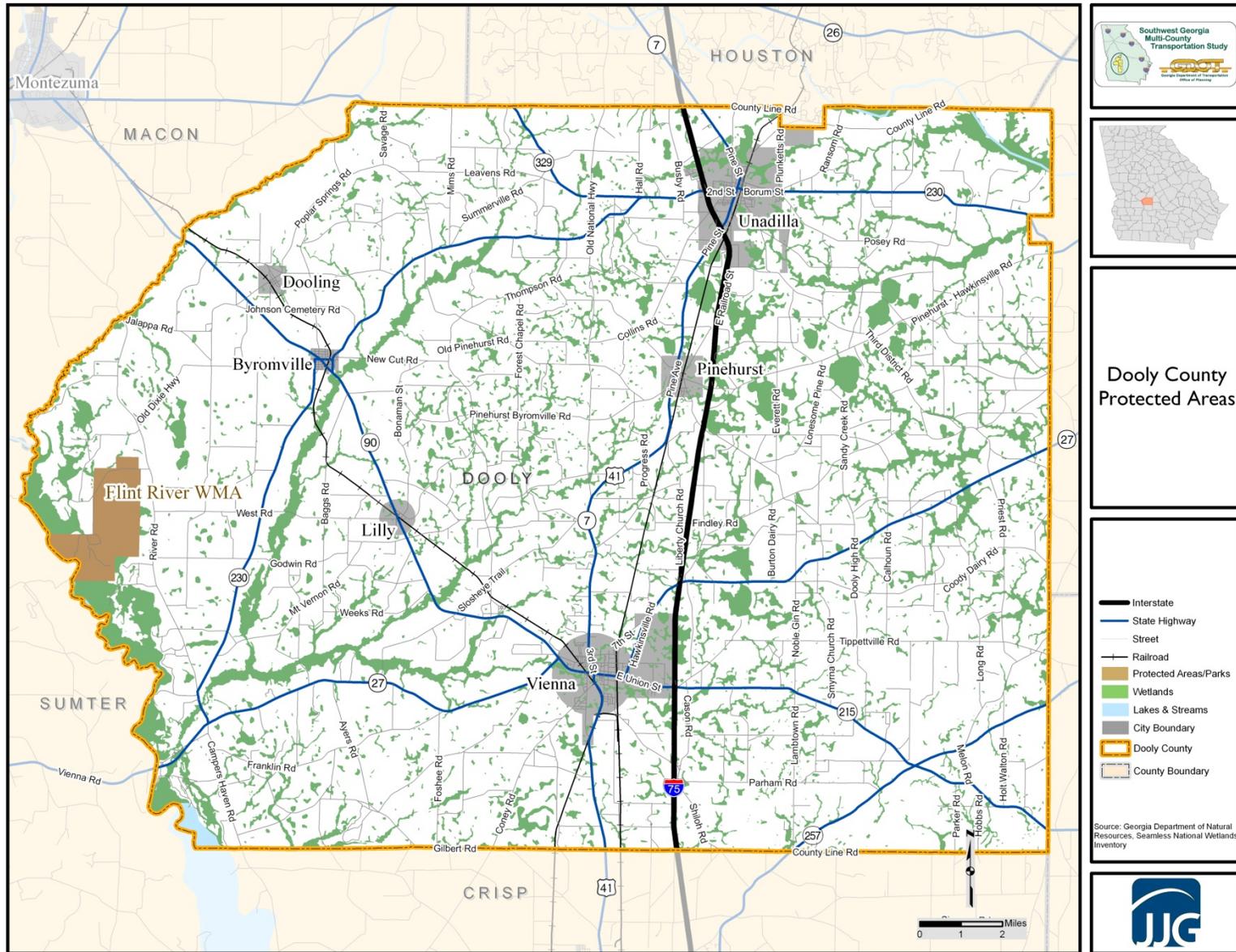
3.3.1 PARKS/PROTECTED NATURAL AREAS

The Flint River Wildlife management Area (WMA) in Dooly County is a protected area that can be used for hunting, fishing, and hiking. This location is presented in **Figure 3.3** on page 20. There are no national or state parks in Dooly County.

3.3.2 WETLANDS

Wetlands are defined as areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes and bogs. Federal law and the Georgia Planning Act require protection of wetlands and other natural resources from adverse impact. Because of this, the Georgia Department of Natural Resources maintains a database that defines, identifies, and maps the categories of freshwater wetlands and habitats. **Figure 3.3** depicts the location of wetlands, rivers, and open waters, and locations of key protected areas in Dooly County.

FIGURE 3.3: DOOLY-COUNTY WETLANDS, PROTECTED AREAS, AND PARKS (2009)



3.3.3 NATIONAL REGISTER OF HISTORIC PLACES

According to the National Register of Historic Places, Dooly County contains six places deemed worthy of preservation. These include two historic districts, three houses, and a courthouse. The resources found in Dooly County that are listed on the National Register of Historic Places are presented in **Table 3.1** below.

TABLE 3.1: DOOLY COUNTY HISTORIC PLACES

City	County	Location	Address
Dooly	Dooly	Byrom, William H., House	Main St., near the jct. of GA 90 and the Seaboard Coast RR
Dooly	Vienna	Dooly County Courthouse	GA 27
Dooly	Vienna	Leonard Akin House	309 E. Union St.
Dooly	Lilly	Lilly Historic District	Roughly bounded by CSX RR tracks, and Church, Montezuma, Third, and School Sts.
Dooly	Vienna	Stovall-George-Woodward House	305 Union St.
Dooly	Vienna	Vienna Historic District	Roughly centered on the downtown commercial district and includes residential areas and the rail line

Source: National Register of Historic Places

3.4 DEVELOPMENTS OF REGIONAL IMPACT

A review was performed of applications for Developments of Regional Impact (DRI) within Dooly County filed since 2001. DRIs are large-scale projects that are likely to have regional impacts, beyond the boundaries of the local governments of their locations. DRIs are included in this study because, due to their size and/or nature, they can have transportation implications for the regional roadway network.

DRI applications are reviewed by the Regional Commissions, which issue a finding of whether or not the proposed project is in “the best interest of the Region and therefore the State.” The local government uses this recommendation in deciding whether to allow the project to proceed. This process is overseen by the Georgia Department of Community Affairs. There have been no approved or pending applications for DRIs within Dooly County since 2001.

4. TRANSPORTATION INVENTORY

This section presents an inventory of existing transportation facilities within Dooly County. This inventory includes roadway functional classifications, surfaces, and lane configurations, bridges, pedestrian and bicycle facilities, railroads, public transportation services, and safety of roadway segments and intersections.

4.1 ROADWAY INVENTORY

4.1.1 FUNCTIONAL CLASSIFICATION

Functional classification is the process by which street and highway facilities are grouped into classes, or systems, according to the character of traffic service that they are intended to provide. The functional classification designation of a given road also determines whether it is eligible for federal funds. Federal-aid roads are:

- Principal arterials,
- Minor arterials,
- Urban collectors, and
- Rural major collectors.

In addition, rural minor collectors can be eligible for federal funds. Urban or rural local roads are not eligible for federal-aid.

The hierarchy of roadway networks is defined by the role each type of road serves meeting access and mobility requirements within the system. The role of a local road is to provide access to land, with little emphasis on system mobility. Conversely, arterials emphasize a high level of mobility, serving long trips between activity centers with little concern for land access. Collectors offer a balance between mobility and land access, and provide connections between local roads and streets and arterials.

Urban and rural areas have fundamentally different characteristics as to density and types of land use, density of street and highway networks, nature of travel patterns, and the way in which all these elements are related in the definitions of highway function. The following section describes the differences in roads for rural and urban areas.

Functional Systems for Rural Areas

Rural principal arterials typically serve substantial statewide or interstate travel. These continuous facilities emphasize regional mobility and connect larger urban areas. These roads are designed for a relatively high rate of speed and often have limited access to adjacent land uses and street networks. Rural principal arterials are comprised of Interstate facilities as well as major rural highways. Rural minor arterials, in conjunction with rural principal arterials comprise a rural network that connects cities with towns. While generally not designed with limited or controlled access, these facilities allow for higher speeds and mobility than provided by collector roadways.

Rural major and minor collectors generally serve travel of primarily intra-county, rather than statewide or regional importance. These facilities provide a balance between mobility and land access. Trip length is therefore generally shorter than rural arterials and posted speeds generally more moderate than rural arterials.

Rural local roads typically provide access to adjacent land and provide service to travel over shorter distances than collector and higher order systems. Rural local roads represent the largest type of road network within Dooly County.

Functional Systems for Urban Areas

Urban principal arterials serve the major centers of activity in a metropolitan area, are the highest traffic volume corridors, and serve the longest urban trips. These facilities carry a high proportion of the total urban area travel. Urban principal arterials should carry the major portion of trips entering and leaving the urban area, as well as the majority of through movements desiring to bypass the city centers. Characteristics of these roads include partially and fully controlled access and high speeds.

The urban minor arterial street system should connect to and support urban principal arterials and provide slightly lower mobility than the principal arterials. These usually serve a smaller geographic area and provide some local access. Urban minor arterials are usually lower speed facilities and generally do not have limited or controlled access.

Urban collectors provide land access service and traffic circulation within residential neighborhoods, commercial and industrial areas. This classification of street is typically designed to distribute trips from the arterials to their ultimate destination. Speeds on these streets are relatively moderate.

Urban local streets comprise all facilities not on one of the higher systems. These streets serve primarily to provide direct access to abutting land and to the higher order systems. Speeds are typically low and through traffic movement is usually discouraged.

These classifications allow the safety of facilities across the state of Georgia to be evaluated relative to other facilities of similar design, traffic volumes and purpose. GDOT is responsible for collecting performance information from local and state reporting agencies for street and highway facilities. In most cases, GDOT also provides the functional classifications for state road facilities. Typical information collected includes Average Annual Daily Traffic (AADT), accident locations and equipment involved injuries and fatalities.

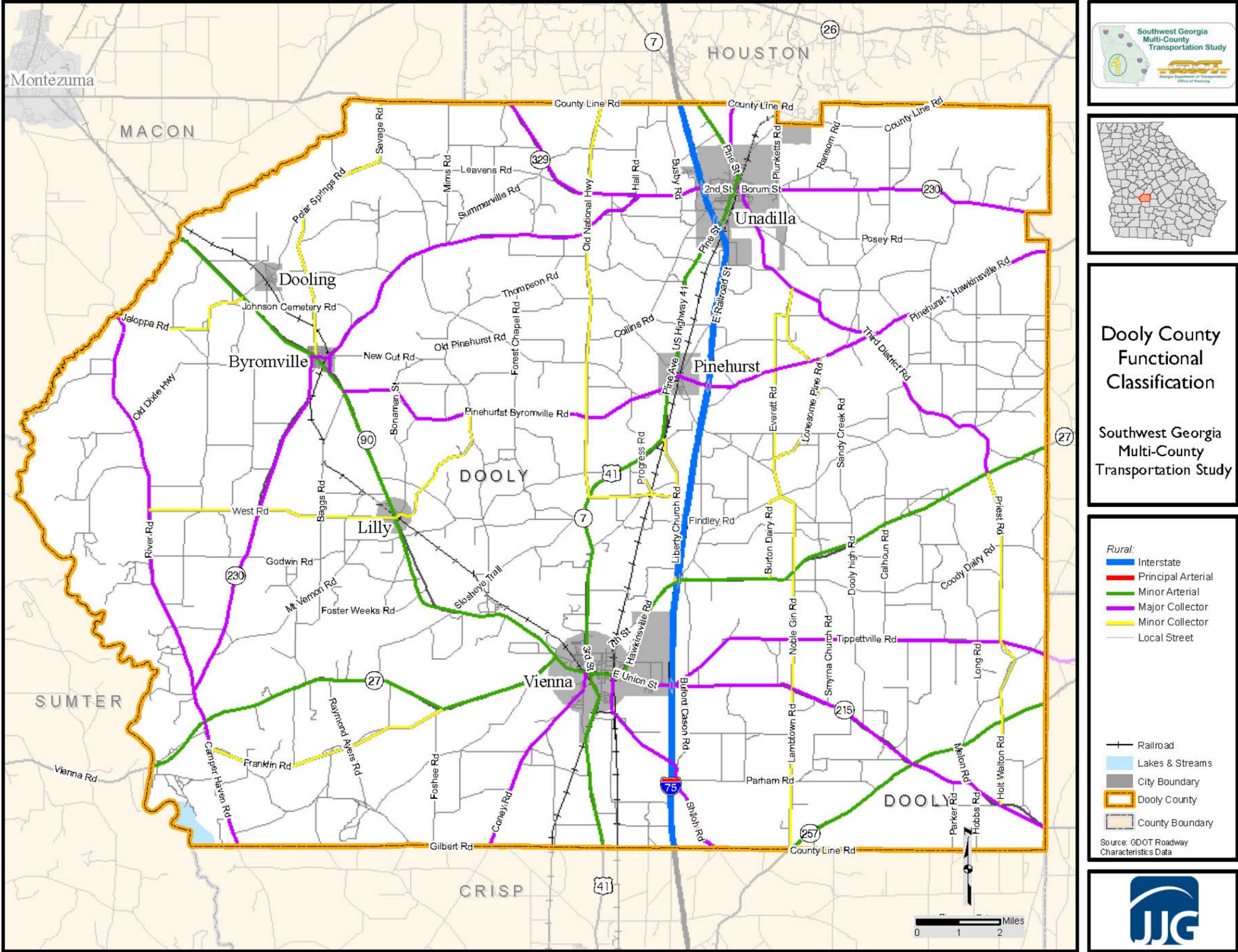
Figure 4.1 on page 24 presents the Dooly County roadways by functional classification. At 864,241 VMT, Interstate 75 travel represents nearly 67 percent of VMT in Dooly County. Currently, the county has nearly 770 miles of roads, none of which are classified as urban roadways. **Table 4.1** below presents the mileage and VMT for each functional classification in Dooly County.

TABLE 4.1: FUNCTIONAL CLASSIFICATIONS IN DOOLY COUNTY

	Rural Roadways		Urban Roadways	
	Mileage	VMT	Mileage	VMT
Interstate	18.34	864,241	0.00	0
Arterial	66.63	123,489	0.00	0
Collector	173.83	113,246	0.00	0
Local	509.46	196,777	0.00	0
Road Total	768.26	1,297,754	0.00	0

Source: GDOT Office of Transportation Data Mileage by Road Type and Road System

FIGURE 4.1: DOOLY COUNTY ROADWAY FUNCTIONAL CLASSIFICATIONS (2008)



4.1.2 ROAD SURFACE

The surface type of a road determines capacity of a facility, its maintenance requirements, and the uses of its surrounding land. Dooly County currently has 253 miles of unpaved roads. Unpaved roads represent nearly 25 percent of total miles of road in the county. **Table 4.2** below presents the road mileage by surface type for Dooly County.

TABLE 4.2: DOOLY COUNTY ROAD MILEAGE BY SURFACE TYPE

Road Type	Dooly County			State Totals		
	Total Mileage	Miles Unpaved	Percent Unpaved	Mileage	Miles Unpaved	Percent Unpaved
State Routes	131	0	0.0%	18,096	1	0.0%
County Roads	586	250	42.7%	84,558	27,986	33.1%
City Streets	51	3	5.9%	14,584	486	3.3%
Road Total	768	253	32.9%	117,238	28,473	24.3%

Source: GDOT office of Transportation Data 2007

4.1.3 LANE CONFIGURATIONS

Another important attribute reviewed from GDOT's RC database is the number of lanes provided on each road in Dooly County. Roads in the county primarily serve traffic in both directions. Additionally, the majority of the roads in the county are two-lane facilities. **Figure 4.2** on page 26 displays the number of lanes on roadways as well as traffic signals in Dooly County.

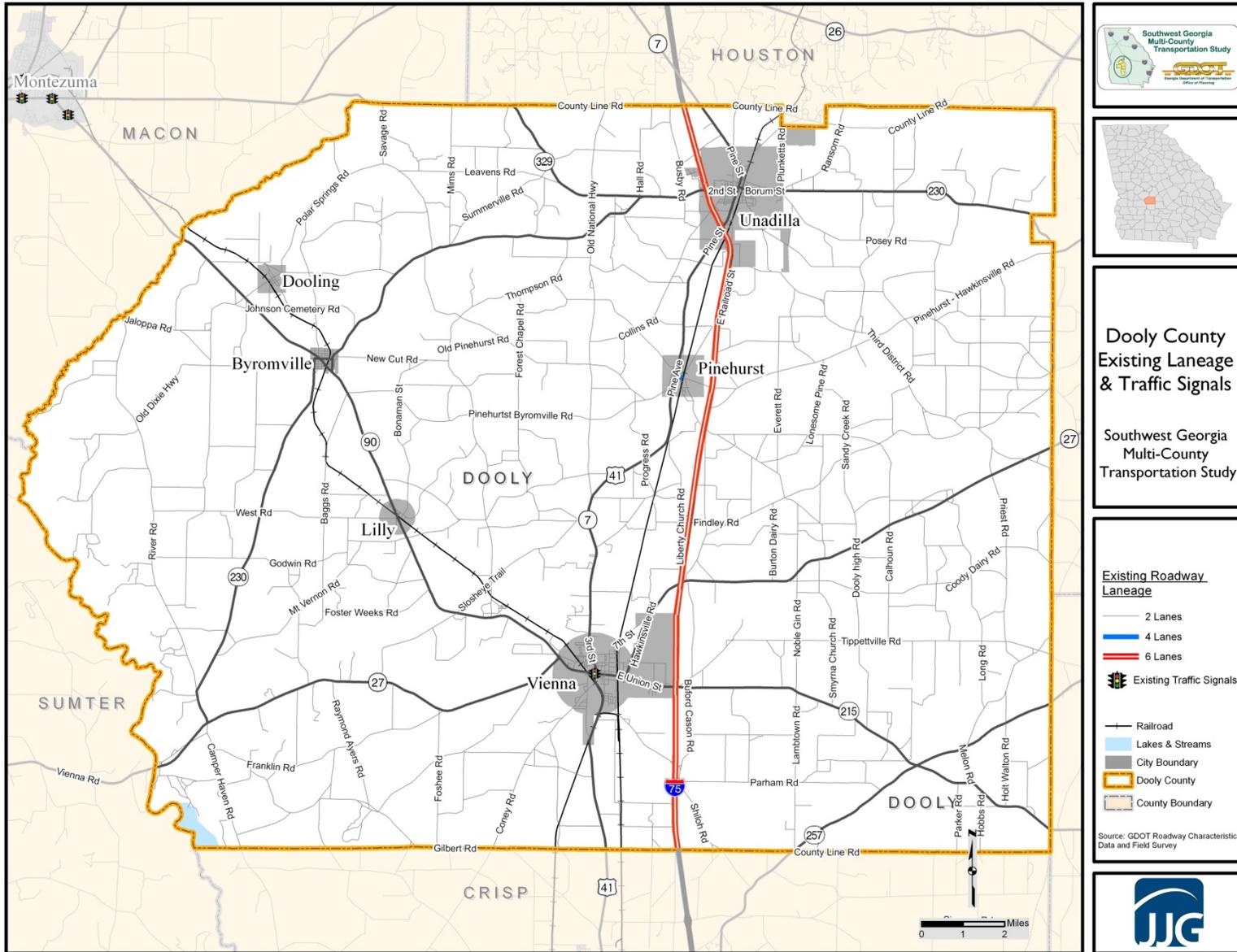
4.2 BRIDGE INVENTORY AND CONDITIONS ASSESSMENT

The following section will provide an analysis of current bridge conditions relative to sufficiency and importance to the overall roadway network in the study area. Maintaining bridges in good condition is important for safety and to avoid delays due to road closures and weight limits. The bridge sufficiency rating formula was created in part as a universally accepted method of collectively evaluating factors which indicate a bridge's condition and its ability to remain in service. The result of the standardized formula is a number between zero and 100, for which 100 represents an entirely sufficient bridge and zero represents an entirely insufficient or deficient bridge.

The collective factors which form a sufficiency rating are collected by GDOT and submitted to the Federal Highway Administration (FHWA) on an annual basis. Key factors which make up a sufficiency rating include the number of lanes relative to the roadway it carries, AADT, structural condition and deck condition.

It is important to note that sufficiency ratings do not necessarily indicate a bridge's ability to safely carry traffic loads. Measures used to determine a bridge's sufficiency also include metrics not related to the structural integrity. Factors that are used to calculate sufficiency that are not related to structural integrity include under-clearances, the bridge's location on the national highway system, conditions of the bridge approaches, and traffic safety features, like railing height, and the length of a detour should the bridge be closed. In total, there are 18 key factors used to calculate sufficiency ratings.

FIGURE 4.2: DOOLY COUNTY EXISTING LANEAGE AND TRAFFIC SIGNALS (2008)



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The Highway Bridge Program uses sufficiency ratings to help prioritize bridges in need of repair or replacement. The Highway Bridge Program is authorized and funded by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). To qualify for federal replacement funds, a bridge must have a rating of 50 or below. Bridges with a sufficiency of 50 to 80 meet the minimum qualifications for rehabilitation funding. Rehabilitation can include maintenance or repair of bridge decks, expansion joints, bridge railings, foundations, piers, etc. Bridge rehabilitation can be a cost efficient solution for bridges with sufficiency ratings below 50 if it can be demonstrated that the rehabilitation will improve the bridge to an acceptable sufficiency rating. It should be noted that bridges that qualify for federal funding by their sufficiency ratings are not guaranteed to receive such funds.

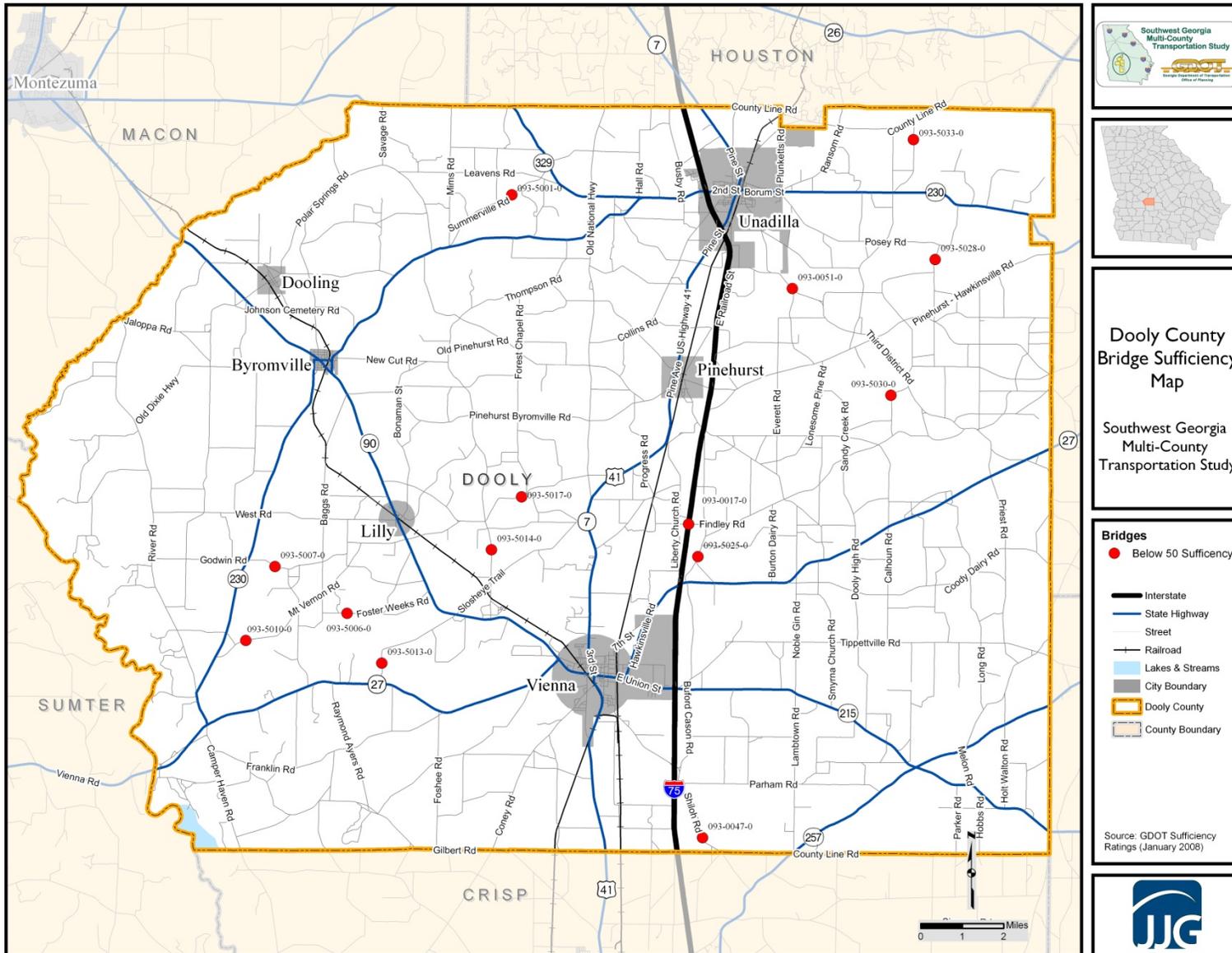
Dooly County has 14 bridges, or approximately 29 percent of bridges in the county, with sufficiency ratings below 50, meeting the minimum requirement for FHWA replacement funding. None of these bridges are on the State Route system. Please see **Table 4.3** below and **Figure 4.3** on page 28 for descriptions and locations.

TABLE 4.3: DOOLY COUNTY BRIDGES WITH SUFFICIENCY RATINGS BELOW 70

Bridge Serial Number	Facility Carried	Feature Intersected	Sufficiency	Year Built	On State Route System?	PI No. ?
093-5014-0	Pleasant Valley Road	Little Pennahatchee Creek	27.36	1965	No	No
093-5006-0	Weeks Road	Lilly Branch	27.63	1955	No	No
093-5001-0	Summerville Road	Turkey Creek	28.11	1950	No	No
093-0047-0	Shiloh Road	Gumm Creek Trib.	28.38	1930	No	No
093-5017-0	Pennahatchee Road	Little Pennahatchee Creek	30.01	1945	No	No
093-5013-0	Sloyeye Road	Pennahatchee Creek	32.75	1950	No	No
093-5028-0	Heath Road	South Prong Creek	38.65	1930	No	No
093-5010-0	Mt Vernon Road	Turkey Creek	43.40	1935	No	No
093-5007-0	Godwin Bridge Road	Turkey Creek Overflow	44.90	1955	No	No
093-5033-0	St. Johns Road	Camp Creek	45.89	1950	No	No
093-0051-0	Third District Road	South Prong Creek	47.34	1977	No	No
093-0017-0	Findley Road	I-75 at 113.31	48.74	1960	No	No
093-5025-0	Bowen Road	Sandy Mount Creek	49.07	1932	No	No
093-5030-0	Mashburn Road	Wildcat Creek Tributary	49.37	1940	No	No

Source: GDOT January 2008

FIGURE 4.3: DOOLY COUNTY BRIDGE SUFFICIENCY (2008)



4.3 PEDESTRIAN AND BICYCLE FACILITIES

The information in this section regarding existing and planned bicycle and pedestrian facilities comes from the *Middle Flint Regional Bicycle and Pedestrian Plan (2005)*, which was prepared by what was then the River Valley RC and submitted to GDOT in 2005, and from GDOT planned and programmed projects. Planned near-term pedestrian and bicycle facility improvements are included in GDOT's State Transportation Improvement Program (GDOT STIP) 2008-2011 and Work Program. The nature of the GDOT STIP and Work Program are covered in the GDOT Planned and Programmed Improvements Section presented later in this document.

4.3.1 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Sidewalks are generally available in the cities and towns of Dooly County, particularly in their historic centers and older neighborhoods. Pedestrian trails are planned for the proposed Pennahatchee Creek Park in Vienna. Recreational walking and jogging tracks can be found at the Jewel Bowen Park in Unadilla, and at the Vienna Walking Path and the Vienna Elementary School.

State Bicycle Route 15 runs along US 41 north-south through Dooly and Crisp Counties, and is the only bicycle route in these counties. As the *Middle Flint Regional Bicycle and Pedestrian Plan (2005)* notes, the state bicycle route designation does not imply bicycle lanes or other facilities. Nor are there signs that mark roadways as state bicycle routes. Existing bicycle routes in the six-county study area are mapped with the proposed bicycle routes in **Figure 4.4** on page 30.

4.3.2 PROPOSED BICYCLE AND PEDESTRIAN FACILITIES

An inventory of Dooly County recommendations from the RC bicycle and pedestrian plans listed above and GDOT is listed in **Table 4.4** below. GDOT recommendations are covered in greater detail in Chapter 6, Planned and Programmed Projects. Proposed bicycle routes in the six-county study area are mapped with the existing bicycle routes in **Figure 4.4**.

TABLE 4.4: BICYCLE AND PEDESTRIAN RECOMMENDATIONS IN DOOLY COUNTY

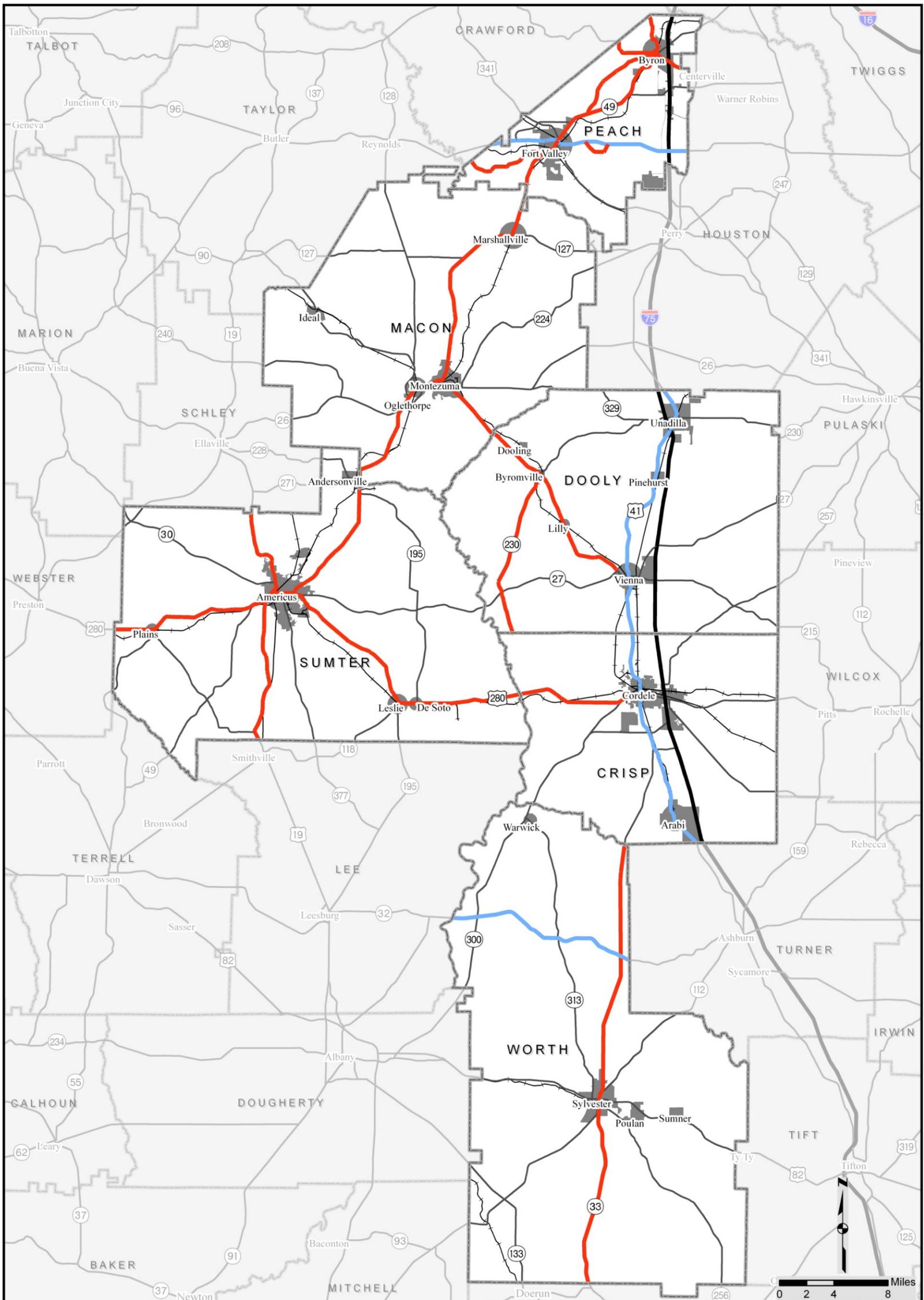
Source	County	Facility Type	Recommendation
River Valley RC	Crisp and Dooly	Bike	New bicycle route from Byromville, in Dooly County, to US 280, in Crisp County.
GDOT	Dooly	Ped	Sidewalks in Vienna
GDOT	Dooly	Ped	Streetscape in Unadilla
GDOT	Dooly	Bike & Ped	Facility in Unadilla

Source: Middle Flint Regional Bicycle and Pedestrian Plan (2005) and GDOT

4.4 RAILROADS

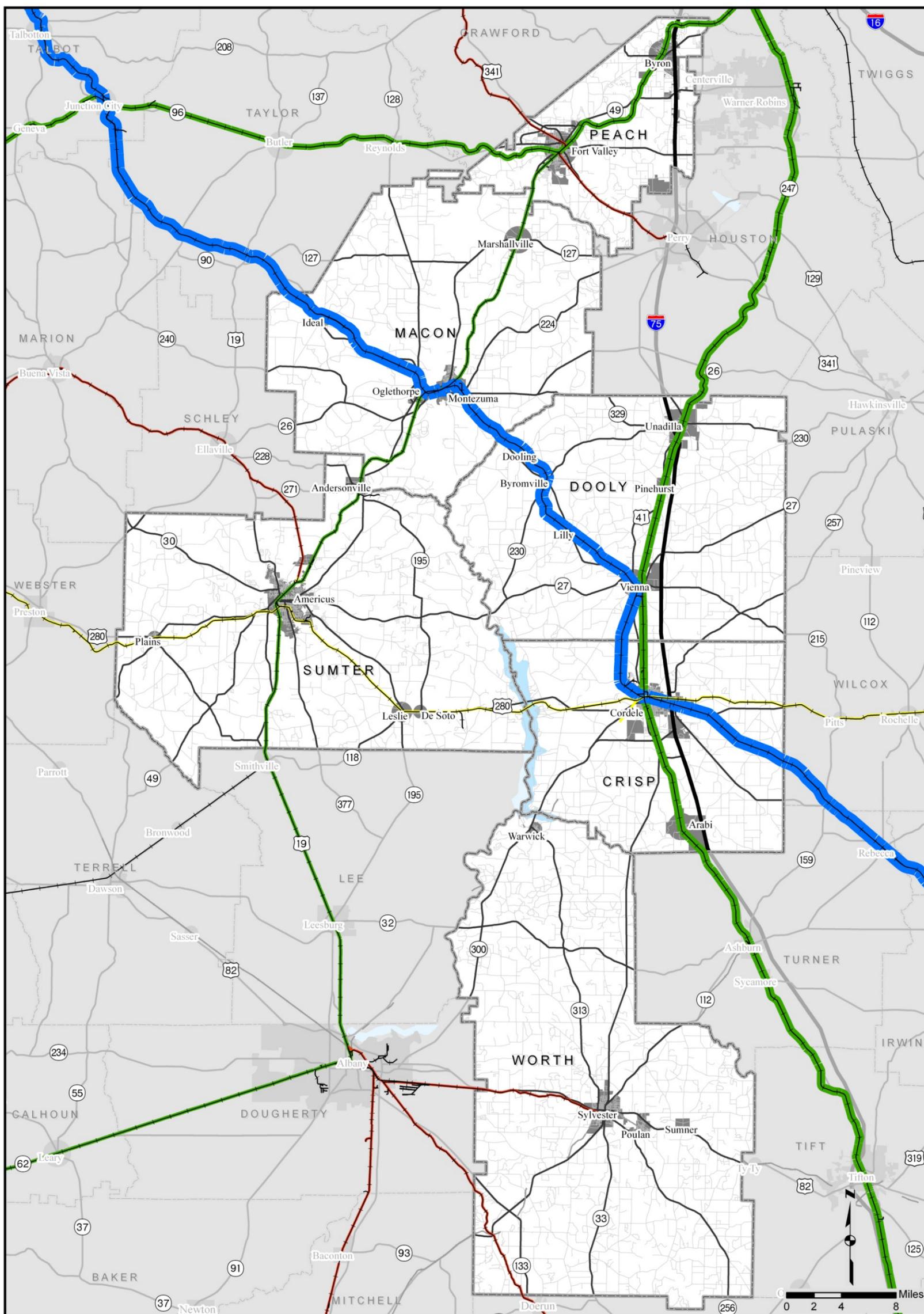
Historically, a number of thriving communities within the six-county study area were established along the railroad lines at key locations to serve commerce. Today, a number of these railroads continue serving the study area. Please see **Figure 4.5** on page 31 for a map of these railroads in the study area.

FIGURE 4.4: EXISTING AND PROPOSED BICYCLE ROUTES IN THE SIX-COUNTY STUDY AREA (2009)



		<p>Southwest Georgia Multi-County Transportation Study Existing and Planned Bike Routes</p>	<ul style="list-style-type: none"> — Existing Bike Route — Planned Bike Route Interstate State Highway Railroad City Boundary County Boundary <p><small>Sources: GDOT Bicycle and Pedestrian Program, Warner Robins Area Transportation Study, Middle Georgia, Middle Flint, and Southwest Georgia Regional Bicycle and Pedestrian Plans.</small></p>	
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FIGURE 4.5: RAIL OWNERSHIP AND TONNAGE (2005)



		<p>Southwest Georgia Multi-County Transportation Study Rail Ownership and Tonnage</p>	<p>Tonnage: Millions of Gross Tons</p> <ul style="list-style-type: none"> 0 - 2.99 3.0 - 9.99 10.0 - 24.99 25.0 - 49.99 50.0 - 74.99 <p>Rail Ownership</p> <ul style="list-style-type: none"> Shortlines GDOT Norfolk Southern CSX <p>Source: GDOT Office of Intermodal Programs</p>	<p>Southwest Georgia Multi-County Transportation Study</p> <p>Georgia Department of Transportation Office of Planning</p>
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Vienna is served by two rail lines. The first, Norfolk Southern's Georgia Southern and Florida line, connects Jacksonville, Florida to Cincinnati, Ohio. This line also links to the Norfolk Southern yards in Valdosta, Macon and Atlanta. The Norfolk Southern line passes north through Unadilla and then to Houston County and south into Cordele, in Crisp County.

The second line is operated by CSX and connects the Waycross Yard in Southeast Georgia to the Atlanta region via Cordele, Vienna and Montezuma. This line represents CSX's main operation of moving freight north and west from the Ports of Savannah, Brunswick and Jacksonville. In Dooly County, the CSX line travels northeast from Vienna through Dooling into Macon County and south of Vienna to Cordele, in Crisp County. No short line service currently operates in Dooly County.

4.5 PUBLIC TRANSPORTATION

Rural transit service can take the form of fixed-route, demand-responsive, or deviated fixed-route. Rural transit service can take the form of fixed-route, demand-responsive, or deviated fixed-route. A fixed-route system operates along a particular route according to a fixed schedule, such as a typical city bus service. A demand responsive system could include van services and shuttle bus systems that provide services only when or where they are required. Deviate fixed-route service combines aspect of both types of service by breaking from fixed-route service to make trips at other times or locations when requested.

The service is often infrequent and is designed to accommodate persons traveling for medical, shopping and other personal business needs rather than commuting. Service tends to be catered to the individual due to the clientele and number of requested trips. Service is usually open to the general public unless otherwise noted. Service hours tend to be limited to weekdays, with schedules designed to allow for same day return trips on days service is provided. In Dooly County, transit is provided by Section 5311 Programs, Unadilla Transit in the City of Unadilla ((478) 627-3022), and Vienna Transit in the City of Vienna ((210) 268-2171); and by the Dooly-Crisp Unified Transportation System (DCUTS) ((229) 268-7433) in the remainder of the county.

4.6 SAFETY

Crashes occur most frequently at intersections, but can also occur along segments of a street or highway for many different reasons. Understanding where and why crashes occur is useful in measuring relative need and prioritizing projects. To pursue this end, crash data were analyzed using three distinct approaches.

First, a county analysis was conducted which compared crashes within each county to that of the state, per population, for the years 2000-2007. This analysis provides a generalized tool which compares each county relative to the likelihood of a crash occurring.

Second, an analysis was completed by road segment. Segment termini were established by using county lines, termini of a roadway facility, or location where a facility type changed. An example of a segment terminus would be the location where an urban arterial road facility type changed to a rural arterial, or from a local collector to an arterial, etc. Segments with crash rates higher than the state rate per 100 million vehicle miles (MVM) for their respective facility type were identified and noted. This analysis was conducted using the year 2007 data.

Facilities with high crash rates were compared to the statewide averages for their respective functional classifications. Functional classifications analyzed in this study were Urban Interstate, Rural Interstate, Urban Principal Arterial, Rural Principal Arterial, Rural Minor Arterial, Urban Collector, and Rural Major Collector.

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Rates were normalized for each segment by comparing crashes per 100 million vehicles miles (MVM). Crash, injury and fatality rates were compared against the average of similar facilities across the State of Georgia, as is industry standard.

The third process used to analyze crash information identified intersections throughout the six-county study area with consistently high numbers of reported crashes annually. GDOT funds the use of Critical Analysis Reporting Environment (CARE) software for crash data analysis in Georgia. CARE software was used in this study to examine reported crashes and their respective locations for the years 2000-2007. Intersections which averaged higher than five crashes per year between 2000 and 2007 were considered to experience relatively high crash rates.

High crash rates at intersections are generally the result of high traffic volumes and congestion, not poor intersection geometry. In almost all instances, high crash rate intersections are on the most heavily travelled roadways within a county. When intersections with safety concerns are identified by local input or field investigation, these intersection are compared with the list of high crash intersections in order to identify whether operational or geometric improvements are necessary.

Between 2000 and 2007, Dooly County averaged 28.6 crashes per 1,000 people, lower than the State of Georgia rate of 37.8, and averaged 332 crashes or and 6.5 traffic related fatalities annually. No Dooly County corridor or location appeared to have a higher than average fatality rate.

Three segments of the Dooly County road network experienced higher than state average crash rates for each respective roadway type. I-75 is part of the Interstate system, SR7/US 41 is part of the National Highway System, and SR 215 is part of the State Route system. Segments included portions of Interstate 75, State Route 7/US 41 and State Route 215. **Table 4.5** below details segments and associated statistics.

TABLE 4.5: 2007 DOOLY COUNTY CRASH RATE BY ROADWAY SEGMENT

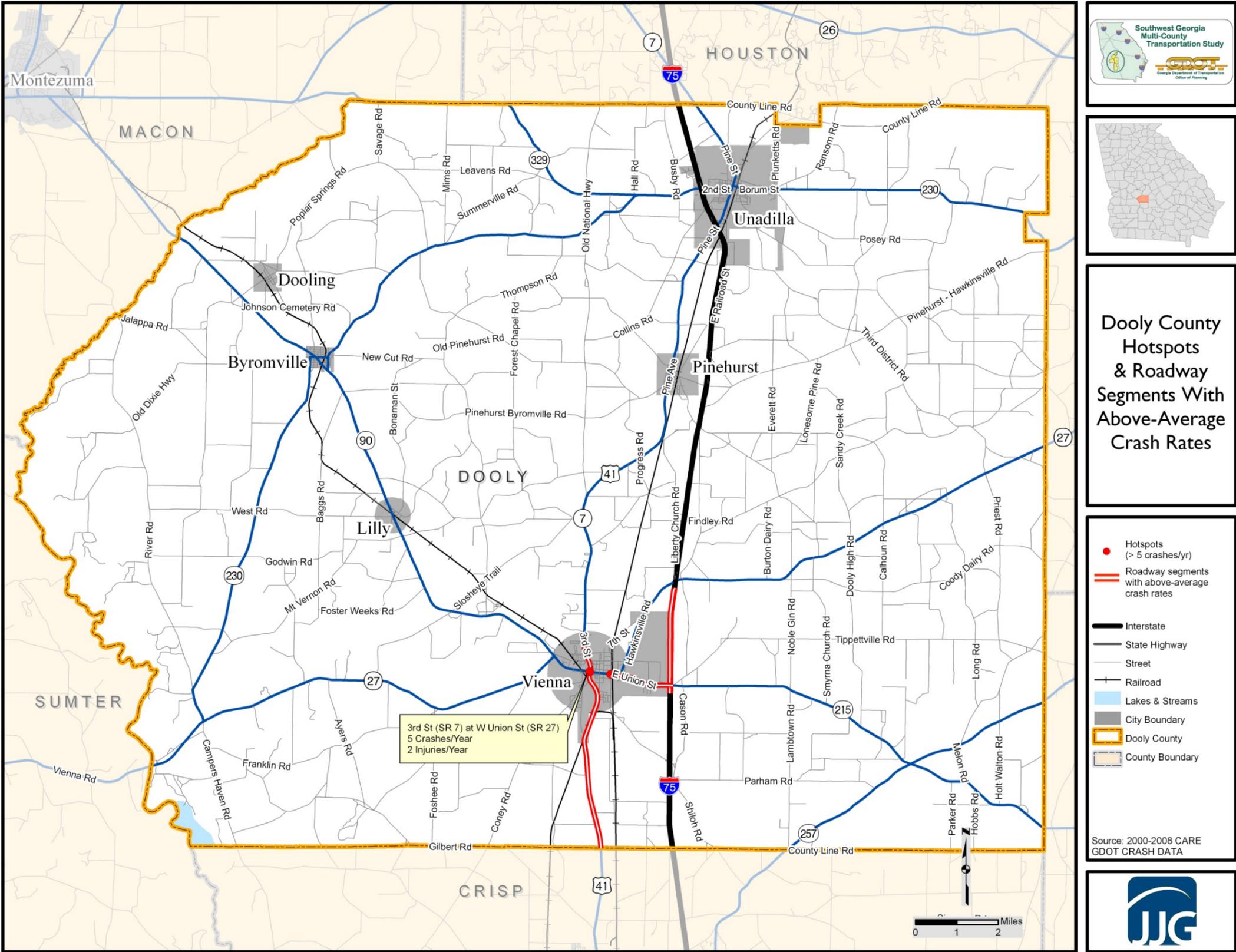
Roadway			Crashes	Crash Rate (per 100 million vehicle-miles (MVM))		Injuries
GDOT Route Number	Functional Classification	Beg MP - End Mp	Number of crashes	Dooly County Road Segment	Statewide Avg.	Injuries
I-75	Rural Interstate	4.0 - 6.6	28	62	50	28
SR 7/US 41	Rural Minor Arterial	0 - 4.7	12	224	154	5
SR 215	Rural Minor Arterial	0 - 1.9	10	380	158	4

Source: CARE Data 2000-2007

Two intersections were identified in Dooly County as having more than five crashes per year, both of which included at least one route on the State Route system. Dooly had only one intersection that averaged five or more crashes annually. A map of hotspots and crash rates in Dooly County can be found in **Figure 4.6** on page 34. **Table 4.6** on page 35 provides a description of the intersections with the highest number of reported crashes between 2000 and 2007.

Intersections are difficult to compare to one another over time and space, due to the differences in roadway types, intersection geometries, and factors such as signalization and sight-distance. GDOT maintains statewide crash rates for intersections by type; however, for the purposes of this study, intersection crash rates were compared within the county.

FIGURE 4.6: HOTSPOTS AND SEGMENTS WITH ABOVE-AVERAGE CRASH RATES IN DOOLY COUNTY (2000-2007)



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TABLE 4.6: DOOLY COUNTY HOTSPOTS

Intersection Location			Total (2000-2007)			Annual Average		
Location	Milepost	City	Crash	Injury	Fatality	Crash	Injury	Fatality
3rd Street (SR 7) at W Union Street (SR 27)	4.41	Vienna	40	17	0	5	2	0
E Union Street (SR 27) at 7th Street	12.45	Vienna	16	3	0	2	0	0

Source: CARE Data 2000-2007

High crash rates at intersections are generally the result of high traffic volumes and congestion, not poor intersection geometry. In almost all instances, high crash rate intersections are on the most heavily travelled roadways within a county. High rates of accidents on segments or intersections may not be indicative of skewed geometry and may not be open to remediation based on geometric redesign.

5. EXISTING AND FUTURE TRAFFIC CONDITIONS

In order to evaluate existing and future traffic conditions on roadways within each study county, a travel demand model was developed for the entire six-county study area. A travel demand model is a computer model used to estimate traffic volumes and travel patterns utilizing study area information such as roadway networks, land use information, and demographic data including population and employment. The travel demand model originally developed for the Southwest Georgia Interstate Study (2009) was modified and recalibrated for use in this study. The base, or existing, model year utilized was 2006, since this is the most recent year for accurate employment data from the Georgia Department of Labor. The future, or horizon, year utilized for this study was 2035.

The travel demand model was utilized to determine traffic conditions on all six-county study area roadways for base (2006) and horizon year (2035). Traffic conditions on study roadways are evaluated based on a Level-of-Service (LOS) analysis. LOS is a qualitative measure describing operational conditions and driver perceptions within a traffic stream. According to the 2000 Highway Capacity Manual (2000 HCM), six LOS are defined for each type of facility. Letters designate each level, from A to F, with LOS A representing free-flow conditions with minimal delay and LOS F representing severe congestion with long vehicle delays. **Figure 5.1** on page 37 presents a graphical representation of the six levels of service.

LOS for a roadway segment is based on the volume to capacity (V/C) ratio. V/C compares the traffic volumes on a roadway with the carrying capacity of that segment of road. V/C is the quantitative measure generated by the travel demand model that is utilized to determine the LOS of a roadway segment. The threshold for each LOS based on V/C is presented in **Table 5.1** below.

TABLE 5.1: LEVEL OF SERVICE THRESHOLDS

Level of Service (LOS)	Volume/Capacity Ratio
LOS A, B, C	$V/C < 0.75$
LOS D	$0.75 \leq V/C < 0.85$
LOS E	$0.85 \leq V/C < 1.00$
LOS F	$V/C \geq 1.00$

The travel demand model was utilized to identify existing and future roadway segments with deficient LOS. For planning efforts in rural counties, GDOT considers LOS C or better to be acceptable and considers LOS D, E, or F to be deficient. When developing long range transportation plans in rural counties, GDOT strives to provide LOS C or better for all study roadways. This section presents the existing (2006) and future (2035) traffic conditions for Dooly County.

5.1 EXISTING (2006) TRAFFIC CONDITIONS

Under existing conditions, all roadways within Dooly County operate at an acceptable LOS (C or better). No roadway segments operate at an unacceptable LOS (D or worse). As presented in **Figure 5.2** on page 38, there are no deficient roadway segments in Dooly County under existing conditions.

FIGURE 5.1: REPRESENTATION OF LOS

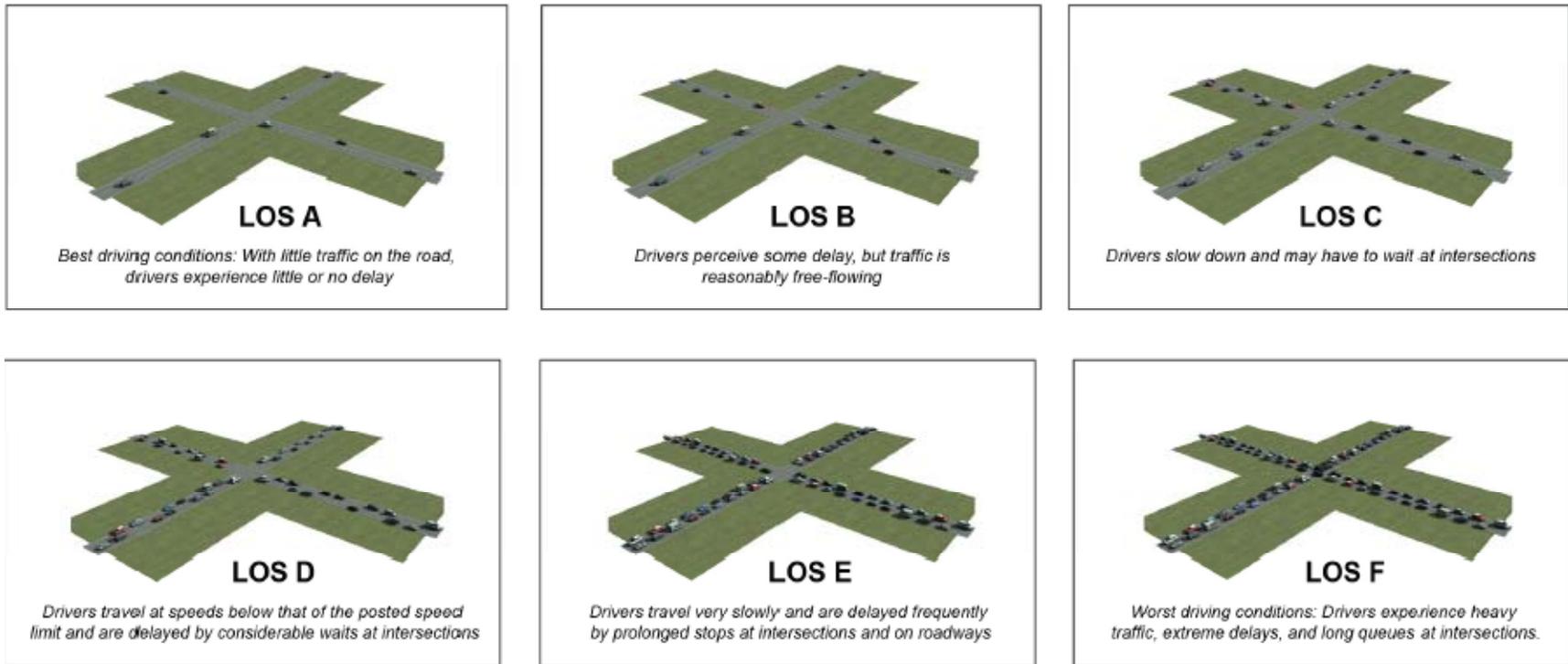
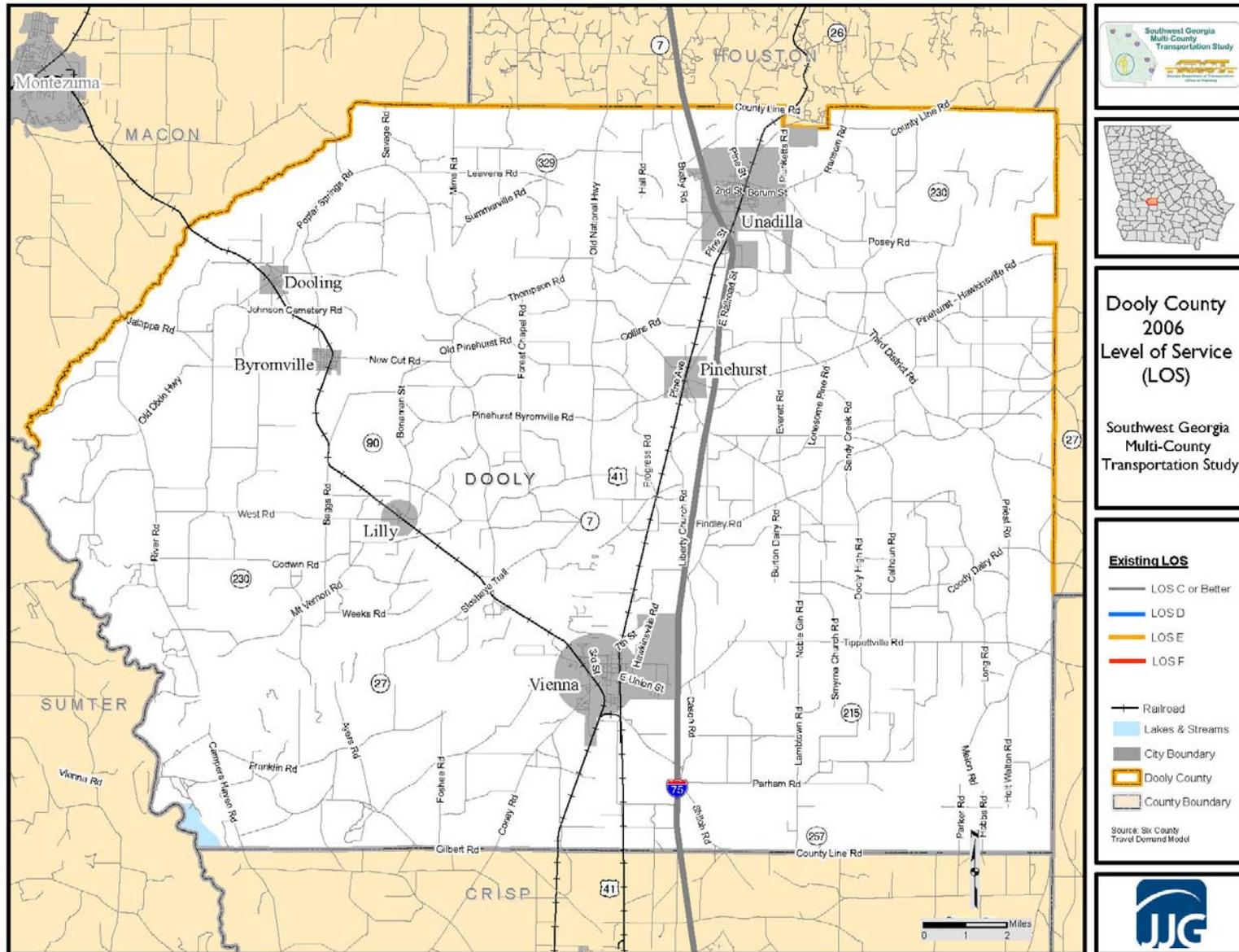


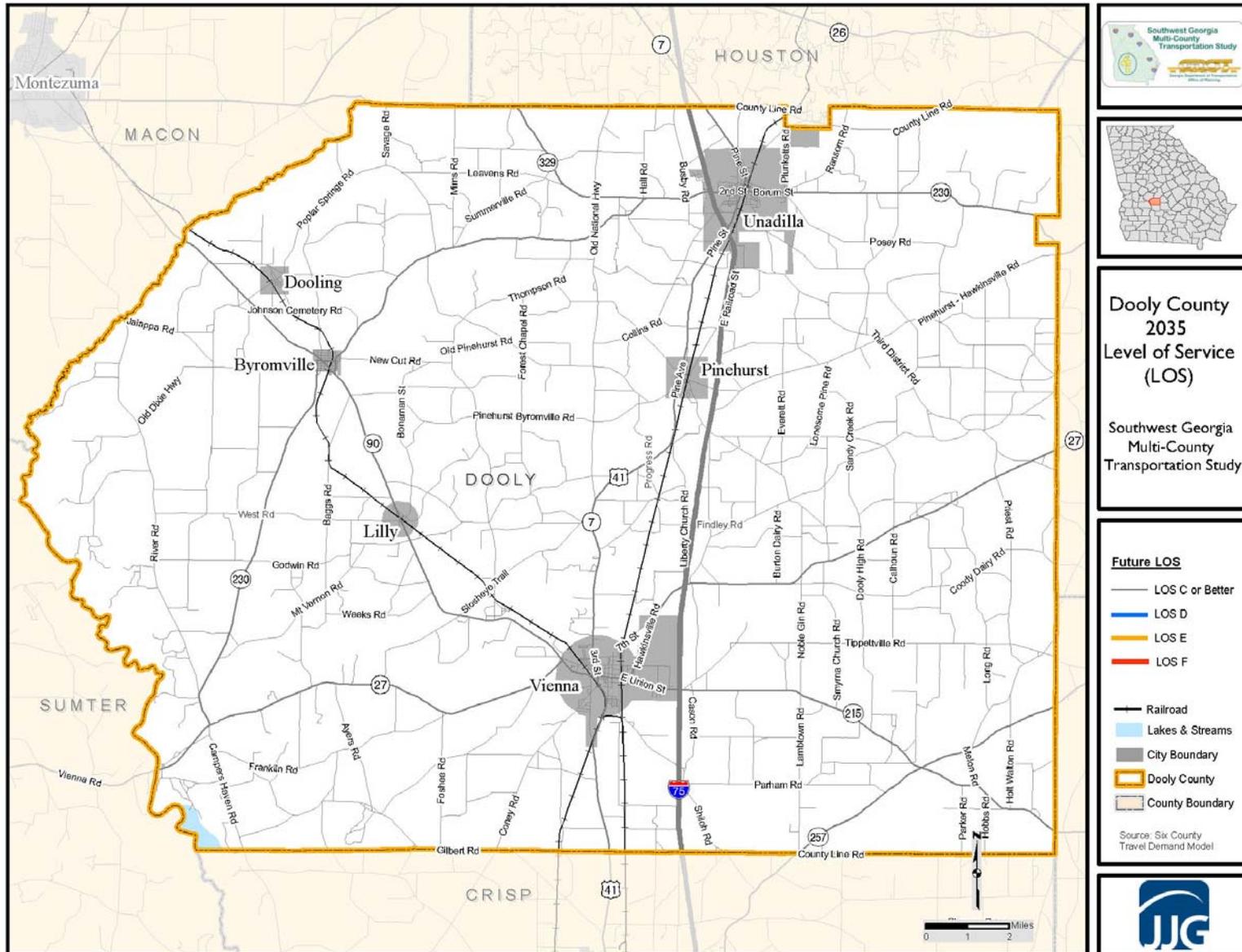
FIGURE 5.2: EXISTING (2006) DEFICIENT ROADWAY SEGMENTS IN DOOLY COUNTY



5.2 FUTURE (2035) TRAFFIC CONDITIONS

Under future (2035) conditions, all roadways within Dooly County are expected to operate at an acceptable LOS (C or better). As presented in **Figure 5.3** on page 40, there are no deficient roadway segments in Dooly County under future conditions.

FIGURE 5.3: FUTURE (2035) DEFICIENT ROADWAY SEGMENTS IN DOOLY COUNTY



6. GDOT PLANNED AND PROGRAMMED PROJECTS

This section presents the projects planned and programmed for Dooly County from the GDOT STIP (2008-2011) and Work Program.

6.1 GDOT STIP (2008-2011) AND WORK PROGRAM

GDOT maintains two lists of transportation improvement projects, the State Transportation Improvement Program (mandated by the federal government) and the Work Program.

- The GDOT STIP for the 2008-2011 period– includes a list of federally funded and state funded priority transportation project elements (Preliminary Engineering, Right-of-Way, or Construction) proposed to be carried out in the current and next three years (a four-year plan). It is financially constrained (dollar value of projects programmed is equal to the anticipated revenues per program year), and includes projects consistent with the Statewide Transportation Plan. The GDOT STIP is approved by the FHWA and Federal Transit Administration (FTA) and includes all TIP projects as adopted by the Metropolitan Planning Organizations (MPO) and approved by the Governor.
- The Work Program is a listing of identified transportation projects that are eligible for federal and state funding with all project phases scheduled beyond the current GDOT STIP outside the fiscal years of the GDOT STIP.

Improvements listed in the GDOT STIP (2008-2011) and Work Program include improvements to transit, pedestrian and bicycle facilities, airports, and roadways. Those improvements applicable to pedestrian and bicycle facilities are covered in that section of this document. Roadway improvements planned within the study are listed in this section.

6.2 GDOT PLANNED AND PROGRAMMED PROJECTS FOR DOOLY COUNTY

Table 6.1 on page 42 and **Figure 6.1** on page 43 present the projects and their descriptions as listed in the current GDOT STIP (2008-2011) and Work Program for Dooly County, including the type of work, funding source, location, and programmed date for each.

Projects that utilize lump sum funding originate with exclusive federal and state funding and are administrated by the Georgia Department of Transportation (GDOT). A portion of the GDOT STIP funding is set aside for non-capacity adding projects in the following categories.

- Maintenance
- Safety
- Preliminary Engineering
- Roadway/Interchange Lightning
- Right of Way
- Transportation Enhancement
- Appalachia Local Access Road Program

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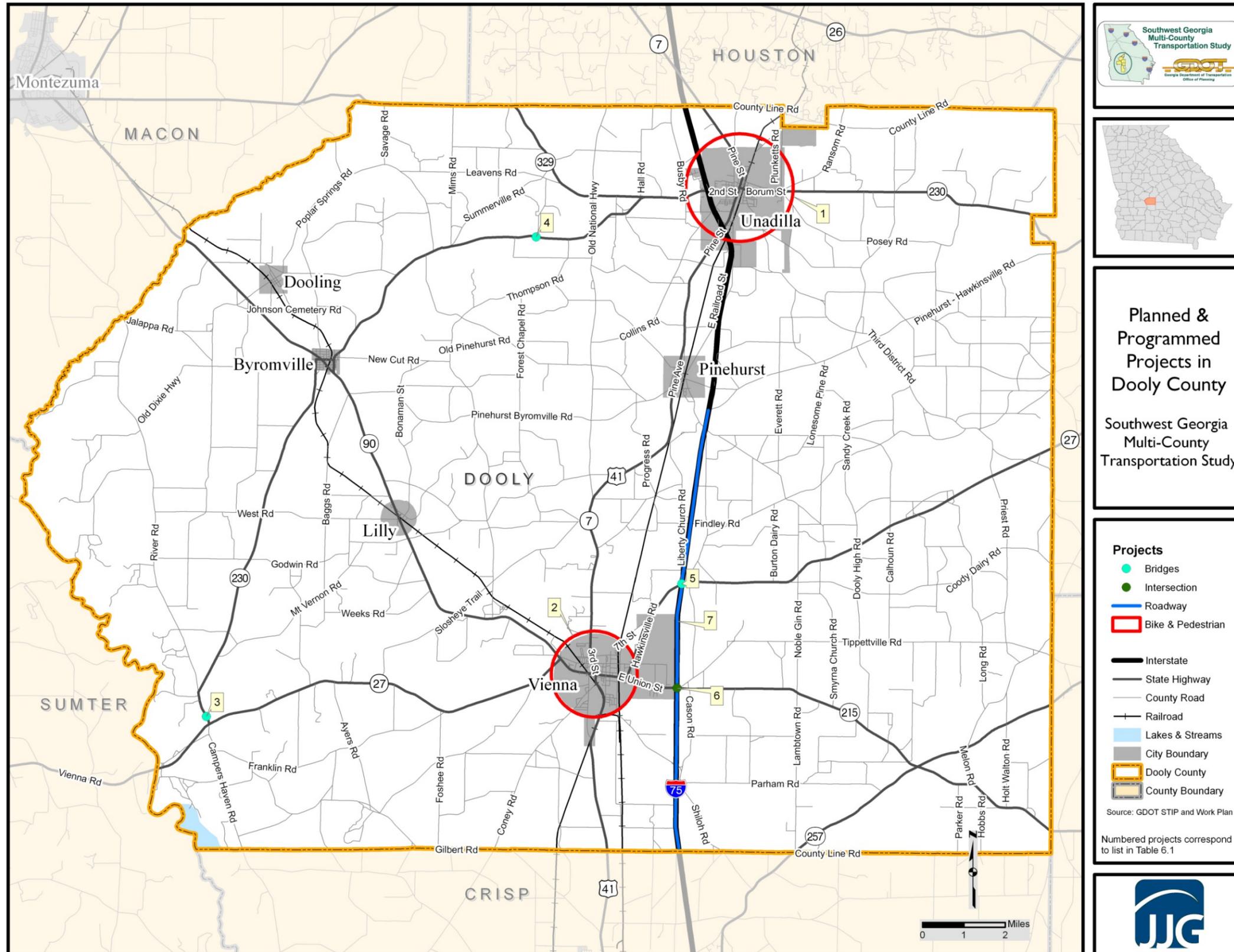
TABLE 6.1: GDOT PLANNED AND PROGRAMMED PROJECTS IN DOOLY COUNTY

Note: The most current project schedule can be found on Transportation Explorer under the Quick links sections of the Department's homepage (www.dot.ga.gov).

Map No.	GDOT PI No.	Work Type	Description	Programmed Date	Primary Funding Source
1	00009034	Bike/Ped Facility	Unadilla Streetscape Improvements--Phase II	LUMP	Federal
2	0007574	Bike/Ped Facility	Landscaping and sidewalks in Vienna, SR 27 from 2nd Street to Ford Street	2010	Federal
3	0007172	Bridge Replacement	SR 230@ Turkey Creek 9.5 miles west of Vienna	Beyond 2011	Federal
4	0007173	Bridge Replacement	SR 230@ Turkey Creek 5.5 miles northeast of Byromville	Beyond 2011	Federal
5	311665-	Bridge Replacement	I-75 @ SR 27 - Widen bridge and ramps	Beyond 2011	Federal
6	0005320	Interchange	I-75 @ SR 215	Beyond 2011	Federal
7	M003243	Concrete Rehab	I-75 from Crisp County Line to CR 323/Pinehurst-Hawkinsville Road	2010	Federal

Source: GDOT

FIGURE 6.1: GDOT PLANNED AND PROGRAMMED PROJECTS IN DOOLY COUNTY FROM WORK PROGRAM AND STIP 2008-2011



7. LOCAL INPUT

This section presents the public involvement activities conducted for the Southwest Georgia Multi-County Transportation Study and the resulting input. A complete record of Public Involvement activities can be found in **Appendix C**.

7.1 AGENCY INPUT

On December 3, 2008, GDOT held Agency Kickoff Meetings for the Southwest Georgia Multi-County Transportation Study. Due to the size of the study area, two meetings were held—one in the north of the study area, one in the south. The first meeting took place at 10 a.m. at the Fairfield Inn in Cordele, Georgia, and the second, at 2:30 pm at the Flint Area Housing Authority conference room in Montezuma, Georgia.

Including GDOT and study staff, those attending the meetings were:

Robert Hughes, GDOT	Jenny Lee, JIG
Radney Simpson, GDOT	Perry Ivie, City of Unadilla
Pat Smeeton, JIG	Shane Pridgen, GDOT 4 th District
Jimmy Watson, Macon County Board of Commissioners	Gene Crapse, Crisp County Board of Commissioners
Audra Rojek, JIG	Bryan Barnett, Southwest Georgia RC
Inga Kennedy, PEQ	Carl Gamble, Crisp County Public Works
Jean Burnnett, City of Cordele	Stephen Sanders, Dooly County
Bob Rychel, Middle Georgia RC	Gerald Mixon, River Valley RC
Deborah Bridges, City of Sylvester	Michael Sudduth, Sumter County Planning and Zoning
Charles West, City of Unadilla	

The meeting began with introductions. Pat Smeeton, a consultant on the study team, then made a presentation about the nature of the study and the purpose of the meeting, copies of which were given to attendees. Attendees broke into groups and provided information about the transportation needs of the counties and cities that they represent. The input for each county from meeting attendees was summarized and used to create maps of perceived needs areas within each county.

Agency members were then asked to fill out questionnaires and provide suggestions for membership on the study's Advisory Committee, potential stakeholder interviewees, and goals and objectives of the study. Lastly, in order to inform more people about the study and to collect public input, Fact Sheets were given to attendees for them to distribute in the areas they represent.

7.2 ADVISORY COMMITTEE

The Advisory Committee was assembled for this study from state and local agency staff from across the six-county study area. The committee provided guidance and strategic direction to the study, primarily through setting the project's goals and objectives. The committee met twice over the course of the study. Each meeting was held twice on the same day in separate locations to accommodate committee members from across the study area.

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The first pair of Advisory Committee meetings were held on July 9, 2009, at 10:30 am at the Marriott Fairfield Inn and Suites in Cordele and at 1:30 pm at the Flint Area Consolidated Housing Authority in Montezuma. Including GDOT and study staff, those attending the meetings were:

Robert Hughes, GDOT	Pat Smeeton, JIG
Radney Simpson, GDOT	Erik Kruszewski, JIG
Rickey Blaylock, Peach County Zoning	Jimmy Watson, Macon County Public Works
John G. Turner, Macon County Planning & Zoning	Raymond Bridges, Sumter County Public Works
Marcia Johnson, Peach County Administrator	Willie Young, Sumter County Public Works.
Billie Segars, Peach County Public Works	Bryan Barnett, Southwest Georgia RC
Ralph Nix, Middle Georgia RC	Shane Pridgen, GDOT
Michael McDonald, GDOT	

Robert Hughes opened the meeting and began introductions. Then Pat Smeeton gave a presentation on the purpose of the study and progress made to date. The committee reviewed and commented upon the draft study goals that Mr. Smeeton presented. These goals are presented in the following section. After the presentation, the floor was opened to the questions and comments of meeting attendees. Areas that locals felt needed improvements were noted and added to the locally-identified needs areas for analysis.

The second Advisory Committee meetings were held March 25, 2010, at the same times and locations as the first round of meetings. Those attending the meetings were:

Kelly Gwin, GDOT	Pat Smeeton, JIG
Radney Simpson, GDOT	Audra Rojek, JIG
Cindy VanDyke, GDOT	Shane Pridgen, GDOT
Rickey Blaylock, Peach County Zoning	Robert McDaniel, Southwest Georgia RC
John G. Turner, Macon County Planning & Zoning	Bob Rychel, Middle Georgia RC
Brent Thomas, GDOT	Gerald Mixon, River Valley RC
Van Mason, GDOT	Carl Gamble, Crisp County Public Works
David Sparks, GDOT	Michael Sudduth, Sumter County Zoning Administration
Brink Stokes, GDOT	

Kelly Gwin opened the meeting by introducing herself as the new project manager and reviewing the purpose of the study. She then introduced Pat Smeeton, who gave a presentation on the means by which the study determined transportation needs in the study area, as well as the study findings. Maps of study recommendations were presented by county in posters for committee review and discussion. Committee feedback from this meeting called for the addition of study recommendations in Sumter County.

7.3 TRANSPORTATION GOALS AND OBJECTIVES

The goals and objectives of this study were prepared from a review of the goals and objectives of local studies and from guidance from stakeholders, primarily those on the Advisory Committee. The goals were determined to be as follows:

- Assure a safe and efficient street and highway network throughout the six-county study area.

7. Just inside the Macon County line on SR 90 there is a dip in the road where water can collect. The Sheriff of Macon County recently was in an accident at this location when his car hydroplaned.

Safety/Pedestrian and Bicycle Issues and Needs [REDACTED]

8. There are safety concerns at all I-75 ramps and exits in Dooly County. The bridges are narrow, the ramps are short and have limited sight distance for merging or entering local roadways. The northernmost of the I-75 ramps is tight and crowded, since many in the county drive up SR 49 to Byron to access the freeway rather than use the other interchanges.
9. Aging SR 27 bridge over the Flint River.
10. Interstate exit ramps at Exit 109 need improvement.
11. Truck stop at Exit 109 brings congestion.
12. US 41 is a bike route but there are no bike improvements.
13. Sidewalk is needed on US 41 in Unadilla.
14. A signal is needed on SR 230 @ Pine Street.
15. There is a relatively sharp curve on I-75 south of Unadilla.
16. Northbound Calhoun Road south of Pinehurst has a curve in it where school traffic turns left onto East Railroad Street. Other traffic at this location has yet to slow to city speeds.
17. Where SR 230 crosses under the railroad line in Byromville there is low clearance.
18. SR 230 from Byromville to Unadilla has a hill where it intersects the Old National Highway, which may pose safety concerns.

Truck and Railroad Issues and Needs [REDACTED]

19. In Vienna, 7th Street south to Richwood Road needs improvement because of the heavy trucks that use it to access the asphalt plant.
20. SR 329 has heavy truck traffic. Trucks use this road to get to the freezer plant at exit 121 rather than going along main roads. Roadway needs improvement to accommodate this truck traffic.

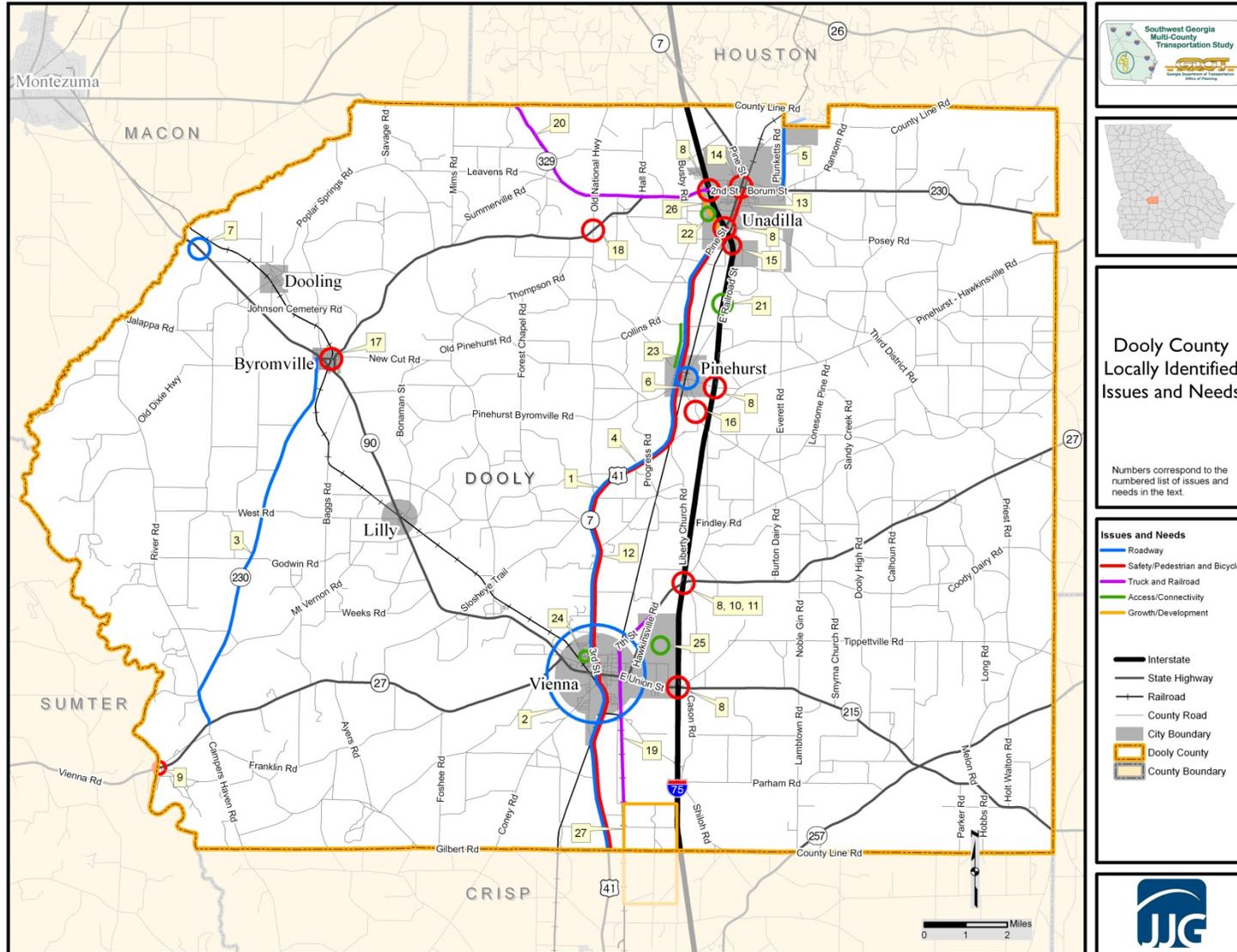
Access/Connectivity Issues and Needs [REDACTED]

21. A new interchange is needed to improve I-75 access to and from the Southeastern Show Arena in Unadilla. Currently there is only an exit.
22. Angel City needs road access to event site near Josh Road and Bemby Ave in Unadilla.
23. The elementary and middle schools are on Pine Avenue near Pinehurst.
24. There is a high school on Third Street in north Vienna.
25. There is a Tyson plant in northeast Vienna between Hawkinsville Road and the Interstate.

Growth/Development Issues and Needs [REDACTED]

26. A new frontage road between the two I-75 exits in Unadilla would create a business strip visible from the freeway and attract development.
27. South of Vienna, the area around US 41 at the Crisp County line has significant potential to be a regional industrial park. Should be a joint project with Crisp County.

FIGURE 7.1: DOOLY COUNTY LOCALLY-IDENTIFIED ISSUES AND NEEDS



8. RECOMMENDATIONS FOR DOOLY COUNTY

This section presents the recommended transportation project for Dooly County based on the analysis completed as part of this study. The type of projects considered included:

- Capacity Improvements (roadway widenings or new roadways)
- Operational Improvements (interchange or intersection improvements, traffic signal)
- Safety Improvements (roadway or intersection realignments)
- Bridge Replacement or Rehabilitation
- Pedestrian or Bicycle Improvements
- Maintenance

This section describes how the project recommendation was identified, analyzed, and how its cost was estimated. The final project identified within Dooly County is presented with a project sheet providing additional information about each proposed improvement. An inventory of potential funding sources to support the proposed improvement is included at the end of this section.

8.1 METHODOLOGY

Findings from the existing and future conditions, travel demand model projections, field observations, and public and agency input were analyzed to determine the need for potential transportation projects. Due to the six-county size of the study area, bicycle and pedestrian needs identified over the course of this study have been forwarded to the appropriate Regional Commission for review and possible inclusion in their respective regional bicycle and pedestrian plan updates. Locations identified by local agencies and the public as potentially in need of traffic signals, maintenance, or safety measures have been forwarded to the appropriate GDOT District Engineers. Please note that this is a planning-level study, not an official engineering study, and comments or recommendations herein are not a verified reflection of any needed improvements.

The final project recommendation for Dooly County can be classified as an operational improvement. Operational improvements are projects that seek to address congestion or safety concerns at intersections or interstate interchanges. These are not roadway segments that need widening, rather, they are bottlenecks in the roadway network that reduce mobility and cause congestion. These projects were identified through local input and field observation. Operational improvements range from the reconstruction of a congested interstate interchange to the addition of turn lanes at a busy intersection.

8.1.1 COST ESTIMATION

Costs were estimated using GDOT Right-of-Way and Utility Relocation Cost Estimate Tool (RUCEST) and Trns-port Cost Estimation System Tool (CES) Software. In addition, Preliminary Engineering costs were set at eight percent of construction costs. Individual assumptions for each project can be found in **Appendix B: Cost Estimates**.

To determine right of way costs, a survey of the project area was conducted using aerial photography and field investigation for adjacent land use types, presence of utilities and potential impacts to homes, businesses and institutions. This information was entered into RUCEST, which determined costs for right of way acquisition based on land use type and county given the additional or new right of way

requirements for the project. RUCST estimated utility relocation costs by utility type and location, and relocation and improvement costs based on market history. Contingency costs were added to right of way estimates, to cover damages (30 percent), scheduling (55 percent), and administration and court costs (60 percent, all costs cumulative). The resulting right of way and utility cost estimates were included when developing total project costs.

Construction costs were based on width, length and roadway functional classification, to which costs for additional or replacement traffic signals, turn lanes and bridges were added as needed. Turn lanes were included in cost estimates for major intersections or where intersection improvements were deemed necessary. Likewise, traffic signals were included at intersections where widening or other improvements would require their replacement or where they were deemed necessary as an intersection improvement.

In CES, costs for turn lanes were estimated using the same price per ton for asphalt and base/aggregate as the main project; these prices were estimated by CES given size and location of the project. Cost estimates for bridges were determined by CES based on materials costs and historic data. CES construction estimates were utilized in the development of total project costs, which included right of way, utility relocation, and preliminary engineering costs.

8.2 RESPONSE TO LOCALLY-IDENTIFIED NEEDS

During the public involvement process, study stakeholders and the general public were invited to identify transportation needs as they perceived them in the counties in which they live, play and work. These locally identified needs are presented and mapped in Section 8. Each of the perceived needs was then considered for transportation improvements by this study. **Table 8.1** below provides a response to each locally identified need, including projects proposed by this study.

TABLE 8.1: RESPONSES TO LOCALLY-IDENTIFIED NEEDS

Locally Identified Transportation Need	Recommended Activities
US 41 experiences heavy congestion as a relief valve/traffic detour during accidents on I-75.	Projected 2035 volumes do not exceed 9,000 ADT. As these volumes correspond to LOS C or better for this roadway segment, widening is not justified and is not recommended.
A bypass is needed to reduce congestion in Vienna. Much of the traffic consists of poultry and logging trucks.	Projected 2035 volumes on SR 90/27 do not exceed 10,500 ADT, and volumes on US 41 do not exceed 8,500. As these volumes correspond to LOS C or better for these roadway segments, a bypass is not justified and is not recommended.
On SR 230 in west Dooly, roadway needs maintenance and increased clearance.	This has been referred to the GDOT District Area Engineer.
Passing lanes are needed along US 41/Pine Street between Unadilla and Vienna.	Projected 2035 volumes on US 41 do not exceed 6,000 ADT in this location. As these volumes correspond to LOS C or better for this roadway segment, passing lanes are not recommended.
Since the realignment of Pinehurst Hawkinsville Highway at Calhoun Road several years ago, there has been a large pothole from big trucks turning at this location.	This has been referred to the GDOT District Area Engineer.

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Locally Identified Transportation Need	Recommended Activities
Just inside the Macon County line on SR 90 there is a dip in the road where water can collect. The Sheriff of Macon County recently was in an accident at this location when his car hydroplaned.	This has been referred to the GDOT District Area Engineer.
There are safety concerns at all I-75 ramps and exits in Dooly County. The bridges are narrow, the ramps are short and have limited sight distance for merging or entering local roadways. The northernmost of the I-75 ramps is tight and crowded, since many in the county drive up SR 49 to Byron to access the freeway rather than use the other interchanges.	Due to short sight distances and other safety concerns at existing interchanges, this study recommends interchange reconstruction to improve sight distance and ramp widening at I-75 and SR 230, including the widening of SR 230 through interchange. Improvements at I-75 and SR 215 are in the Work Program/GDOT STIP (2008-2011).
Aging SR 27 bridge over the Flint River.	This bridge has a sufficiency rating over 70 and is not yet eligible for federal rehabilitation or replacement funds. Therefore, no improvements to this bridge are recommended.
Interstate exit ramps at Exit 109 need improvement.	Improvements to this Interchange are currently included in the GDOT STIP/Work Program.
US 41 is a bike route but there are no bike improvements.	This bicycle facilities need has been forwarded to the River Valley Regional Commission for study and possible inclusion in the regional bicycle and pedestrian plan update.
Sidewalk is needed on US 41 in Unadilla.	This pedestrian facilities need has been forwarded to the River Valley Regional Commission for study and possible inclusion in the regional bicycle and pedestrian plan update.
A signal is needed on SR 230 @ Pine Street.	A signalization study at this location has been requested from the GDOT District Area Engineer.
There is a relatively sharp curve on I-75 south of Unadilla.	There is not a high occurrence of accidents along this roadway segment. No improvements are recommended.
Northbound Calhoun Road south of Pinehurst has a curve in it where school traffic turns left onto East Railroad Street. Other traffic at this location has yet to slow to city speeds.	This safety concern has been forwarded to the GDOT District Area Engineer for study and possible improvements.
Where SR 230 crosses under the railroad line in Byromville there is low clearance.	This safety concern has been forwarded to the GDOT District Area Engineer for study and possible improvements.
In Vienna, 7 th Street south to Richwood Road needs improvement because of the heavy trucks that use it to access the asphalt plant.	This safety concern has been forwarded to the GDOT District Area Engineer for study and possible improvements.
SR 329 has heavy truck traffic. Trucks use this road to get to the freezer plant at exit 121 rather than going along main roads. Roadway needs improvement to accommodate this truck traffic.	Projected 2035 volumes do not exceed 4,000 ADT. As these volumes correspond to LOS C or better for this roadway segment, widening is not justified and is not recommended.

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Locally Identified Transportation Need	Recommended Activities
A new interchange is needed to improve I-75 access to and from the Southeastern Show Arena in Unadilla. Currently there is only an exit.	Existing interchanges can accommodate traffic demand for this area. Therefore, a new interchange is not recommended.
Angel City needs road access to event site near Josh Road and Bemby Ave in Unadilla.	Access to this area is adequate given existing roadways. No new construction is recommended.
A new frontage road between the two I-75 exits in Unadilla would create a business strip visible from the freeway and attract development.	There is insufficient travel demand to justify the construction of the frontage road.

8.3 CURRENTLY IDENTIFIED PROJECTS

One mission of the Southwest Georgia Multi-County Transportation Study was to assess currently identified projects, or those projects listed in GDOT's GDOT STIP (2008-2011) and Work Program, for their efficacy in remedying the transportation problems of their area. The assessment of currently identified projects in Dooly County is presented in **Table 8.2** below.

TABLE 8.2: CURRENTLY IDENTIFIED PROJECTS IN DOOLY COUNTY

GDOT PI No.	Work Type	Description	Recommendation
00009034	Bike/Ped Facility	Unadilla Streetscape Improvements--Phase II	Project addresses previously identified pedestrian and bicycle needs; recommend its continued inclusion in GDOT STIP/Work Program.
0007574	Bike/Ped Facility	Landscaping and sidewalks in Vienna, SR 27 from 2nd Street to Ford Street	Project addresses previously identified pedestrian and bicycle needs; recommend its continued inclusion in GDOT STIP/Work Program.
0007172	Bridge Replacement	SR 230@ Turkey Creek 9.5 miles west of Vienna	This bridge provides access and connectivity within the local roadway network and this project's continued inclusion in the GDOT STIP/Work Program is recommended.
0007173	Bridge Replacement	SR 230@ Turkey Creek 5.5 miles northeast of Byromville	This bridge provides access and connectivity within the local roadway network and this project's continued inclusion in the GDOT STIP/Work Program is recommended.
311665-	Bridge Replacement	I-75 @ SR 27 - Widen bridge and ramps	This bridge provides access and connectivity within the local roadway network and this project's continued inclusion in the GDOT STIP/Work Program is recommended.
0005320	Interchange	I-75 @ SR 215	Project addresses identified safety and operations needs at the interchange at I-75 and SR 215 and its continued inclusion in the GDOT STIP/Work Program is recommended.
M003243	Concrete Rehab	I-75 from Crisp County Line to CR 323/Pinehurst-Hawkinsville Road	Project addresses maintenance. Recommend its continued inclusion in the GDOT STIP/Work Program.

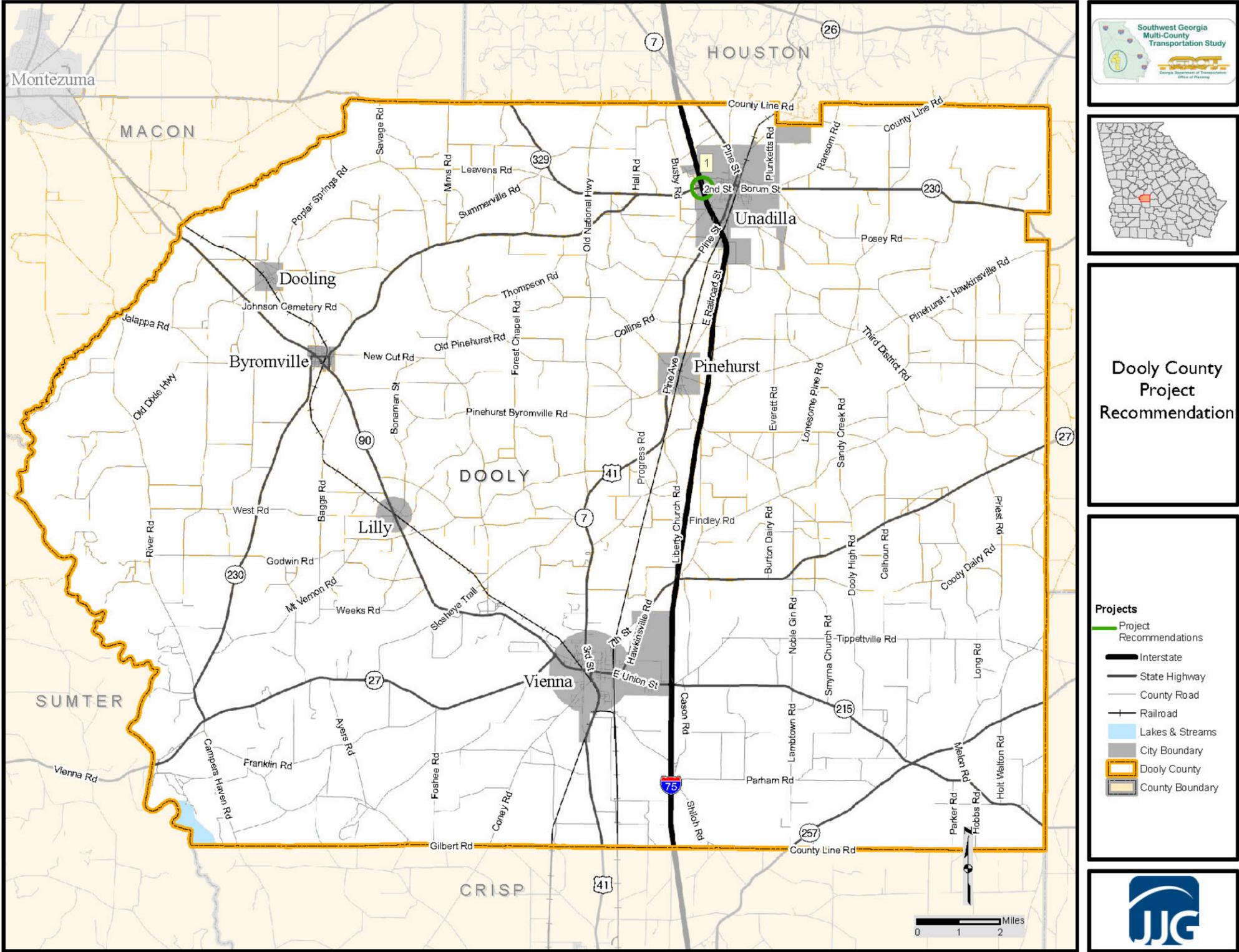
8.4 RECOMMENDED TRANSPORTATION IMPROVEMENT

From the locally identified needs, field observations, as well as from the results of travel demand modeling projections, a recommendation for a transportation improvement was made. The transportation improvement recommended for Dooly County is presented in **Table 8.3** below and mapped in **Figure 8.1** on page 54. A project sheet for the recommendation with further details and location map is presented on page 55.

TABLE 8.3: RECOMMENDATION FOR DOOLY COUNTY

Map ID	Project Name	Project Description	Cost Estimate
1	Interchange Reconstruction at I-75 and SR 230	Interchange reconstruction (including ramp widening) at I-75 and SR 230.	\$14,230,056.55

FIGURE 8.1: RECOMMENDATIONS FOR DOOLY COUNTY



Dooly County
Project
Recommendation

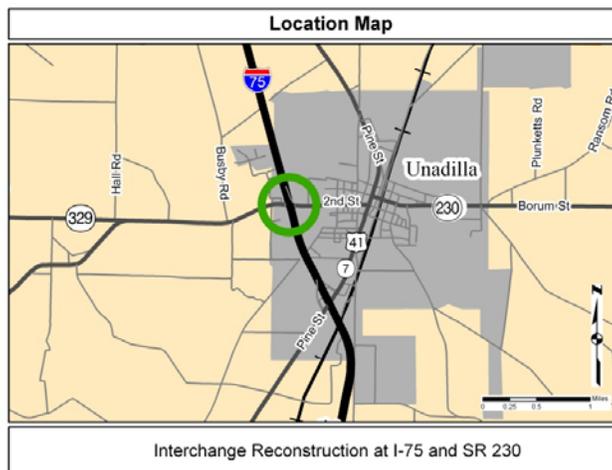
Projects

- Project Recommendations
- Interstate
- State Highway
- County Road
- Railroad
- Lakes & Streams
- City Boundary
- Dooly County
- County Boundary



8.5 PROJECT SHEET

Project Name: I-75 and SR 230						
Description: Interchange Reconstruction at I-75 and SR 230				County		Dooly
				GDOT District		3
				Congressional District:		2
Traffic Vol.:	2006:	9,000	2035:	10,280	RC/MPO:	River Valley RC
Truck %	2006:	14%	2035:	13%	Length (miles):	1.33
No. of Lanes	Existing:	2	Recommended:	4	Route #:	I-75
Functional Classification:			Rural Interstate Principal Arterial		Beginning and Ending Points:	NA
<p>Project Need and Purpose: The interchange of SR 230 at I-75 was constructed in 1961 in conjunction with the construction of I-75. The interchange has not been improved or upgraded since its construction. This interchange is a compressed diamond interchange with approximately 450 feet between ramp intersections. Traffic operation on this interchange is hindered by the lack of turn lanes on either SR 230 or the I-75 ramps. Sight distance for traffic turning from the ramps onto SR 230 is hindered by the guard rails on the narrow ramps and bridge. Furthermore, the existing ramps and bridge have no shoulders. Improvements to this interchange are necessary to improve traffic operations and safety.</p> <p>Logical Termini: The eastern and western logical termini would be approximately 1000 feet east and west of the I-75 interchange. The widening of SR 230 would need to extend 1000 feet east and west of the interchange to accommodate additional lanes through the interchange.</p>						
Project Phase	Preliminary Engineering	Right-of-Way	Utility Relocation	Construction	Total	
Cost Estimate	\$947,608.87	\$1,044,966.79	\$392,370.00	\$11,856,110.89	\$14,230,056.55	
				Project Type (Local/GDOT):		GDOT



8.6 DOOLY COUNTY RECOMMENDATION

Table 8.4 on page 57 displays the project recommended by this study for Dooly County, in terms of its project limits, configuration, source, type, implementation timeline and potential funding source. The source of the recommendation refers to whether the need for the project was first identified by a local representative or by data analysis. The implementation timeline for each project was determined by the general need for the project and the difficulty of financing its implementation. Therefore, projects with higher costs were generally determined to be longer-range in nature. For the purposes of the implementation timeline, short-term projects are expected to be implemented within one to five years; mid-term projects, within five to ten years; and long-range projects, more than ten years from the time of this study. The potential funding sources column notes those funding sources for which the project is eligible. No steps have been taken by this study towards securing such funding nor are any projects guaranteed access to funding.

TABLE 8.4: COMPLETE DOOLY COUNTY RECOMMENDATION

	Project Limits		Configuration		Source	Project Type	Implementation Timeline			Potential Funding Source		
	From	To	Existing	Proposed			Short-term	Mid-term	Long-term	Federal	State	Local
I-75	SR 230		Interchange	Improved Interchange	Locally Identified; Analysis	Interchange Reconstruction		X		X	X	X

8.7 TRANSPORTATION FUNDING RESOURCES

Planning for and successfully implementing a transportation plan relies on the identification and effective utilization of available transportation funds. Generally, funding is provided at the federal, state and local levels. It is important to note that, while a wide array of funds may be available for transportation improvements, funds at each level are limited.

8.7.1 FEDERAL FUNDING SOURCES

The primary source for relatively costly roadway, transit, bicycle and pedestrian projects is federal funding authorization provided by Safe, Accountable, Flexible, and Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU). Federal funding requires that project sponsors contribute a portion of the project's cost, typically 20 percent or more of the total cost. Project sponsors can be state or local, or both. Federal funding sources may be available to those rural roads classified as major collectors or above, or urban roads designated as collectors or above. Due to the large number of projects vying nationwide for federal funding, federal funds are limited and require stringent regulation.

8.7.2 STATE FUNDING SOURCES

State funds are also an important component of transportation funding, primarily for capital projects (those requiring construction or equipment costs). As with federal funds, rural roads classified as major collectors or above, or urban roads designated as collectors or above, are potentially eligible for state funding sources.

The State of Georgia collects two types of taxes on motor fuels to help fund transportation infrastructure projects. Along with the *Prepaid State Tax*, by which three percent of average retail price of fuel is dedicated to transportation, and a bond program, the state of Georgia has the *Fuel Excise Tax*, which places a 7.5 cents tax on each gallon of fuel purchased. Since this tax is based solely on the volume of gasoline sold, it is not indexed to inflation. Revenues increase only with an increase in roadway usage, and revenue increases from travel are offset due to improved engine technology and higher fuel efficiency of vehicles. Due to these factors, the funding ability generated by this tax has been in decline. At this time, State funding is limited, although efforts are underway to identify a potential new source of state funding to supplement the transportation gas tax.

8.7.3 LOCAL FUNDING SOURCES

HB 277 was signed by Governor Sonny Purdue June 2, 2010. The law allows each region to designate a list of selected transportation projects within its boundaries. These projects would be financed by a regional one percent sales tax over ten years, if approved by voters within the region. Project lists will undergo initial developments in the fall of 2010 and referendums will take place in 2012.

Projects along local roads and rural minor collectors are typically funded through local sources. Use of local funding provides local agencies with additional control and direction over the project, but requires expenditure of local resources. Localities within the State of Georgia are able to collect three types of taxes to generate funds for transportation infrastructure projects.

Local governments may, in some cases, also levy fees for this purpose. These may include a *Special Local Option Sales Tax (SPLOST)*, which can be levied by a county via voter referendum for the purpose of raising money to build and maintain transportation and other public facility improvements; *Tax Allocation Districts (TAD)* can fund infrastructure projects, including transportation projects, with bonds

from a limited area targeted for accelerated growth; *Community Improvement Districts (CID)* can fund infrastructure projects, including transportation projects, in a limited area at the discretion of existing commercial property owners; and *Impact Fees*, which are one-time fees charged in association with a new development and are designed to cover part of the cost of providing public facilities to support the development.