CHATHAM COUNTY

INTERSTATE NEEDS ANALYSIS AND PRIORITIZATION PLAN

Baseline Conditions and Needs Assessment Report

Prepared for the
Georgia Department of Transportation
Office of Planning

GDOT
Georgia Department of Transportation

Prepared by:

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1 Introduction

1.1 Study Overview

The Chatham County Interstate Needs Analysis and Prioritization Plan (Plan) is an effort by the Georgia Department of Transportation (GDOT) to conduct a study of the existing interstate transportation network for Chatham County and develop a prioritized list of proposed improvements to this system based on need and constructability. The prioritization process will include evaluating projects currently in the LRTP, but will also consider new projects. The Plan is being developed in cooperation with Georgia Ports Authority (GPA) and the State Roadway Tollway Authority (SRTA). This study will consider congestion, the impact of development, truck and freight traffic, port access, and the impacts any proposed alternatives will have on the historic, community, and natural resources in Chatham County.

The study area for this project is completely contained within Chatham County, and includes the entire interstate system within the County and its areas of influence. The study will be limited to the areas in the county near the existing interstate facilities and will not include the coastal areas in the eastern edge of the county. At the same time, external traffic has been accounted for, particularly in "suburban Savannah" locations such as Effingham County. A map of the study area is provided on **Figure 1.1**.

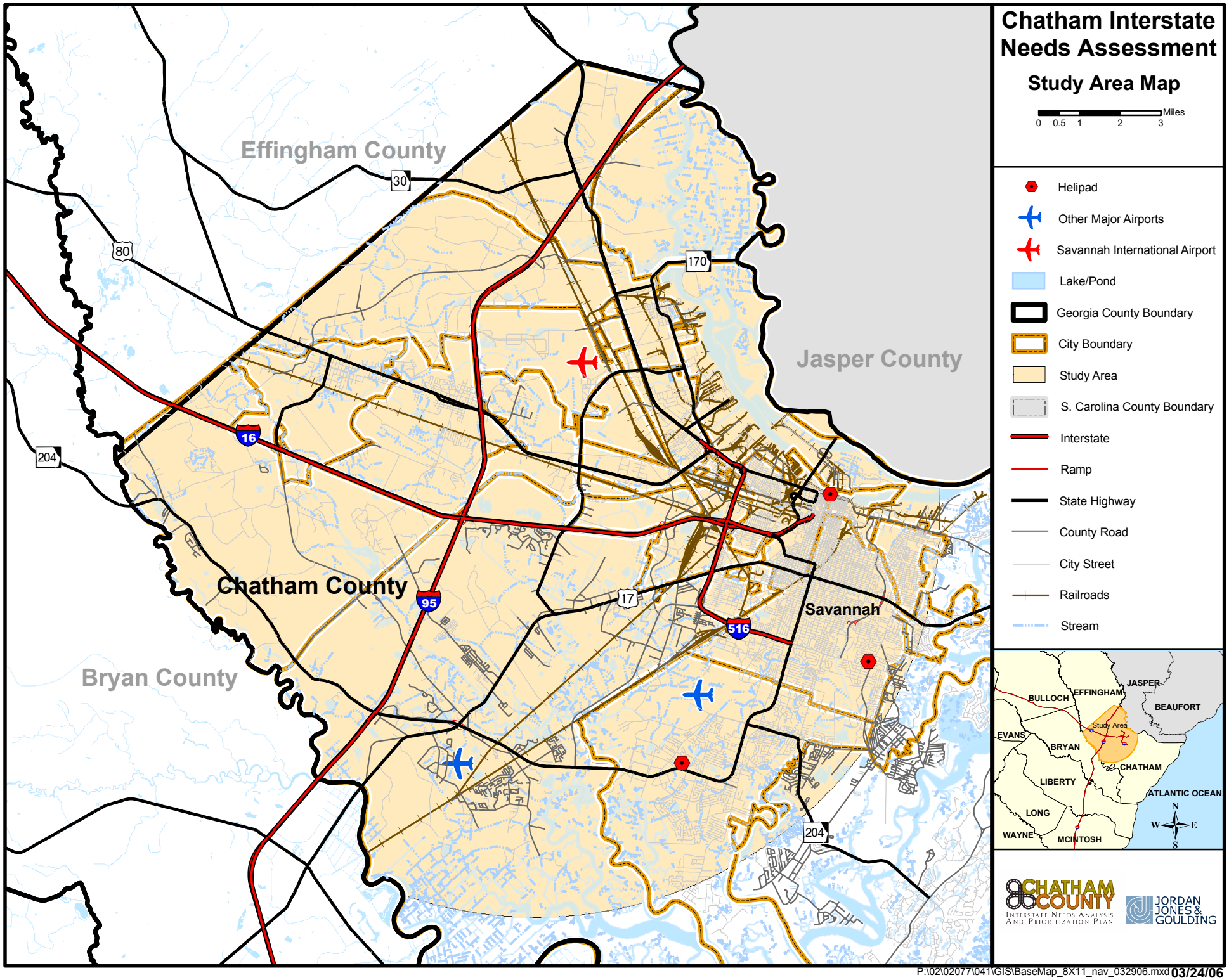
The Plan will be undertaken through the following three-step process. This report summarizes the analysis and findings completed in Step 1.

- **Step 1: Baseline Conditions and Needs Assessment** – An assessment of the existing and projected future conditions of the Interstate system and associated factors that influence travel along the system within Chatham County in order to identify existing and future needs and deficiencies.
- **Step 2: Evaluation of Scenarios/Concept Layout Development** – First, a list of candidate projects will be developed for the Interstate system. Layouts of the candidate projects will be developed and evaluated for constructability based on preliminary cost estimates and potential environmental and social impacts and their relationship to other interrelated projects. The result will be a preliminary set of recommended improvement scenarios.
- **Step 3: Final Report Recommendation and Phasing Plan** – Preliminary engineering of the improvement scenarios recommended in Step 2 will be undertaken to refine the cost estimates and develop a recommended phasing plan for improvements to the Interstate system based on available resources.

1.2 Report Overview

As noted above, the purpose of this report is to document the first step of the process of developing the Plan. As such, this document is organized as follows:

- **Data Collection** – Provides an overview of the data collection methodology and results from various sources including traffic characteristics, physical roadway elements and environmental and land use data that will be used later in the study to assess the impacts of potential improvements that are considered to the interstate network as a result of this study.


Chatham Interstate Needs Assessment
Study Area Map
Miles
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Helipad
Other Major Airports
Savannah International Airport
Lake/Pond
Georgia County Boundary
City Boundary
Study Area
S. Carolina County Boundary
Interstate
Ramp
State Highway
County Road
City Street
Railroads
Stream
Effingham County
Jasper County
Chatham County
Bryan County
Savannah
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80
170
204
16
95
17
516
JASPER
EFFINGHAM
BULLOCH
BEAUFORT
Study Area
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BRYAN
CHATHAM
LIBERTY
ATLANTIC OCEAN
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- **Model Validation** – The methodology employed to validate the travel demand model for the Chatham Urban Transportation System (CUTS) and the resulting travel demand model outputs based on this effort.
- **Truck Traffic Characteristics** – An overview of the methodology to quantify truck movements through off-model analysis and the results of these efforts. This includes the identification of major truck traffic generation areas and likely truck routes for incorporation into the travel demand model.
- **Critical Roadway Segments** – An analysis of the segments of the Interstate system that have been identified as in need of improvements in order to maintain an acceptable level of service pursuant to the model validation and subsequent refinement based on truck traffic characteristics.
- **Operations Model Development** – The methodology of developing a revised operations model with the improvement concepts developed based on the needs and deficiencies of the critical roadway segments.
- **Needs and Deficiencies** – An analysis based on the revised operations model of roadway in order to identify deficiencies with respect to highway capacity and congestion, safety and functionality, and maintenance and reconstruction needs.

2 Data Collection and Environmental Constraints

This section of the report provides an overview of the data collection activities that were undertaken in order to provide a baseline for travel demand forecasting and analysis in addition to specific environmental and land use assessments associated with the overall project scope.

2.1 Roadway and Traffic Data

2.1.1 GDOT Data

Much of the roadway data compiled for this project was collected and provided to the study team by GDOT. A complete list of roadway and traffic data provided by GDOT is provided below.

- Roads Measured Shape File
- Road Condition File
- Highway Performance Monitoring System (HPMS) Data File
- Automatic Traffic Recorders (ATR) Data
- Traffic Count Data from GDOT Count Stations from 2001 through 2004
- Accident Data
- Bridge Inventory
- Truck Data (from ATR data)
- Vehicle Occupancy Data
- Aerial Photography (in Microstation)
- Existing Interstate Plans
- 2007 – 2009 Transportation Improvement Program (TIP)
- Chatham County CUTS LRTP Travel Demand Model: LRTP Model (2004)

2.1.2 Data from Local Sources

Roadway and traffic data from local sources was also collected to supplement that received from GDOT. This data includes:

- 2030 Long Range Transportation Plan from the Chatham Urban Transportation Study (CUTS)
- Future Roadway Improvements GIS data from CUTS
- Chatham County-Savannah Comprehensive Plan from the Savannah-Chatham County Metropolitan Planning Commission (MPC)
- Traffic Counts from CUTS and the City of Savannah

2.2 Environmental and Other Data Sources

2.2.1 Environmental Data

The primary source of baseline environmental data was generated from the Savannah-Chatham County MPC Geographical Information System. The information requested was that necessary for environmental screening analysis pursuant to the requirements of the National Environmental Protection Act (NEPA). The following environmental data layers were received from the MPC:

- Wetland Coverage
- Rivers

- Lakes
- Streams
- Rare Species Inventory
- Conservation Land
- Flood Zones
- Hazardous Materials Sites
- Community Facilities
    - Schools
    - Parks
    - Fire Stations
    - Police Stations
    - Community Centers
    - Cemeteries
- Historic Properties

In addition to the data provided by the MPC, the following information was collected from the US Census in order to conduct a baseline assessment of Environmental Justice populations in the study area:

- US Census GIS Data
- Census Tract Boundaries
- Census Block Group Boundaries
- Census Block Boundaries
- Minority Populations by Census Block Group
    - Blacks
    - Hispanics
    - Asians
    - Native Americans
- Low Income Groups by Census Block Groups

2.2.2 Other Data Sources

In addition to the aforementioned data, data from the Georgia Department of Industry, Tourism and Trade was collected to identify major employers throughout Chatham County. The purpose of yielding this information was to identify major generators of truck traffic and spatially identify potential truck routes for the off-model truck analysis, which is discussed in greater detail in **Chapter 4**.

2.3 Environmental Analysis

2.3.1 Environmental Justice

Executive Order 12898, issued in 1994, directed federal agencies, including the Federal Highway Administration (FHWA), to make Environmental Justice (EJ) part of their mission by identifying and addressing the effects of all programs, policies, and activities on minority and low-income populations. Executive Order 12898 and the U.S. Department of Transportation (USDOT) and FHWA Orders on Environmental Justice address persons belonging to any of the following groups:

- Black - a person having origins in any of the black racial groups of Africa.

- Hispanic - a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- Asian - a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.
- American Indian and Alaskan Native - a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.
- Low-Income - a person whose household income (or in the case of a community or group, whose median household income) is at or below the US Department of Health and Human Services (HHS) poverty guidelines.

On March 9, 2000, the Federal Office of Management and Budget issued its Bulletin No. 00-02, "Guidance on Aggregation and Allocation of Data on Race for Use in Civil Rights Monitoring and Enforcement," that added to the previous standard delineations of race/ethnicity the category of:

- Native Hawaiian or Other Pacific Islander - a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

In order to conduct the EJ analysis, the aforementioned groups were categorized as follows:

Category	Population Groups
Racial Minority	Blacks Asians American Indian and Alaskan Natives Native Hawaiian or Other Pacific Islander Other Races Two or More Races
Ethnic Minority	Hispanics
Low-Income	Persons with income below poverty level

Data from the 2000 US Census at the Block Group level was used for identifying minority and low-income populations within the study area.

Block Groups with minority population and low-income household concentrations that exceeded the statewide average as a whole were recognized as potentially sensitive areas to environmental justice issues. For the purpose of this study, a “concentration” refers to the percentage of a specific population within a particular area such as a Census Block Group, Chatham County, or statewide.

Racial Minority Analysis

In 2000, Blacks made up over 90 percent of the non-white population and, thus, were by far the largest racial minority within Chatham County. The Black population of Chatham County numbered 93,971, which made up approximately 40.5 percent of its total population of 232,048. This countywide percentage of Blacks was much higher than the statewide 28.7 percentage for Georgia as a whole. With respect to other racial minorities, the second largest racial minority in Chatham County is Asians, which number slightly over 4,000 and make up approximately 1.7 percent of the overall

population of the County. A breakdown of racial minorities within Chatham County compared to Georgia as a whole is provided below in **Table 2.1**.

Table 2.1: Racial Minority Concentrations

Racial Minority Group		Chatham County	Georgia
Blacks	Pop.	93,971	2,349,542
	Perc.	40.5	28.7
American Indians and Alaskan Natives	Pop.	580	21,737
	Perc.	0.2	0.3
Asians	Pop.	4,013	173,170
	Perc.	1.7	2.1
Native Hawaiians and Other Pacific Islanders	Pop.	151	4,246
	Perc.	0.1	0.1
Some Other Race Alone	Pop.	2,073	196,289
	Perc.	0.9	2.4
Two or More Races	Pop.	2,981	114,188
	Perc.	1.3	1.4
Racial Minority Subtotal	Pop.	103,769	2,859,172
	Perc.	44.7	34.9
White	Pop.	128,279	5,327,281
	Perc.	55.3	65.1
County Population Total		**232,048**	**8,186,453**

Source: Source: P3 – Race, Census 2000 Summary File 1

Blacks

As previously noted, the population percentage of Blacks within Chatham County was 40.5 percent, compared to 28.7 percent statewide. Therefore, a concentration of Blacks that could be subject to EJ related impacts was defined as an area with 28.7 percent or greater. Of the 218 Census Block Groups in Chatham County, 125 had percentages greater than 28.7 percent. Of these, a total of 105 had percentages of over the county average of 40.5 percent and 61 had concentrations of 75 percent or more. The concentration of Blacks by Block Groups is represented graphically in **Figure 2.1**.

As shown in **Figure 2.1**, the highest concentrations of Blacks (75%+) within Chatham County are located in the districts immediately surrounding the downtown historic district both along the river and inside the city core east of I-516. There are also significant populations (40.5%) concentrated near Skidaway Island, Hunter AFB, and along both sides of I-16 from downtown Savannah to SR 307. Therefore, the highest potential for EJ related impacts to black populations are along the I-516 corridor, along I-16 from downtown Savannah to SR 307, and along I-95 just north of US 80 in northern Chatham County.

American Indians and Alaskan Natives

The total population of American Indians and Alaskan Natives within Chatham County numbered 580, or 0.2 percent of the County total. Furthermore, according to the Bureau of Indian Affairs, there are no federally recognized tribal lands within Chatham County. Given these factors, it was assumed that no significant concentrations of this population would be potentially subject to EJ related impacts.

Environmental Justice Populations - Black Population in 2000

Effingham County

Beaufort County

Jasper County

Bryan County

Chatham County

Port Wentworth

Bloomingdale

Pooler

Garden City

Savannah

Thunderbolt

Vernonburg

SOUTH CAROLINA

GEORGIA

16

95

516

170

17

80

204

30

Black Population in 2000 by Census Block Group

- 28.7% - 50%
- > 50% - 75%
- Over 75%

- Savannah International Airport
- Other Airport
- Interstate
- Ramp
- State Highway
- Railroad
- Study Area
- County Boundary
- State Boundary

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Figure 2.1

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Asians

Of the 232,048 persons residing within Chatham County, 4,013, or 1.7 percent are Asians. For the purposes of this study, a concentration of Asians potentially subject to EJ related impacts was defined as one greater than the statewide average of 2.1 percent. Of the 53 Block Groups within the EJ study area that met this threshold, a total of nine contained Asian concentrations of over five percent and only one contained a concentration of over ten percent.

In general, the Asian population within Chatham County is distributed throughout the county. More specifically, the most significant concentrations are located in areas east and south of downtown Savannah. As shown in **Figure 2.2**, smaller concentrations do exist along I-95 and I-16 in western Chatham County, which will need to be considered if improvements are recommended to this portion of the Interstate system.

Some Other Race

The total population of those that claimed to be of 'Some Other Race' within Chatham County numbered 2,073, or 0.9 percent of the County total. For the purposes of this study, a concentration of this population potentially subject to EJ related impacts was defined as one greater than the statewide average of 2.4 percent. Of the 15 Block Groups within the EJ study area with concentrations that met this threshold, five contained concentrations of over five percent and only one contained concentrations of over ten percent. Given these low population concentrations and that a single minority group cannot be defined by this Census population category, it was assumed that no significant concentrations of this population would be potentially subject to EJ related impacts.

Two or More Races

Of the 232,048 persons residing within Chatham County, 2,981, or 1.3 percent are of two or more races. For the purposes of this study, a concentration that could be subject to EJ related impacts was defined as one greater than the statewide average of 1.4 percent. Of the 70 Block Groups with concentrations that meet this threshold, none contained concentrations of over five percent. Given these low population concentrations and that a single minority group cannot be derived from this Census population category, it was assumed that this population would not be potentially subject to EJ related impacts.

Native Hawaiians and Other Pacific Islanders

The total population of Native Hawaiians and Other Pacific Islanders within Chatham County numbers 151, or 0.1 percent of the County total. Given this low population total, it was assumed that no significant concentrations of this population were potentially subject to EJ related impacts.

Environmental Justice Populations - Asian Population in 2000

Asian Population in 2000 by Census Block Group

- 2.3% - 5 %
- 5% - 10%
- Over 10%

- Savannah International Airport
- Other Airport
- Interstate
- Ramp
- State Highway
- Railroad
- Study Area
- County Boundary
- State Boundary

Effingham County
Beaufort County
Jasper County
Bryan County
Chatham County
Port Wentworth
Bloomingdale
Pooler
Garden City
Savannah
Thunderbolt
Vernonburg
SOUTH CAROLINA
GEORGIA
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Figure 2.2

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Ethnic Minority Analysis

The federal government considers race and origin to be two separate and distinct concepts. Origin can be viewed as the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States. The primary ethnic minority populations within Chatham County are Hispanics and Gullahs (sometimes referred to as Geechees). However, unlike the Gullah ethnicity that consists of a single race (Black), people who identify their origin as Spanish, Hispanic, or Latino may be of any race. Furthermore, the populations of Hispanics and specific racial minority groups must be analyzed separately because some Hispanics are of a racial minority group. For example, as demonstrated in **Table 2.2**, over 32 percent of Hispanics considered themselves to be of 'Some Other Race'.

Table 2.2: Hispanic Population by Race

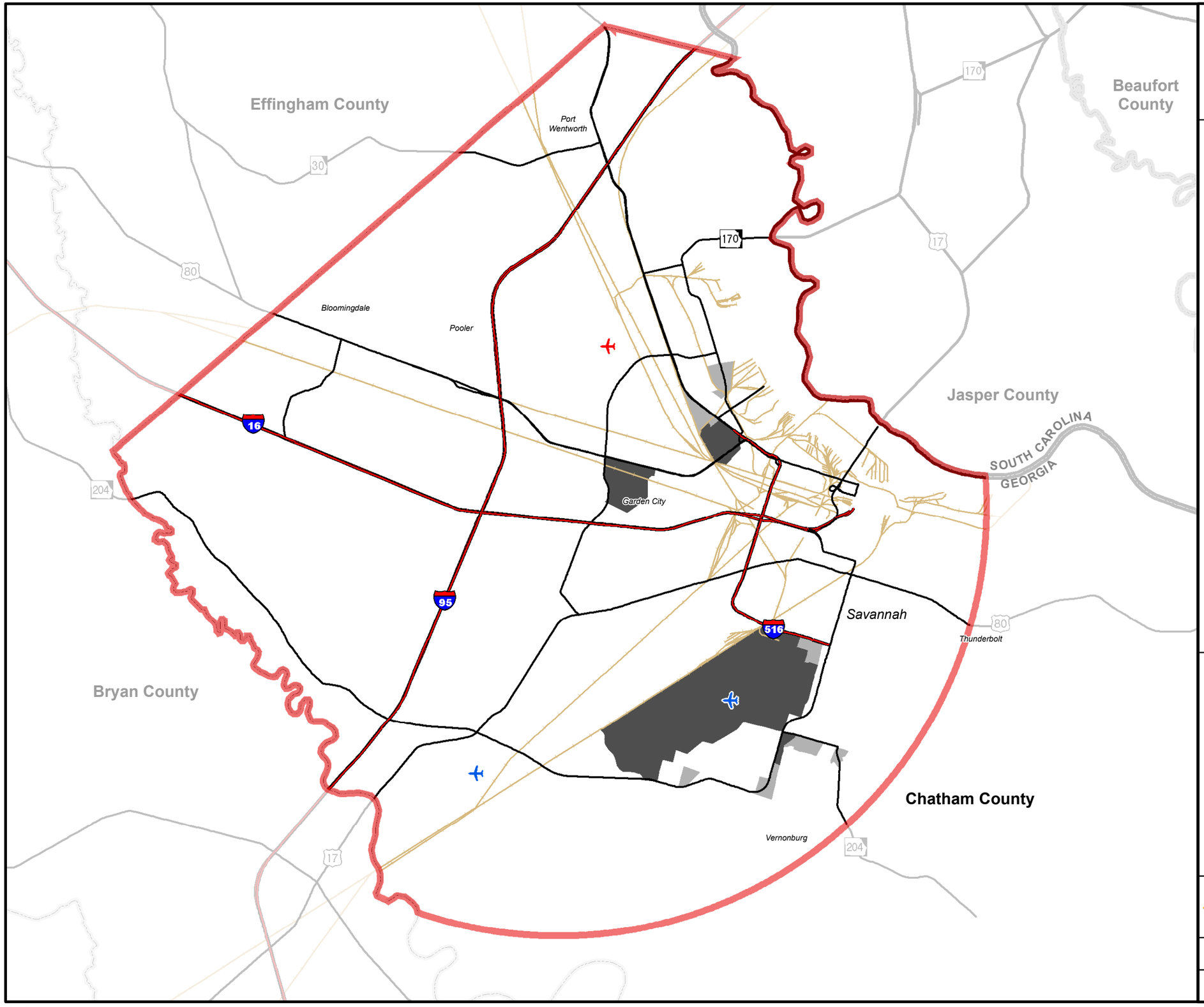
Race	Population	Percentage
White alone	2,477	45.8 %
Black or African American alone	508	9.4 %
American Indian and Alaska Native alone	63	1.2 %
Asian alone	21	0.4 %
Native Hawaiian and Other Pacific Islander alone	23	0.4 %
Some other race alone	1,762	32.6 %
Two or more races	549	10.2 %
Total	**5,403**	
Source: P8 – Hispanic or Latino by Race, Census 2000 Summary File 1		

Of the 232,048 persons residing within Chatham County, 5,403, or 2.3 percent are Hispanics. For the purposes of this study, a concentration that could be subject to EJ related impacts was defined as one greater than the statewide average of 5.3 percent. There were a total of 13 Block Groups within the EJ study area with concentrations that meet this threshold. Of these, a total of five Block Groups, which are primarily concentrated around Hunter AFB, contained concentrations of over ten percent. Other concentrations were located near the intersection of US 80 and SR 307, and the northern terminus of I-516. Given these very few small population concentrations and that a single cohesive minority group cannot be derived this Census population category, it was assumed that no significant concentrations of this population would be potentially subject to EJ related impacts. Locations of Hispanic populations are illustrated in **Figure 2.3**.

Low-Income Population Analysis

While Census data specific to racial and ethnic minority populations are available at the Block Group level, the number of persons with income levels at or below the HHS poverty guidelines is not. This is due to the fact that these guidelines are used primarily for criteria to receive various social services rather than to quantify concentrations of low-income persons. However, poverty thresholds that were used to derive the HHS poverty guidelines are used by the US Census to determine a poverty level and the number of persons within incomes at or below that poverty level. Therefore, in order to identify EJ sensitive communities with respect to income, the percentage of persons at or below the poverty level that were greater than the state average were identified by Census Block Group.

Environmental Justice Populations - Hispanic Population in 2000



Hispanic Population in 2000 by Census Block Group

- 5.3% - 10%
- Over 10%

- Savannah International Airport
- Other Airport
- Interstate
- Ramp
- State Highway
- Railroad
- Study Area
- County Boundary
- State Boundary

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Figure 2.3

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As shown in **Table 2.3**, the percentage of persons living below the poverty level in Chatham County was slightly higher than the statewide percentage. For the purposes of this study, a concentration that could be subject to EJ related impacts was defined as one greater than the statewide average of 13 percent. There were a total of 126 Block Groups within the EJ study area with concentrations that meet this threshold. Of these, a total of 59 Block Groups contained low-income population percentages of over twenty-five percent, 11 Block Groups contained low-income population percentages of over fifty percent, and two Block Groups contain low-income population percentage of over seventy-five percent. In terms of location, the EJ group is the most consistently defined and concentrated in geographic terms. All of the Block Groups with the higher percentages of poverty are either concentrated in the older sections of Savannah or along I-95 near Bryan County. Low-income populations are mapped in **Figure 2.4**.

Table 2.3: Poverty in 1999

	Georgia		Chatham County	
	Population*	**Percentage**	**Population***	**Percentage**
Below poverty level	1,033,793	13.0 %	35,043	15.6 %
At or above poverty level	6,925,856	87.0 %	189,355	84.4 %
Total	**7,959,649**		**224,398**	

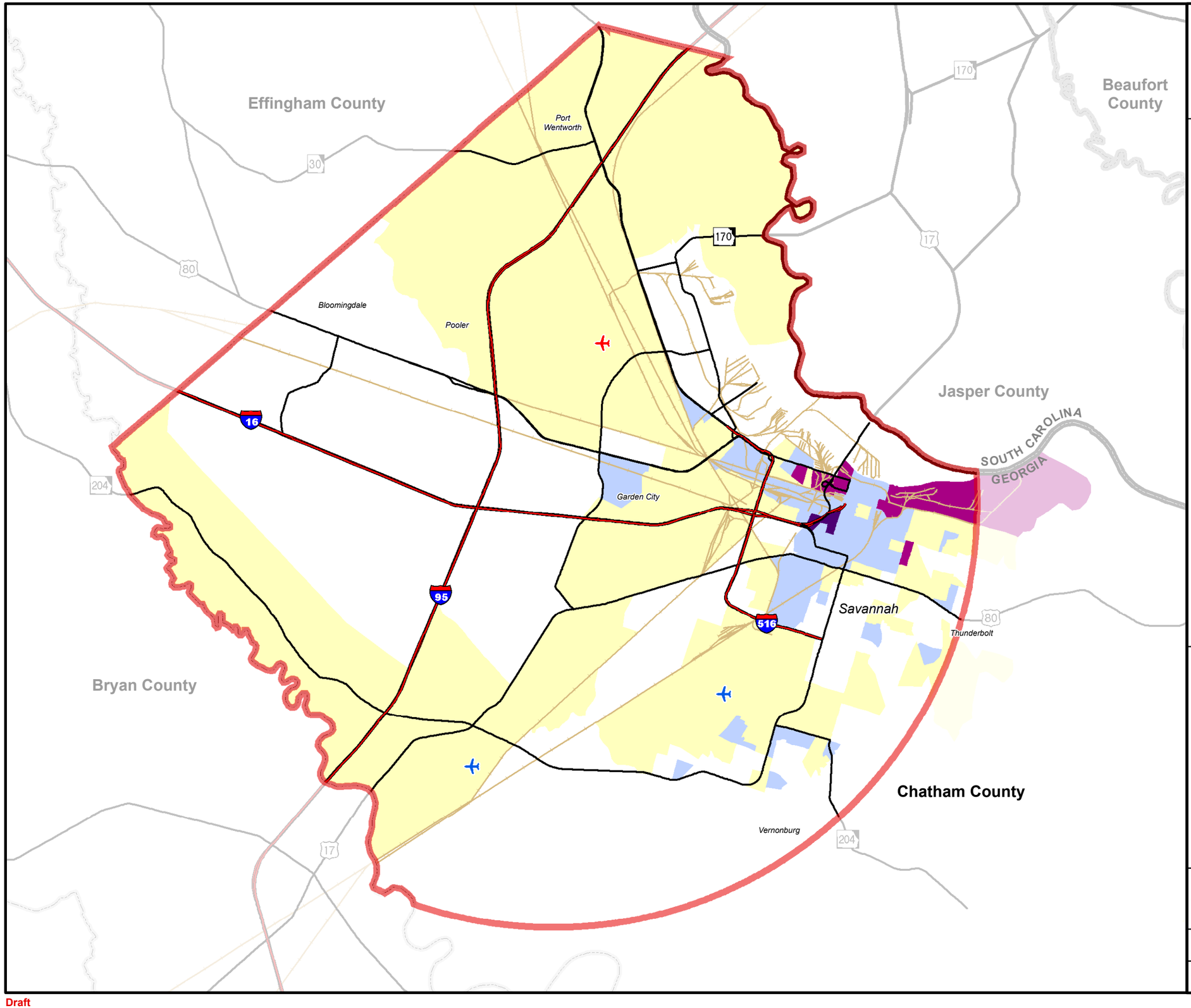
** Persons for whom poverty is determined.*
Source: P87 – Poverty Status in 1999 by Age, Census 2000 Summary File 3

Key Findings

Based on the analysis in sections above, the following describes the minority and low-income population characteristics within Chatham County:

- By far, the largest EJ group in Chatham County is the black population, which accounts for 40.5% of the total population. The highest potential for EJ related impacts to black populations are along the I-516 corridor, along I-16 from downtown Savannah to SR 307, and along I-95 just north of US 80 in northern Chatham County.
- The second largest EJ group is low-income populations, which comprise 13% of the total population of Chatham County. Many of the low income areas within Chatham County are also those with higher black populations. As such, the highest potential for EJ related impacts to black populations are along the I-516 corridor, and along I-16 from downtown Savannah to SR307. In addition, there is also a smaller concentration of low-income populations along I-95 near Bryan County.
- Smaller Asian population concentrations exist along I-95 and I-16 in western Chatham County, which will need to be considered if improvements are recommended to this portion of the Interstate system.
- All of the other EJ group populations are scattered throughout the County and, therefore, would not be subject to EJ related impacts as a result of improvements to the Interstate system.

Environmental Justice Populations - Low-Income Households in 2000



Households Below Poverty Level in 2000 by Census Block Group

- 13% - 25%
- >25% - 50%
- > 50% - 75%
- Over 75%

- Savannah International Airport
- Other Airport
- Interstate
- Ramp
- State Highway
- Railroad
- Study Area
- County Boundary
- State Boundary

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Figure 2.4

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It is important to note that impacts from improvements to the Interstate system can also be positive in the way they affect EJ communities. Although interstate construction can cause displacement of persons and businesses, these burdens can be offset by improved access to jobs and services that new facilities afford. These accessibility benefits need to be carefully weighed against the burdens imposed in order to determine the net impact on EJ populations. These net impacts will be used to evaluate the various alternatives against one another and determine the best improvement scenario available.

2.3.2 Environmental Constraints

Since the passage of the National Environmental Policy Act of 1969 (NEPA), environmental considerations have played a role in improvements to federally-funded transportation facilities. This section surveys the environmental and historic variables that will play a part in investment decisions within this study. They include riparian resources (waterways, wetlands, and floodplains), rare and endangered species, hazardous materials sites, community facilities, and historic resources.

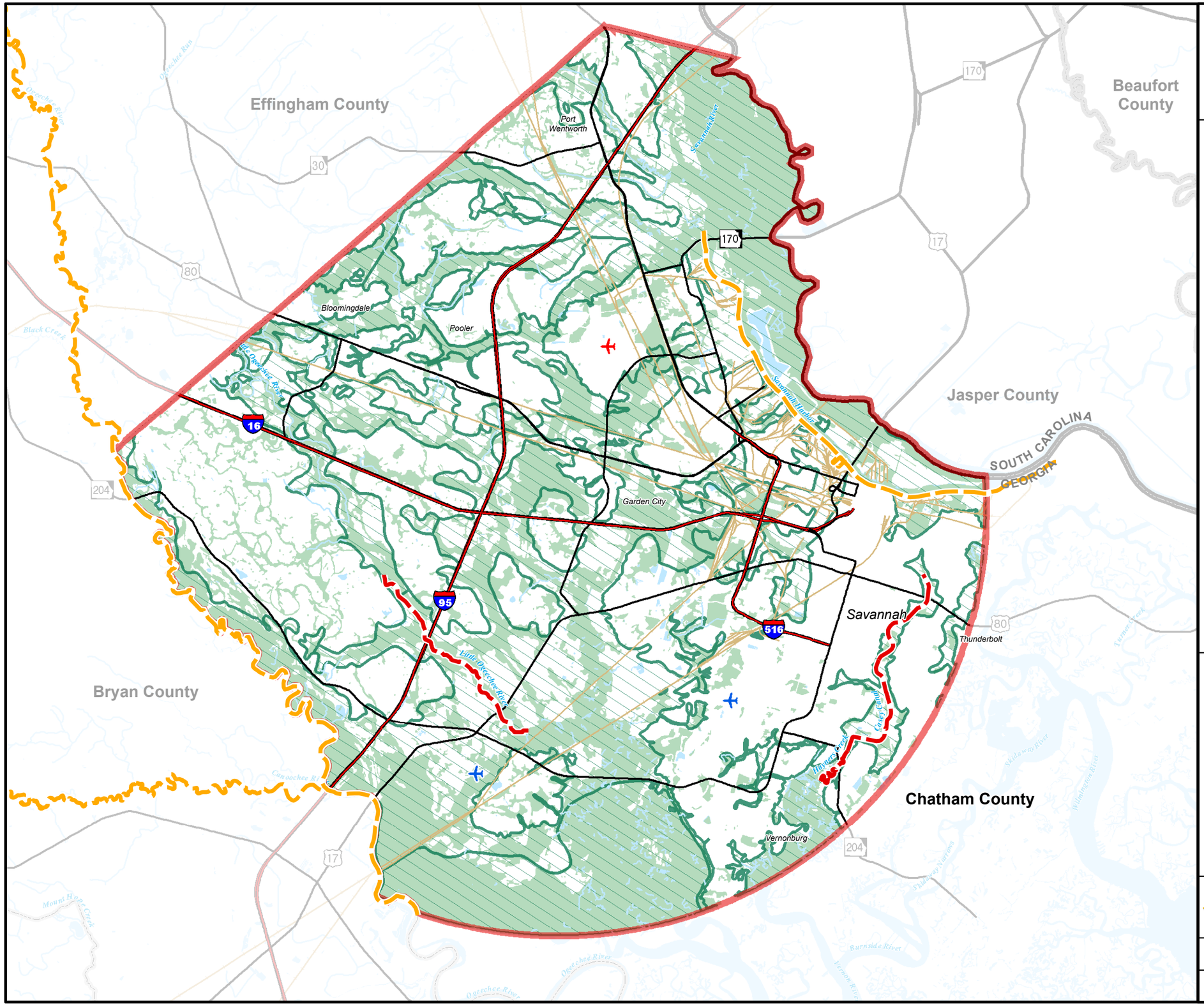
Riparian Resources: Waterways, Wetlands, and Floodplains

The locations of the areas floodplains, wetlands, and impaired waterways are illustrated in **Figure 2.5**. Chatham is a low-lying coastal county with vast areas of floodplains and wetlands. All of Chatham County's interstates traverse wetland and floodplain areas, which will complicate most future improvements. The area currently defined as water, wetland, or floodplain totals 99,200 acres, 59 percent of the Study Area.

The impact of global climate change on Chatham County has the potential to have a dramatic impact on the County's interstate system. According to the US Environmental Protection Agency, global sea levels could rise as much as 30 inches by 2100 and major storms, such as hurricanes, are predicted to become increasingly severe. The combination will likely lead to an expansion of the area allocated for the 100-year floodplain over the course of the next century. Because the interstate system is the most important route for hurricane evacuation and the most important route for bringing in relief and reconstruction supplies, care should be taken to ensure the interstate network is not compromised during future storm events.

All four of the significant rivers in the Chatham County Study Area are listed by the US Environmental Protection Agency, via the Georgia Environmental Protection Division, as not supporting the Clean Water Act mandate of being "fishable and swimable." The list of waterways not meeting the Clean Water Act mandate is referred to as the 303(d) list, referring to the section of the Act requiring the list. The four rivers listed on the state's list of impaired waterways are the Ogeechee River, Little Ogeechee River, Savannah Harbor section of the Savannah River, and Hayners Creek/Casey Canal.

Impaired Waterways, Wetlands, and Floodplains



Impaired Waterways
- Partially Supporting
- Not Supporting

- 100-Year Floodplain
- Wetland

- Savannah International Airport
- Other Major Airport
- Interstate
- Ramp
- State Highway
- Railroad
- Stream
- Lake/Pond
- Study Area
- County Boundary
- State Boundary

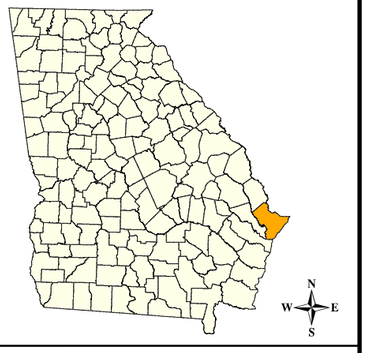


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Figure 2.5

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Rare Species

The Georgia Department of Natural Resources (DNR) has created the Georgia Natural Heritage Program that focuses on identifying elements of special concern in the state. These elements include plant species, animal species, or natural community types that are especially rare or threatened. The following two tables (**2.4** and **2.5**) compile the animal and plant species of concern in Chatham County.

Table 2.4: Animals of Special Concern in Chatham County

Listing	Species
US	· *Acipenser brevirostrum* Shortnose Sturgeon
US	· *Ambystoma cingulatum* Flatwoods Salamander
	· *Ammodramus maritimus* Seaside Sparrow
US	· *Caretta caretta* Loggerhead
US	· *Charadrius melodus* Piping Plover
GA	· *Charadrius wilsonia* Wilson's Plover
US	· *Chelonia mydas* Green Sea Turtle
GA	· *Clemmys guttata* Spotted Turtle
	· *Cyprinella leedsi* Bannerfin Shiner
US	· *Dermochelys coriacea* Leatherback Sea Turtle
US	· *Eubalaena glacialis* Northern Right Whale
GA	· *Gopherus polyphemus* Gopher Tortoise
GA	· *Haematopus palliatus* American Oystercatcher
US	· *Haliaeetus leucocephalus* Bald Eagle
	· *Himantopus mexicanus* Black-necked Stilt
US	· *Lepidochelys kempii* Kemp's Or Atlantic Ridley
	· *Menidia beryllina* Inland Silverside
US	· *Mycteria americana* Wood Stork
	· *Nyctanassa violacea* Yellow-crowned Night-heron
	· *Nycticorax nycticorax* Black-crowned Night-heron
	· *Petromyzon marinus* Sea Lamprey
US	· *Picoides borealis* Red-cockaded Woodpecker
	· *Pseudacris brimleyi* Brimley's Chorus Frog
	· *Pseudorca crassidens* False Killer Whale
	· *Rana capito* Gopher Frog
	· *Rynchops niger* Black Skimmer
GA	· *Sterna antillarum* Least Tern
US	· *Trichechus manatus* Manatee
	· *Tyrannus dominicensis* Gray Kingbird

Table 2.5: Plants of Special Concern in Chatham County

Listing	Species
	· *Forestiera segregata* Florida Privet
	· *Hibiscus grandiflorus* Swamp Hibiscus
US	· *Lindera melissifolia* Pondberry
GA	· *Physostegia leptophylla* Tidal Marsh Obedient Plant
	· *Rhynchospora punctata* Pineland Beaksedge
	· *Sapindus saponaria* Soapberry
GA	· *Sarracenia minor* Hooded Pitcherplant
	· *Scutellaria mellichampii* Skullcap
	· *Sporobolus pinetorum* Pineland Dropseed
	· *Vigna luteola* Wild Yellow Cowpea

Hazardous Materials Sites

Chatham County has dozens of hazardous material sites. The majority are located near the Port, east of I-95 and north of I-16. The locations of hazardous material sites are illustrated in **Figure 2.6**.

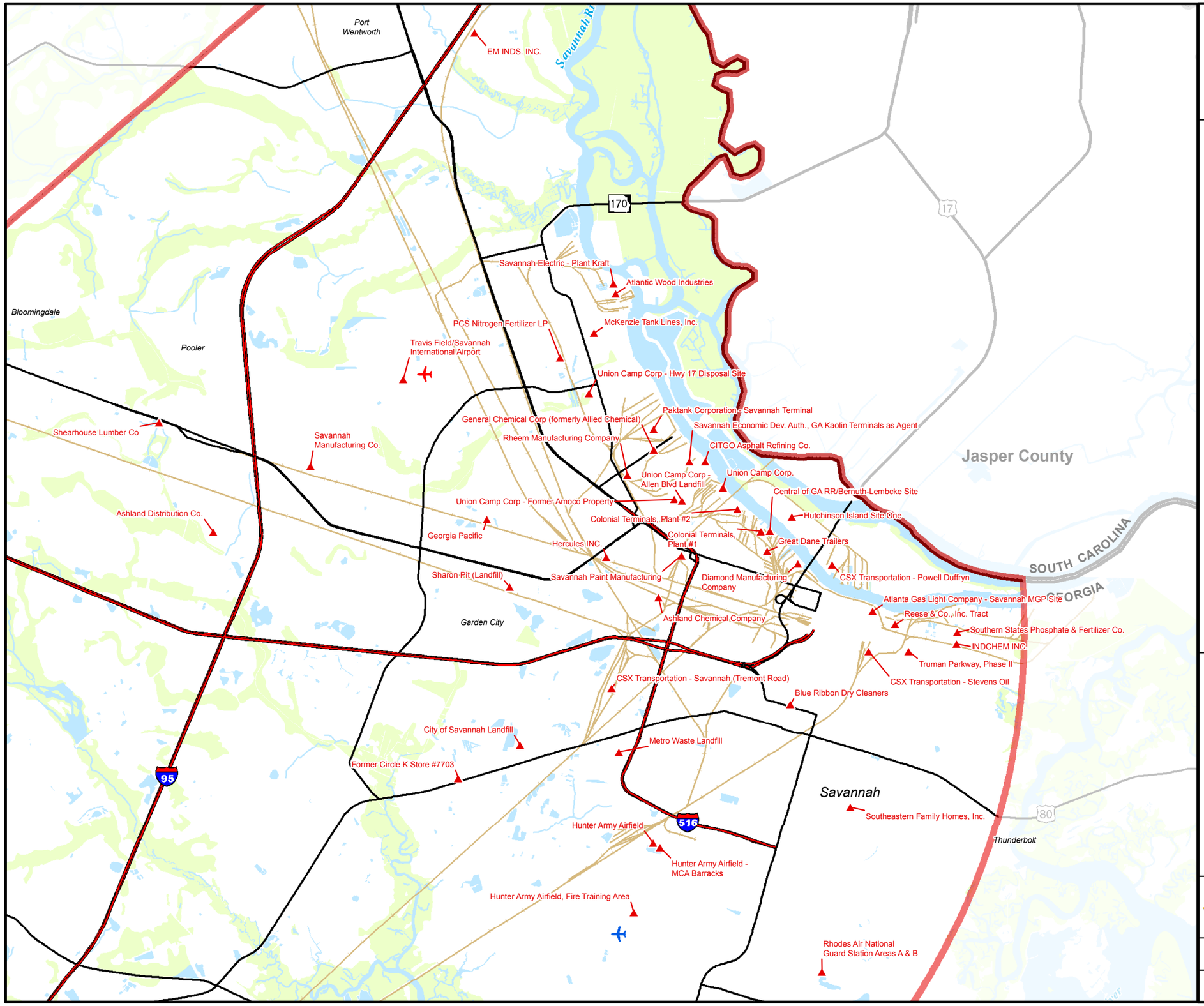
Community Facilities

Figure 2.7 illustrates the locations of area schools, conservation areas, parks, and airports. Additionally, the evaluation of various candidate projects will consider the locations of fire stations, police stations, community centers, and cemeteries.

Historic Properties

There are 53 National and State Register Properties/Districts currently listed within Chatham County, including both districts and individual properties. Most of the historic districts are located in the City of Savannah, while the sites are located throughout the County. In terms of transportation projects, both sets of historic resources can affect the timelines for the GDOT environmental approval process. The following **Table 2.6** lists the federal and state designated historic sites and districts within Chatham County.

Hazardous Materials Sites



- Hazardous Material Site
- Savannah International Airport
- Other Major Airport
- Interstate
- Ramp
- State Highway
- Railroad
- Stream
- Lake/Pond
- Swamp/Marsh
- Study Area
- County Boundary
- State Boundary

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0 0.5 1 2 Miles

Figure 2.6

Draft

P:\02\02077\041\GIS\hazsites_TAB_cak_092706.mxd **10/02/06**

Schools, Parks and Recreation Areas

- Elementary School
- Middle School
- High School
- Conservation Lands
- Park
- Savannah International Airport
- Other Major Airport
- Interstate
- Ramp
- State Highway
- Railroad
- Stream
- Lake/Pond
- Wetlands
- Study Area
- County Boundary
- State Boundary

CHATHAM COUNTY
INTERSTATE NEEDS ANALYSIS AND PRIORITIZATION PLAN

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Miles
0 0.5 1 2 3

Figure 2.7

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Table 2.6: Historic Sites and Districts in Chatham County

District or Site	Acres	Buildings	National Register	State Listing
Ardsley Park-Chatham Crescent Historic District	4,000	998	X	X
Bethesda Home for Boys	6,500	9	X	X
Bonaventure Cemetery	1,600	2	X	X
Central of Georgia Depot and Train Shed		1	X	X
Central of Georgia Railroad: Shops and Terminal Facilities	332	6	X	X
Central of Georgia Railway Company Shop Property		2	X	X
Cuyler-Brownville Historic District	1,550	977	X	X
Daffin Park - Parkside Place Historic District	1,550	567	X	X
Eastside Historic District	1,600	454	X	X
Fort Pulaski National Monument	2,600	3	X	X
Fort Screven Historic District	2,050	50	X	X
Gordonston Historic District	800	126	X	X
Isle of Hope Historic District	1,000	83	X	X
Ossabaw Island	250,560	11	X	X
Savannah and Ogeechee Canal	6,110	15	X	X
Savannah Historic District	13,000	1,100	X	X
Savannah Victorian Historic District	1,500	425	X	X
Savannah Victorian Historic District (Boundary Increase)	340		X	X
Thomas Square Streetcar Historic District	3,140	1110	X	X
Tybee Island Back River Historic District	300		X	
Tybee Island Strand Cottages Historic District	100	18	X	
Vernonburg Historic District	2,850	38	X	
Wormsloe Plantation	8,220	1	X	
Assendorf, Cord, House		1		X
Charity Hospital		1		X
CSS Georgia (ironclad)				X
Davenport, Isaiah, House		1		X
Drouillard-Maupas House		1		X
Federal Building and U.S. Courthouse		1		X
First Bryan Baptist Church		1		X
Fort James Jackson		1		X
Green-Meldrim House		1		X
Hill Hall at Savannah State College		1		X
Hodgson, W. B., Hall		1		X
Laurel Grove-North Cemetery				X
Laurel Grove-South Cemetery				X
Lebanon Plantation		1		X
Low, Juliette Gordon, Birthplace		1		X
Massie Common School House		1		X
Mickve Israel Synagogue		1		X
Mulberry Grove Site				X
New Ogeechee Missionary Baptist Church		1		X

District or Site	Acres	Buildings	National Register	State Listing
Nicholsonville Baptist Church		1		X
Owens-Thomas House		1		X
Scarbrough, William, House		1		X
Sea View Apartments		1		X
Slotin Building		1		X
St. Bartholomew's Church		1		X
St. John's Church		1		X
St. Philip AME Church		1		X
Sturges, Oliver, House		1		X
Telfair Academy		1		X
Two Pierpoint Circle		1		X
Source: http://www.nationalregisterofhistoricplaces.com/				

3 Crash Experience, Safety, and Geometry

Providing a freeway system that facilitates safe movement of traffic is an important goal of GDOT. Therefore, the latest available crash experience, 2004, was carefully examined and conditions that could lead to potential safety problems were identified to ensure that impacts to safety are considered in developing improvement recommendations.

3.1 Freeway/Roadway Segment Crash Experience

One of the primary elements in developing a safe freeway system is an examination of crash experience occurring along the freeway and intersecting roads. Crashes along freeway sections could indicate a potential geometric problem or conflicts at merging, diverging, or weaving areas.

3.1.1 Methodology for Identification of High Crash Areas

The incidence of crashes along a particular stretch of road is most valuable when compared to that of other similar roads. Although any crash experience is higher than is desirable, comparison of crash rates per vehicle mile traveled is important to index the incidence of crashes to the number of vehicles using a facility. In the case of the Chatham County Freeway system, the number of crashes per 100 million vehicle miles traveled (MVMT) on the freeway and roadway network was calculated. This was compared to the following statewide average values (2003 to 2005 GDOT crash data):

- Urban Interstates = 195 crashes per 100 MVMT
- Rural Interstates = 78 crashes per 100 MVMT

High crash segments were identified along the freeway system based on the criteria indicated above. In order to determine the limits of the freeway segments to be considered, the freeway was divided into sections comprised of an interchange and the freeway extending approximately half way to the adjacent interchange. This resulted in I-95 being divided into six sections, I-16 being divided into eight sections, and I-516 being divided into five sections. **Figure 3.1** shows the Chatham County freeway network divided into the sections indicated above with the incidence of crashes along freeway sections and interchanges indicated.

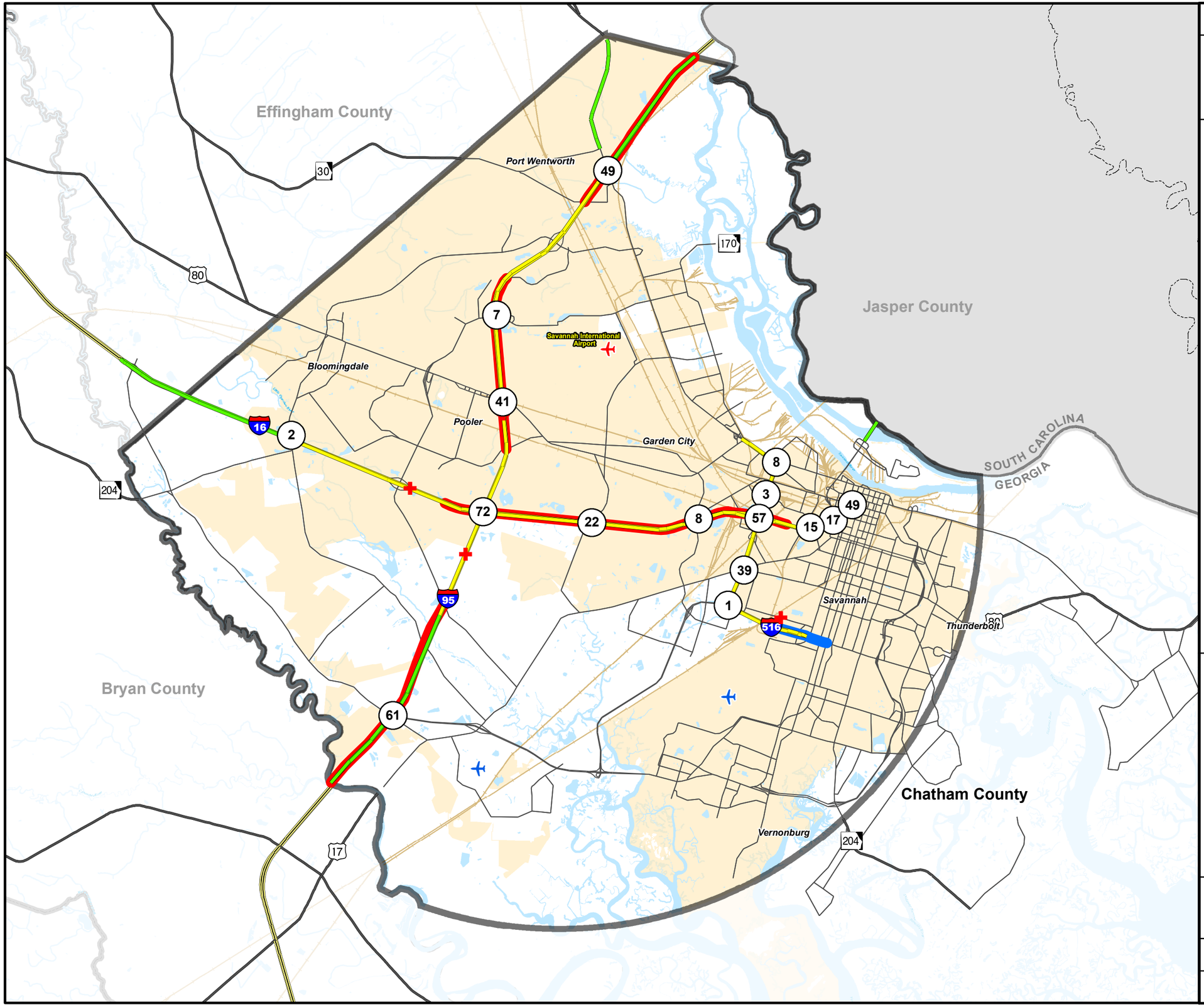
3.1.2 High Crash Segments

The high crash segments, determined based on the above methodology, are identified in **Figure 3.1**. As this figure shows, the only segment to surpass the urban threshold is along I-516 east of the southwest bypass to its easternmost terminus at Montgomery Street. Sections surpassing the rural threshold include:

- I-16 from west of I-95 to east of Dean Forest Road (SR 307)
- I-95 from the Bryan County Line to Quacco Road
- I-95 from south of US 80 (SR 26) to north of Airways Avenue
- I-95 from south of SR 21 to the South Carolina State Line

Figure 3.1

Crash Experience Along Freeway Segments and at Interchanges



Legend

Interstate Crash Rate Analysis (2003-2005)

- Above Statewide Average (2003-2005) for Urban Interstate = 195
- Above Statewide Average (2003-2005) for Rural Interstate = 78
- Location of Crashes With One or More Fatality

Interchage Crash Analysis (2003-2005) above Chatham County average (19) within 1/2 mile buffer of Interstates

- 00 — Number of Crashes Within Intersection Buffer

Interstate Rural/Urban Designation

- Urban Designation
- Rural Designation

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, and Carter & Burgess, Inc.

GDOT Georgia Department of Transportation

CHATHAM COUNTY Interstate Needs Analysis And Prioritization Plan

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0 0.5 1 2 3 4 5 Miles

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3.2 Interchange and Critical Intersection Crash Experience

The interface of the arterial roadway network with the freeway system provides an important access point for freeway travel. Since these access points are limited, traffic is concentrated along arterials having interchanges, making them more prone to congestion and crash experience. Identification of interchanges with high incidence of crashes is important to identifying where key improvements may be needed.

3.2.1 Methodology for Identification of High Crash Areas

Similar to the identification of high crash freeway segments, comparison of interchange crash rates to that experienced at other interchanges allows attention to be focused on those locations with the greatest need. GDOT does not calculate a statewide average interchange crash rate. Therefore, for comparative purposes, the number of crashes occurring at each interchange was compared to the average for all interchanges in Chatham County (19 crashes per year as average of 2003 through 2005 data). Those interchanges with more crashes than the average were identified, as well as those having more than twice the average number of crashes. The analysis included crashes along the arterial serving the interchange to a distance of one mile on each side of the interchange and all crashes involving the interchange ramp termini intersections.

3.2.2 High Crash Locations

The high crash interchanges, determined based on the above methodology, are identified in **Figure 3.1**. As this figure shows, the following interchanges experienced crashes exceeding the threshold:

- I-16 at Dean Forest Road (SR 307)
- I-516 at US 17 / US 80

The following interchanges experienced crashes exceeding twice the Chatham County average:

- I-95 at SR 204
- I-95 at US 80
- I-95 at SR 21

3.3 Geometries not Meeting Current Standards

3.3.1 Methodology for Identifying Freeway Geometry and Bridge Limitations

The geometric constraints along the freeway system can be comprised of a variety of factors. Since design standards evolve over time, many of the areas that do not meet current standards were likely built according to standards at the time they were built. Curvature of the current freeway could be too sharp to accommodate current motorist speeds, ramp length or curvature may not satisfy current GDOT standards, the bridge clearance may not satisfy current standards, or load sufficiency may not match projected traffic characteristics. Load sufficiency and bridge clearance was determined based on GDOT bridge inventory data. Other geometric considerations were identified through an

examination of aerial photography along the corridor. This allowed the identification of locations where physical conditions may not meet current standards. This preliminary identification will be further examined through the more detailed development and evaluation of improvement alternatives to take place following the needs assessment.

3.3.2 Locations with Roadway Geometric or Bridge Sufficiency Concerns

Locations with Roadway Geometric or Bridge Sufficiency Concerns were identified based on the methodology indicated above. These locations are shown in **Figure 3.2**. As this figure indicates, none of the interstate bridges were identified as having a sufficiency rating (below 60%) and most were rated as good (75% or above). The following bridges were identified as having a fair sufficiency rating (60% to 75%). These locations may be candidates for bridge rehabilitation or replacement over the twenty-three year planning horizon of this study.

- I-95 Bridge/Culvert over small stream (section 95-3)
- I-95 Bridge over Little Neck Road (section 95-6)
- I-16 Bridge over Martin Luther King Junior Boulevard (section 16-8)
- I-516 Bridge over Railroad Tracks south of Louisville Road (section 516-1)
- I-516 Bridge over stream south of Louisville Road (section 516-1)
- I-516 Bridge over US 17/SR 25 (section 516-3)

In addition, numerous locations were identified as having potential roadway geometric concerns. The locations evaluated are indicated on **Figure 3.2**. The investigation focused on the following:

- Curvature of ramps
- Length of ramps.
- Length of merge lanes (weaving space).
- Overall roadway alignment and its curves.

I-16 at I-95 Interchange

The full cloverleaf design results in short weaving areas along both freeways. These weaving areas currently accommodate peak hour weaving volumes greater than 1,000 vehicles along both freeways (I-95 southbound and I-16 westbound weaving areas). These volumes are expected to grow significantly by year 2030, creating further weaving difficulties. All diamond exit ramps have a parallel exit ramp design, and per current GDOT standard details, the taper and storage lengths are shorter than the 250 feet and 490 feet, respectively.

I-16 at I-516 Interchange

This partial cloverleaf design uses directional ramps to serve I-516 southbound to I-16 eastbound and I-516 northbound to I-16 westbound movements. This removes the short weaving section created with a diamond interchange, but requires a left side entry and merge for traffic traveling from I-516. Additionally, the loop ramps have a 25-mph design speed; the curve radius is 200 feet.

Figure 3.2

Comparison of Roadway Geometry and Bridge Sufficiency to GDOT Standards

Effingham County

Jasper County

Bryan County

Chatham County

Port Wentworth

Bloomingdale

Pooler

Garden City

Savannah

Thunderbolt

Vernonburg

Savannah International Airport

SOUTH CAROLINA

GEORGIA

30

80

170

204

16

95

17

Legend

Safety and Maintenance Performance Measures (2030 E+C Model Network)

Freeway Geometry Deficiencies

- Potential freeway geometry not up to current standards.

2003 NBI Bridge Sufficiency Rating

- Good (75.0% and Above)
- Fair (60.0 - 74.0%)
- No Data Available

***Note: There are no Chatham County Bridges Below "Fair" Sufficiency Rating on Interstates.**

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, and Carter & Burgess, Inc.

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0 0.5 1 2 3 4 5 Miles

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***Note: Bridges with sufficiency rating below 50% are eligible for federal funding**

I-95 between Airways Avenue and Jimmy Deloach Parkway

This section of I-95 has a significant curvature in its horizontal alignment. Although this curve appears to meet AASHTO standards, it is the tightest curvature along I-95 in Chatham County.

I-16 from Chatham Parkway to Downtown

Many of the shoulders and bridge widths are not to standard. The eastbound curve turning north at the 37th Street connector has less than a 1800 foot radius needed for 70 mph design speed. The exit ramp to US 17 northbound is too short. And, the last eastbound exit ramp's taper is too short.

I-516

All inside shoulders are only 4 feet wide. I-516 northbound to US 80 flyover has a 1,000-foot radius, which is satisfactory for 55 mph design speed, but not for 70 mph design speed. The exit ramp to Lathrop northbound does not have the 490-foot minimum storage before the gore area. All railroad and overpass bridges are not built to standard widths, they have less than 4 foot shoulders on inside and outside. The Augusta Road entrance to I-516 is a parallel entrance, which is not to GDOT standards, only tapered ramps are used now. The weaving distance from the Gwinnett Street ramps to the I-16 ramps needs to be 2,000 feet, per AASHTO standards; the existing distance is 500 feet.

The I-16/I-516 Interchange

The loops are only 25 mph design, low for a current system-to-system interchange speed design standard. Two of the entrance ramps onto I-16 are left-hand entrances, which is not to standard. The exit ramps are shorter than the standard. The approaches to the I-16 loop ramps are not long enough to standard. The weaving distance from the interchange just south of I-16 to the I-16 ramps are 1,450 feet, less than the 2,000 feet needed to meet current design standards.

4 Truck Traffic Characteristics

The truck traffic analysis estimated the present and future truck traffic volume and routes taken from industrial sites, warehouse and distribution facilities, trucking companies and the seaports to the interstate system in Chatham County, Georgia. The analysis was conducted through a series of interviews and surveys, field research, and GIS was employed to identify existing and forecasted truck traffic activity in Chatham County. The analysis was conducted in close coordination with the State Truck Lane Study and the SRTA Northwest Chatham Expressway Study.

4.1 Truck Generators

A list of industrial sites in Chatham County was obtained from the Georgia Department of Industry, Tourism and Trade. In addition to the GDITT information, independent research was completed to identify and include warehouse and distribution facilities as well as trucking companies in the Chatham County area. Altogether 130 facilities meeting the specified criteria were identified.

A questionnaire/survey form was developed in an attempt to solicit the necessary information from the identified sites. Questions asked included; “How many trucks go in and out of your facility per day?”, “What roads do the trucks take to reach the interstate system from your facility?” and “What type of trucking is most prevalent at your facility (long-haul, short-haul, local or transfer)?” Additional questions such as “What roads do the trucks try to avoid?” and “What road or intersection in your area is most in need of attention?” were asked.

Contact was attempted with all 130 facilities resulting in usable information and results from 79. All totaled, these facilities generate 3,553 trucks per day. The top roads in terms of truck traffic leading to the interstate system are Highway 21, Jimmy Deloach Parkway, Highway 307 and Highway 80.

Although this is not a comprehensive total, this information gives a good basis for assessing the truck traffic and volume on the roadways in Chatham County.

4.2 Land Use

Utilizing aerial photography and the truck generating sites, the current land use for Chatham County was approximated. In addition, a future land use study was obtained, confirmed and slightly adjusted with the most up-to-date information by the Savannah Metropolitan Planning Commission (MPC). Additionally, future expansion information from the Georgia Ports Authority (GPA) was incorporated into the land use map.

These factors contributed to an understanding of not only the areas of current activity, but also those poised for potential growth. As expected, the highest concentrations of major truck generating facilities were located in areas designated for Heavy Commercial and Industrial sectors.

The highest concentrations of these areas were as follows:

- From the seaports West to Highway 21 and from the Eugene Tallmadge Memorial Bridge North to Highway 17.

- Along Jimmy Deloach Parkway between Highway 21 and Interstate 95.
- Along the Highway 80 corridor from Highway 307 to Interstate 95.

Employing a recent land use study, a more comprehensive list of truck generating facilities was prepared, which aided in delineating "pods," or local concentrations of truck trip generators.

4.3 Pods

By analyzing the information gathered in the land use and truck generator studies, six pods encompassing the industrial sites, warehouse and distribution facilities and trucking companies were identified. These pods were delineated based upon (1) the location and expected high-volume truck generators and (2) by defining and isolating paths the trucks would take to the interstate. The locations of the pods are illustrated in **Figure 5.6** in the following chapter.

The locations of the pods are as follows:

- The North Pod is located along Jimmy Deloach Parkway between Highway 21 and Interstate 95 and includes the Crossroads Business Center
- The West Pod is to be found along the Highway 80 corridor from east of Highway 307 going westward to Interstate 95. This includes facilities along Louisville Road and the industrial park accessed by Coleman Boulevard.
- The Ocean Terminal Pod encompasses facilities from the Savannah River west to Highway 21 from north of Foundation Road down to and including facilities on Lathrop Avenue.
- The Garden City Terminal Pod is situated just north of the Ocean Terminal Pod. It runs from just south of Brampton Road up to Grange Road and from the Savannah River to just West of Highway 21 to include the industrial parks accessed by Highway 307 just east of the airport and west of Highway 21.
- The East Pod is positioned along East President Street from Harry Truman Parkway to Elba Island Road and from the Savannah River running south to Gwinnett Street.
- The Central Pod encompasses a large geographic area spreading outward from the Interstate 16 and Interstate 516 interchange. The northern border of this pod includes Bay Street and its facilities and the pod continues south to Highway 17. Its eastern border is Highway 17 while the western boarder is Chatham Parkway. This pod includes many "downtown" area facilities as well as the CSX intermodal yard.

The North Pod has 6 facilities surveyed and generates 758 trucks per day. Some of the major contributors to the traffic in this pod are: Home Depot Distribution Center generating 400 trucks per day, American Port Services generating 250 trucks per day, and Pier 1 Imports Warehouse generating 60 trucks per day. The Main truck route from the North Pod is Jimmy Deloach Parkway.

The West Pod has 16 facilities surveyed and generates 378 trucks per day. Some of the major contributors to the traffic in this pod are: Bomark Transport generating 100 trucks

per day, Carver Inc. (oilseed processing machinery) generating 50 trucks per day, and The Savannah Coca-Cola Bottling Company generating 50 trucks per day. The main truck routes from the West Pod are Highway 80 and Highway 307.

The Ocean Terminal Pod has 10 facilities surveyed and generates 918 trucks per day. Some of the major contributors to the traffic in this pod are: International Paper generating 500 trucks per day, Carroll & Carroll Inc (asphalt & concrete) generating 200 trucks per day, and Owens Corning (laminated shingles) generating 80 trucks per day. The main truck routes from the Ocean Terminal Pod are Lathrop Avenue, Highway 21 and Highway 80.

The Garden City Terminal Pod has 12 facilities surveyed and generates 703 trucks per day. Some of the major contributors to the traffic in this pod are: Powers Transportation Systems generating 250 trucks per day, Transus Intermodal generating 95 trucks per day, and Howard Sheppard Intermodal generating 80 trucks per day. The main truck routes from the Garden City Terminal Pod are Highway 307, Highway 21 and Highway 80.

The East Pod has 8 facilities surveyed and generates 357 trucks per day. Some of the major contributors to the traffic in this pod are: Georgia Pacific Gypsum generating 200 trucks per day, Southern States Phosphate & Fertilizer Company generating 80 trucks per day, and Daniel Lumber Company generating 50 trucks per day. The main truck route from the East Pod is President Street to Bay Street.

The Central Pod has 27 facilities surveyed and generates 439 trucks per day. Some of the major contributors to the traffic in this pod are: Gulfstream Aerospace Corporation generating 100 trucks per day, CSX Intermodal Yard generating 55 trucks per day, and Chemical South Transport generating 55 trucks per day. The main truck routes from the Central Pod are Highway 21, Highway 17 and Chatham Parkway.

In addition to the current pods it should be noted that there are two areas which have the potential to be major truck traffic generators in the near future.

- Area 1 includes approximately 1,100 acres and is the site of future warehouse and distribution facilities. Major companies such as Target and Ikea have already secured space. This area is located between the Savannah River and Highway 21 from Jimmy Deloach Parkway north to Interstate 95. In the near future, this area will generate a significant amount of truck traffic to and from the ports as well as to the interstate system.
- Area 2 is the “mega-site” that was originally to be used by DaimlerChrysler for an automotive manufacturing plant. This area encompasses the vast majority of the area between Interstate 95 and Highway 307 north of Interstate 16 and south of Highway 80. It is designed to have access points onto Highway 307 just north of Interstate 16 as well as access to Pine Barren Road near its proposed new interchange at Interstate 95. Although DaimlerChrysler is no longer planning to use the site, the Savannah MPC is confident that an automotive manufacturing facility will occupy that space in the near future.

4.4 Ports

The Georgia Ports Authority (GPA) is the number one generator of truck traffic in Chatham County. It is currently estimated to generate 5,400 truck trips per day. 66% of

the traffic goes through gate #3 located at Highway 307 and Highway 25, and 33% goes through gate #4 at Highway 25 just north of Brampton Road. It is estimated that 60% of the truck traffic leaving the port stays local, headed from the port to a local warehouse or distribution centers. From there, the goods are dispersed to other areas.

Most of these trucks use Highway 21 and Highway 307 when leaving the ports.

When using Highway 307, the trucks can come out of the port at gate #3 and get directly onto Highway 307. From there they can proceed to Highway 21, Highway 80 or Interstate 16 to ultimately reach Interstate 95 and beyond.

There are various ways that the trucks can reach Highway 21 as they endeavor to go north to Interstate 95 or Jimmy Deloach Parkway, each of which is a concern to the GPA. When trucks take Brampton Road to access Highway 21 they are traveling through a residential area on a narrow road that cannot realistically continue to handle that kind of traffic. Grange Road is in extremely poor condition with very large potholes and a general state of disrepair. Crossgate Drive and Bonnybridge Road both necessitate driving through residential areas and the City of Port Wentworth. Even using Highway 307 has issues with an at-grade intersection with the Norfolk Southern rail line.

The GPA has recently had a separated grade intersection completed allowing unrestricted access to their intermodal yard just west of Highway 25 between Highway 307 and Grange Road. They are partnering with Norfolk Southern to further enhance this facility and want to have a separated grade intersection at Highway 307.

In addition to these changes, the GPA is very interested in a new corridor to allow truck traffic to better access Highway 21 from the ports which would include various access points with separated grade intersections. The GPA suggests a new roadway between Highway 21 and Highway 25 that runs from Highway 307 north toward Interstate 95. However, the GPA does not support any kind of tollway that may cause trucks and potential port clients to shy away from the Savannah area due to the extra cost. SRTA is presently conducting a study of a potential expressway/tollway in this area.

The GPA has an expansion plan to go from the current 5,400 trucks per day to 11,000 trucks per day by 2015.

4.5 Truck Counts

Utilizing the truck traffic volume from the identified facilities in the pods combined with the information from the Georgia Ports Authority, Street Smarts has identified the likely truck routes to the interstate system and the current and future amount of trucks on those roads.

From the facilities that we contacted there were 3,553 trucks per day generated. The Georgia Ports Authority generates 5,400 per day. This gives us a grand total of 8,953 trucks per day for this study.

This total is estimated to grow to 17,002 trucks by 2015 (11,000 from the ports and 6,002 from the other facilities). This does not take into account the facilities that were not able to be contacted and the potential new growth such as the Target and Ikea warehouse facilities and the DaimlerChrysler mega-site.

Table 4.1 lists the truck routes within Chatham County and their current and projected truck traffic.

Table 4.1: Current and Projected Truck Traffic on Chatham County's Truck Routes

Road Section	Current Truck Count	Project Truck Count for 2015
President Street	312	527
Bay Street	338	571
Lathrop Avenue	102	172
Highway 17 – from I-516 to Chatham Pkwy	250	423
Chatham Parkway – from Hwy 80 to Hwy 17	40	57
Tremont Road – near CSX intermodal yard	111	188
Highway 21 – from Lathrop to Foundation	117	198
Highway 21 – from Foundation to Brampton	442	747
Highway 21 – from Brampton to Hwy 307	2316	4539
Highway 21 – from Hwy 307 to I-95	4843	9590
Highway 80 – from Hwy 21 to Chatham Pkwy	361	610
Highway 80 – from Chatham Pkwy to Hwy 307	390	659
Highway 80 – from Hwy 307 to I-95	1324	1878
Highway 307 – from Hwy 21 to Hwy 80	1710	3363
Highway 307 – from Hwy 80 to I-16	1006	1847
Jimmy Deloach Parkway	2205	4813

4.6 Summary of Recommendations from the Analysis of Truck Traffic Characteristics

Based on the analysis of truck traffic characteristics, it is recommended that the following areas and possible improvements be studied further:

- Study a new corridor to allow truck traffic to better access Highway 21 from the ports.
- Study the total traffic and volumes on highway 21 from Highway 80 to Interstate 95.
- Continue the turn lane on Highway 307 as it approaches Highway 21.
- Study an alternative to using Bay Street to access the interstate system from East Savannah.

5 Travel Demand Model Development and Validation

A travel demand model was used to project future traffic volumes along the freeways and arterial roads in Chatham County for use in identifying freeway needs and potential improvements. The travel demand model prepared by GDOT using TP+ software for the Chatham Urban Transportation Study (CUTS) 2030 Long Range Transportation Plan (LRTP) in 2004 was modified for use in preparing the Chatham Interstate Plan. The modifications were completed in cooperation with CUTS staff. The model was prepared using a base year of 2001 and included special truck generators to account for the heavy truck usage within Chatham County associated with the Port and surrounding industrial land uses. This section of the report describes the model development and validation. For clarity, the two models will be consistently titled as follows:

- The GDOT CUTS LRTP Model (2004) will be referred to as the "**LRTP Model (2004)**."
- The revised model prepared for the Chatham Interstate Plan (2006) will be referred to as "**Chatham Interstate Plan Model (2006)**."

5.1 Model Development

Effective use of the model to provide future traffic volume forecasts for the Chatham Interstate Plan required modification to reflect the current GDOT roadway capacities and the latest population and employment growth data. The following paragraphs describe the travel demand model development to reflect current planned growth and anticipated truck volumes.

5.1.1 Modification of LRTP Model (2004)

The LRTP Model (2004) was modified to reflect capacities currently used in GDOT models. This included an examination of the projects coded in the future year existing plus committed (E+C) model network. The E+C model network includes the existing transportation network plus all future transportation projects with a committed funding source. The current traffic analysis zone (TAZ) structure was found to be sufficiently detailed to account for travel within the county moving to/from the freeway system, and was not changed. Some of the model detail within Downtown Savannah showed the greatest volume variability. However, since this study focuses on freeway movement and access to the freeway system, a detailed calibration focused on downtown streets was not necessary. **Figure 5.1** shows the TAZ structure used in the Chatham Interstates Plan.

5.1.2 Refinement of Population and Employment Data

As a part of the model development process, population and employment forecasts were discussed with CUTS to determine if modifications were planned as a part of the next LRTP update. Identification of growth areas and anticipated development yielded estimated population and employment increases.

Figures 5.2 and **5.3** show the population and employment change from 2001 to 2030 based on the LRTP Model (2004), prepared by GDOT. As these figures show, population growth is primarily in the north end of Chatham County and along the SR 204 corridor along the western end of Chatham County. Another concentration of population growth occurs east of I-95 and north of Quacco Road. The primary employment growth areas are shown in the northeast quadrant of the I-95 at I-16 interchange, as well as near the Savannah International Airport east and west of I-95 at Airways Avenue.

Figure 5.1

LRTP Model Traffic Analysis Zones

Legend

LRTP Model Traffic Analysis Zones

- Traffic Analysis Zones (TAZ)

Road Network

- Interstate Highway
- State Route / U.S. Highway
- Other Roads

Other Layers

- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, and Carter & Burgess, Inc.

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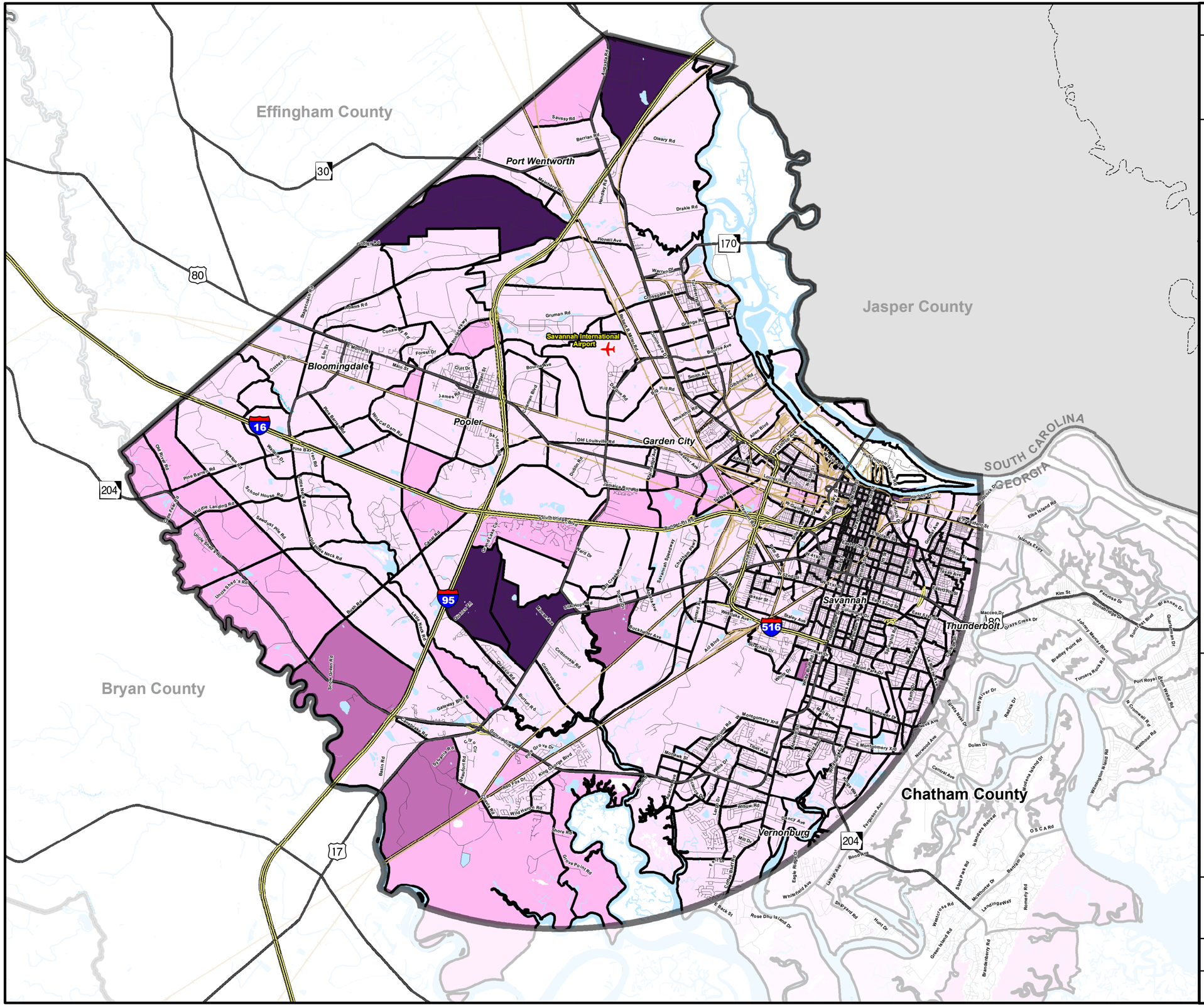
Figure 5.2

Population Change (2001-2030) by TAZ - LRTP Model



Legend

Population Change (2001-2030) By TAZ

- 2,001 and Above
- 1,501 - 2,000
- 1,001 - 1,500
- 501 - 1,000
- 500 and Below

Road Network

- Interstate Highway
- State Route / U.S. Highway
- Other Roads

Other Layers

- Georgia County Boundary
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, and Carter & Burgess, Inc.

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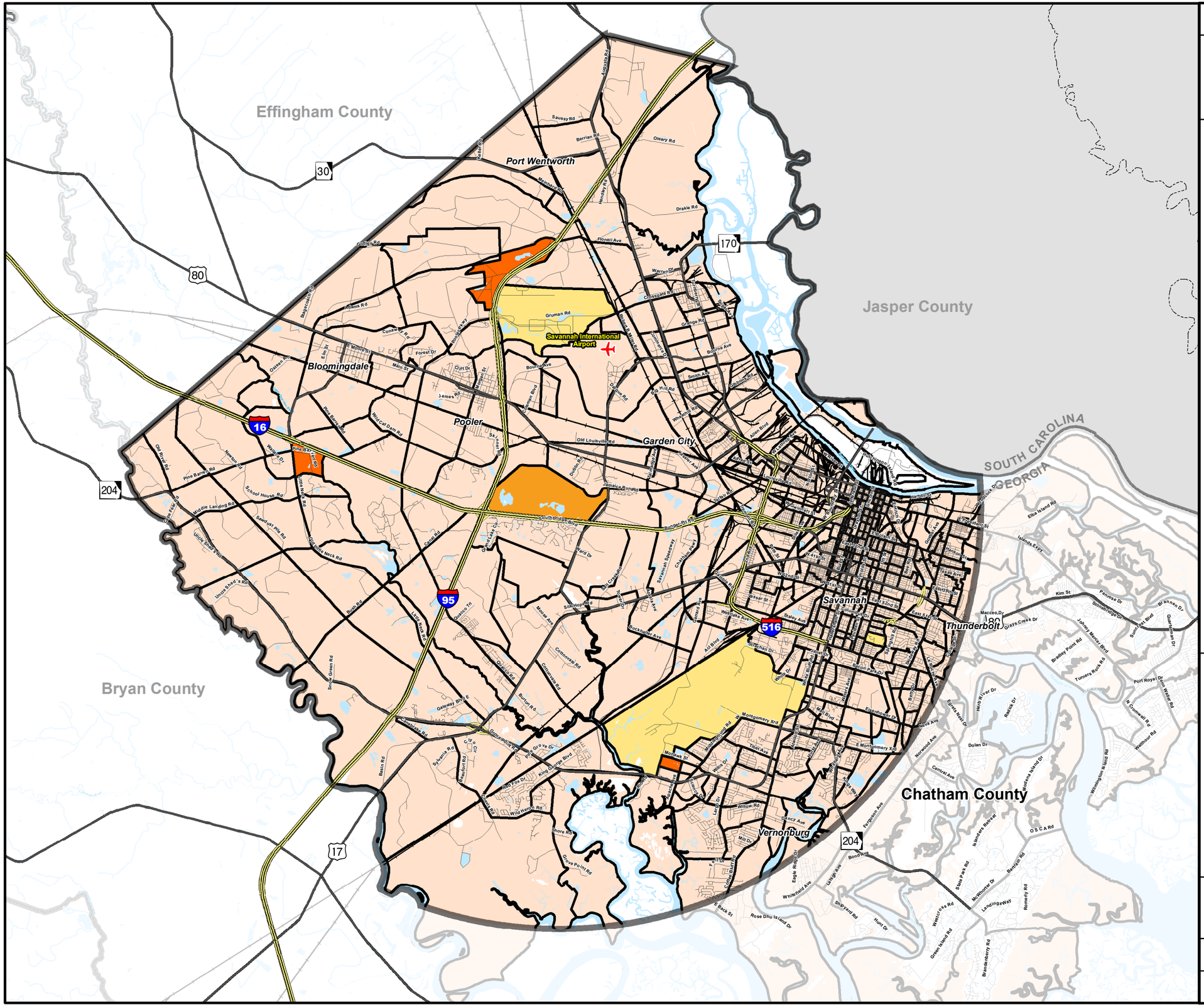
Figure 5.3

Employment Change (2001-2030) by TAZ - LRTP Model



Legend

Employment Change (2001-2030) By TAZ

- 2,001 and Above
- 1,501 - 2,000
- 1,001 - 1,500
- 501 - 1,000
- 500 and Below

Road Network

- Interstate Highway
- State Route / U.S. Highway
- Other Roads

Other Layers

- Georgia County Boundary
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, and Carter & Burgess, Inc.

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Population Increases to Accommodate Increased Growth

Population increases by TAZ were provided by CUTS in the summer of 2006. These increases reflect planned development that has been coordinated with CUTS and includes some developments not yet approved for construction. This resulted in a significant increase of 141,000 people over that already planned in the LRTP Model (2004). Through further discussion and comparison to population growth rates in other Georgia cities, an additional 50,000 population (over the population increase already in the LRTP Model {2004}) was approved for use as a population control total. The projected population increases were indexed to this control total.

Employment Changes to Accommodate Identified Commercial Growth Areas

Employment increases by TAZ were determined based on an examination of future growth trends. The following specific locations were identified through coordination with Metropolitan Planning Commission (MPC) and study stakeholders for future industrial development:

1. Solution Property Group
   - Northport - 4.2 million s.f. – TAZ 515
   - Westport - 2.2 million s.f. – TAZ 529
   - Crossgate - 4.1 million s.f. – TAZ 513
   - Crossroads - 0.5 million s.f. – TAZ 531

2. Georgia Ports Authority
   - Savannah River International Trade Park
     - 4 million s.f. under construction – TAZ 402
     - 4 million s.f. eventual end user build out – TAZ 502

3. Johnson Development
   - Tennebaum Property - 1.5 million s.f. – Not located

4. McDonald Development
   - Commerce Center II - 0.85 million s.f. – TAZ 480

5. Commonwealth Commercial Properties
   - Morgan Tract - 153 acres – TAZ 643
   - Norwest Tract - 258,000 s.f. – TAZ 608

6. Northpoint Real Estate
   - Crossroads Extension - 3 million s.f. – TAZ 532
   - Monteith Road - 100 acres – TAZ 517
   - Gravel Yard - 40 acres – TAZ 531

7. National REIT
   - MorganTract – 3.5 million s.f. – TAZ 643

The large size of the proposed development would result in significant increases in industrial use within Chatham County. Based on the summation of the estimates above, 28 million square feet and 293 acres (with square footage not specified) of industrial

development is anticipated. This corresponds to approximately 41,567 additional non-retail employees (assuming 1.4 employees per 1,000 square feet or 12 employees per acre). **Table 5.1** shows the assumptions of how the employment is allocated to various employment categories.

Table 5.1: Percentage Allocation of Additional Employment by Employment Type

Timeframe	Employment Type			
	Retail	Service	Manufacturing	Wholesale
LRTP Model (2004)				
2001 CUTS Base Year	23%	60%	13%	4%
2030 CUTS LRTP Model (2004)	24%	59%	11%	6%
Used for 2030 Projections				
2030 C&B Projection	21%	53%	17%	9%

Notes:

1). Additional 2030 employment growth included higher allocation to manufacturing and wholesale.
2). Year 2030 school enrollment was increased by 17% for each TAZ to account for additional population growth. This maintained an overall school enrollment of 26% of total population.

Three areas of potential future growth were identified through coordination with MPC and stakeholders which did not result in socioeconomic data modifications:

- Industrial mega-site located in the northeast quadrant of the I-16 and I-95 Interchange – TAZ 542
- South of I-16 and east of I-516 near rail yards – TAZs 474, 475, and 476
- East of I-95 and south of Savannah Airport – TAZs 535, 537, and 539

The first mega-site location already has significant employment growth planned in the LRTP Model (2004) from 2001 to 2030, therefore, additional socioeconomic data changes are not recommended. The second and third locations have the potential for additional growth, however, no specific development plans were identified, therefore, modification of socioeconomic data for these areas is not recommended.

Modifications to Population and Employment Data

The result of the socioeconomic data modification effort was growth projections that reflect the location of CUTS population growth and planned development by TAZ that are linked to GDOT approved population and employment control totals:

- Population: 338,000 (reflects currently approved CUTS LRTP population increase of 55,600 from 2001 to 2030 plus an additional 50,000 increase).

- Employment: 218,000 (reflects currently approved CUTS LRTP employment increase of 30,500 from 2001 to 2030 plus an additional 60,000 increase).

The 16-page **Table 5.2** (found at the end of this chapter) shows the population and employment growth forecasts by TAZ used in the Chatham Interstates Plan Model (2006) for year 2030. Year 2015 population and employment forecasts were determined by interpolation between the 2001 and 2030 data. The two sets of columns on the left

indicate the population and employment for years 2001 and 2030 used in the LRTP Model (2004). The rightmost column indicates the population and employment following the adjustments indicated above.

Figures 5.4 and **5.5** show the population and employment change from 2001 to 2030 in the Chatham Interstate Plan Model (2006). As these figures show, the population growth areas are in approximately the same place as with the LRTP Model (2004). The employment growth areas, however, show additional strong growth in the north end of Chatham County east of I-95, near the airport and port areas.

5.1.3 Modification of Truck Model Components

The results from the truck traffic volumes and routes survey were used to update truck trips in the model. The major industrial sites in Chatham County were located and linked to the traffic analysis zones (TAZ) in the model (see **Section 4**). Daily truck volumes from the survey were used as truck trips generated by the TAZs in the trip generation module. **Figure 5.6** shows the traffic analysis zones impacted by truck trip traffic that is now included in the travel demand model.

5.2 Model Validation

Under GDOT's guidance, the capacity table in the model run script was updated to be consistent with GDOT's latest model capacity table. The project team also surveyed truck traffic volumes and routes taken from major industrial sites in Chatham County (see **Section 4**). The results from this survey were integrated into the travel demand model's trip generation module. Because of these two updates, it was necessary to recalibrate and validate the updated model. The paragraphs below describe the model calibration and validation.

5.2.1 Model Update

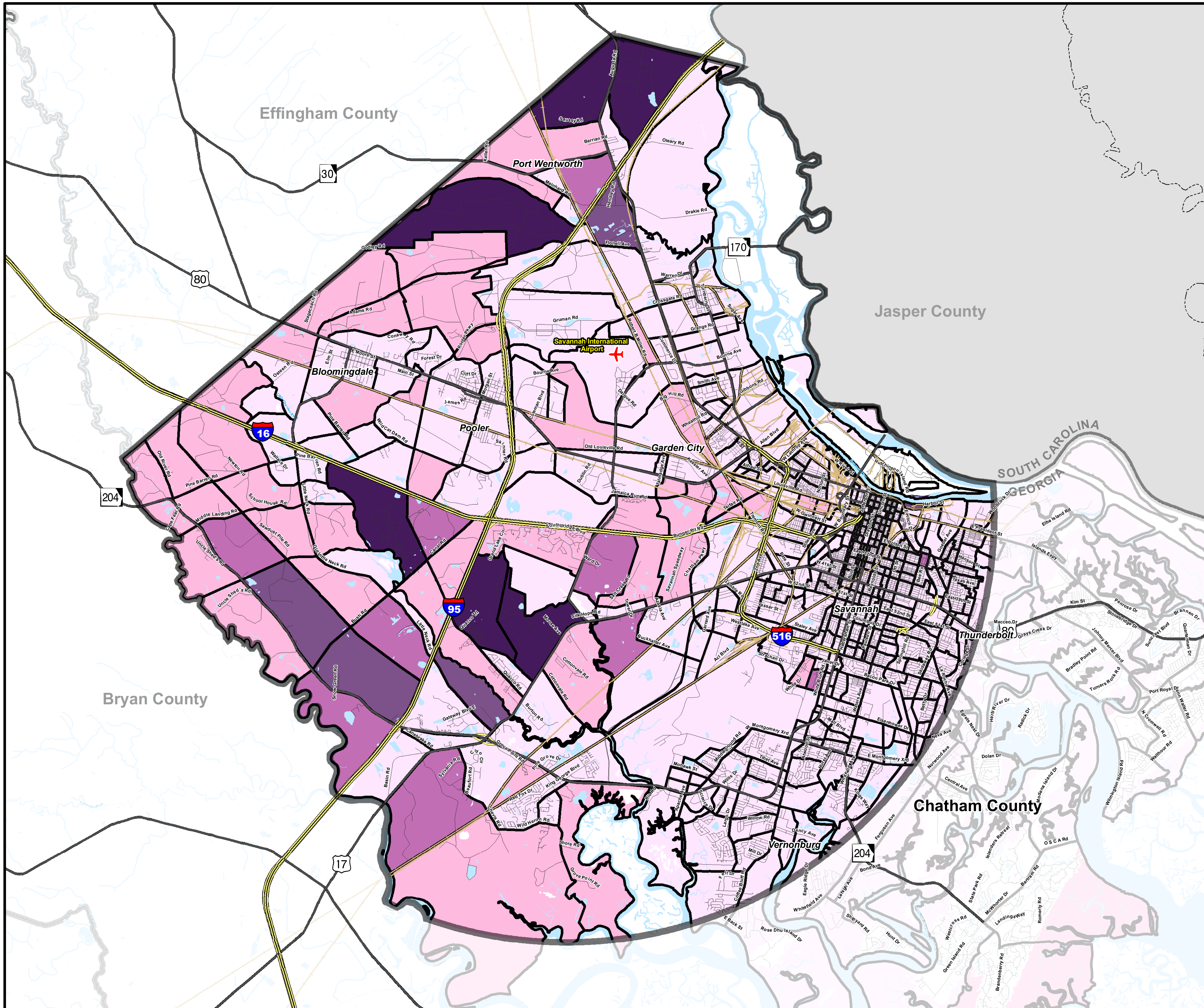
The updates for the base year model included an update of the capacity table used in model calculations and modification of truck trip generators.

Capacity Update

Link capacities for the model network are obtained from a lookup table of per-lane hourly capacities based on facility type and area type. The final link capacity is calculated by multiplying the per-lane hourly capacity by the number of lanes. The latest model capacity table replaced the capacity table in the LRTP Model (2004). **Tables 5.3** and **5.4** show these capacity tables. The grey highlight indicates lower capacities assumed in the new GDOT mode capacity table; while bold italics indicate higher capacities in the new Chatham Interstate Plan Model (2006) capacity table.

Figure 5.4

Population Change (2001-2030) by TAZ - Chatham Interstates Plan Model (2006)



Legend

Population Change (2001-2030) By TAZ- Chatham Interstate Plan Model (2006)

- 2,001 and Above
- 1,501 - 2,000
- 1,001 - 1,500
- 501 - 1,000
- 500 and Below

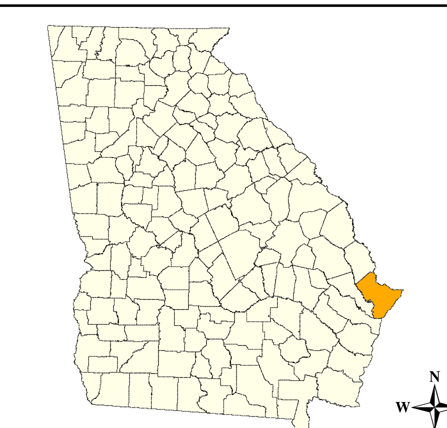
Road Network

- Interstate Highway
- State Route / U.S. Highway
- Other Roads

Other Layers

- Georgia County Boundary
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, and Carter & Burgess, Inc.



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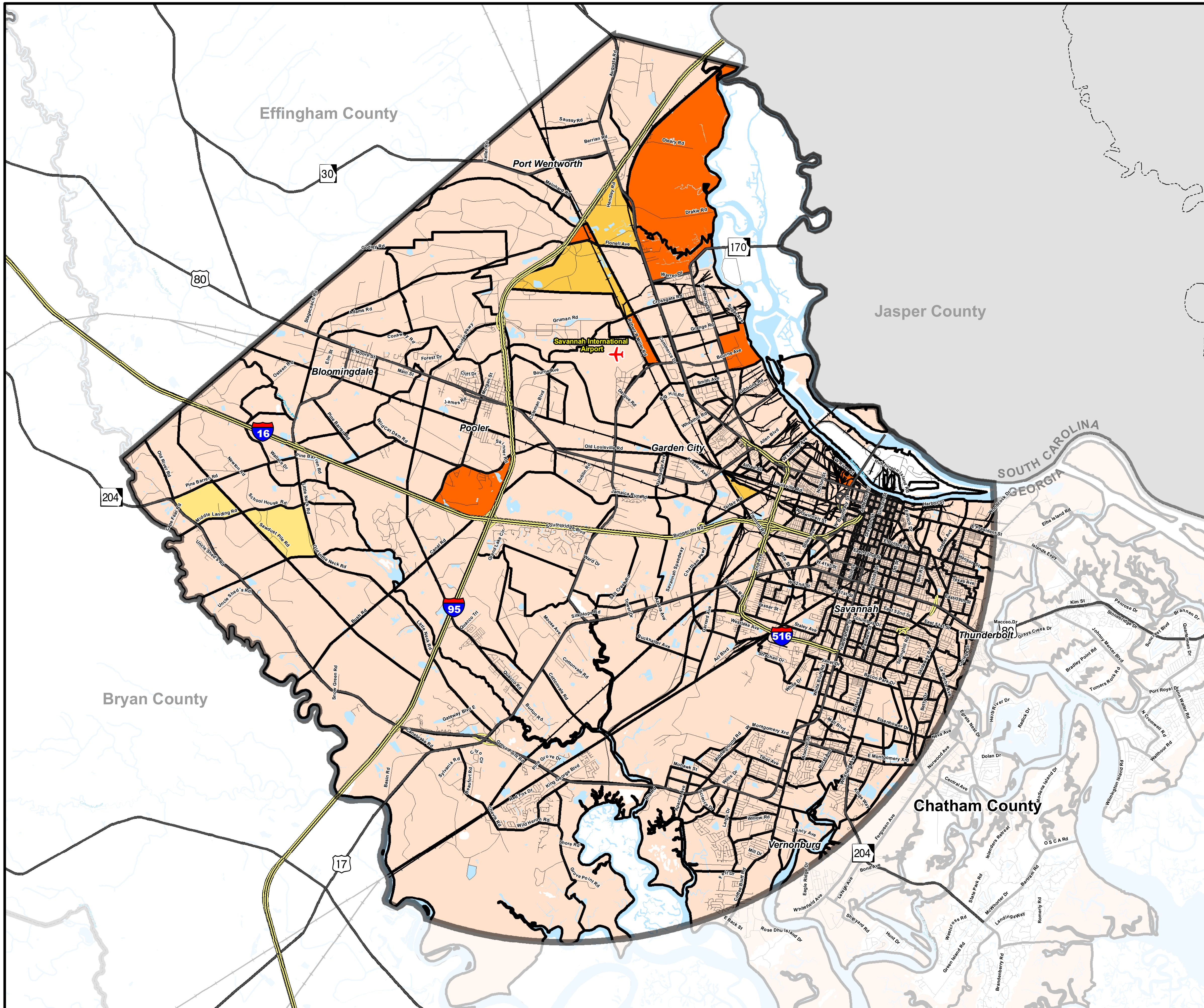

Figure 5.5

Employment Change (2001-2030) by TAZ - Chatham Interstates Plan Model (2006)

Legend

Employment Change (2001-2030) By TAZ-Chatham Interstate Plan Model (2006)

- 2,001 and Above
- 1,501 - 2,000
- 1,001 - 1,500
- 501 - 1,000
- 500 and Below

Road Network

- Interstate Highway
- State Route / U.S. Highway
- Other Roads

Other Layers

- Georgia County Boundary
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, and Carter & Burgess, Inc.

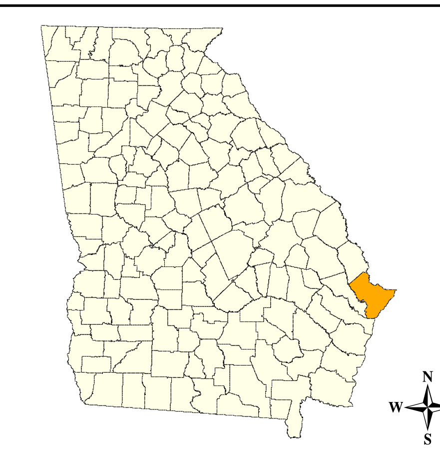

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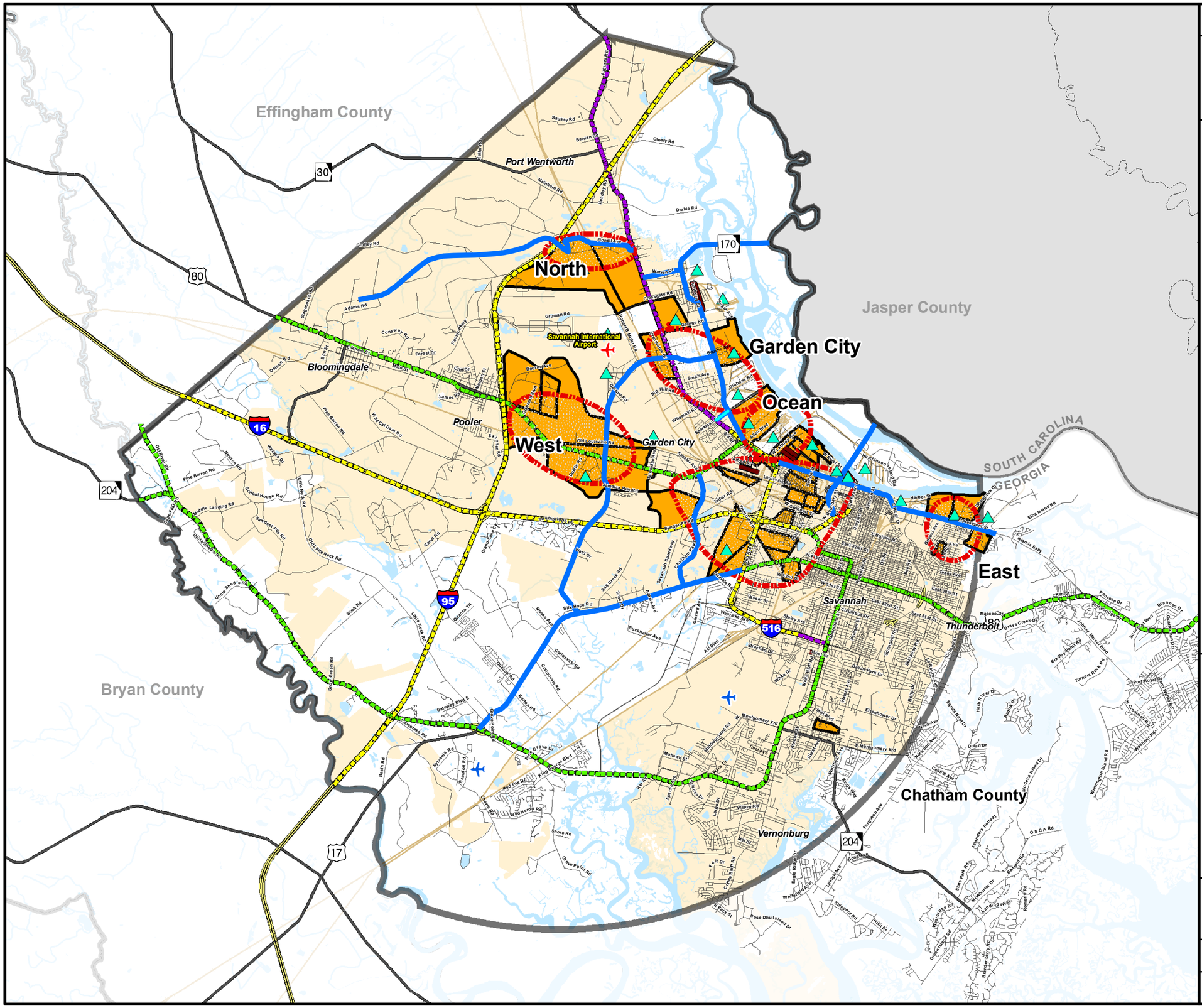
Figure 5.6

TAZ's Impacted by Industrial Truck Traffic



Legend

TAZ's Impacted by Industrial Truck Traffic

- TAZs With Additional Daily Truck Units Caused by Industrial Sites
- Pods (Areas of Concentrated Truck Traffic)
- Truck Trip Generator in Model
- Truck Traffic Prohibited
- Interstate Truck Routes
- Designated Access Routes for oversize trucks allowing single and twin trailers.
- Federally Designated National Network Truck Routes
- Other Routes Providing Truck Freeway Access

Road Network

- Interstate Highway
- State Route / U.S. Highway
- Other Roads

Other Layers

- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, StreetSmarts, and Carter & Burgess, Inc.

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Table 5.3: GDOT Roadway Capacity for Chatham Interstate Plan Model (2006)

Facility Type	Area Type						
	1	2	3	4	5	6	7
Interstate	1900	1950	2000	2050	2100	2060	2020
Freeway	1600	1660	1730	1790	1850	1820	1780
Expressway	1300	1380	1450	1530	1600	1570	1540
Parkway	1170	1240	1310	1370	1440	1410	1380
Freeway-to-Freeway Ramp	1900	1950	2000	2050	2100	2150	2200
Entrance Ramp	900	1030	1150	1280	1400	1370	1340
Exit Ramp	800	810	810	820	820	810	790
Principal Arterial - Class I	1000	1030	1050	1080	1100	1080	1060
Principal Arterial - Class II	900	900	900	900	900	880	860
Minor Arterial - Class I	800	810	810	820	820	810	790
Minor Arterial - Class II	630	630	640	640	640	630	610
One-Way Arterial	760	760	770	770	770	760	760
Major Collector	520	530	540	550	560	550	540
Minor Collector	***380***	***390***	***390***	***400***	400	390	380
One-way Collector	***460***	***470***	***470***	***480***	480	470	460
Local Road	***340***	***350***	***360***	***370***	***380***	370	360
Centroid Connector	0	0	0	0	0	0	0

Grey highlight – Values that were reduced.
Bold italics – Values that were increased.

Table 5.4: Roadway Capacity in LRTP Model (2004)

Facility Type	Area Type						
	1	2	3	4	5	6	7
Interstate	1900	1950	2000	2050	2100	2150	2200
Freeway	1600	1670	1730	1790	1850	1910	1960
Expressway	1300	1380	1450	1530	1600	1660	1720
Parkway	1170	1240	1310	1380	1440	1490	1550
Freeway-to-Freeway Ramp	1900	1950	2000	2050	2100	2150	2200
Entrance Ramp	1600	1650	1700	1750	1800	1850	1900
Exit Ramp	850	890	930	960	1000	1250	1500
Principal Arterial - Class I	1000	1150	1290	1440	1580	1640	1700
Principal Arterial - Class II	980	1040	1090	1150	1200	1400	1600
Minor Arterial - Class I	850	890	930	960	1000	1250	1500
Minor Arterial - Class II	680	710	740	770	800	1100	1400
One-Way Arterial	820	850	890	920	960	1320	1680
Major Collector	560	580	600	610	630	970	1300
Minor Collector	300	330	350	380	400	800	1200
One-way Collector	360	400	420	460	480	960	1440
Local Road	160	180	210	230	250	680	1100
Centroid Connector	0	0	0	0	0	0	0

As these tables show, the capacities are lower overall than those used in the previous LRTP Model (2004).

5.2.2 Base Year Model Calibration

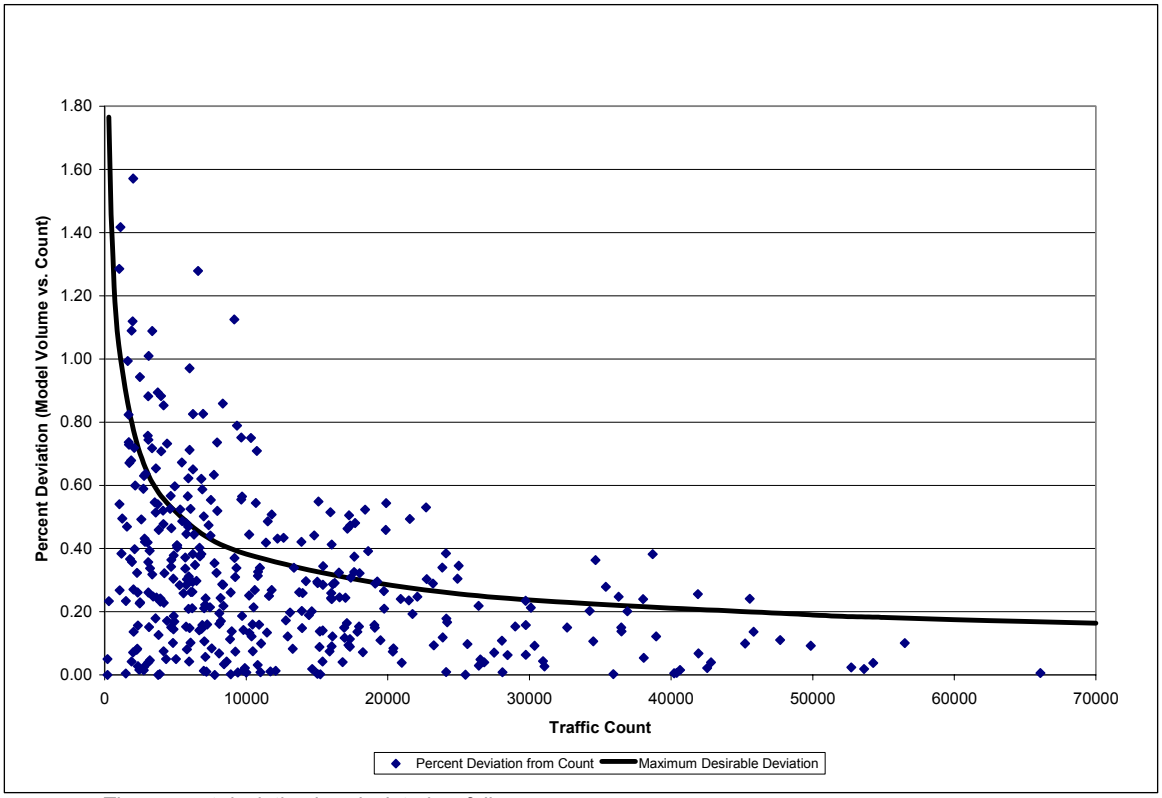
Because of the two updates described above, the base year model was recalibrated. The base year model validation results are summarized below using several widely used measures from the Federal Highway Administration (FHWA) publication *Model Validation and Reasonableness Checking Manual*.

5.2.3 Model Validation

Percent Deviation by Link

A reasonable expectation is for a model to accurately estimate the number of lanes required for a facility to provide a specified level of service. As annual average daily traffic (AADT) on a facility increases, the expected accuracy of a model increases as well. **Figure 5.7** shows the deviation between the modeled volumes and traffic counts.

Figure 5.7: Percent Deviation for the Chatham Interstate Plan Model (2006)



The percent deviation is calculated as follows:
Percent Deviation = (Model Volume – Count)/Count

Maximum desired deviation, represented by a thick, downward sloping curve, is relatively high for low volume facilities and much lower for higher volume links. The link-level model deviation points are concentrated in the lower left corner of the graph, below the maximum desirable deviation line. The graph is comprised of modeled volumes versus counts deviations from 364 traffic count stations on the highway network. These data points illustrate that most test links in the CUTS model network were assigned reasonable traffic volumes. As **Figure 5.7** shows, the percent deviation points for some links are located above the maximum desirable curve. The majority of these occur on

facilities where daily traffic volume is below 15,000 vehicles per day. This is consistent with a typical calibration as lower volume roads have a higher percent deviation between model volumes and traffic counts.

Percent Error Region-wide

Percent error for region-wide is the total modeled volumes divided by the total traffic counts for all links that have traffic counts. The percent error region-wide should be less than 5%. The percent error for the CUTS base year model is 2%, which is within the target 5%.

Percent Deviation by Volume Group

Model volume by volume groups is used to assess model performance against aggregate traffic counts on roads categorized by traffic volumes. **Table 5.5** compares the model volumes to recommended FHWA targets for the different volume groups. As this table shows, the model performs well, with mean model volumes for all volume groups falling within FHWA recommended limits.

Table 5.5: Percent Error by Volume Group

Volume Group	Link with Count	Mean Count	Mean Model Volume	Percent Deviation	FHWA Desirable Percent Deviation*
< 1,000	3	233	207	-11%	+/- 60%
1,000 – 2,500	36	1,858	2,549	37%	+/- 47%
2,500 – 5,000	62	3,751	3,977	6%	+/- 36%
5,000 – 10,000	98	7,222	7,511	4%	+/- 29%
10,000 – 25,000	116	16,176	14,704	-9%	+/- 25%
> 25,000	49	37,248	37,609	1%	+/- 22%
All Links	364	12,938	12,702	-2%	

** Source: FHWA, Model Calibration and Reasonableness Checking Manual*

Percent Deviation by Functional Classification

Table 5.6 compares model performance to recommended FHWA targets for assignment by roadway functional classification. As **Table 5.6** shows, all model volumes fall within the recommended guidelines.

Table 5.6: Percent Error by Functional Classification

Functional Classification	Links with Count	Mean Count	Mean Model Volume	Percent Deviation	FHWA Desirable Percent Deviation*
Freeway/Expressway	33	32,584	34,425	6%	+/- 7%
Principal Arterial	103	19,909	19,373	-3%	+/- 10%
Minor Arterial	140	8,283	7,953	-4%	+/- 15%
Collectors	88	4,818	4,302	-11%	+/- 25%
All Links	364	12,938	12,702	-2%	

** Source: FHWA, Model Calibration and Reasonableness Checking Manual*

Correlation Coefficient

A correlation coefficient is calculated using pairs of model volumes and traffic counts, and should typically be greater than 0.88. The correlation coefficient for the CUTS base year model is 0.90, which is above the acceptable threshold.

Root Mean Square Error

Root Mean Square Error (RMSE) is a general statistical measure of how close the model volumes to traffic counts. With all available traffic counts in the network, the RMSE is calculated to be 29%. A suggested appropriate aggregate RMSE is less than 30%; therefore, this result is reflective of a well-calibrated model.

Vehicle Miles Traveled (VMT) Comparison

VMT provides another method to check the reasonableness of a model. **Table 5.7** shows VMT statistics aggregated by functional classification for both modeled VMT and actually VMT of base year 2001. Actually, VMT is from GDOT's 400 series reports, report 445.

Screenline Comparison

Eight screenlines were designed to intercept major traffic flows through the CUTS study area. Screenlines are a technique used to calibrate or verify model outputs. A series of lines are drawn across the network usually in an east-west and north-south pattern. Model traffic volumes are recorded at the points where these lines cross the network links. These volumes are then compared to traffic counts performed on the ground to ensure the model is in synch with reality.

Model volumes in the base year 2001 model are compared with 2001 traffic counts at each screenline crossing. In evaluating screenlines during a model calibration, the maximum desirable deviation is calculated based on the FHWA publication. **Figure 5.8** displays each screenline used in the calibration of base year model. **Table 5.8** summarizes screenline analysis. Link-by-link modeled volume versus traffic count comparisons for each screenline are shown in **Table 5.9** (found at the end of this chapter).

Table 5.7: VMT Comparison

Functional Classification	VMT from Model		VMT from Report	
	VMT	Percent	VMT	Percent
Interstate	1,924,064	34%	1,794,999	31%
Principal Arterial	2,575,878	45%	2,305,004	41%
Minor Arterial	836,757	15%	1,277,559	22%
Collector	325,333	6%	366,266	6%
Total	5,662,032	100%	5,743,828	100%
Population	232,011	—	232,011	—
VMT per Person	24.4	—	24.8	—
Household	91,834	—	91,834	—
VMT per Household	61.7	—	62.5	—

Although some individual roads show deviations greater than the desirable maximum, the overall screenline deviations are well within the limits of the maximum desirable deviations based on FHWA criteria (refer to **Table 5.8**).

Figure 5.8: Screenlines for the Base Year Model

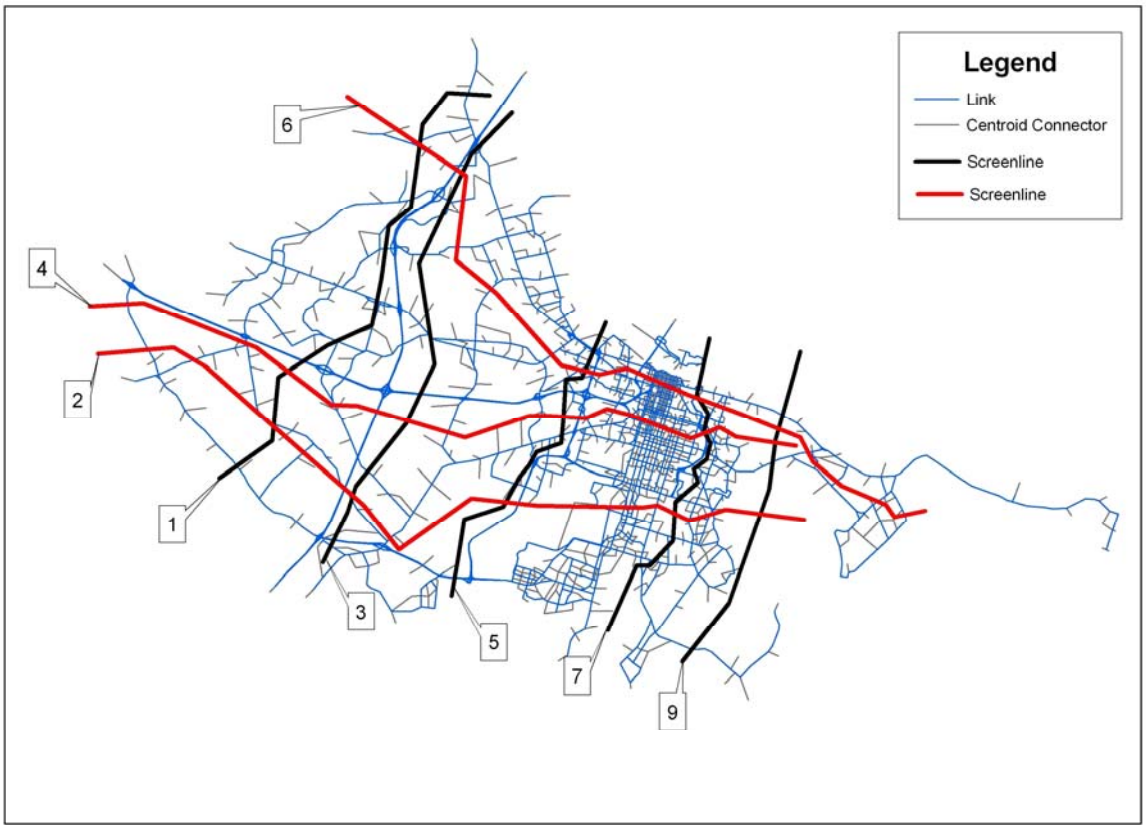


Table 5.8: Screenline Analysis

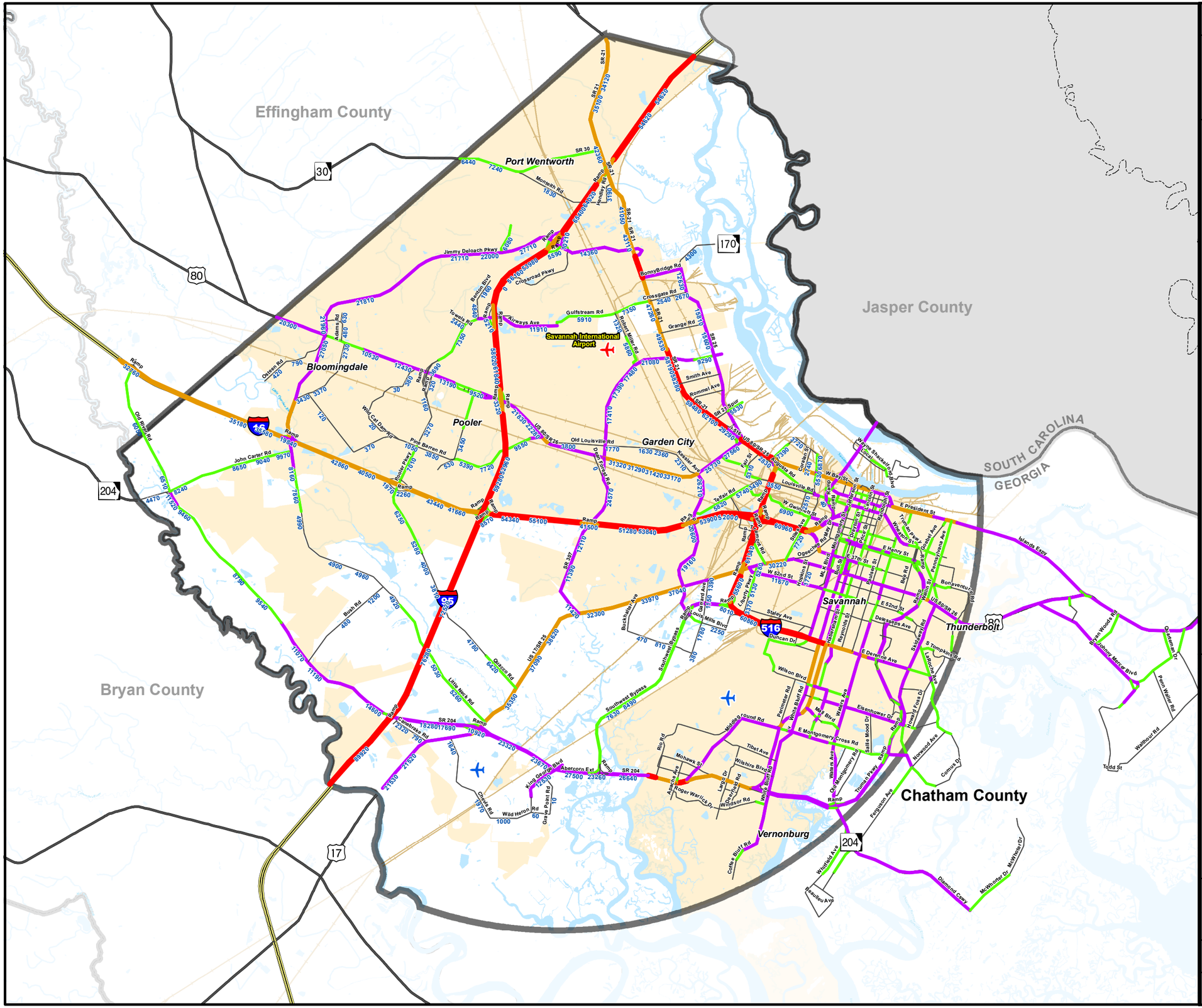
Number	Screenline Name	Model Volume	Traffic Count	Volume/ Count Ratio	Percent Deviation	Maximum Desirable Deviation
1	West of I-95	98,780	103,973	0.95	-4.99%	+/-22.43%
2	Southwest / South of DeRenne Ave	237,440	252,378	0.94	-5.92%	+/-15.80%
3	East of I-95	143,080	133,210	1.07	7.41%	+/-20.34%
4	I-16 / US 80	258,850	256,900	1.01	0.76%	+/-15.69%
5	I-516 / Veterans Pkwy	213,000	183,931	1.16	15.80%	+/-17.90%
6	SR 21 / Islands Expressway	253,500	267,135	0.95	-5.10%	+/-15.41%
7	Casey Canal	153710	164,141	0.94	-6.35%	+/-18.73%
9	Intracoastal Waterway	54,520	60,991	0.89	-10.61%	+/-27.69%
	Total	1,412,880	1,422,659	0.99	-0.69%	+/-7.98%

5.3 Traffic Volume Projections

The Chatham Interstate Plan Model (2006), prepared as indicated above, was used to forecast future year traffic volumes. **Figures 5.9** and **5.10** show the daily traffic volumes for years 2015 and 2030 based on the travel demand model output. The travel demand model is based on daily traffic volumes, but also provides an estimate of peak hour volumes by direction based on link specific factors. These peak hour volumes will be used in conjunction with field count data when performing traffic operations/simulation analysis to assess potential improvements.

Figure 5.9

2015 Daily Traffic Volumes From Chatham Interstate Plan Model (2006)



Legend

2015 Daily Traffic Volumes

- 50,001 and Above
- 30,001 - 50,000
- 10,001 - 30,000
- 5,001- 10,000
- 5,000 and Below
- 00000 Actual 2015 Total Daily Volume

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, SkyComp, and Carter & Burgess, Inc.

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0 0.5 1 2 3 4 5 Miles

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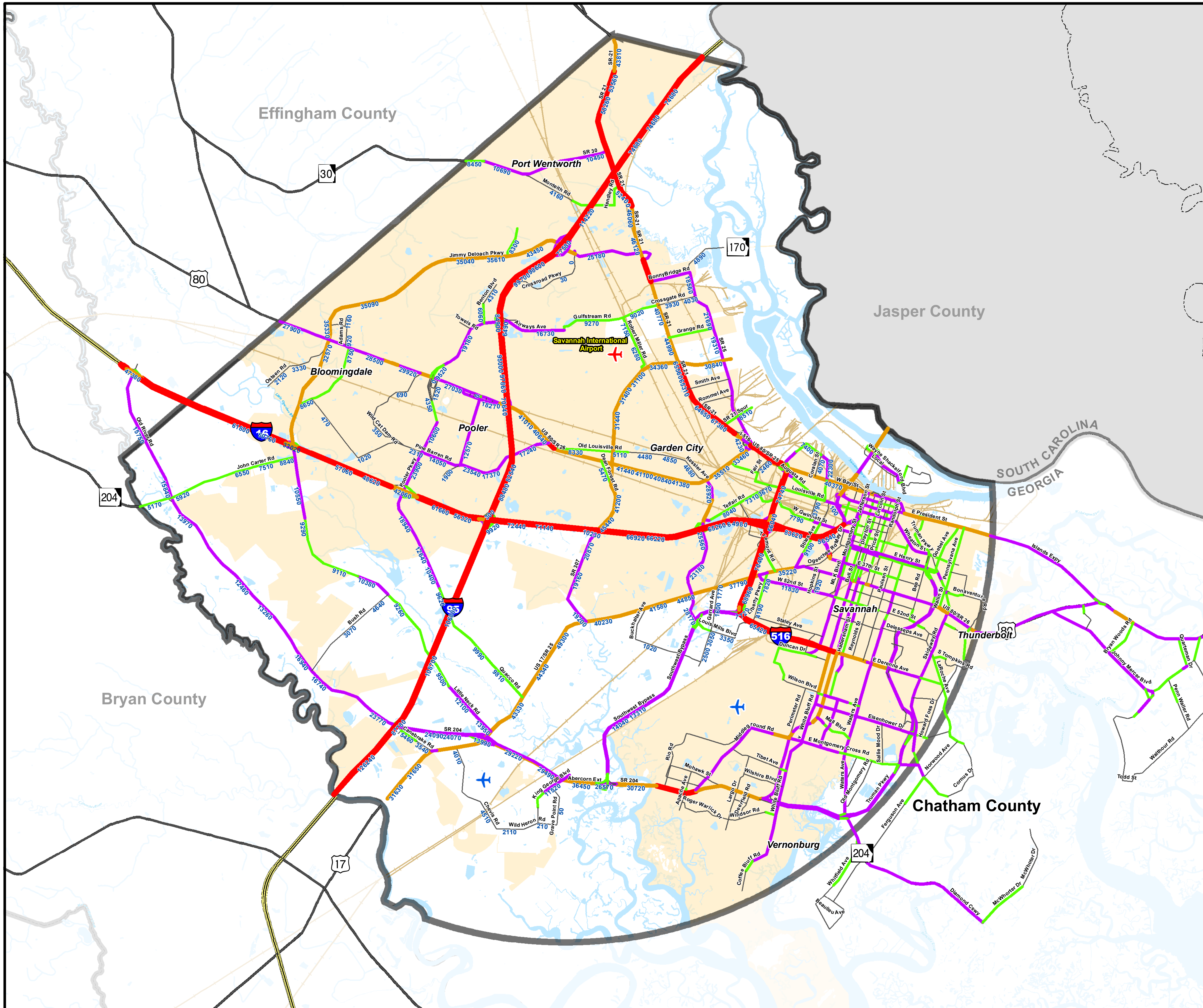

Figure 5.10

2030 Daily Traffic Volumes From Chatham Interstate Plan Model (2006)

Legend

2030 Daily Traffic Volumes

- 50,001 and Above
- 30,001 - 50,000
- 10,001 - 30,000
- 5,001- 10,000
- 5,000 and Below
- 00000 Actual 2030 Total Daily Volume

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, SkyComp, and Carter & Burgess, Inc.

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Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
1	0	14	0	0	0	14	312	0	17	0	0	0	17	304	0	17	0	0	0	17	832
2	0	300	75	0	0	375	200	0	364	88	0	0	452	199	0	364	88	0	0	452	371
3	0	131	39	0	0	170	883	0	159	46	0	0	205	880	0	159	46	0	0	205	1,063
4	120	154	225	0	0	379	843	140	187	263	0	0	450	851	164	187	263	0	0	450	988
5	0	116	159	0	20	295	1,171	0	141	187	0	34	362	1,394	0	141	187	0	34	362	1,679
6	0	30	5	0	0	35	385	0	36	6	0	0	42	347	0	36	6	0	0	42	512
8	0	15	0	0	0	15	72	0	18	0	0	0	18	68	0	18	0	0	0	18	106
10	0	14	28	0	0	42	3,105	0	17	33	0	0	50	2,950	0	17	33	0	0	50	2,950
11	400	0	183	0	0	183	2,480	467	0	214	0	0	214	2,233	546	0	214	0	0	214	2,331
12	0	42	138	0	0	180	908	0	51	161	0	0	212	888	0	51	161	0	0	212	1,033
13	0	0	175	0	0	175	435	0	0	205	0	0	205	416	0	0	205	0	0	205	657
14	0	184	244	0	0	428	1,768	0	223	286	0	0	509	1,716	0	223	286	0	0	509	1,901
15	901	116	227	0	0	343	714	1,052	141	265	0	0	406	735	1,231	141	265	0	0	406	777
16	428	14	0	0	0	14	3,600	500	17	0	0	0	17	3,198	585	17	0	0	0	17	3,479
17	0	14	56	0	0	70	1,717	0	17	66	0	0	83	1,655	0	17	66	0	0	83	1,903
18	0	0	114	0	0	114	1,274	0	0	134	0	0	134	1,849	0	0	134	0	0	134	1,849
19	0	14	0	0	0	14	589	0	17	0	0	0	17	579	0	17	0	0	0	17	893
20	1,469	270	286	0	0	556	2,623	2,790	328	334	0	0	662	2,427	3,264	328	334	0	0	662	2,536
21	0	14	37	0	0	51	690	0	17	43	0	0	60	666	0	17	43	0	0	60	783
22	0	0	0	0	0	0	372	0	0	0	0	0	0	353	0	0	0	0	0	0	353
23	0	14	0	0	0	14	247	0	17	0	0	0	17	250	0	17	0	0	0	17	255
24	0	28	37	0	0	65	799	0	34	43	0	0	77	780	0	34	43	0	0	77	830
25	0	28	9	0	0	37	106	0	34	11	0	0	45	99	0	34	11	0	0	45	142
26	0	28	28	0	0	56	1,242	0	34	33	0	0	67	1,113	0	34	33	0	0	67	1,336
27	0	0	0	0	0	0	9	0	0	0	0	0	0	8	0	0	0	0	0	0	14
28	0	0	28	0	0	28	2,315	0	0	33	0	0	33	2,122	0	0	33	0	0	33	2,327
29	0	75	0	0	0	75	52	0	91	0	0	0	91	114	0	91	0	0	0	91	114
30	0	58	5	0	0	63	2,745	0	70	6	0	0	76	3,381	0	70	6	0	0	76	3,381
33	0	0	5	0	0	5	2,435	0	0	6	0	0	6	3,080	0	0	6	0	0	6	3,080
34	0	29	241	0	0	270	478	0	35	282	0	0	317	466	0	35	282	0	0	317	523
35	640	14	56	0	0	70	796	747	17	66	0	0	83	734	874	17	66	0	0	83	747
36	0	0	56	0	0	56	749	0	0	66	0	0	66	705	0	0	66	0	0	66	737
37	0	28	243	0	0	271	406	0	34	285	0	0	319	372	0	34	285	0	0	319	453
38	0	15	9	0	0	24	123	0	18	11	0	0	29	138	0	18	11	0	0	29	138
39	0	29	84	0	0	113	331	0	35	99	0	0	134	374	0	35	99	0	0	134	374
40	0	0	131	0	0	131	1,073	0	0	154	0	0	154	1,109	0	0	154	0	0	154	1,109
41	0	56	42	0	0	98	2,762	0	68	49	0	0	117	2,586	0	68	49	0	0	117	2,617

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
42	0	14	0	0	0	14	245	0	17	0	0	0	17	233	0	17	0	0	0	17	274
43	0	42	103	0	0	145	514	0	51	121	0	0	172	485	0	51	121	0	0	172	497
44	0	0	0	0	0	0	1,071	0	0	0	0	0	0	997	0	0	0	0	0	0	1,016
45	0	0	0	0	0	0	443	0	0	0	0	0	0	415	0	0	0	0	0	0	453
46	175	42	84	0	0	126	652	267	51	99	0	0	150	605	312	51	99	0	0	150	611
47	0	14	103	0	0	117	693	0	17	121	0	0	138	639	0	17	121	0	0	138	676
48	0	0	0	0	0	0	357	0	0	0	0	0	0	344	0	0	0	0	0	0	376
49	0	0	0	0	0	0	411	0	0	0	0	0	0	375	0	0	0	0	0	0	387
50	0	85	832	0	0	917	458	0	103	967	0	0	1,070	399	0	103	967	0	0	1,070	476
51	0	0	0	0	0	0	0	0	0	43	0	0	43	0	0	0	43	0	0	43	0
52	0	56	56	0	0	112	9	0	68	66	0	0	134	0	0	68	66	0	0	134	5
53	0	28	142	0	0	170	232	0	34	167	0	0	201	191	0	34	167	0	0	201	211
54	0	0	385	0	0	385	0	0	0	385	0	0	385	7	0	0	385	0	0	385	28
55	0	0	169	0	0	169	0	0	0	198	0	0	198	0	0	0	198	0	0	198	0
56	0	0	0	0	0	0	0	0	0	60	0	0	60	0	0	0	60	0	0	60	0
57	395	56	70	0	0	126	90	461	68	82	0	0	150	0	539	68	82	0	0	150	49
58	0	0	0	0	0	0	568	0	0	0	0	0	0	522	0	0	0	0	0	0	561
59	0	150	173	0	0	323	505	0	182	203	0	0	385	461	0	182	203	0	0	385	495
60	530	56	159	0	0	215	732	619	68	187	0	0	255	677	724	68	187	0	0	255	690
61	803	0	112	0	0	112	481	938	0	131	0	0	131	425	1,097	0	131	0	0	131	448
62	0	0	9	0	0	9	885	0	0	11	0	0	11	823	0	0	11	0	0	11	831
63	0	28	56	0	0	84	956	0	34	66	0	0	100	888	0	34	66	0	0	100	949
64	0	71	103	0	40	214	796	0	86	121	0	68	275	852	0	86	121	0	68	275	863
65	0	56	84	0	30	170	300	0	68	99	0	51	218	395	0	68	99	0	51	218	395
66	0	14	0	0	0	14	11	0	17	0	0	0	17	10	0	17	0	0	0	17	12
67	0	14	94	0	0	108	2,122	0	17	110	0	0	127	1,997	0	17	110	0	0	127	2,030
68	0	42	37	0	10	89	257	0	51	43	0	17	111	143	0	51	43	0	17	111	228
69	0	14	84	0	10	108	778	0	17	99	0	17	133	723	0	17	99	0	17	133	789
70	0	14	84	0	0	98	1,132	0	17	99	0	0	116	1,069	0	17	99	0	0	116	1,088
71	0	14	75	0	0	89	1,640	0	17	88	0	0	105	2,031	0	17	88	0	0	105	2,031
101	0	0	9	1,280	10	1,299	275	0	0	11	1,177	17	1,205	240	0	0	11	1,177	17	1,205	285
102	0	0	35	0	0	35	377	0	0	41	0	0	41	457	0	0	41	0	0	41	457
103	0	14	74	0	170	258	266	0	17	87	0	290	394	249	0	17	87	0	290	394	347
104	0	0	37	30	31	98	1	0	0	43	28	53	124	2	0	0	43	28	53	124	2
105	0	0	0	0	0	0	192	0	0	0	0	0	0	46	0	0	0	0	0	0	93
106	504	70	94	0	0	164	1,274	589	85	110	0	0	195	1,183	689	85	110	0	0	195	1,299
107	1,079	28	140	0	0	168	1,092	1,260	34	164	0	0	198	1,029	1,474	34	164	0	0	198	1,072

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
108	0	72	145	0	60	277	886	0	87	170	0	102	359	878	0	87	170	0	102	359	879
109	0	105	140	0	20	265	631	0	127	164	0	34	325	596	0	127	164	0	34	325	621
110	0	28	112	0	0	140	1,190	0	34	131	0	0	165	1,114	0	34	131	0	0	165	1,153
111	0	44	150	0	10	204	1,159	0	53	176	0	17	246	1,072	0	53	176	0	17	246	1,072
112	0	0	0	0	0	0	454	0	0	0	0	0	0	531	0	0	0	0	0	0	531
113	0	90	183	0	0	273	631	0	109	214	0	0	323	594	0	109	214	0	0	323	639
114	0	60	5	0	0	65	795	0	73	6	0	0	79	737	0	73	6	0	0	79	750
115	0	50	0	0	0	50	0	0	61	0	0	0	61	0	0	61	0	0	0	61	0
116	735	155	225	0	10	390	1,112	858	188	263	0	17	468	1,139	1,004	188	263	0	17	468	1,215
117	0	157	131	0	40	328	167	0	190	154	0	68	412	169	0	190	154	0	68	412	207
118	0	52	239	0	50	341	72	0	63	279	0	85	427	65	0	63	279	0	85	427	102
119	982	0	28	0	0	28	69	1,147	0	33	0	0	33	88	1,342	0	33	0	0	33	90
120	0	207	267	0	50	524	1,380	0	251	312	0	85	648	1,584	0	251	312	0	85	648	1,584
121	0	0	297	0	0	297	1,045	0	0	305	0	0	305	578	0	0	305	0	0	305	796
122	2,500	0	325	0	0	325	856	2,919	0	338	0	0	338	793	3,415	0	338	0	0	338	950
123	303	70	215	0	0	285	533	354	85	252	0	0	337	528	414	85	252	0	0	337	557
124	0	0	0	0	0	0	861	0	0	0	0	0	0	798	0	0	0	0	0	0	814
125	2,124	0	75	0	0	75	44	2,480	0	88	0	0	88	41	2,902	0	88	0	0	88	71
126	0	14	39	0	0	53	1,525	0	17	46	0	0	63	1,401	0	17	46	0	0	63	1,451
127	791	42	84	0	0	126	935	924	51	99	0	0	150	896	1,081	51	99	0	0	150	907
128	0	42	164	0	0	206	354	0	51	192	0	0	243	322	0	51	192	0	0	243	352
129	0	515	332	0	0	847	79	0	625	389	0	0	1,014	70	0	625	389	0	0	1,014	76
130	0	175	311	0	0	486	290	0	212	364	0	0	576	278	0	212	364	0	0	576	283
131	0	178	14	0	0	192	0	0	216	16	0	0	232	0	0	216	16	0	0	232	0
132	0	15	37	0	0	52	675	0	18	43	0	0	61	724	0	18	43	0	0	61	724
133	0	15	84	0	0	99	475	0	18	99	0	0	117	439	0	18	99	0	0	117	445
134	0	0	0	0	0	0	224	0	0	0	0	0	0	206	0	0	0	0	0	0	233
135	0	0	28	0	0	28	70	0	0	33	0	0	33	89	0	0	33	0	0	33	91
136	0	28	5	0	0	33	247	0	34	6	0	0	40	236	0	34	6	0	0	40	240
137	0	0	28	0	0	28	464	0	0	33	0	0	33	430	0	0	33	0	0	33	466
138	0	0	0	0	0	0	569	0	0	0	0	0	0	527	0	0	0	0	0	0	544
139	1,382	14	0	0	0	14	0	807	17	0	0	0	17	0	944	17	0	0	0	17	0
140	0	0	28	0	0	28	1	0	0	33	0	0	33	0	0	0	33	0	0	33	1
141	0	14	56	0	0	70	594	0	17	66	0	0	83	556	0	17	66	0	0	83	570
142	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	2
143	0	28	37	0	30	95	0	0	34	43	0	51	128	476	0	34	43	0	51	128	476
144	0	0	37	0	10	47	0	0	0	43	0	17	60	0	0	0	43	0	17	60	0

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
145	0	0	0	0	10	10	0	0	0	0	0	17	17	1,904	0	0	0	0	17	17	1,904
146	0	0	42	0	30	72	0	0	0	49	0	51	100	458	0	0	49	0	51	100	458
147	0	60	231	0	10	301	90	0	73	271	0	17	361	183	0	73	271	0	17	361	185
148	0	0	0	0	0	0	706	0	0	0	0	0	0	657	0	0	0	0	0	0	670
149	0	29	155	0	10	194	905	0	35	181	0	17	233	891	0	35	181	0	17	233	996
150	706	15	206	0	30	251	0	824	18	242	0	51	311	0	964	18	242	0	51	311	0
151	563	0	140	0	40	180	72	657	0	164	0	68	232	68	769	0	164	0	68	232	118
152	410	155	66	0	10	231	298	479	188	76	0	17	281	288	560	188	76	0	17	281	309
153	0	70	131	0	10	211	115	0	85	154	0	17	256	108	0	85	154	0	17	256	115
154	0	43	178	0	0	221	258	0	52	209	0	0	261	262	0	52	209	0	0	261	267
155	0	120	351	0	20	491	383	0	146	412	0	34	592	372	0	146	412	0	34	592	408
156	0	15	175	0	0	190	188	0	18	205	0	0	223	181	0	18	205	0	0	223	194
157	0	59	264	0	20	343	300	0	72	310	0	34	416	273	0	72	310	0	34	416	291
158	0	43	56	0	10	109	371	0	52	66	0	17	135	357	0	52	66	0	17	135	403
159	0	75	140	0	0	215	357	0	91	164	0	0	255	364	0	91	164	0	0	255	485
160	0	45	56	0	0	101	661	0	55	66	0	0	121	633	0	55	66	0	0	121	743
161	0	0	0	0	10	10	0	0	0	0	0	17	17	905	0	0	0	0	17	17	1,124
162	0	14	0	0	10	24	1,016	0	17	0	0	17	34	923	0	17	0	0	17	34	974
163	0	30	94	0	0	124	834	0	36	110	0	0	146	778	0	36	110	0	0	146	837
164	0	60	197	0	0	257	554	0	73	230	0	0	303	516	0	73	230	0	0	303	516
165	0	56	140	0	20	216	482	0	68	164	0	34	266	469	0	68	164	0	34	266	492
166	0	15	84	0	30	129	209	0	18	99	0	51	168	204	0	18	99	0	51	168	204
167	0	15	28	0	0	43	210	0	18	33	0	0	51	205	0	18	33	0	0	51	205
168	0	44	112	0	0	156	330	0	53	131	0	0	184	309	0	53	131	0	0	184	333
169	0	71	84	0	30	185	507	0	86	99	0	51	236	476	0	86	99	0	51	236	476
170	0	20	110	0	10	140	1,508	0	24	128	0	17	169	1,400	0	24	128	0	17	169	1,404
171	0	98	178	0	10	286	1,224	0	119	209	0	17	345	1,152	0	119	209	0	17	345	1,203
172	0	112	117	0	0	229	727	0	136	137	0	0	273	686	0	136	137	0	0	273	720
173	0	42	56	0	0	98	392	0	51	66	0	0	117	367	0	51	66	0	0	117	374
174	0	42	56	0	0	98	633	0	51	66	0	0	117	596	0	51	66	0	0	117	626
175	0	322	463	0	100	885	210	0	391	574	0	171	1,136	237	0	391	574	0	171	1,136	280
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	359	0	28	0	0	28	245	419	0	33	0	0	33	222	490	0	33	0	0	33	231
178	0	0	28	0	0	28	86	0	0	33	0	0	33	77	0	0	33	0	0	33	86
179	0	0	9	0	0	9	91	0	0	11	0	0	11	81	0	0	11	0	0	11	83
180	0	14	28	0	0	42	236	0	17	33	0	0	50	212	0	17	33	0	0	50	213
181	0	0	9	0	0	9	125	0	0	11	0	0	11	112	0	0	11	0	0	11	118

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
182	0	0	0	0	0	0	161	0	0	0	0	0	0	147	0	0	0	0	0	0	147
183	0	294	225	0	20	539	166	0	357	263	0	34	654	185	0	357	263	0	34	654	185
184	0	56	33	0	20	109	398	0	68	39	0	34	141	366	0	68	39	0	34	141	368
185	0	28	0	0	0	28	182	0	34	0	0	0	34	167	0	34	0	0	0	34	200
186	0	14	0	0	0	14	221	0	17	0	0	0	17	203	0	17	0	0	0	17	210
187	444	0	28	0	0	28	429	518	0	33	0	0	33	389	606	0	33	0	0	33	389
188	543	0	0	0	0	0	182	634	0	0	0	0	0	164	742	0	0	0	0	0	176
189	0	0	0	0	0	0	259	0	0	0	0	0	0	237	0	0	0	0	0	0	255
190	0	42	140	0	0	182	428	0	51	164	0	0	215	390	0	51	164	0	0	215	431
191	0	0	89	0	0	89	785	0	0	104	0	0	104	707	0	0	104	0	0	104	759
192	0	14	34	0	0	48	1,143	0	17	40	0	0	57	1,061	0	17	40	0	0	57	1,069
193	0	28	173	0	0	201	332	0	34	203	0	0	237	303	0	34	203	0	0	237	303
194	0	42	140	0	30	212	269	0	51	164	0	51	266	236	0	51	164	0	51	266	244
195	0	14	41	0	0	55	75	0	17	48	0	0	65	69	0	17	48	0	0	65	69
196	0	15	4,655	0	0	4,670	240	0	18	5,408	0	0	5,426	486	0	18	5,408	0	0	5,426	486
197	0	249	334	0	10	593	493	0	302	392	0	17	711	455	0	302	392	0	17	711	488
201	0	0	39	0	0	39	463	0	0	46	0	0	46	415	0	0	46	0	0	46	417
202	0	0	140	0	0	140	222	0	0	164	0	0	164	202	0	0	164	0	0	164	208
203	0	0	0	0	0	0	261	0	0	0	0	0	0	238	0	0	0	0	0	0	257
204	0	0	0	0	0	0	610	0	0	0	0	0	0	550	0	0	0	0	0	0	586
205	0	0	0	0	0	0	295	0	0	0	0	0	0	264	0	0	0	0	0	0	269
206	0	14	169	0	0	183	231	0	17	197	0	0	214	209	0	17	197	0	0	214	233
207	0	224	150	0	10	384	724	0	272	176	0	17	465	663	0	272	176	0	17	465	779
208	0	42	225	0	0	267	1,002	0	51	263	0	0	314	1,054	0	51	263	0	0	314	1,179
209	0	56	286	0	40	382	425	0	68	334	0	68	470	405	0	68	334	0	68	470	407
210	0	70	169	0	0	239	667	0	85	197	0	0	282	619	0	85	197	0	0	282	630
211	0	0	28	0	0	28	272	0	0	33	0	0	33	245	0	0	33	0	0	33	247
212	0	28	11	0	0	39	427	0	34	13	0	0	47	382	0	34	13	0	0	47	447
213	369	14	9	0	0	23	340	431	17	11	0	0	28	306	504	17	11	0	0	28	308
214	0	0	28	0	0	28	213	0	0	33	0	0	33	196	0	0	33	0	0	33	211
215	0	0	50	0	0	50	196	0	0	59	0	0	59	179	0	0	59	0	0	59	200
216	875	14	80	0	0	94	181	1,022	17	93	0	0	110	93	1,196	17	93	0	0	110	140
217	0	208	1,105	0	10	1,323	14	0	252	1,284	0	17	1,553	12	0	252	1,284	0	17	1,553	13
218	0	70	224	0	0	294	23	0	85	262	0	0	347	21	0	85	262	0	0	347	21
219	0	14	0	0	0	14	54	0	17	0	0	0	17	47	0	17	0	0	0	17	49
220	0	0	2,046	0	0	2,046	0	0	0	2,377	0	0	2,377	0	0	0	2,377	0	0	2,377	0
221	0	0	0	0	0	0	160	0	0	0	0	0	0	145	0	0	0	0	0	0	145

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
222	0	0	58	0	0	58	67	0	0	68	0	0	68	58	0	0	68	0	0	68	59
223	0	0	47	0	0	47	153	0	0	55	0	0	55	137	0	0	55	0	0	55	138
224	0	14	5	0	0	19	132	0	17	6	0	0	23	118	0	17	6	0	0	23	131
225	527	84	56	0	0	140	362	615	102	66	0	0	168	334	720	102	66	0	0	168	340
226	0	0	292	0	10	302	415	0	0	342	0	17	359	444	0	0	342	0	17	359	457
227	399	42	201	0	0	243	981	466	51	236	0	0	287	982	545	51	236	0	0	287	983
228	0	0	0	0	0	0	1,277	0	0	0	0	0	0	397	0	0	0	0	0	0	397
229	0	182	164	0	0	346	773	0	221	192	0	0	413	713	0	221	192	0	0	413	713
230	0	112	203	0	0	315	5	0	136	238	0	0	374	4	0	136	238	0	0	374	4
231	0	0	33	0	0	33	979	0	0	39	0	0	39	894	0	0	39	0	0	39	922
232	0	0	75	0	0	75	96	0	0	88	0	0	88	83	0	0	88	0	0	88	116
233	476	14	178	0	0	192	732	556	17	209	0	0	226	658	651	17	209	0	0	226	698
234	275	14	96	0	0	110	633	321	17	112	0	0	129	577	376	17	112	0	0	129	577
235	0	0	42	0	0	42	147	0	0	49	0	0	49	132	0	0	49	0	0	49	141
236	0	38	84	0	0	122	3	0	46	99	0	0	145	3	0	46	99	0	0	145	3
237	0	64	208	0	0	272	10	0	78	244	0	0	322	9	0	78	244	0	0	322	16
238	3,569	30	33	0	0	63	288	4,168	36	39	0	0	75	250	4,877	36	39	0	0	75	257
239	0	0	0	0	0	0	31	0	0	0	0	0	0	1,129	0	0	0	0	0	0	1,129
240	0	0	0	0	0	0	575	0	0	0	0	0	0	886	0	0	0	0	0	0	1,266
241	0	316	661	0	10	987	548	0	383	768	0	17	1,168	560	0	383	768	0	17	1,168	561
242	0	126	334	0	0	460	0	0	153	389	0	0	542	0	0	153	389	0	0	542	0
243	0	252	1,412	0	70	1,734	233	0	306	1,641	0	120	2,067	213	0	306	1,641	0	120	2,067	238
244	0	376	1,276	0	10	1,662	0	0	456	1,474	0	17	1,947	0	0	456	1,474	0	17	1,947	0
245	0	119	334	0	20	473	7	0	144	389	0	34	567	2	0	144	389	0	34	567	3
246	0	111	252	0	20	383	5	0	135	290	0	34	459	0	0	135	290	0	34	459	2
247	0	640	131	0	0	771	121	0	776	154	0	0	930	0	0	776	154	0	0	930	45
248	620	42	570	0	0	612	587	724	51	662	0	0	713	508	847	51	662	0	0	713	574
249	0	29	328	0	0	357	486	0	35	384	0	0	419	451	0	35	384	0	0	419	478
250	0	42	89	0	0	131	363	0	51	104	0	0	155	339	0	51	104	0	0	155	339
251	0	404	337	0	0	741	10	0	490	395	0	0	885	0	0	490	395	0	0	885	3
252	0	125	14	0	0	139	0	0	152	16	0	0	168	0	0	152	16	0	0	168	0
253	0	0	4,578	0	0	4,578	0	0	0	5,319	0	0	5,319	0	0	0	5,319	0	0	5,319	489
254	0	168	77	0	0	245	1,268	0	204	90	0	0	294	1,178	0	204	90	0	0	294	1,233
255	852	182	169	0	20	371	1,216	995	221	197	0	34	452	1,139	1,164	221	197	0	34	452	1,189
256	880	0	56	0	0	56	1,985	1,028	0	66	0	0	66	1,826	1,203	0	66	0	0	66	1,835
257	0	14	103	0	0	117	1,084	0	17	121	0	0	138	999	0	17	121	0	0	138	1,018
258	0	416	126	0	0	542	718	0	505	148	0	0	653	648	0	505	148	0	0	653	729

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
259	0	56	126	0	0	182	83	0	68	148	0	0	216	74	0	68	148	0	0	216	75
260	0	28	66	0	0	94	1,003	0	34	76	0	0	110	910	0	34	76	0	0	110	937
261	633	178	655	0	30	863	3,471	739	216	761	0	51	1,028	3,840	865	216	761	0	51	1,028	3,892
262	0	70	197	0	0	267	1,613	0	85	230	0	0	315	1,512	0	85	230	0	0	315	1,566
263	0	514	103	0	0	617	1,832	0	624	121	0	0	745	1,673	0	624	121	0	0	745	1,706
264	0	0	1,700	0	0	1,700	1,949	0	0	1,700	0	0	1,700	1,875	0	0	1,700	0	0	1,700	1,875
265	0	0	47	0	0	47	1,881	0	0	55	0	0	55	1,866	0	0	55	0	0	55	1,943
266	0	0	112	0	0	112	346	0	0	131	0	0	131	721	0	0	131	0	0	131	721
267	0	90	9	0	0	99	0	0	109	11	0	0	120	395	0	109	11	0	0	120	395
268	0	14	0	0	0	14	764	0	17	0	0	0	17	709	0	17	0	0	0	17	721
269	0	207	245	0	0	452	265	0	251	301	0	0	552	343	0	251	301	0	0	552	343
270	0	545	63	0	0	608	2	0	661	74	0	0	735	0	0	661	74	0	0	735	1
271	0	134	47	0	0	181	238	0	163	55	0	0	218	212	0	163	55	0	0	218	226
272	0	71	126	0	0	197	156	0	86	148	0	0	234	218	0	86	148	0	0	234	218
273	0	0	0	0	0	0	493	0	0	0	0	0	0	690	0	0	0	0	0	0	690
274	6,027	30	792	0	0	822	125	7,038	36	799	0	0	835	243	8,234	36	799	0	0	835	622
275	0	56	91	0	0	147	212	0	68	107	0	0	175	507	0	68	107	0	0	175	509
276	1,492	116	28	0	0	144	1,259	1,742	141	33	0	0	174	1,474	2,038	141	33	0	0	174	1,474
277	0	0	0	0	0	0	2,189	0	0	0	0	0	0	2,141	0	0	0	0	0	0	2,141
278	0	14	28	0	0	42	1,708	0	17	33	0	0	50	1,835	0	17	33	0	0	50	1,835
279	0	0	138	0	0	138	2,192	0	0	161	0	0	161	2,048	0	0	161	0	0	161	2,091
280	980	0	84	0	0	84	1,388	1,144	0	99	0	0	99	1,280	1,338	0	99	0	0	99	1,280
281	751	168	215	0	0	383	1,914	877	204	252	0	0	456	1,800	1,026	204	252	0	0	456	1,800
282	0	57	72	0	0	129	877	0	69	84	0	0	153	874	0	69	84	0	0	153	902
283	0	0	0	0	0	0	89	0	0	0	0	0	0	85	0	0	0	0	0	0	100
284	0	0	0	0	0	0	49	0	0	0	0	0	0	76	0	0	0	0	0	0	76
285	0	0	159	0	0	159	1,132	0	0	187	0	0	187	1,101	0	0	187	0	0	187	1,428
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	218
301	0	0	37	0	0	37	0	0	0	43	0	0	43	3,001	0	0	43	0	0	43	3,001
302	0	0	0	0	0	0	0	0	0	0	0	0	0	526	0	0	0	0	0	0	526
303	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	0	0	75	0	0	75	0	0	0	88	0	0	88	0	0	0	88	0	0	88	911
306	344	28	37	0	40	105	0	269	34	43	0	68	145	155	315	34	43	0	68	145	178
307	0	14	5	0	40	59	4	0	17	6	0	68	91	0	0	17	6	0	68	91	8
308	0	0	47	0	0	47	0	0	0	55	0	0	55	0	0	0	55	0	0	55	23
309	0	60	19	0	0	79	7	0	73	22	0	0	95	2	0	73	22	0	0	95	18

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
310	0	180	84	0	0	264	0	0	218	99	0	0	317	14	0	218	99	0	0	317	20
311	0	0	72	0	0	72	2	0	0	84	0	0	84	0	0	0	84	0	0	84	2
312	0	170	108	0	0	278	21	0	206	127	0	0	333	25	0	206	127	0	0	333	32
313	0	398	155	0	0	553	45	0	483	181	0	0	664	78	0	483	181	0	0	664	78
314	0	416	84	410	0	910	28	0	505	99	377	0	981	46	0	505	99	377	0	981	48
315	0	285	173	0	0	458	3	0	346	203	0	0	549	22	0	346	203	0	0	549	22
316	0	195	172	0	10	377	80	0	237	202	0	17	456	34	0	237	202	0	17	456	210
317	0	135	112	0	20	267	49	0	164	131	0	34	329	47	0	164	131	0	34	329	47
318	172	30	42	0	0	72	85	269	36	49	0	0	85	82	315	36	49	0	0	85	105
319	0	30	80	0	0	110	128	0	36	93	0	0	129	120	0	36	93	0	0	129	127
320	0	74	159	0	10	243	141	0	90	187	0	17	294	147	0	90	187	0	17	294	161
321	172	103	119	0	0	222	135	269	125	140	0	0	265	127	315	125	140	0	0	265	156
322	0	342	234	0	0	576	35	0	415	274	0	0	689	50	0	415	274	0	0	689	52
323	0	323	323	0	0	646	41	0	392	379	0	0	771	60	0	392	379	0	0	771	60
324	0	173	75	0	0	248	15	0	210	88	0	0	298	39	0	210	88	0	0	298	41
325	0	0	187	0	0	187	0	0	0	219	0	0	219	0	0	0	219	0	0	219	0
326	344	160	145	0	30	335	827	269	194	170	0	51	415	375	315	194	170	0	51	415	744
327	0	14	23	0	20	57	112	0	17	27	0	34	78	513	0	17	27	0	34	78	521
328	516	15	0	0	0	15	0	0	18	0	0	0	18	0	0	18	0	0	0	18	0
329	0	60	52	0	0	112	0	0	73	60	0	0	133	0	0	73	60	0	0	133	0
331	344	0	9	0	10	19	0	269	0	11	0	17	28	24	315	0	11	0	17	28	24
332	0	14	47	0	0	61	98	0	17	55	0	0	72	93	0	17	55	0	0	72	93
333	0	140	192	0	0	332	124	0	170	225	0	0	395	113	0	170	225	0	0	395	144
334	0	28	66	0	0	94	293	0	34	76	0	0	110	255	0	34	76	0	0	110	266
335	172	14	5	0	0	19	62	267	17	6	0	0	23	60	312	17	6	0	0	23	60
336	0	0	5	0	20	25	21	0	0	6	0	34	40	18	0	0	6	0	34	40	22
337	0	75	42	0	10	127	93	0	91	49	0	17	157	88	0	91	49	0	17	157	117
338	0	30	33	0	10	73	150	0	36	39	0	17	92	139	0	36	39	0	17	92	141
339	0	30	33	0	0	63	195	0	36	39	0	0	75	179	0	36	39	0	0	75	192
340	370	56	108	0	0	164	245	432	68	127	0	0	195	232	505	68	127	0	0	195	242
341	344	0	178	0	0	178	75	267	0	209	0	0	209	70	312	0	209	0	0	209	84
342	0	42	61	0	0	103	52	0	51	72	0	0	123	49	0	51	72	0	0	123	49
343	344	44	70	0	10	124	276	267	53	82	0	17	152	320	312	53	82	0	17	152	350
344	0	45	42	0	0	87	9	0	55	49	0	0	104	78	0	55	49	0	0	104	88
345	172	120	28	0	10	158	3	269	146	33	0	17	196	0	315	146	33	0	17	196	52
346	0	56	5	0	0	61	39	0	68	6	0	0	74	91	0	68	6	0	0	74	91
347	0	43	122	0	10	175	19	0	52	143	0	17	212	19	0	52	143	0	17	212	30

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
348	0	98	0	0	0	98	297	0	119	0	0	0	119	268	0	119	0	0	0	119	272
349	0	57	0	0	0	57	98	0	69	0	0	0	69	93	0	69	0	0	0	69	131
350	0	15	33	0	0	48	119	0	18	39	0	0	57	111	0	18	39	0	0	57	157
351	0	71	37	0	0	108	248	0	86	43	0	0	129	233	0	86	43	0	0	129	281
352	0	14	61	0	0	75	365	0	17	72	0	0	89	319	0	17	72	0	0	89	327
353	0	15	28	0	0	43	558	0	18	33	0	0	51	346	0	18	33	0	0	51	380
354	0	90	103	0	0	193	402	0	109	121	0	0	230	410	0	109	121	0	0	230	458
355	0	44	28	0	0	72	259	0	53	33	0	0	86	243	0	53	33	0	0	86	248
356	172	28	111	0	0	139	423	267	34	130	0	0	164	377	312	34	130	0	0	164	399
357	0	14	0	0	0	14	0	0	17	0	0	0	17	0	0	17	0	0	0	17	0
358	0	29	80	0	0	109	310	0	35	93	0	0	128	300	0	35	93	0	0	128	367
359	0	56	94	0	0	150	104	0	68	110	0	0	178	116	0	68	110	0	0	178	116
360	0	154	66	0	0	220	35	0	187	76	0	0	263	39	0	187	76	0	0	263	58
361	0	56	80	0	0	136	139	0	68	93	0	0	161	115	0	68	93	0	0	161	157
362	0	28	37	0	0	65	98	0	34	43	0	0	77	105	0	34	43	0	0	77	108
363	0	14	128	0	10	152	327	0	17	150	0	17	184	312	0	17	150	0	17	184	312
364	0	28	91	0	0	119	321	0	34	107	0	0	141	311	0	34	107	0	0	141	369
365	0	28	0	0	0	28	221	0	34	0	0	0	34	218	0	34	0	0	0	34	234
366	0	15	37	0	0	52	523	0	18	43	0	0	61	520	0	18	43	0	0	61	567
367	344	74	200	0	0	274	361	267	90	235	0	0	325	345	312	90	235	0	0	325	386
368	0	0	88	0	20	108	119	0	0	103	0	34	137	114	0	0	103	0	34	137	151
369	0	14	166	0	0	180	74	0	17	194	0	0	211	63	0	17	194	0	0	211	100
370	0	29	80	0	0	109	37	0	35	93	0	0	128	34	0	35	93	0	0	128	38
371	172	168	206	0	20	394	330	267	204	242	0	34	480	355	312	204	242	0	34	480	374
372	0	84	208	0	10	302	100	0	102	244	0	17	363	48	0	102	244	0	17	363	132
373	0	70	94	0	10	174	83	0	85	110	0	17	212	96	0	85	110	0	17	212	129
374	0	42	77	0	0	119	429	0	51	90	0	0	141	458	0	51	90	0	0	141	491
375	117	45	117	0	0	162	5	137	55	137	0	0	192	4	160	55	137	0	0	192	8
376	0	45	103	0	0	148	54	0	55	121	0	0	176	50	0	55	121	0	0	176	53
377	0	0	115	0	0	115	52	0	0	135	0	0	135	47	0	0	135	0	0	135	68
378	0	60	89	0	0	149	418	0	73	104	0	0	177	429	0	73	104	0	0	177	505
379	0	0	84	0	0	84	189	0	0	99	0	0	99	193	0	0	99	0	0	99	284
380	0	60	131	0	10	201	160	0	73	154	0	17	244	154	0	73	154	0	17	244	186
381	172	102	173	0	0	275	374	267	124	203	0	0	327	325	312	124	203	0	0	327	380
382	0	14	66	0	0	80	91	0	17	77	0	0	94	88	0	17	77	0	0	94	90
383	0	14	28	0	0	42	110	0	17	33	0	0	50	176	0	17	33	0	0	50	183
384	0	14	28	0	0	42	107	0	17	33	0	0	50	97	0	17	33	0	0	50	116

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
385	0	113	28	0	20	161	313	0	137	33	0	34	204	338	0	137	33	0	34	204	411
386	0	101	84	0	0	185	57	0	123	99	0	0	222	64	0	123	99	0	0	222	65
387	0	15	37	0	0	52	2	0	18	43	0	0	61	34	0	18	43	0	0	61	34
388	0	28	56	0	0	84	218	0	34	66	0	0	100	254	0	34	66	0	0	100	254
389	0	14	39	0	0	53	30	0	17	46	0	0	63	32	0	17	46	0	0	63	46
390	0	14	9	0	0	23	99	0	17	11	0	0	28	96	0	17	11	0	0	28	118
391	0	45	61	0	0	106	407	0	55	72	0	0	127	385	0	55	72	0	0	127	520
392	0	226	191	0	30	447	414	0	274	224	0	51	549	391	0	274	224	0	51	549	410
393	0	112	74	0	20	206	81	0	136	87	0	34	257	76	0	136	87	0	34	257	100
394	0	84	150	0	0	234	79	0	102	176	0	0	278	95	0	102	176	0	0	278	95
395	0	140	66	0	0	206	59	0	170	76	0	0	246	92	0	170	76	0	0	246	92
396	0	227	122	0	50	399	398	0	275	143	0	85	503	432	0	275	143	0	85	503	466
397	0	103	140	0	0	243	63	0	125	164	0	0	289	68	0	125	164	0	0	289	73
401	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
402	0	0	37	0	0	37	0	0	0	43	0	0	43	0	0	968	2,946	2,903	1,290	8,107	0
403	0	0	5	1,200	0	1,205	0	0	0	6	1,104	0	1,110	0	0	0	6	1,104	0	1,110	0
404	0	0	0	153	0	153	0	0	0	0	141	0	141	0	0	0	0	141	0	141	0
405	0	14	28	41	20	103	0	0	17	33	38	34	122	0	0	17	33	38	34	122	0
406	0	150	239	41	121	551	280	0	182	279	38	207	706	65	0	182	279	38	207	706	239
407	0	14	135	30	21	200	424	0	17	158	28	36	239	423	0	17	158	28	36	239	427
408	0	84	140	0	30	254	256	0	102	164	0	51	317	267	0	102	164	0	51	317	267
409	0	0	0	0	0	0	0	0	0	110	110	0	220	0	0	0	110	110	0	220	0
410	0	0	0	2,400	0	2,400	0	0	0	0	2,207	0	2,207	0	0	0	0	2,207	0	2,207	0
411	0	0	28	30	11	69	0	0	0	33	28	19	80	0	0	0	33	28	19	80	0
412	0	0	0	82	10	92	0	0	0	0	75	17	92	0	0	0	0	75	17	92	0
413	0	14	53	0	0	67	66	0	17	62	0	0	79	42	0	17	62	0	0	79	68
414	0	42	196	90	3	331	549	0	51	229	83	5	368	508	0	51	229	83	5	368	529
415	0	43	150	0	40	233	257	0	52	176	0	68	296	245	0	52	176	0	68	296	290
416	0	58	169	0	10	237	607	0	70	197	0	17	284	556	0	70	197	0	17	284	629
417	0	168	227	0	0	395	293	0	204	265	0	0	469	270	0	204	265	0	0	469	331
418	0	201	364	30	21	616	313	0	244	427	28	36	735	287	0	244	427	28	36	735	318
419	0	129	89	0	10	228	145	0	157	104	0	17	278	84	0	157	104	0	17	278	125
420	521	14	206	0	0	220	533	608	17	242	0	0	259	526	711	17	242	0	0	259	538
421	0	266	720	0	0	986	1,752	0	323	837	0	0	1,160	1,676	0	323	837	0	0	1,160	1,752
422	0	149	403	0	10	562	1,112	0	181	472	0	17	670	952	0	181	472	0	17	670	1,114
423	688	15	42	0	90	147	0	0	18	49	0	154	221	0	0	18	49	0	154	221	0
424	0	45	37	0	40	122	11	0	55	43	0	68	166	2	0	55	43	0	68	166	115

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
425	686	29	229	0	40	298	3	801	35	269	0	68	372	0	937	35	269	0	68	372	185
426	0	56	89	0	0	145	3	0	68	104	0	0	172	188	0	68	104	0	0	172	225
427	0	14	28	0	10	52	0	0	17	33	0	17	67	0	0	17	33	0	17	67	196
428	0	0	140	0	10	150	82	0	0	164	0	17	181	255	0	0	164	0	17	181	255
429	0	0	75	0	60	135	15	0	0	88	0	102	190	594	0	0	88	0	102	190	594
430	292	43	328	0	0	371	189	341	52	384	0	0	436	187	399	52	384	0	0	436	212
431	0	30	272	0	10	312	278	0	36	319	0	17	372	267	0	36	319	0	17	372	281
432	0	0	66	30	21	117	16	0	0	76	28	36	140	525	0	0	76	28	36	140	525
433	0	0	122	0	40	162	0	0	0	143	0	68	211	500	0	0	143	0	68	211	500
434	0	0	37	0	60	97	0	0	0	43	0	102	145	0	0	0	43	0	102	145	0
435	0	0	56	0	0	56	913	0	0	66	0	0	66	853	0	0	66	0	0	66	874
436	0	29	28	0	0	57	597	0	35	33	0	0	68	558	0	35	33	0	0	68	586
437	0	29	94	0	0	123	301	0	35	110	0	0	145	287	0	35	110	0	0	145	311
438	0	29	28	0	0	57	189	0	35	33	0	0	68	180	0	35	33	0	0	68	199
439	543	0	0	0	0	0	0	634	0	0	0	0	0	0	742	0	0	0	0	0	0
440	0	0	0	0	0	0	2	0	0	6	0	0	6	0	0	0	6	0	0	6	1
441	0	0	112	0	0	112	552	0	0	131	0	0	131	666	0	0	131	0	0	131	728
442	0	70	449	0	20	539	1,141	0	85	558	0	34	677	935	0	85	558	0	34	677	1,102
443	0	135	140	0	0	275	1,102	0	164	164	0	0	328	1,121	0	164	164	0	0	328	1,121
444	0	29	152	0	0	181	914	0	35	177	0	0	212	949	0	35	177	0	0	212	1,001
445	0	28	150	0	0	178	0	0	34	176	0	0	210	0	0	34	176	0	0	210	0
446	0	98	337	0	0	435	1,093	0	119	395	0	0	514	1,018	0	119	395	0	0	514	1,023
447	344	56	56	0	30	142	701	267	68	66	0	51	185	671	312	68	66	0	51	185	729
448	2,502	14	66	0	30	110	188	2,281	17	76	0	51	144	198	2,669	17	76	0	51	144	224
449	0	14	131	235	171	551	27	0	17	154	216	292	679	6	0	17	154	216	292	679	18
450	0	14	5	0	50	69	0	0	17	6	0	85	108	0	0	17	6	0	85	108	0
451	0	0	0	0	0	0	1,097	0	0	0	0	0	0	1,016	0	0	0	0	0	0	1,059
452	1,561	0	37	0	0	37	754	1,823	0	43	0	0	43	702	2,133	0	43	0	0	43	721
453	0	28	112	0	0	140	100	0	34	131	0	0	165	110	0	34	131	0	0	165	143
454	0	14	94	41	11	160	8	0	17	110	38	19	184	2	0	17	110	38	19	184	10
455	0	28	122	30	11	191	536	0	34	143	28	19	224	542	0	34	143	28	19	224	593
456	0	28	89	0	20	137	22	0	34	104	0	34	172	5	0	34	104	0	34	172	24
457	0	14	44	0	140	198	0	0	17	52	0	239	308	0	0	17	52	0	239	308	0
458	0	0	63	0	60	123	13	0	0	74	0	102	176	2	0	0	74	0	102	176	9
459	740	28	131	0	10	169	215	864	34	154	0	17	205	313	1,011	34	154	0	17	205	313
460	0	0	131	0	0	131	206	0	0	154	0	0	154	349	0	0	154	0	0	154	368
461	0	0	37	0	0	37	0	0	0	43	0	0	43	0	0	0	43	0	0	43	0

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
462	0	0	178	0	0	178	297	0	0	209	0	0	209	307	0	0	209	0	0	209	307
463	0	0	56	0	0	56	474	0	0	66	0	0	66	436	0	0	66	0	0	66	460
464	0	28	112	0	50	190	938	0	34	131	0	85	250	924	0	34	131	0	85	250	924
465	0	0	211	0	10	221	915	0	0	246	0	17	263	863	0	0	246	0	17	263	964
466	0	0	140	0	20	160	41	0	0	164	0	34	198	64	0	0	164	0	34	198	174
467	0	0	37	0	0	37	875	0	0	43	0	0	43	819	0	0	43	0	0	43	945
468	0	0	28	0	0	28	1,146	0	0	33	0	0	33	1,087	0	0	33	0	0	33	1,555
469	0	0	0	0	0	0	53	0	0	0	0	0	0	81	0	0	0	0	0	0	140
470	0	98	225	0	90	413	3	0	119	263	0	154	536	39	0	119	263	0	154	536	39
471	0	14	131	0	0	145	179	0	17	154	0	0	171	195	0	17	154	0	0	171	197
472	0	14	28	0	0	42	38	0	17	33	0	0	50	53	0	17	33	0	0	50	144
473	0	14	0	0	10	24	0	0	17	0	0	17	34	0	0	17	0	0	17	34	0
474	0	0	117	265	40	422	0	0	0	137	244	68	449	419	0	0	137	244	68	449	419
475	0	0	150	115	10	275	3	0	0	176	106	17	299	3	0	0	176	106	17	299	3
476	0	71	206	0	120	397	69	0	86	242	0	205	533	89	0	86	242	0	205	533	89
477	0	0	47	41	80	168	0	0	0	55	38	137	230	1,000	0	0	55	38	137	230	1,000
478	0	0	37	0	11	48	0	0	0	43	0	19	62	1,000	0	0	43	0	19	62	1,000
479	0	28	281	213	84	606	13	0	34	329	196	143	702	531	0	34	329	196	143	702	531
480	0	15	75	30	41	161	4	0	18	88	28	70	204	571	0	219	690	630	338	1,877	571
481	0	0	37	41	11	89	0	0	0	43	38	19	100	0	0	0	43	38	19	100	0
482	0	14	0	0	20	34	7	0	17	0	0	34	51	13	0	17	0	0	34	51	13
483	0	0	365	205	35	605	94	0	0	428	189	60	677	92	0	0	428	189	60	677	108
484	0	60	131	82	12	285	509	0	73	154	75	20	322	477	0	73	154	75	20	322	517
485	0	14	96	0	20	130	111	0	17	112	0	34	163	111	0	17	112	0	34	163	124
486	0	0	28	0	0	28	146	0	0	33	0	0	33	145	0	0	33	0	0	33	147
487	0	15	56	0	0	71	104	0	18	66	0	0	84	115	0	18	66	0	0	84	120
488	0	14	0	0	0	14	6	0	17	0	0	0	17	3	0	17	0	0	0	17	4
489	507	0	0	0	0	0	22	592	0	0	0	0	0	22	693	0	0	0	0	0	25
490	0	57	201	0	10	268	118	0	69	236	0	17	322	119	0	69	236	0	17	322	129
491	0	56	155	0	0	211	0	0	68	181	0	0	249	0	0	68	181	0	0	249	0
492	0	170	289	0	10	469	908	0	206	339	0	17	562	874	0	206	339	0	17	562	934
493	0	116	208	82	32	438	1,646	0	141	244	75	55	515	1,563	0	141	244	75	55	515	1,609
494	1,079	0	28	0	0	28	392	1,260	0	33	0	0	33	363	1,474	0	33	0	0	33	363
495	542	14	152	0	0	166	654	633	17	177	0	0	194	643	741	17	177	0	0	194	705
502	0	0	37	650	0	687	0	0	0	43	598	0	641	0	0	864	2,636	3,191	1,152	7,844	0
503	0	14	66	0	0	80	1	0	17	76	0	0	93	2	0	17	76	0	0	93	2
504	0	0	47	0	0	47	4	0	0	55	0	0	55	2	0	0	55	0	0	55	2

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
505	0	100	169	0	0	269	805	0	121	197	0	0	318	745	0	121	197	0	0	318	799
506	0	0	0	500	0	500	0	0	0	0	460	0	460	0	0	0	0	460	0	460	0
507	0	72	328	0	60	460	730	0	87	384	0	102	573	677	0	87	384	0	102	573	714
508	0	14	0	0	20	34	0	0	17	0	0	34	51	100	0	17	0	0	34	51	100
509	0	14	0	0	0	14	52	0	17	0	0	0	17	48	0	17	0	0	0	17	74
510	0	56	197	0	10	263	455	0	68	230	0	17	315	416	0	68	230	0	17	315	479
511	437	14	830	60	36	940	156	510	17	964	55	61	1,097	204	597	17	964	55	61	1,097	204
512	0	56	178	155	2	391	1	0	68	209	143	3	423	2	0	68	209	143	3	423	2
513	0	70	140	0	0	210	320	0	85	164	0	0	249	455	0	1,077	3,140	2,976	1,322	8,515	558
515	0	0	37	0	0	37	0	0	0	43	0	200	243	0	0	1,016	3,091	3,048	1,555	8,710	0
516	0	14	84	0	10	108	0	0	17	99	0	17	133	0	0	17	99	0	17	133	295
517	0	14	357	0	0	371	199	0	17	418	0	0	435	233	0	224	1,040	622	276	2,163	1,916
518	0	0	84	30	31	145	0	0	0	99	28	53	180	0	0	0	99	28	53	180	0
519	0	0	140	0	40	180	0	0	0	164	0	68	232	0	0	0	164	0	68	232	0
520	0	14	398	328	68	808	0	0	17	466	302	116	901	0	0	17	466	302	116	901	0
521	0	28	206	142	144	520	0	0	34	242	131	246	653	0	0	34	242	131	246	653	0
522	0	15	215	0	0	230	113	0	18	252	0	0	270	143	0	18	252	0	0	270	855
523	0	0	375	480	0	855	63	0	0	439	441	0	880	89	0	0	439	441	0	880	501
524	659	161	447	0	0	608	1,336	770	195	554	0	0	749	1,254	901	195	554	0	0	749	1,416
525	0	28	84	0	0	112	187	0	34	99	0	0	133	197	0	34	99	0	0	133	231
526	0	0	98	41	21	160	116	0	0	115	38	36	189	153	0	0	115	38	36	189	286
527	0	0	110	60	51	221	35	0	0	128	55	87	270	32	0	0	128	55	87	270	72
528	0	0	0	0	0	0	0	0	0	27	0	0	27	0	0	0	27	0	0	27	0
529	0	0	0	0	30	30	0	0	0	0	0	51	51	0	0	532	1,597	1,597	761	4,486	832
530	0	0	0	5,250	0	5,250	0	0	0	0	4,828	0	4,828	0	0	0	0	4,828	0	4,828	0
531	0	15	5	0	30	50	0	0	18	6	0	51	75	0	0	222	618	612	323	1,774	0
532	0	0	0	0	0	0	0	2,500	0	55	0	0	55	0	2,925	726	2,232	2,177	968	6,103	0
533	0	30	3,610	0	0	3,640	0	0	36	4,194	0	0	4,230	0	0	36	4,194	0	0	4,230	0
534	0	74	286	0	10	370	16	0	90	334	0	17	441	11	0	90	334	0	17	441	11
535	0	71	208	0	20	299	76	0	86	244	0	34	364	65	0	86	244	0	34	364	676
536	0	15	108	60	2	185	45	0	18	127	55	3	203	20	0	18	127	55	3	203	147
537	0	0	94	0	180	274	0	0	0	110	0	307	417	0	0	0	110	0	307	417	0
538	0	0	0	0	0	0	0	0	0	43	0	0	43	0	0	0	43	0	0	43	0
539	0	42	47	500	20	609	0	0	51	55	460	34	600	0	0	51	55	460	34	600	0
540	0	105	140	0	100	345	0	0	127	164	0	171	462	0	0	127	164	0	171	462	0
541	0	0	142	0	10	152	0	0	0	167	0	17	184	0	0	0	167	0	17	184	266
542	0	42	159	112	13	326	9	0	51	187	1,780	22	2,040	5	0	51	187	1,780	22	2,040	5

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
543	0	158	464	60	122	804	484	0	192	575	55	208	1,030	643	0	192	575	55	208	1,030	771
544	0	44	140	0	200	384	1,337	0	53	164	0	342	559	1,867	0	53	164	0	342	559	1,867
545	0	84	56	0	0	140	52	0	102	66	0	0	168	989	0	102	66	0	0	168	989
546	0	14	42	0	70	126	11	0	17	49	0	120	186	846	0	17	49	0	120	186	846
547	1,644	0	0	0	0	0	0	1,920	0	0	0	0	0	1,000	2,246	0	0	0	0	0	1,000
548	0	126	169	0	10	305	29	0	153	197	0	17	367	105	0	153	197	0	17	367	853
549	740	15	28	0	0	43	590	864	18	33	0	0	51	761	1,011	18	33	0	0	51	1,584
550	0	56	37	0	20	113	189	0	68	43	0	34	145	116	0	68	43	0	34	145	1,425
551	0	0	42	0	0	42	1,488	0	0	49	0	0	49	2,127	0	0	49	0	0	49	2,127
552	0	0	0	0	20	20	0	0	0	0	0	34	34	0	0	0	0	0	34	34	0
553	0	0	28	0	0	28	411	0	0	33	0	0	33	3,954	0	0	33	0	0	33	3,954
554	0	0	47	30	11	88	91	0	0	55	28	19	102	3,457	0	0	55	28	19	102	3,457
555	0	28	0	0	0	28	2,208	0	34	0	0	0	34	2,269	0	34	0	0	0	34	2,337
556	0	42	156	0	10	208	1,426	0	51	183	0	17	251	1,414	0	51	183	0	17	251	1,929
557	0	0	0	0	0	0	11	0	0	0	0	0	0	1,010	0	0	0	0	0	0	1,590
558	0	84	140	0	0	224	953	500	102	164	0	0	266	771	585	102	164	0	0	266	1,250
559	0	0	0	0	0	0	62	0	0	0	0	0	0	58	0	0	0	0	0	0	165
560	0	116	94	0	10	220	387	0	141	110	0	17	268	351	0	141	110	0	17	268	427
561	0	182	91	0	20	293	627	0	221	107	0	34	362	764	0	221	107	0	34	362	1,075
562	0	0	0	0	0	0	137	0	0	0	0	0	0	159	0	0	0	0	0	0	466
563	0	0	0	0	0	0	224	0	0	0	0	0	0	233	0	0	0	0	0	0	637
564	0	29	89	0	0	118	237	0	35	104	0	0	139	1,274	0	35	104	0	0	139	1,274
565	0	60	67	0	30	157	326	0	73	79	0	51	203	598	0	73	79	0	51	203	853
566	0	0	0	0	0	0	456	0	0	0	0	0	0	743	0	0	0	0	0	0	785
567	0	0	122	0	10	132	59	0	0	143	0	17	160	129	0	0	143	0	17	160	262
568	0	15	0	0	0	15	276	0	18	0	0	0	18	295	0	18	0	0	0	18	347
569	0	0	0	0	10	10	79	0	0	0	0	17	17	100	0	0	0	0	17	17	169
570	0	0	0	0	0	0	99	0	0	0	0	0	0	123	0	0	0	0	0	0	238
571	0	14	66	115	0	195	280	0	17	76	106	0	199	254	0	17	76	106	0	199	385
601	0	28	0	0	0	28	53	0	34	0	0	0	34	4,972	0	34	0	0	0	34	4,972
602	0	28	66	0	0	94	211	0	34	76	0	0	110	444	0	34	76	0	0	110	444
603	0	0	66	0	0	66	68	0	0	76	0	0	76	875	0	0	76	0	0	76	2,793
604	0	0	28	0	0	28	56	0	0	33	0	0	33	369	0	0	33	0	0	33	754
605	0	0	0	0	0	0	32	0	0	0	0	0	0	393	0	0	0	0	0	0	1,046
606	0	0	0	0	0	0	43	0	0	0	0	0	0	29	0	0	0	0	0	0	286
607	0	30	0	0	0	30	73	0	36	0	0	0	36	47	0	36	0	0	0	36	867
608	0	0	0	0	0	0	28	0	0	0	0	0	0	12	0	62	187	187	83	520	202

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
TAZ	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
609	0	0	28	0	0	28	17	0	0	33	0	0	33	8	0	0	33	0	0	33	918
610	0	0	37	200	1	238	0	2,900	0	43	184	2	229	3,375	3,393	0	43	184	2	229	3,375
611	0	0	35	0	0	35	0	500	0	41	0	0	41	224	585	0	41	0	0	41	510
612	0	0	0	0	10	10	135	0	0	0	0	17	17	377	0	0	0	0	17	17	954
613	0	0	28	0	0	28	0	0	1,000	2,030	0	0	3,030	0	0	1,000	2,030	0	0	3,030	0
614	0	464	47	0	0	511	522	0	563	55	0	0	618	458	0	563	55	0	0	618	1,112
615	0	0	0	0	0	0	172	0	0	0	0	0	0	415	0	0	0	0	0	0	721
616	0	70	140	0	30	240	570	0	85	164	0	51	300	715	0	85	164	0	51	300	902
617	0	15	9	0	0	24	513	0	18	11	0	0	29	488	0	18	11	0	0	29	637
618	0	14	35	0	0	49	6	0	17	41	0	0	58	0	0	17	41	0	0	58	4
619	0	70	28	0	0	98	0	0	85	33	0	0	118	586	0	85	33	0	0	118	802
620	0	140	269	0	0	409	803	0	170	314	0	0	484	1,273	0	170	314	0	0	484	1,277
621	532	42	81	0	0	123	921	621	51	95	0	0	146	1,120	727	51	95	0	0	146	1,167
622	0	133	227	0	0	360	601	0	161	265	0	0	426	1,039	0	161	265	0	0	426	1,039
623	0	88	247	0	20	355	677	0	107	290	0	34	431	714	0	107	290	0	34	431	805
624	0	0	33	0	0	33	18	0	0	39	0	0	39	588	0	0	39	0	0	39	588
625	0	0	56	0	0	56	162	0	0	66	0	0	66	452	0	0	66	0	0	66	543
626	0	42	211	0	0	253	804	572	51	246	0	0	297	799	669	51	246	0	0	297	827
627	0	0	56	0	10	66	369	0	0	66	0	17	83	518	0	0	66	0	17	83	582
628	0	0	37	0	0	37	29	0	0	43	0	0	43	327	0	0	43	0	0	43	538
629	0	0	0	0	0	0	48	0	0	0	0	0	0	210	0	0	0	0	0	0	497
630	0	0	0	0	0	0	35	0	0	0	0	0	0	227	0	0	0	0	0	0	706
631	0	0	0	0	0	0	5	0	0	0	0	0	0	99	0	0	0	0	0	0	153
632	0	0	0	0	0	0	120	0	0	0	0	0	0	252	0	0	0	0	0	0	348
633	0	0	0	0	0	0	4	0	0	0	0	0	0	99	0	0	0	0	0	0	99
634	0	0	0	0	0	0	74	0	0	0	0	0	0	247	0	0	0	0	0	0	274
635	0	0	9	0	0	9	14	0	0	11	0	0	11	229	0	0	11	0	0	11	709
636	0	0	0	0	0	0	4	0	0	0	0	0	0	155	0	0	0	0	0	0	192
637	0	0	0	0	0	0	81	0	0	0	0	0	0	247	0	0	0	0	0	0	268
638	0	0	0	0	0	0	1	0	0	0	0	0	0	150	0	0	0	0	0	0	426
639	0	0	28	0	0	28	153	0	0	33	0	0	33	441	0	0	33	0	0	33	460
640	1,414	14	0	0	0	14	341	1,651	17	0	0	0	17	369	1,932	17	0	0	0	17	584
641	0	0	0	0	0	0	0	0	0	0	0	0	0	783	0	0	0	0	0	0	783
642	0	14	75	0	0	89	1,279	0	17	88	0	0	105	1,567	0	17	88	0	0	105	1,567
643	0	0	5	0	0	5	1,156	0	0	6	0	0	6	1,143	0	1,164	3,498	3,492	1,552	9,706	1,531
644	0	0	56	0	0	56	509	0	0	66	0	0	66	637	0	0	66	0	0	66	1,321
645	0	0	0	0	0	0	40	0	0	0	0	0	0	761	0	0	0	0	0	0	1,429

Table 5.2
Recommended Year 2030 Population and Employment Data
Chatham Interstates Plan Travel Demand Model

TAZ	Base Year 2001 Data							Year 2030 Data from GDOT LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL	RET	SERV	MANUF	WHOLE	TOTEMP	POP	SCHL[4]	RET	SERV	MANUF	WHOLE	TOTEMP[2]	POP[3]
646	0	0	28	0	0	28	86	0	0	33	0	0	33	427	0	0	33	0	0	33	685
647	0	0	0	0	0	0	46	0	0	0	0	0	0	370	0	0	0	0	0	0	370
648	0	0	0	0	0	0	74	0	0	0	0	0	0	434	0	0	0	0	0	0	2,348
649	0	0	0	0	0	0	0	0	0	0	0	0	0	290	0	0	0	0	0	0	385
650	0	0	0	0	0	0	10	0	0	0	0	0	0	315	0	0	0	0	0	0	824
651	0	0	0	0	0	0	0	0	0	0	0	0	0	290	0	0	0	0	0	0	389
652	0	0	103	0	0	103	0	0	1,000	2,110	0	0	3,110	303	0	1,000	2,110	0	0	3,110	396
653	0	14	0	0	0	14	62	0	17	0	0	0	17	351	0	17	0	0	0	17	351
654	0	0	0	0	0	0	144	0	0	0	0	0	0	399	0	0	0	0	0	0	456
655	0	0	28	0	0	28	45	0	0	33	0	0	33	364	0	0	33	0	0	33	895
656	0	0	66	0	0	66	14	0	0	76	0	0	76	229	0	7	76	0	0	83	824
657	0	0	0	0	0	0	0	0	0	0	0	0	0	290	0	1,175	207	0	0	1,382	814
658	0	0	0	0	0	0	21	0	0	0	0	0	0	210	893	0	0	0	0	0	950
659	0	14	28	0	0	42	106	0	17	33	0	0	50	393	0	17	33	0	0	50	1,166
660	172	84	56	0	0	140	145	267	184	245	0	0	429	1,419	312	184	245	0	0	429	1,676
661	0	0	28	0	0	28	167	0	100	217	0	0	317	919	0	100	217	0	0	317	1,938
662	0	0	0	0	0	0	177	0	0	0	0	0	0	878	0	0	0	0	0	0	1,361
663	0	0	0	0	0	0	27	0	0	0	0	0	0	745	0	720	86	0	0	806	830
664	0	0	0	0	0	0	122	0	0	0	0	0	0	766	0	0	0	0	0	0	766
665	0	0	0	0	0	0	63	0	0	0	0	0	0	742	0	0	0	0	0	0	742
666	0	58	0	0	0	58	275	0	70	0	0	0	70	879	0	70	0	0	0	70	879
667	0	0	0	0	0	0	472	0	0	0	0	0	0	1,005	0	0	0	0	0	0	1,005
668	0	0	66	0	0	66	76	0	100	255	0	0	355	784	0	100	255	0	0	355	784
669	0	42	19	0	0	61	62	0	142	208	0	0	350	1,286	0	142	208	0	0	350	1,286
670	0	104	47	0	0	151	43	0	126	55	0	0	181	431	0	126	55	0	0	181	442
671	1,592	465	103	0	0	568	95	1,859	564	121	0	0	685	107	2,175	564	121	0	0	685	107
672	0	85	145	0	60	290	527	0	103	170	0	102	375	1,758	0	103	170	0	102	375	1,758
673	0	264	196	0	10	470	829	0	320	229	0	17	566	786	0	320	229	0	17	566	1,044
674	0	72	131	0	10	213	693	0	87	154	0	17	258	1,235	0	87	154	0	17	258	1,429
675	0	28	9	800	30	867	2,991	0	34	11	736	51	832	2,547	0	34	11	736	51	832	2,995
676	0	30	33	0	0	63	719	0	36	39	0	0	75	1,714	0	36	39	0	0	75	1,714
677	0	0	0	0	0	0	1,067	0	0	0	0	0	0	1,086	0	0	0	0	0	0	1,121
678	587	86	140	0	10	236	4,087	685	104	164	0	17	285	3,368	801	104	164	0	17	285	3,419
679	0	0	28	0	0	28	408	0	0	33	0	0	33	1,331	0	0	33	0	0	33	1,331

Total	Base Year 2001 Data							Year 2030 Data from CUTS LRTP Model							Carter & Burgess Adjusted 2030 Population and Employment						
	60,064	29,085	75,984	16,800	5,400	127,269	232,338	74,991	37,658	93,409	17,244	9,402	157,713	287,947	88,632	46,497	114,512	38,053	18,650	217,712	338,075

Table 5.9: Screenline Comparison

	Road Name	Model Volume	Traffic Count	Volume/ Count Ratio	Percent Deviation	Maximum Desirable Deviation
Screenline 1: West of I-95	SR 21	24,330	24,121	1.01	0.87%	+/-26.06%
	Pooler Pkwy	10,080	10,000	1.01	0.80%	+/-38.26%
	SR 204	6,280	5,812	1.08	8.05%	+/-48.48%
	Monteith Rd	1,610	1,045	1.54	54.07%	+/-102.45%
	Little Neck Rd	1,860	2,481	0.75	-25.03%	+/-70.27%
	I-16/SR 404	15,020	15,477	0.97	-2.95%	+/-31.63%
	I-16/SR 404	14,590	15,477	0.94	-5.73%	+/-31.63%
	US 80/SR 26	8,780	10,450	0.84	-15.98%	+/-37.53%
	US 80/SR 26	8,260	10,514	0.79	-21.44%	+/-37.43%
	Jimmy Deloach Pkwy	3,970	1,900	2.09	108.95%	+/-78.94%
	SR 30	4,000	6,696	0.60	-40.26%	+/-45.58%
	Total	987,780	103,973	0.95	-4.99%	+/-22.43%
Screenline 2: Southwest / South of DeRenne Ave	Southwest Bypass	13,280	9,624	1.38	37.99%	+/-38.91%
	Southwest Bypass	11,660	9,624	1.21	21.16%	+/-38.91%
	Habersham St	11,350	12,928	0.88	-12.21%	+/-34.21%
	Montgomery St	7,250	10,970	0.66	-33.91%	+/-36.75%
	SR 204	40,430	40,221	1.01	0.52%	+/-20.85%
	White Bluff Rd	31,470	36,496	0.86	-13.77%	+/-21.76%
	I-95	32,280	28,250	1.14	14.27%	+/-24.33%
	I-95	29,890	28,250	1.06	5.81%	+/-24.33%
	US 17/SR 25	13,830	15,171	0.91	-8.84%	+/-31.90%
	John Carter Rd	4,200	1,982	2.12	111.91%	+/-77.50%
	Waters Ave	16,480	23,190	0.71	-28.93%	+/-26.51%
	Jasmine Ave	3,650	4,405	0.83	-17.14%	+/-54.71%
	LaRoche Ave	8,600	6,221	1.38	38.24%	+/-47.06%
	Skidaway Rd	10,660	22,700	0.47	-53.04%	+/-26.76%
	Old River Rd	2,410	2,346	1.03	2.73%	+/-72.01%
	Total	237,440	252,378	0.94	-5.92%	+/-15.80%

	Road Name	Model Volume	Traffic Count	Volume/ Count Ratio	Percent Deviation	Maximum Desirable Deviation
Screenline 3: East of I-95	Jimmy Deloach Pkwy	1,820	1,900	0.96	-4.21%	+/-78.94%
	Canebrake Rd	2,320	1,579	1.47	46.93%	+/-85.58%
	SR 204	12,230	14,225	0.86	-14.02%	+/-32.81%
	Airways Ave	11,090	11,000	1.01	0.82%	+/-36.70%
	SR 21	25,560	27,507	0.93	-7.08%	+/-24.61%
	US 80/SR 26	23,880	19,743	1.21	20.95%	+/-28.44%
	I-16/SR 404	21,110	18,456	1.14	14.38%	+/-29.29%
	I-16/SR 404	23,240	18,456	1.26	25.92%	+/-29.29%
	Monteith Rd	1,610	1,045	1.54	54.07%	+/-102.45%
	Quacco Rd	3,870	2,593	1.49	49.25%	+/-68.93%
	Little Neck Rd	1,920	2,481	0.77	-22.61%	+/-70.27%
	SR 204	14,430	14,225	1.01	1.44%	+/-32.81%
	Total	143,080	133,210	1.07	7.41%	+/-20.34%
Screenline 4: I-16 / US 80	Quacco Rd	5,170	2,011	2.57	157.09%	+/-77.01%
	Old River Rd	2,410	2,450	0.98	-1.63%	+/-70.66%
	MLK Blvd	14,920	14,650	1.02	1.84%	+/-32.39%
	Montgomery St	5,780	9,175	0.63	-37.00%	+/-39.73%
	Whitaker St	5,760	4,929	1.17	16.86%	+/-52.09%
	SR 204	7,890	9,700	0.81	-18.66%	+/-38.77%
	Drayton St	8,040	6,211	1.29	29.45%	+/-47.09%
	Price St	3,130	5,900	0.53	-46.95%	+/-48.16%
	East Broad St	3,080	1,689	1.82	82.36%	+/-83.10%
	Paulsen St	1,720	2,328	0.74	-26.12%	+/-72.25%
	Waters Ave	8,980	8,617	1.04	4.21%	+/-40.83%
	Bee Rd	3,990	4,699	0.85	-15.09%	+/-53.19%
	Bull St	5,540	7,021	0.79	-21.09%	+/-44.64%
	Ogeechee Rd	5,110	6,000	0.85	-14.83%	+/-47.81%
	I-516	22,340	21,410	1.04	4.34%	+/-27.45%
	I-516	22,180	21,410	1.04	3.60%	+/-27.45%
	Skidaway Rd	12,070	9,218	1.31	30.94%	+/-39.65%
	Pennsylvania Ave	5,920	11,520	0.51	-48.61%	+/-35.97%
	SR 307	4,560	6,488	0.70	-29.72%	+/-46.21%
	I-95	32,280	28,250	1.14	14.27%	+/-24.33%
	I-95	29,890	28,250	1.06	5.81%	+/-24.33%
	Stiles Ave	6,920	7,554	0.92	-8.39%	+/-43.24%
	Georgia Ave	2,340	1,024	2.29	128.52%	+/-103.37%
	Truman Pkwy	9,210	10,200	0.90	-9.71%	+/-37.93%
	Truman Pkwy	9,480	10,200	0.93	-7.06%	+/-37.93%
	Chatham Pkwy	20,140	15,996	1.26	25.91%	+/-31.17%
	Total	258,850	256,900	1.01	0.76%	+/-15.69%

	Road Name	Model Volume	Traffic Count	Volume/ Count Ratio	Percent Deviation	Maximum Desirable Deviation
Screenline 5: I-516 / Veterans Pkwy	W Gwinnett St	5,790	3,076	1.88	88.23%	+/-63.98%
	I-516	22,340	18,150	1.23	23.09%	+/-29.50%
	I-16/SR 404	18,540	19,035	0.97	-2.60%	+/-28.90%
	I-16/SR 404	17,490	19,035	0.92	-8.12%	+/-28.90%
	Chatham Pkwy	12,630	10,900	1.16	15.87%	+/-36.85%
	Garrard Ave	1,340	1,057	1.27	26.77%	+/-101.95%
	Abercorn Ext	26,130	26,360	0.99	-0.87%	+/-25.07%
	W Bay St	20,660	16,586	1.25	24.56%	+/-30.69%
	Augusta Rd	3,340	3,193	1.05	4.60%	+/-62.95%
	Louisville Rd	5,740	3,343	1.72	71.70%	+/-61.70%
	US 17/SR 25	28,000	18,386	1.52	52.29%	+/-29.34%
	I-516	22,940	18,150	1.26	26.39%	+/-29.50%
	Buckhalter Ave	230	300	0.77	-23.33%	+/-176.56%
	Abercorn Ex	27,830	26,360	1.06	5.58%	+/-25.07%
	Total	213,000	183,931	1.16	15.80%	+/-17.90%
Screenline 6: SR 21 / Islands Expressway	MLK Blvd	11,030	17,631	0.63	-37.44%	+/-29.88%
	Montgomery St	5,810	6,896	0.84	-15.75%	+/-44.99%
	Whitaker St	5,850	6,846	0.85	-14.55%	+/-45.14%
	Drayton St	7,770	7,770	1.00	0.00%	+/-42.71%
	Price St	4,480	4,168	1.07	7.49%	+/-56.04%
	Bryan Woods Rd	5,010	7,750	0.65	-35.35%	+/-42.76%
	US 80/SR 26	13,240	15,400	0.86	-14.03%	+/-31.69%
	Abercorn St	200	200	1.00	0.00%	+/-10.71%
	US 17/ SR 25	2,330	3,410	0.68	-31.67%	+/-61.17%
	Jimmy Deloach Pkwy	1,820	1,900	0.96	-4.21%	+/-78.94%
	Gulfstream Rd	5,920	8,300	0.71	-28.67%	+/-41.50%
	Habersham St	190	200	0.95	-5.00%	+/-10.71%
	W Boundary St	3,510	6,314	0.56	-44.41%	+/-46.76%
	I-95	21,930	20,970	1.05	4.58%	+/-27.70%
	I-95	22,870	20,970	1.09	9.06%	+/-27.70%
	East Broad St	7,430	10,821	0.69	-31.34%	+/-36.97%
	Randolph St	2,440	2,260	1.08	7.96%	+/-73.19%
	US17/SR 25	1,880	3410	0.55	-44.87%	+/-61.17%
	Augusta Rd	6,730	4,883	1.38	37.83%	+/-52.30%
	E Lathrop Ave	3,970	4,879	0.81	-18.63%	+/-52.32%
	US 80/SR 26	26,560	21,489	1.24	23.60%	+/-27.41%
	I-516	23,320	19,013	1.23	22.65%	+/-28.91%
	I-516	23,820	19,013	1.25	25.28%	+/-28.91%
	Pennsylvania Ave	7,790	5,939	1.31	31.17%	+/-48.02%
	SR 307	10,740	19,854	0.54	-45.91%	+/-28.37%
	Goebel Ave	4,890	3,939	1.24	24.14%	+/-57.44%
	Truman Pkwy	2,730	5,300	0.52	-48.49%	+/-50.47%
	Truman Pkwy	5,020	5,300	0.95	-5.28%	+/-50.47%
	Johnny Mercer Blvd	8,640	8,089	1.07	6.81%	+/-41.97%
	Walthour Rd	5,580	4,221	1.32	32.20%	+/-55.73%
	Total	253,500	267,135	0.95	-5.10%	+/-15.45%

	Road Name	Model Volume	Traffic Count	Volume/ Count Ratio	Percent Deviation	Maximum Desirable Deviation
Screenline 7: Casey Canal	Delesseps Ave	2,850	6,904	0.41	-58.72%	+/-44.97%
	E 52nd St	5,850	7,443	0.79	-21.40%	+/-43.52%
	Whitfield Ave	16,630	22,089	0.75	-24.71%	+/-27.08%
	US 80/SR 26	33,450	29,000	1.15	15.34%	+/-24.05%
	E Montgomery Cross Rd	14,490	19,725	0.73	-26.54%	+/-28.45%
	Skidaway Rd	3,020	3,931	0.77	-23.17%	+/-57.49%
	E Gwinnett St	6,310	4,700	1.34	34.26%	+/-53.18%
	E Henry St	8,330	5,761	1.45	44.59%	+/-48.66%
	E Derenne Ave	19,450	16,919	1.15	14.96%	+/-30.42%
	Eisenhower Dr	15,770	17,315	0.91	-8.92%	+/-30.12%
	E President St	27,560	30,354	0.91	-9.20%	+/-23.58%
	Total	153,710	164,141	0.94	-6.35%	+/-18.73%
Screenline 9: Intracoastal Waterway	Road Name	Model Volume	Traffic Count	Volume/ Count Ratio	Percent Deviation	Maximum Desirable Deviation
	Diamond Cswy	11,880	13,943	0.85	-14.80%	+/-33.10%
	Islands Expressway	18,940	16,948	1.12	11.75%	+/-30.40%
	US 80/SR 26	23,700	30,100	0.79	-21.26%	+/-23.66%
	Total	54,520	60,991	0.89	-10.61%	+/-27.69%

6 Operations Model Selection

Identifying potential improvements for the Chatham County interstates requires detailed analysis of select portions of the freeway system and connecting arterial roadway network. Analysis can range from detailed simulation of traffic to generalized analysis based on comparison of volume to assumed capacity. The more detailed the traffic analysis, the more complex the model runs and coding. The level of detail associated with complex modeling can provide valuable results. However, the Chatham County freeway system and surrounding arterial network is too large to model in its entirety using a detailed microsimulation model. This section describes the process used to select an operations model type and specific software for use in traffic operations modeling and simulation.

6.1 Selection of Model Type

The types of traffic operations/simulation models available for application include the following basic categories:

- Macroscopic – These models provide estimates of travel time and delay based on application of deterministic equations. They require less input than microscopic and mesoscopic models.

- Mesoscopic - These models require more input than macroscopic models and provide additional levels of detail in their model results. Although these models are typically based on equations rather than simulation they are typically able to account for the effects of nearby system elements, such as queue spillback between intersections.

- Microscopic Simulation – These models require the greatest degree of input modeling and provide the most detailed output. They are valuable in examining complex dynamic traffic conditions, such as closely spaced congested intersections and complex freeway weaving movements. These models are based on simulating the operations of individual vehicles on the roadway network and tracking the total and cumulative effects.

Determining which model types are applicable for use in the study and when to apply each type of model is essential to making efficient use of the budget allocated for traffic operations / simulation modeling. The primary goal is to provide information to aid in decision making regarding the need for and effectiveness of various potential improvements.

The FHWA Decision Support Methodology for Selecting Traffic Analysis Tools was used to determine the appropriate operations/simulation model type for use in Chatham County. **Table 6.1** shows the results of applying the FHWA decision support methodology. As this Table shows, the microscopic simulation and/or mesoscopic models may be most appropriate for use in the Chatham County Interstate Needs and Prioritization Plan.

Table 6.1
Results of FHWA Decision Methodology

Decision Support Methodology for Selecting Traffic Analysis Tools

For criteria definitions, please refer to the 'Criteria Definitions' worksheet or the "readme.txt" file

Project Name: _Chatham County Interstate Needs Analysis and Proritization Plan__ Analyst: _Richard Fangmann___ Date: _8-8-06_____

1	2	3							4						
		Tool Category Relevance							Column 2 x Column 3						
Analysis Context	**Context Relevance**	**Sketch Plan**	**TDM**	**Analytical (HCM)**	**Traffic Opt**	**Macro Sim**	**Meso Sim**	**Micro Sim**	**Sketch Plan**	**TDM**	**Analytical (HCM)**	**Traffic Opt**	**Macro Sim**	**Meso Sim**	**Micro Sim**
Please select only ONE analysis context. Enter a '5' on the selected category.															
Planning	4	10	10	5	0	5	5	0	40	40	20	0	20	20	0
Design	2	-99	5	10	10	10	10	10	-198	10	20	20	20	20	20
Operations/Construction	4	5	0	10	10	10	10	10	20	0	40	40	40	40	40
								Subtotal	-138	50	80	60	80	80	60
								Relevance Weights Above 0	3						
								WEIGHTED SUBTOTAL	-46	17	27	20	27	27	20

1	2	3							4						
		Tool Category Relevance							Column 2 x Column 3						
Criteria	**Sub-Criteria Relevance**	**Sketch Plan**	**TDM**	**Analytical (HCM)**	**Traffic Opt**	**Macro Sim**	**Meso Sim**	**Micro Sim**	**Sketch Plan**	**TDM**	**Analytical (HCM)**	**Traffic Opt**	**Macro Sim**	**Meso Sim**	**Micro Sim**
1 Geographic Scope (0 = not relevant, 5 = most relevant)															
Isolated Location	1	0	0	10	5	0	0	0	0	0	10	5	0	0	0
Segment	4	10	0	10	0	5	5	5	40	0	40	0	20	20	20
Corridor/Small Network	5	5	10	0	0	5	5	5	25	50	0	0	25	25	25
Region	1	5	10	-99	-99	-99	-99	-99	5	10	-99	-99	-99	-99	-99
								Subtotal	70	60	-49	-94	-54	-54	-54
								Relevance Weights Above 0	4						
								WEIGHTED SUBTOTAL	18	15	-12	-24	-14	-14	-14
2 Facility Type (0 = not relevant, 5 = most relevant)															
Isolated Intersection	2	0	5	10	10	10	10	10	0	10	20	20	20	20	20
Roundabout	1	0	0	10	0	5	0	5	0	0	10	0	5	0	5
Arterial	4	10	10	10	10	10	10	10	40	40	40	40	40	40	40
Highway	5	10	10	10	5	10	10	10	50	50	50	25	50	50	50
Freeway	5	5	10	10	5	10	10	10	25	50	50	25	50	50	50
HOV Lane	5	5	10	5	0	10	10	10	25	50	25	0	50	50	50
HOV Bypass Lane	4	0	10	0	5	5	5	10	0	40	0	20	20	20	40
Ramp	5	5	10	10	10	10	10	10	25	50	50	50	50	50	50
Auxiliary Lane	4	0	0	5	5	10	10	10	0	0	20	20	40	40	40
Reversible Lane	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0
Truck Lane	4	0	10	5	5	5	5	10	0	40	20	20	20	20	40
Bus Lane	2	0	10	0	0	5	5	10	0	20	0	0	10	10	20
Toll Plaza	4	0	5	5	0	0	0	10	0	20	20	0	0	0	40
Light Rail Line	2	0	10	0	0	0	0	10	0	20	0	0	0	0	20
								Subtotal	165	390	305	220	355	350	465
								Relevance Weights Above 0	13						
								WEIGHTED SUBTOTAL	13	30	23	17	27	27	36
3 Travel Mode (0 = not relevant, 5 = most relevant)															
SOV	5	10	10	10	10	10	10	10	50	50	50	50	50	50	50
HOV	4	5	10	5	5	5	10	10	20	40	20	20	20	40	40

Table 6.1
Results of FHWA Decision Methodology

	Bus	2	5	10	5	5	5	10	10	10	20	10	10	10	20	20
	Rail	0	5	10	0	0	0	5	5	0	0	0	0	0	0	0
	Truck	5	5	5	5	5	5	5	5	25	25	25	25	25	25	25
	Motorcycle	2	0	5	0	0	0	0	0	0	10	0	0	0	0	0
	Bicycle	3	5	5	5	0	0	0	5	15	15	15	0	0	0	15
	Pedestrian	3	5	0	5	5	5	5	5	15	0	15	15	15	15	15
									Subtotal	135	160	135	120	120	150	165
									Relevance Weights Above 0	7						
									WEIGHTED SUBTOTAL	19	23	19	17	17	21	24
4	**Management Strategy/Application (0 = not relevant, 5 = most relevant)**															
	Freeway Management	5	10	5	5	10	10	10	10	50	25	25	50	50	50	50
	Arterial Intersections	5	0	0	10	10	10	10	10	0	0	50	50	50	50	50
	Arterial Management	4	5	5	5	10	10	10	10	20	20	20	40	40	40	40
	Incident Management	0	5	0	5	0	10	10	10	0	0	0	0	0	0	0
	Emergency Management	3	5	0	5	0	5	5	5	15	0	15	0	15	15	15
	Work Zone	0	5	0	10	0	10	10	10	0	0	0	0	0	0	0
	Special Event	3	5	0	10	0	5	5	5	15	0	30	0	15	15	15
	Advanced Public Transportation System	3	5	0	0	0	0	0	5	15	0	0	0	0	0	15
	Advanced Traveler Information System	2	5	0	0	0	5	5	5	10	0	0	0	10	10	10
	Electronic Payment System	0	5	0	0	0	0	0	10	0	0	0	0	0	0	0
	Rail Grade Crossing Monitor	0	5	0	0	0	0	0	10	0	0	0	0	0	0	0
	Commercial Vehicle Operation	4	5	0	0	0	0	0	5	20	0	0	0	0	0	20
	Advanced Vehicle Control & Safety System	4	5	0	0	0	0	0	5	20	0	0	0	0	0	20
	Weather Management	0	0	0	0	0	5	5	5	0	0	0	0	0	0	0
	Travel Demand Management	1	10	10	5	0	5	5	5	10	10	5	0	5	5	5
									Subtotal	175	55	145	140	185	185	240
									Relevance Weights Above 0	10						
									WEIGHTED SUBTOTAL	18	6	15	14	19	19	24
5	**Traveler Response (0 = not relevant, 5 = most relevant)**															
	Pre-Trip Route Diversion	4	5	10	-99	0	10	10	10	20	40	-396	0	40	40	40
	En-Route Route Diversion	4	5	10	-99	0	10	10	10	20	40	-396	0	40	40	40
	Mode Shift	2	5	10	-99	0	5	5	5	10	20	-198	0	10	10	10
	Departure Time Choice	2	5	0	-99	0	5	5	5	10	0	-198	0	10	10	10
	Destination Change	1	-99	5	-99	-99	-99	0	0	-99	5	-99	-99	-99	0	0
	Induced/Foregone Demand	0	5	5	-99	-99	-99	-99	5	0	0	0	0	0	0	0
									Subtotal	-39	105	-1287	-99	1	100	100
									Relevance Weights Above 0	5						
									WEIGHTED SUBTOTAL	-8	21	-257	-20	0	20	20
6	**Performance Measures (0 = not relevant, 5 = most relevant)**															
	LOS	5	0	5	10	10	5	5	5	0	25	50	50	25	25	25
	Speed	5	10	10	10	10	10	10	10	50	50	50	50	50	50	50
	Travel Time	5	5	5	10	10	10	10	10	25	25	50	50	50	50	50
	Volume	3	10	10	10	10	10	10	10	30	30	30	30	30	30	30
	Travel Distance	3	0	0	0	0	0	10	10	0	0	0	0	0	30	30
	Ridership	0	0	5	0	0	0	5	5	0	0	0	0	0	0	0
	Average Vehicle Occupancy (AVO)	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
	V/C Ratio	3	0	10	10	5	5	5	5	0	30	30	15	15	15	15
	Density	2	0	0	10	10	10	10	10	0	0	20	20	20	20	20
	VMT/PMT	3	5	10	5	5	10	10	10	15	30	15	15	30	30	30
	VHT/PHT	3	5	10	5	5	10	10	10	15	30	15	15	30	30	30
	Delay	5	5	10	10	10	10	10	10	25	50	50	50	50	50	50
	Queue Length	4	0	0	10	10	10	10	10	0	0	40	40	40	40	40
	Number of Stops	2	5	0	0	0	0	5	10	10	0	0	0	0	10	20
	Crashes/ Accidents	5	5	0	0	0	0	5	5	25	0	0	0	0	25	25
	Incident Duration	0	0	0	0	0	0	5	5	0	0	0	0	0	0	0
	Travel Time Reliability	3	5	0	0	0	0	0	0	15	0	0	0	0	0	0
	Emissions	1	5	0	0	0	0	5	5	5	0	0	0	0	5	5

Table 6.1
Results of FHWA Decision Methodology

	Fuel Consumption	1	5	0	0	0	5	5	5	5	0	0	0	5	5	5
	Noise	1	5	0	0	0	0	0	0	5	0	0	0	0	0	0
	Mode Split	0	0	10	0	5	5	5	5	0	0	0	0	0	0	0
	Benefit/Cost	3	5	0	0	0	0	0	0	15	0	0	0	0	0	0
									Subtotal	240	270	350	335	345	415	425
									Relevance Weights Above 0	18						
									WEIGHTED SUBTOTAL	13	15	19	19	19	23	24
7	**Tool/Cost Effectiveness (0 = not relevant, 5 = most relevant)**															
	Tool capital cost	2	10	0	10	10	5	0	0	20	0	20	20	10	0	0
	Level of effort/training	5	10	0	10	5	5	0	0	50	0	50	25	25	0	0
	Easy to use	5	10	0	10	5	5	0	0	50	0	50	25	25	0	0
	Popular/well-trusted	4	5	5	10	10	5	0	5	20	20	40	40	20	0	20
	Hardware requirements	1	10	5	10	10	10	0	0	10	5	10	10	10	0	0
	Data requirements	3	10	0	10	10	0	0	0	30	0	30	30	0	0	0
	Computer run time	2	10	5	10	10	10	0	0	20	10	20	20	20	0	0
	Post-processing requirements	4	5	0	5	5	5	10	10	20	0	20	20	20	40	40
	Availability of Documentation	3	5	5	10	5	5	5	5	15	15	30	15	15	15	15
	User support	4	5	10	0	0	5	5	5	20	40	0	0	20	20	20
	Key parameters can be user-defined	2	5	10	5	5	10	10	10	10	20	10	10	20	20	20
	Default values are provided	4	10	0	10	10	10	10	10	40	0	40	40	40	40	40
	Integration with other software	5	0	5	5	5	5	5	5	0	25	25	25	25	25	25
	Animation/presentation features	1	0	5	0	0	5	10	10	0	5	0	0	5	10	10
									Subtotal	305	140	345	280	255	170	190
									Relevance Weights Above 0	14						
									WEIGHTED SUBTOTAL	22	10	25	20	18	12	14

Criteria Weights

5		6	7							8						
Context/Criteria (0 = not relevant, 5 = most relevant)			**Weighted Subtotals**							**Column 6 x Column 7**						
		Criteria Relevance	**Sketch Plan**	**TDM**	**Analytical (HCM)**	**Traffic Opt**	**Macro Sim**	**Meso Sim**	**Micro Sim**	**Sketch Plan**	**TDM**	**Analytical (HCM)**	**Traffic Opt**	**Macro Sim**	**Meso Sim**	**Micro Sim**
0	Analysis Context	4	-46	17	27	20	27	27	20	-184	67	107	80	107	107	80
1	Geographic Scope	3	18	15	-12	-24	-14	-14	-14	53	45	-37	-71	-41	-41	-41
2	Facility Type	4	13	30	23	17	27	27	36	51	120	94	68	109	108	143
3	Travel Mode	1	19	23	19	17	17	21	24	19	23	19	17	17	21	24
4	Management Strategy/Applications	2	18	6	15	14	19	19	24	35	11	29	28	37	37	48
5	Traveler Response	3	-8	21	-257	-20	0	20	20	-23	63	-772	-59	1	60	60
6	Performance Measures	4	13	15	19	19	19	23	24	53	60	78	74	77	92	94
7	Tool/Cost Effectiveness	4	22	10	25	20	18	12	14	87	40	99	80	73	49	54
									WEIGHTED TOTALS	91	429	-384	217	380	433	463
									Most Appropriate Tool Categories:	1.	Micro Sim					
										2.	Meso Sim					

Tool Categories:

- Sketch Plan = Sketch-planning methodologies and tools
- TDM = Travel demand models
- Analytical (HCM) = Analytical/deterministic tools (HCM-based)
- Traffic Opt = Traffic optimization tools
- Macro Sim = Macroscopic simulation models
- Meso Sim = Mesoscopic simulation models
- Micro Sim = Microscopic simulation models

Please see the 'Tool Definitions' worksheet for more details

6.2 Selection of Model Software

The traffic operations / simulation model software selection was guided by the FHWA Traffic Analysis Toolbox, Volume 1: Traffic Analysis Tools Primer, Publication Number FHWA-HRT-04-038, July 2004. This toolbox suggested seven criteria for comparison of traffic operations/simulation model software. **Table 6.2** compares various model software platforms to these criteria.

Table 6.2: Comparison of Criteria from FHWA Traffic Analysis Toolbox for Various Software Options

Criteria from FHWA Traffic Analysis Toolbox	SimTraffic /Synchro	CORSIM / Synchro	Vissim - I-285 Application Methodology	TransCAD/ TransModeler	Citilabs DynaSim
1) Ability to analyze large Geographic area	Extensive manual coding	Extensive manual coding	Extensive manual coding	GIS Assists in large area coding	GIS Assists in large area coding
2) Capability of modeling various facility types	Limited freeway application	Yes	Yes	Yes	Yes
3) Ability to analyze various travel modes	No	Limited	Yes	Yes	Yes
4) Ability to analyze various traffic management strategies	No	Limited	Yes	Yes	Yes
5) Capability of measuring traveler response to traffic management strategies	No	No	Yes	Yes	Yes
6) Ability to directly produce and output performance measures	Limited	Limited	Yes	Yes	Yes
7) Tool Cost Effectiveness	Less Expensive	Less Expensive	More Expensive	More Expensive	More Expensive

As **Table 6.2** shows, the VISSIM simulation, TransCAD TransModeler, and Citilabs DynaSim provide the best overall response to the first 6 criteria. VISSIM is expected to require additional time for coding of simulations, but will also provide the most detailed simulation. TransModeler and DynaSim have advantages in a large network such as the Chatham County freeway system, as their linkage to the travel demand model and GIS integration should assist in coding. Each of these three models (shown in the three right columns) falls into the higher expense category (criteria 7).

Table 6.3 provides a comparison of the characteristics of the traffic operations/ simulation models being considered for application. As this table shows, the TransCAD TransModeler and Citilabs Dynasim provide the necessary model types in a GIS compatible format with moderate coding complexity. The TransModeler was selected due to consultant team familiarity with TransCAD software and anticipated time savings due the TransModeler's version of the GIS interface.

Table 6.3: Characteristics of Simulation Models Considered for Application

Model	Model Level of Detail			Direct Input from TP+	GIS Interface	Designed for Freeway Application	Effort Required for Coding	Effort Required for Post Processing / Iterative Application	Simulation Detail	Relative Cost
	Macroscopic	Mesoscopic	Microscopic							
Simtraffic/Synchro	Yes	No	Yes	No	None	No	Low	Low	Low	Less Expensive
CORSIM/Synchro	Yes	No	Yes	No	None	Yes	High	High	High	Less Expensive
VISSIM I-285 Application Methodology	Yes	Yes	Yes	Yes	Limited	Yes	High	High	High	More Expensive
TransCAD/TransModeler	Yes	Yes	Yes	Yes	Fully integrated	Yes	Mid	Mid	Mid	More Expensive
CITILABS Cube Dynasim	Yes	Yes	Yes	Yes	Partially Integrated	Yes	Mid	Mid	Mid	More Expensive

7 Needs and Deficiencies

The Chatham County Interstate Needs and Prioritization Plan addresses needs along the interstate highways in Chatham County and at interchanges along the freeway system. This section of the report identifies needs and deficiencies along the freeway system identified through an examination of current freeway conditions and projected future conditions based on application of the TP+ travel demand model developed for this study, the Chatham Interstate Plan Model (2006). The travel demand model was based on refinement of the TP+ model developed by GDOT for the Chatham Urban Transportation Study (CUTS), the LRTP Model (2004). The needs identified are based on results of this modeling work, evaluation of crash rates and potential roadway geometric limitations, examination of truck access needs and concentrations of truck generators. This preliminary analysis will be followed by more detailed traffic operations and simulation modeling to further quantify problems and develop alternatives at a corridor and interchange level.

7.1 Methodology for Identifying Critical Segments

The freeway network in Chatham County consists of I-95, which extends north-south through the County, I-16 which extends east-west through the County and terminates in Downtown Savannah, and I-516 which is located entirely within Chatham County connecting to SR 21 north of I-16 and Derenne Avenue south of I-16. The critical freeway segments in Chatham County were identified through examination of key performance measures along the freeway system. The paragraphs below describe the performance measures examined and the results of the evaluation of the freeway system based on these performance measures.

7.1.1 Performance Measures

Physical roadway characteristics, truck and automobile travel patterns, and safety experience were examined to determine the performance of the interstate freeways within Chatham County. In order to quantify the results of this evaluation, performance measures were identified and assessed. These performance measures were grouped into three categories, as described below.

Congestion and Mobility

Identifying locations where traffic congestion limits the ability to travel along the freeway system will define conditions which limit the effectiveness of the freeway in providing mobility. When freeway mobility is reduced, commuter and through traffic delay increases and the freeway is more vulnerable to crashes.

Truck Movement and Economic Development

Truck mobility is a critical issue in Chatham County. The Port of Savannah is a major regional employer and driver of industrial and warehouse/distribution center activity throughout the northern portion of the County. Understanding truck traffic patterns and desired truck routes is essential to maintaining economic viability in this important industry. With increased emphasis on just in time delivery of goods and operation of mobile warehousing in the trucking industry, reliable travel times and roadway access to the ports will be key issues into the future.

Safety and Maintenance

Providing a safe freeway system is important to reduce injuries and fatalities and strengthen travel time reliability in Chatham County. Crash experience along the freeways, as well as at interchanges, is an important evaluation factor. In addition, identification of locations with roadway geometry not up to current standards is important so that these conditions can be considered in conjunction with mobility needs in determining potential improvements.

Performance measures were grouped into the three categories indicated above. Volume based performance measures were evaluated for future year 2030 conditions based on travel demand model results with the 2030 existing plus committed (E+C) roadway network. Other performance measures were evaluated based on current conditions and/or likely future growth trends. **Table 7.1** shows the performance measures evaluated. As this table shows, different performance measures were applied to provide information on three distinct aspects of the Chatham County Interstates Needs and Prioritization Plan. A portion of the performance measures were applied to determine the level of detail for traffic operations/simulation analysis along the freeways. Additional information was compiled and evaluated to quantify needs, as documented in this report. A third set of performance measures provides information for use in comparing potential improvement alternatives.

7.1.2 Application of Criteria to Roadway Network

The performance measures and thresholds identified in **Table 7.1** were used to examine the Chatham County freeway system in order to identify critical roadway segments. For purposes of evaluation, each freeway was divided into segments by interchange. Thus, each roadway segment includes an interchange and the freeway section half way to the adjacent interchange in each direction. An exception to this is along the I-516 corridor, where some sections contained more than one interchange due to their proximity. The corridors identified include a half mile on either side of the interstate highway.

Summary of Freeway Segments Evaluated

The following is a summary of the interchanges included with each of the freeway segments used in the evaluation of conditions:

- 95-1: I-95, Exit 110 – SR 21 / Augusta Road
- 95-2: I-95, Exit 106 – Jimmy Deloach Parkway
- 95-3: I-95, Exit 104 – Airways Avenue
- 95-4: I-95, Exit 102 – SR 26 / US 80 / Louisville Highway
- 95-5: I-95, Exit 99 A and B – I-16 / Jim Gillis Memorial Highway
- 95-6: I-95, Exit 94 – SR 204 / Bacon Highway
- 16-1: I-16 at Exit 152 – SR 17
- 16-2: I-16 at Exit 155 – Pooler Parkway
- 16-3: I-16 at Exit 157 A and B – I-95
- 16-4: I-16 at Exit 160 – SR 307 / Dean Forest Road
- 16-5: I-16 at Exit 162 – Chatham Parkway
- 16-6: I-16 at Exit 164 A and B – I-516 / W. F. Lynes Parkway
- 16-7: I-16 at Exit 165 – SR 304 / 37th Street

Table 7.1: Performance Measures for Identification of Critical Road Segments

Function	Performance Metric	Source	Threshold	Application of Metric		
				Identify Type of Analysis	Quantify Needs	Compare Alternatives
Congestion and Mobility	Total Vehicle Miles Traveled (VMT)	Travel Demand Model	N/A - Comparison of		X	X
	% of VMT on Freeway or Arterial Facilities	Travel Demand Model	N/A - Comparison of		X	X
	Vehicle Hours of Travel (VHT)	Travel Demand Model	N/A - Comparison of		X	X
	Volume/Capacity (v/c)	Travel Demand Model	v/c = 0.70 - LOS D or	X	X	X
	Volume Minus Capacity	Travel Demand Model	V-C > Capacity per lane	X	X	X
	Average Speed	Travel Demand Model	Speed indicating LOS D or worse		X	X
	Existing Congestion Based on Density	SkyComp	Density indicating LOS D or worse	X	X	
	Travel Time Index (Congested Travel Time /Uncongested Travel	Travel Demand Model	N/A - Comparison of			X
	Intersection Delay	Operations Analysis	LOS D or worse			X
	Presence of Spillback between Intersections / onto Freeway	Operations Analysis/SkyComp	Spillback suggests delay / between intersections / onto freeway	X	X	X
	Corridor Travel Time	Operations Analysis	N/A - Comparison of			X
Truck Movement and Access	% of Truck Traffic	Travel Demand Model	Greater than Statewide average - 13% interstates and 5% on arterails and collectors	X	X	X
	Truck Volumes	Travel Demand Model	Volume greater than one half capacity of single lane	X	X	X
	Access to Major Truck Generators	Off model Truck	Provides Key Access	X	X	X
	Delay along Truck Routes (Hours/Mile)	Travel Demand Model	Compare cost of delay to improvement cost			X
	Truck Route Designation	Off model Truck	Designated Route	X	X	
	Access to Future Population and Employment	GIS Database	Provides Key Access		X	X
Safety and Maintenance	Freeway Crash Rates (per VMT) vs. State Average	GDOT Crash Database	Crash rates above State	X	X	
	Number of crashes at Interchange vs. Chatham average	GDOT Crash Database	Number above Chatham	X	X	
	Bridge Sufficiency Ratings	GDOT Bridge Database	Good - > 70%		X	X
	Roadway Geometrics not Up to Current Standards	Visual Assessment of	Identified locations	X	X	X

Note: Segments to be considered include all Interstate segments and roadways where interchanges are present and major arterials within ½ mile of Interstate system (parallel and intersecting).

- 16-8: I-16 at Exit 166 – Gwinnett Street / US 17 Alternate (Talmadge Bridge)
  I-16 at Exit 167 - Martin Luther King Junior Boulevard
- 516-1: I-516 at Exit 8 – SR 25 / Atlantic Coast Highway
  I-516 at Exit 7B – Lathrop Avenue (northbound exit access only)
  I-516 at Exit 7 – Bay Street (south access only)
  I-516 at Exit 7A – SR 25 Connector / Augusta Avenue (north access only)
- 516-2: I-516 at Exit 6 – Gwinnett Street
  I-516 at Exit 5 – I-16
  I-516 at Exit 4 – Tremont Road
- 516-3: I-516 at Exit 3 – SR 25 / US 17 / SR 26 / US 80 / Ogeechee Road
- 516-4: I-516 at Exit 1 – Southwest Bypass
- 516-5: I-516 at Exit 0 – Derenne Avenue (terminus of I-516)

These freeway sections are shown in the graphics provided in **Chapter 3**, as well as **Figures 7.1** and **7.2** described below. Please note, the alternating color used on the segment identifiers is for purposes of outlining the adjacent segment boundaries and does not have significance with respect to analysis results.

Results of Freeway Evaluation for Safety and Maintenance

The evaluation of safety and maintenance performance measures was described in **Chapter 3**.

Results of Freeway Evaluation for Congestion and Mobility

An evaluation of congestion and mobility performance measures is provided in **Figure 7.1**. As this evaluation indicates, the entire I-95 corridor south of SR 21 is projected to operate with LOS D or worse conditions, with most of this section having capacity deficiencies greater than the capacity of one lane (for two directions). This indicates the need to widen I-95 to eight lanes, a project that is planned but not yet programmed.

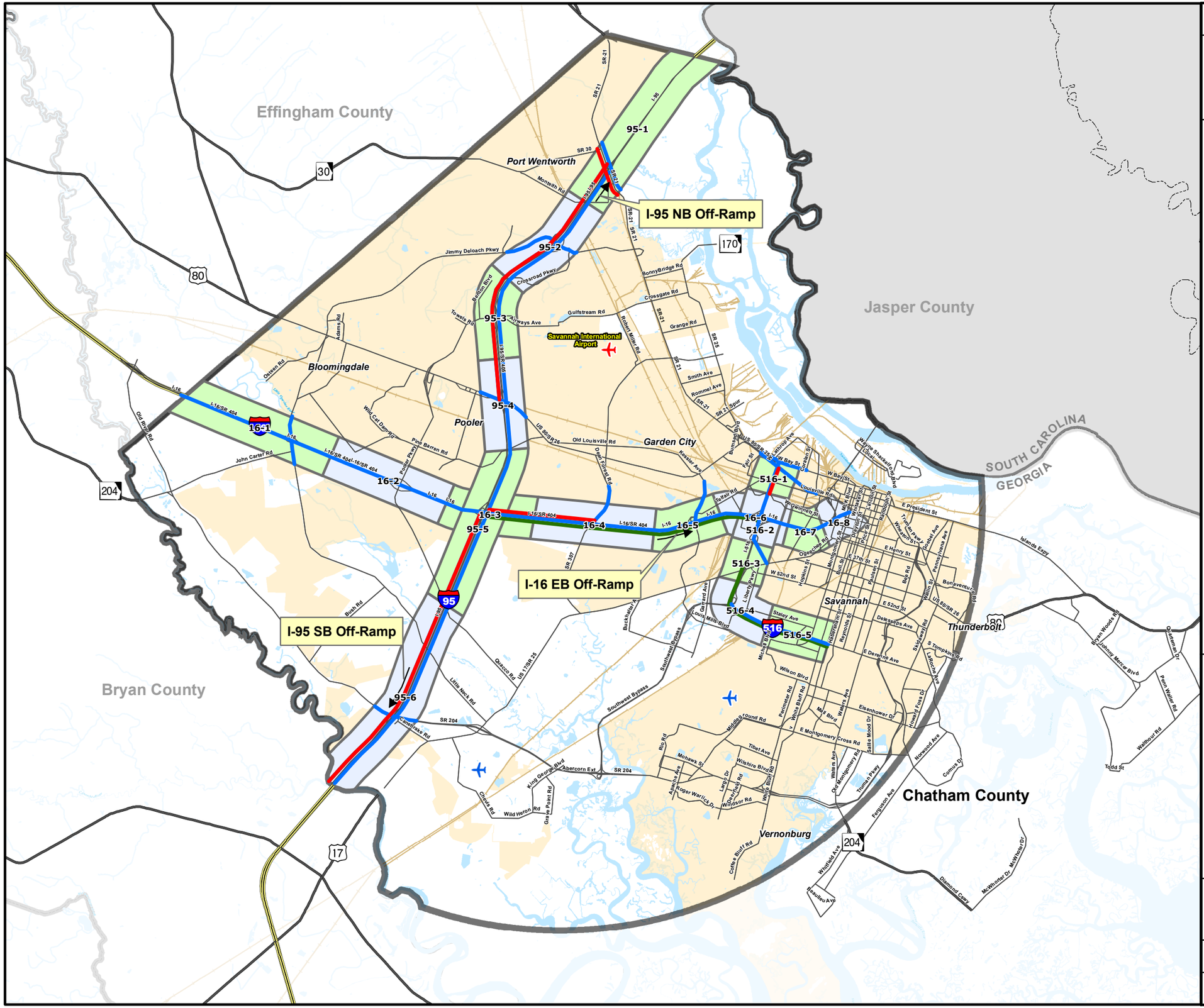
Figure 7.1 indicates that most of the I-16 corridor is expected to experience LOS D or worse conditions in year 2030. However, only the section between I-95 and SR 307/Dean Forest Road shows a deficiency greater than the capacity of one lane (for two directions). Thus, comprehensive widening along I-16 may not be necessary and would need to be examined along with other improvement options.

I-516 is similar to I-16 in that it is expected to operate at LOS D or worse, but only has one area (section 516-1) with a deficiency greater than one lane (for two directions).

Another congestion measure that was examined along the Chatham County freeway system is data on traffic congestion provided by Skycomp in 2002. This data indicated LOS D conditions along the section of I-16 from I-95 to I-516 and along I-516 from US 80 through the terminus of I-516 at Montgomery Avenue. In addition, three interchanges were identified in the Skycomp 2002 data as having queue spillback that approaches the freeway (sections 95-1, 95-6, and 16-5).

Figure 7.1

Congestion and Mobility Performance Measures



Legend

Congestion and Mobility Performance Measures

- Over LOS C Capacity based on 2030 E+C Model Data (Chatham Interstate Plan Model (2006))
- Capacity Deficiency Greater than Capacity of One Lane Based on 2030 E+C Model Data (Chatham Interstate Plan Model (2006))
- Over LOS C Capacity Based on 2002 Field Measured Vehicle Density (SkyComp Data, 2002)
- Queue Spillback From Off-Ramp Onto Freeway Based on (SkyComp Data, 2002)

1/2 Mile Buffer of Chatham County Interstates

- 95-0 Freeway Segment ID
- 1/2 Mile Buffer of Interstates

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, SkyComp, and Carter & Burgess, Inc.

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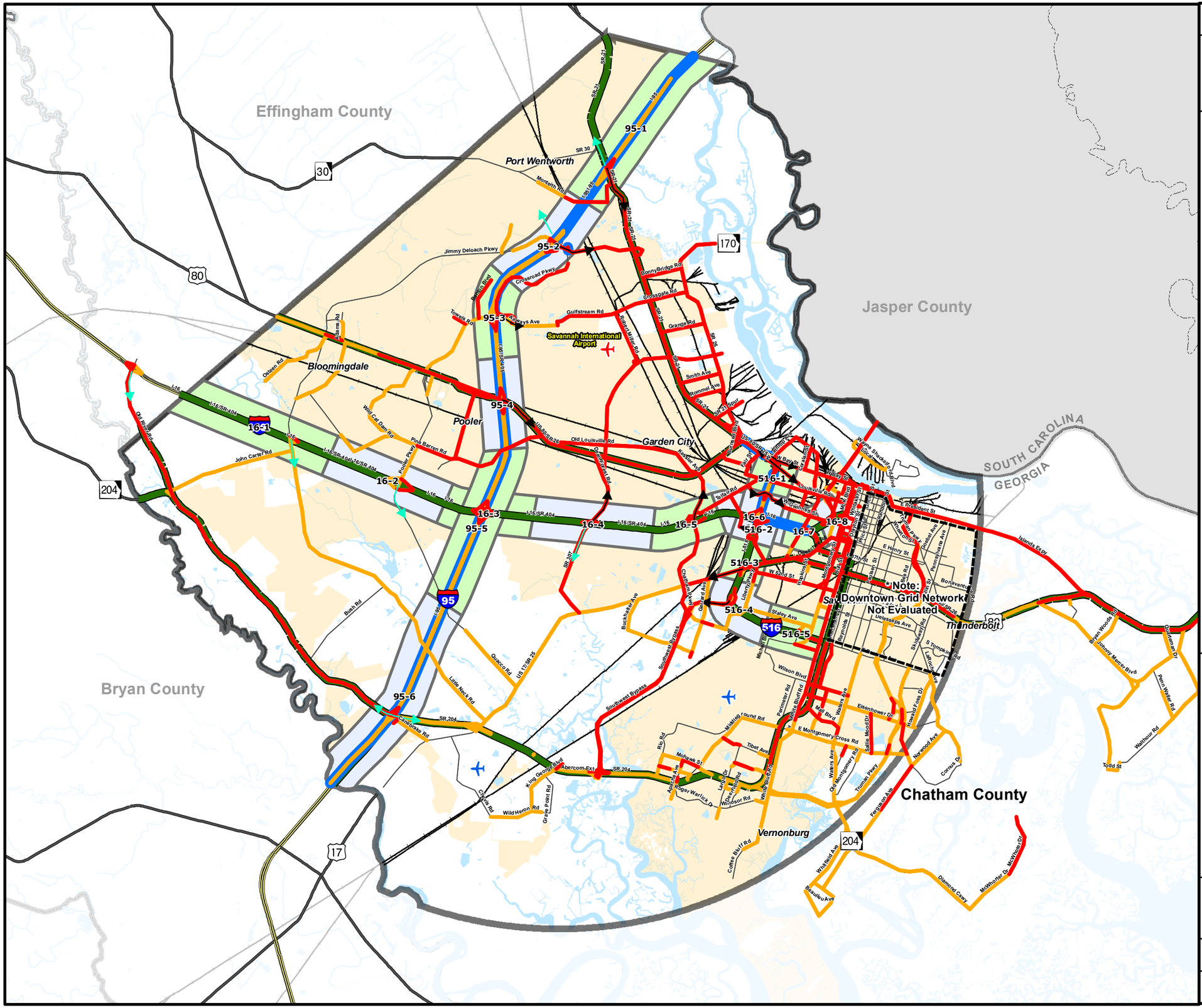
Figure 7.2

Truck Movement and Access Performance Measures Based on Year 2030 Data



Legend

Truck Movement and Economic Development Performance Measures

- Truck Volumes Greater than Half of Capacity for a Single Lane Based On Chatham Interstate Plan Model (2006)
- Percent of Truck Traffic Greater than and up to 1.5 Times theStatewide Average
  23% - Interstates
  9% - Arterials and Collectors
- Percent of Truck Traffic 1.5 Times or More The Statewide Average
  35% - Interstates
  14% - Arterials and Collectors
- Designated Truck Routes (Other than Interstate)
- Access to Truck Destinations and Employment Growth Areas
- Access to Residential Growth Areas

1/2 Mile Buffer of Chatham County Interstates

- 95-0 Freeway Segment ID
- 1/2 Mile Buffer of Interstates

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, SkyComp, and Carter & Burgess, Inc.

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0 0.5 1 2 3 4 5 Miles

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Results of Freeway Evaluation for Truck Movement and Access

An evaluation of truck movement and access performance measures is provided in **Figure 7.2**. As this evaluation indicates, the majority of the I-95 corridor has year 2030 projected truck percentages greater than the statewide average of 23% for interstates. It also has truck volumes greater than half the capacity of a single lane (for tow directions). This suggests that consideration of truck-only facilities for application along the I-95 corridor may be appropriate. The truck volumes and percentages along I-16 were not as high as those along I-95. The areas of I-16 east of I-516 and I-516 north of I-16 showed similar high truck percentages and volumes, suggesting further evaluation in these areas is needed.

Figure 7.2 also shows interchanges having access to truck destinations / employment growth areas and those having access to population growth areas. As this Figure shows, the primary employment growth areas are located in the Port of Savannah and Savannah International Airport areas, as well as along the SR 21 corridor. The population growth areas are along I-95 north of Jimmy Deloach Parkway, in the southeast quadrant of the I-16 at 1-95 interchange, and in the area of Chatham County south of I-16 and west of I-95. Please refer to **Chapter 5** for a detailed discussion of population and employment data and growth areas.

Summary of Evaluation Performance Measures

Table 7.2 provides a summary of the evaluation of performance measures. This color coded table provides visual confirmation of specific areas of deficiency and allows an examination of combinations of deficiencies.

7.1.3 Evaluation of Systemwide Mobility Performance Measures

In addition to evaluation of performance measures related to specific Chatham County Freeway segments, sytemwide mobility performance measures were evaluated. These performance measures provide a baseline for comparison of improvement alternatives to be determined through more detailed analysis in the next phase of the study. The systemwide performance measures also provide information on how mobility is expected to change from the base year 2001 to horizon year 2030 due to assumed changes in the population and employment assumptions by TAZ.

Tables 7.3 A through **D** provide a comparison of vehicle miles traveled (VMT), vehicle hours traveled (VHT), average speed, and vehicle hours of delay based on the Chatham Interstate Plan Model (2006). **Tables 7.4 A** through **D** provide similar information based on results from the LRTP Model (2004). A comparison of these sets of tables indicates that the Chatham Interstate Plan Model (2006) reflects more growth in VMT and VHT than the LRTP Model (2004). The Chatham Interstate Plan Model (2006) also reflects a greater drop in travel speeds and higher growth in vehicle hours delayed. This difference in travel statistics reflects the additional population and employment included in the Chatham Interstates Plan Model (2006). The increased travel in Chatham County translates into an increase of 77% in interstate highway VMT from 2001 to 2030 with E+C conditions. This results in a 31% drop in average travel speed along the interstate highways and significant increases in delay time.

Table 7.2: Evaluation of Performance Measures

Freeway Section	Congestion and Mobility Measures				Truck Movement and Access					Safety and Maintenance			
	Volume / Capacity	Volume - Capacity	Congestion based on density	Spillback	Trucks as percent of total volume	Truck Volume	Access to Major Truck Generators	Truck Route Designation	Access to Future Pop. and Emp.	Freeway Crashes Per MVMT	Interchange Crashes vs Chatham Avg.	Bridge Sufficiency Rating	Potential Roadway Geometric Limitations
Threshold	v/c > 0.85 Worse than LOS C	> 1 Lane Capacity	Skycomp worse than LOS C	Spillback present to freeway	23% Interstates 9% Others	Truck Vol. > 1/2 lane Capacity	Yes / No	Truck Route	Yes / No	> State Avg. >78 Rural >195 Urban	> Avg. of Chatham Interchanges	> 70%	Observed Geometric Features
95-1	■	■		■	■	■	■	■	■	■	■		
95-2	■	■			■	■	■		■				■
95-3	■	■			■	■	■		■	■		■	■
95-4	■	■			■	■	■	■	■	■	■		
95-5	■	■			■	■							■
95-6	■	■		■	■	■			■	■	■	■	
16-1	■												
16-2	■												
16-3	■	■	■							■			■
16-4	■	■	■				■		■	■	■		
16-5	■		■	■			■		■	■			■
16-6	■		■		■	■	■			■			■
16-7	■				■	■		■					■
16-8	■						■	■		■		■	■
516-1	■	■			■		■	■	■			■	
516-2	■				■		■		■				■
516-3							■	■			■	■	
516-4	■			■			■		■				■
516-5	■			■					■	■			■

■ Threshold Satisfied

Table 7.3 – Data with Chatham Interstates Plan Model (2006)

Table 7.3 A: Comparison of Vehicle Miles Traveled

Facility Type	VMT				
	2001[1]	2030[2]	Change	% Change	Annual Growth Rate
Interstate/Freeway	1,916,508	3,388,725	1,472,217	77%	1.98%
Principal Arterial	2,581,183	4,489,941	1,908,758	74%	1.93%
Minor Arterial	832,610	1,100,466	267,856	32%	0.97%
Collector	236,960	642,492	405,532	171%	3.50%
Total	5,567,261	9,621,624	4,054,363	73%	1.90%

Table 7.3 B: Comparison of Vehicle Hours Traveled

Facility Type	VHT				
	2001[1]	2030[2]	Change	% Change	Annual Growth Rate
Interstate/Freeway	28,002	71,344	43,342	155%	3.28%
Principal Arterial	71,331	130,694	59,363	83%	2.11%
Minor Arterial	31,093	40,193	9,100	29%	0.89%
Collector	13,501	32,702	19,201	142%	3.10%
Total	143,927	274,933	131,006	91%	2.26%

Table 7.3 C: Comparison of Average Speed

Facility Type	Average Speed				
	2001[1]	2030[2]	Change	% Change	Annual Growth Rate
Interstate/Freeway	68	47	-21	-31%	-1.27%
Principal Arterial	36	34	-2	-6%	-0.20%
Minor Arterial	27	27	0	0%	0.00%
Collector	24	19	-5	-21%	-0.80%

Table 7.3 D: Comparison of Vehicle Hours Delayed

Facility Type	VHD				
	2001[1]	2030[2]	Change	% Change	Annual Growth Rate
Interstate/Freeway	1,397	21,006	19,609	1404%	9.80%
Principal Arterial	9,376	22,133	12,757	136%	3.01%
Minor Arterial	2,952	2,409	-543	-18%	-0.70%
Collector	648	8,949	8,301	1281%	9.48%
Total	14,373	54,497	40,124	279%	4.70%

[1] *Data from Chatham Interstates Plan 2001 travel demand model*
[2] *Data from Chatham Interstates Plan 2030 E+C travel demand model*

Table 7.4 – Data with LRTP Model (2004)

Table 7.4 A: Comparison of Vehicle Miles Traveled

Facility Type	VMT				
	2001[1]	2030[2]	Change	% Change	Annual Growth Rate
Interstate/Freeway	1,794,979	2,950,030	1,155,051	64%	1.73%
Principal Arterial	2,655,863	4,114,666	1,458,803	55%	1.52%
Minor Arterial	834,651	945,107	110,456	13%	0.43%
Collector	336,064	514,867	178,803	53%	1.48%
Total	5,621,557	8,524,670	2,903,113	52%	1.45%

Table 7.4 B: Comparison of Vehicle Hours Traveled

Facility Type	VHT				
	2001[1]	2030[2]	Change	% Change	Annual Growth Rate
Interstate/Freeway	25,936	56,132	30,196	116%	2.70%
Principal Arterial	67,502	114,676	47,174	70%	1.84%
Minor Arterial	27,651	34,558	6,907	25%	0.77%
Collector	12,519	19,456	6,937	55%	1.53%
Total	133,608	224,822	91,214	68%	1.81%

Table 7.4 C: Comparison of Average Speed

Facility Type	Average Speed				
	2001[1]	2030[2]	Change	% Change	Annual Growth Rate
Interstate/Freeway	69	52	-17	-25%	-0.97%
Principal Arterial	39	35	-4	-10%	-0.37%
Minor Arterial	30	27	-3	-10%	-0.36%
Collector	26	26	0	0%	0.00%

Table 7.4 D: Comparison of Vehicle Hours Delayed

Facility Type	VHD				
	2001[1]	2030[2]	Change	% Change	Annual Growth Rate
Interstate/Freeway	1,001	14,101	13,100	1309%	9.55%
Principal Arterial	3,449	18,466	15,017	435%	5.96%
Minor Arterial	491	1,711	1,220	248%	4.40%
Collector	180	1,592	1,412	784%	7.81%
Total	5,121	35,870	30,749	600%	6.94%

[1] *Data from GDOT LRTP 2001 travel demand model*
[2] *Data from GDOT LRTP 2030 E+C travel demand model*

Additional statistics were derived to directly compare VMT and LOS by facility type for the base year 2001, 2030 Chatham Interstates Plan Model (2006), and 2030 GDOT LRTP Model (2004), both future year models with E+C network. These results are shown in **Tables 7.5** and **7.6**. As these tables show, a significant increase in VMT with the Chatham Interstates Plan Model (2006) results in a significant increase in congestion on all facilities. However, the interstate system is the most severely impacted, with LOS D through F conditions projected on 80% of the network with the Chatham Interstates Plan Model (2006) versus 52% with the LRTP Model (2004).

Table 7.5: Percentage of Vehicle Miles Traveled by Facility Type

	2001[1]		2030[2]		2030[3]	
Facility Type	VMT	%	VMT	%	VMT	%
Interstate/Freeway	1,916,508	34%	3,388,725	35%	2,950,030	35%
Principal Arterial	2,581,183	46%	4,489,941	47%	4,114,666	48%
Minor Arterial	832,610	15%	1,100,466	11%	945,107	11%
Collector	236,960	4%	642,492	7%	514,867	6%
Total	5,567,261	100%	9,621,624	100%	8,524,670	100%

[1] *Data from Chatham Interstates Plan 2001 travel demand model*
[2] *Data from Chatham Interstates Plan 2030 E+C travel demand model*
[3] *Data from CUTS LRTP 2030 E+C travel demand model*

Table 7.6: Level of Service by Facility Type

	2001[1]				2030[2]				2030[3]			
	Mile		Percentage		Mile		Percentage		Mile		Percentage	
Facility Type	A-C	D-F	A-C	D-F	A-C	D-F	A-C	D-F	A-C	D-F	A-C	D-F
Interstate/Freeway	42	2	95%	5%	9	35	20%	80%	21	23	48%	52%
Principal Arterial	92	42	69%	31%	93	51	65%	35%	104	40	72%	28%
Minor Arterial	85	18	83%	17%	91	12	88%	12%	90	9	91%	9%
Collector	89	5	95%	5%	78	17	82%	18%	93	3	97%	3%
Total	308	67	82%	18%	271	115	70%	30%	308	75	80%	20%

[1] *Data from Chatham Interstates Plan 2001 travel demand model (2006).*
[2] *Data from Chatham Interstates Plan 2030 E+C travel demand model (2006).*
[3] *Data from CUTS LRTP 2030 E+C travel demand model (2004).*

Tables 7.7 A through **C** show the truck volume and percentage by functional classification for the base year 2001, 2030 Chatham Interstates Plan Model (2006), and 2030 GDOT LRTP Model (2004), both future year models with E+C network. As these tables show, the percentage of trucks by facility type is relatively uniform for the various models and time periods.

Table 7.7 A: Truck Volume and Percentage by Functional Classification Chatham Interstates Plan Model (2006) – 2001

Functional Classification	Average Truck Volume	Average Traffic Volume	Truck Percentage	2005 Statewide Truck Percentage
Rural Interstate	10,545	44,140	23.89%	22.75%
Rural Principal Arterial	1,810	15,360	11.78%	9.99%
Rural Minor Arterial	—	—	—	7.31%
Rural Major Collector	323	3,307	9.77%	8.36%
Rural Minor Collector	178	1,587	11.22%	9.93%
Rural Local	255	3,237	7.88%	4.57%
Urban Interstate	8,973	43,385	20.68%	12.78%
Urban Freeway/Expressway	1,795	17,912	10.02%	5.16%
Urban Principal Arterial	1,993	19,850	10.04%	5.11%
Urban Minor Arterial	730	8,056	9.06%	4.27%
Urban Collector	344	3,563	9.65%	4.24%
Urban Local	305	3,621	8.42%	3.37%

Table 7.7 B: Truck Volume and Percentage by Functional Classification Chatham Interstates Plan Model (2006) – 2030 E+C

Functional Classification	Average Truck Volume	Average Traffic Volume	Truck Percentage	2005 Statewide Truck Percentage
Rural Interstate	19,985	84,067	23.77%	22.75%
Rural Principal Arterial	3,151	28,054	11.23%	9.99%
Rural Minor Arterial	—	—	—	7.31%
Rural Major Collector	1,166	12,066	9.66%	8.36%
Rural Minor Collector	384	4,443	8.64%	9.93%
Rural Local	599	8,809	6.80%	4.57%
Urban Interstate	17,731	74,542	23.79%	12.78%
Urban Freeway/Expressway	2,473	27,109	9.12%	5.16%
Urban Principal Arterial	3,555	32,156	11.06%	5.11%
Urban Minor Arterial	970	10,746	9.03%	4.27%
Urban Collector	609	5,152	11.82%	4.24%
Urban Local	543	5,745	9.45%	3.37%

Table 7.7 C: Truck Volume and Percentage by Functional Classification LRTP Model (2004) – 2030 E+C

Functional Classification	Average Truck Volume	Average Traffic Volume	Truck Percentage	2005 Statewide Truck Percentage
Rural Interstate	19,200	80,207	23.94%	22.75%
Rural Principal Arterial	2,852	25,411	11.22%	9.99%
Rural Minor Arterial	—	—	—	7.31%
Rural Major Collector	955	9,684	9.86%	8.36%
Rural Minor Collector	299	3,518	8.50%	9.93%
Rural Local	516	6,995	7.38%	4.57%
Urban Interstate	14,064	62,285	23.58%	12.78%
Urban Freeway/Expressway	2,417	24,233	9.97%	5.16%
Urban Principal Arterial	2,772	29,890	9.27%	5.11%
Urban Minor Arterial	911	9,884	9.22%	4.27%
Urban Collector	385	3,973	9.69%	4.24%
Urban Local	465	5,296	8.78%	3.37%

7.2 Systemwide Needs

The evaluation of performance measures for the Chatham County freeway system has revealed several areas where deficiencies are anticipated with future travel demand. These deficiencies were examined on a systemwide basis to develop transportation needs for various types of travel. The paragraphs below describe the systemwide needs related to long distance interstate traffic, commuter traffic typically traveling within Chatham County, and truck traffic.

7.2.1 Long Distance Interstate Traffic

The primary purpose of the interstate highway system is to provide for long distance trips, often crossing multiple states. Travelers making these types of trips via truck or automobile are traveling long distances. I-16 west of I-95 and I-95 throughout Chatham County are corridors that are anticipated to have significant growth in through traffic. Research has shown that drivers in these instances have increased perception reaction time and reduced expectation of the need to stop for a hazard. Therefore, providing adequate levels of service, consistent roadway geometry, and a safe and forgiving roadside are important elements to addressing long distance travel. The following is a summary of needs related to long distance interstate traffic:

- Facilities for long distance travel along I-16 and I-95 (rest areas, adequate shoulders, signage with advanced warnings)
- Safe and consistent freeway geometry that meets driver expectancy
- Safe and convenient access to Savannah Airport, and Downtown Savannah, and the Port of Savannah

7.2.2 Commuter Traffic

Commuter traffic provides another critical component to interstate travel in Chatham County. As development intensifies in southwest Chatham County and nearby Effingham County, additional commuter trips are likely to use the freeway system. This will increase the concentration of traffic during the AM and PM peak "rush hours." Thus, these time periods will experience the majority of congested travel. Commuter travel between residential areas west of I-95 will place additional pressure on the I-95 at I-16 interchange. The following is a summary of needs related to commuter traffic:

- Adequate capacity at system to system interchanges to accommodate peak hour demands
- Through connections across freeways, where necessary, to relieve congested interchanges
- Alternative arterial corridors to accommodate shorter work trips within Chatham County
- Capacity to accommodate peak hour demands at commuter trip oriented interchanges
- Parallel roads where necessary to spread demand for freeway access among interchanges
- HOV lanes to improve the capacity of the system
- Truck-only lanes to minimize truck-auto conflicts and minimize the impact on freight movement.
- Travel Demand Management solutions such as joint land use-transportation planning, improving jobs-housing balance west of I-95, carpooling, teleworking

and vanpooling programs, introducing commuter bus service, and park and ride lots.

7.2.3 Truck Traffic

Truck traffic is a critical element in Chatham County. The Port of Savannah and related industrial and warehouse/distribution center activity relies on truck traffic as the primary means for moving freight. As the Port continues to expand, container operations are expected to increase as an overall share of Port activity. These are highly dependent on truck operations. As a part of the travel demand model development, activity at the Port, industrial areas, and other truck generators, was quantified and used to expand the predictive capabilities of the travel demand model related to truck travel.

Several issues related to truck travel are essential to development of an effective interstate transportation system. First, trucks have operational characteristics that are different from automobiles. They require additional distance to stop and increased turning radii to maneuver. These differences are magnified when traffic volumes approach capacity. In these congested conditions, it is very difficult for trucks to maintain desirable spacing, as the gaps in front of them are filled by other traffic. Their larger size makes maneuvering them and maneuvering around them more difficult in congested conditions. A second issue related to truck traffic is their need to rely on defined routes to access key destinations. Unlike automobiles that can vary their routes to avoid congestion, trucks are frequently required to use designated routes and their operating capabilities limit the routes they can effectively use when providing safety and efficient service. A third factor related to trucks is the value they represent in terms of lost time due to congestion. A truck traveling along the road has a higher operating cost than a motor vehicle and lost time can equate to additional costs for the vehicle and driver. In addition, time in congestion means less time available for a driver to travel during his regulated shift. In an area such as Chatham County, where a large portion of the economy relies on the Port and shipping industry, the cumulative effect of inefficient truck operations can have significant results. The following is a summary of needs related to truck traffic:

- Freeway access to Port and adjacent areas along SR 21
- Connections between Port and landside warehouse and distribution centers
- Truck access to Downtown Savannah without impacting historic character of Downtown
- Focusing east-west truck traffic through Downtown Savannah away from Bay Street
- Accommodation of heavy truck volume along I-95
- Maintaining effective truck access to Talmadge Bridge
- Accommodation of truck movement characteristics at system to system interchanges and key truck access points

Additionally, the following needs were identified by the freight analysis (**Chapter 4**):

- Study a new corridor to allow truck traffic to better access Highway 21 from the ports.
- Study the total traffic and volumes on highway 21 from Highway 80 to Interstate 95.
- Continue the turn lane on Highway 307 as it approaches Highway 21.

- Study an alternative to using Bay Street to access the interstate system from East Savannah.

7.3 Corridor Based Needs

The systemwide needs indicated above provide an indication of needs to address common deficiencies for three key types of travel along Chatham County's interstate highways. The performance measures evaluation results and systemwide needs were further examined to determine transportation needs along the specific corridors within Chatham County.

7.3.1 I-95 Needs

The I-95 corridor experiences a variety of travelers including long distance users, commuters, and heavy truck traffic. I-95 provides access to the Ports and surrounding industrial areas, Savannah International Airport, and many east/west arterials leading into the Savannah area. In addition, significant future development is planned west of I-95 in Chatham and Effingham County, adding to those who wish to use and/or cross over I-95 to reach employment opportunities. The following is a summary of Transportation Needs along I-95, as indicated in **Figure 7.3**:

- Consider parallel and cross-freeway connection to facilitate flow between interchanges (along entire corridor)
- Provide LOS C capacity along I-95 (along entire corridor)
- Provide consistent geometry and forgiving roadside (along entire corridor)
- Provide effective driver information for travelers (along entire corridor)
- Consider truck-only lanes (along entire corridor)
- Provide efficient Port access including consideration of truck-only access routes (sections 95-1 and 95-2)
- Provide effective access to emerging residential areas west of I-95 (sections 95-1, 95-2, and 95-3)
- Provide safe and efficient airport access (95-3)
- Provide infrastructure to accommodate heavy system to system interchanges (section 95-5)
- Enhance safety and traffic operations at high crash interchanges (sections 95-1, 95-4, and 95-6)

7.3.2 I-16 Needs

The I-16 corridor west of I-95 provides for a variety of through traffic and Chatham County commuters. Areas east of I-95 have a higher proportion of traffic with an origin or destination or both within Chatham County. This corridor provides a linkage to the Savannah Ports, Downtown Savannah, and coastal communities east of Downtown. The following is a summary of Transportation Needs along I-16, as indicated in **Figure 7.4**:

- Consider parallel and cross-freeway connection to facilitate flow between interchanges (along entire corridor)
- Provide LOS C capacity west of I-95 and LOS D capacity east of I-95
- Provide consistent geometry and forgiving roadside (along entire corridor)
- Provide effective driver information for travelers (along entire corridor)

- Provide effective access to emerging residential areas west of I-95 (sections 16-1 and 16-2)
- Provide infrastructure to accommodate heavy system to system interchanges (sections 16-3 and 16-6)
- Enhance safety and traffic operations at high crash interchanges (sections 16-4 and 16-5)
- Provide efficient Port access including consideration of truck-only access routes (sections 16-4 and 16-5)
- Provide safe and efficient access to Talmadge Bridge and Downtown Savannah (sections 16-7 and 16-8)

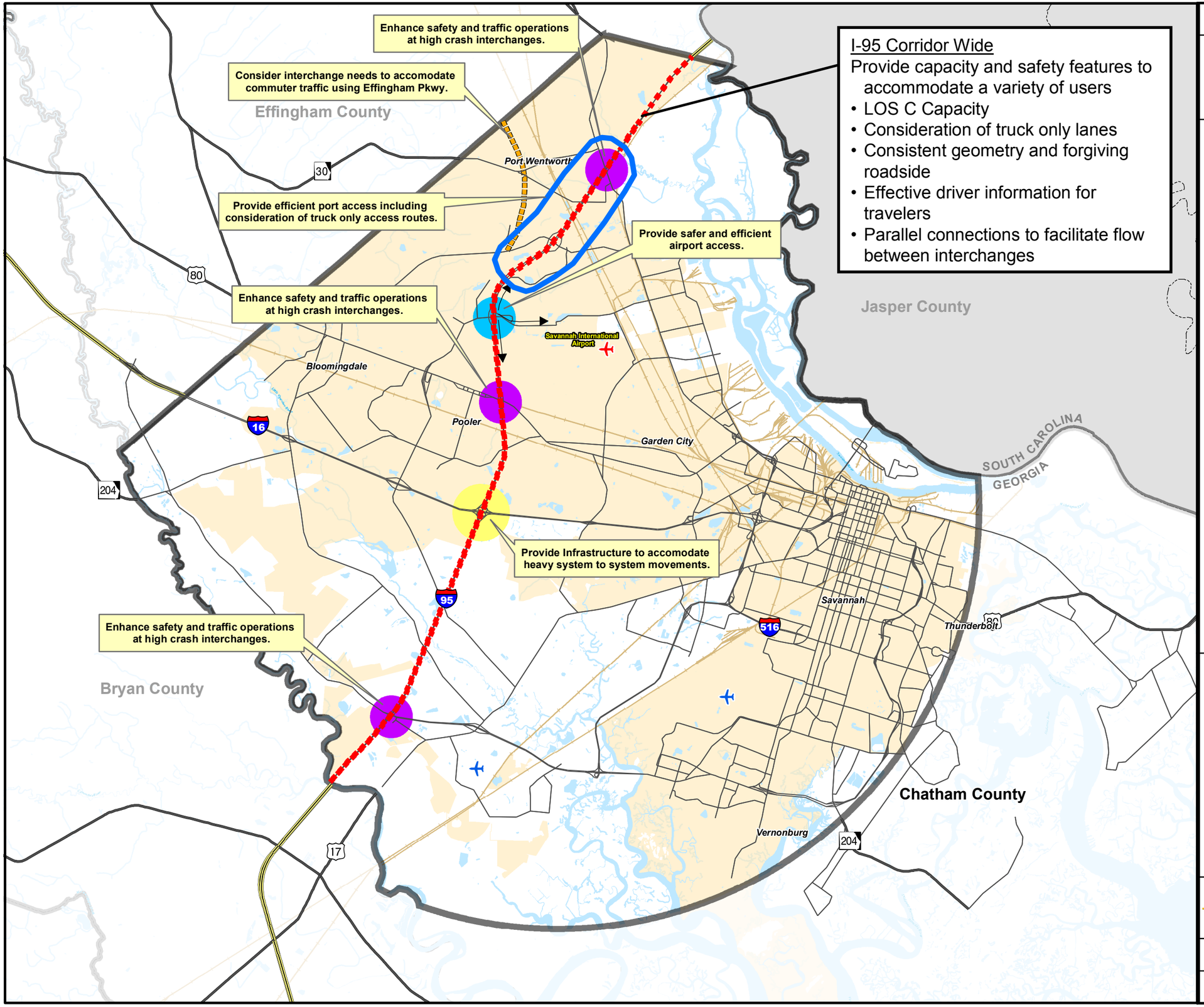
7.3.3 I-516 Needs

The I-516 corridor connects I-16 to areas of Savannah north and south to the I-16 terminus. This roadway has frequent interchanges and tight curvature near its terminus points. These geometric features are associated with a lower speed connecting freeway section. The southern termination point of this corridor is along Derenne Avenue, which experiences regular peak hour congestion. The following is a summary of Transportation Needs along I-516, as indicated in **Figure 7.5**:

- Provide LOS D capacity along I-516 (along entire corridor)
- Consider reduced speed limit to address curvature and interchange spacing (along entire corridor)
- Provide adequate warning of sharp curves (sections 516-1 and 516-4)
- Provide infrastructure to accommodate heavy system to system interchanges (section 516-2)
- Provide efficient truck access to Port and industrial areas (sections 516-1, 516-2 and 516-3)
- Enhance safety and traffic operations at high crash interchanges (sections 516-3 and 516-5)

Figure 7.3

I-95 Summary of Transportation Needs



Legend

I-95 Summary Transportation Needs (Types)

- Provide Better Safety and Access to Airport
- Enhance Safety and Traffic Operations
- Provide Better Infrastructure
- Provide Efficient Port Access (Truck Rts)
- I-95 Corridor

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, SkyComp, and Carter & Burgess, Inc.

GDOT Georgia Department of Transportation

CHATHAM COUNTY
Interstate Needs Analysis And Prioritization Plan

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0 0.5 1 2 3 4 5 Miles

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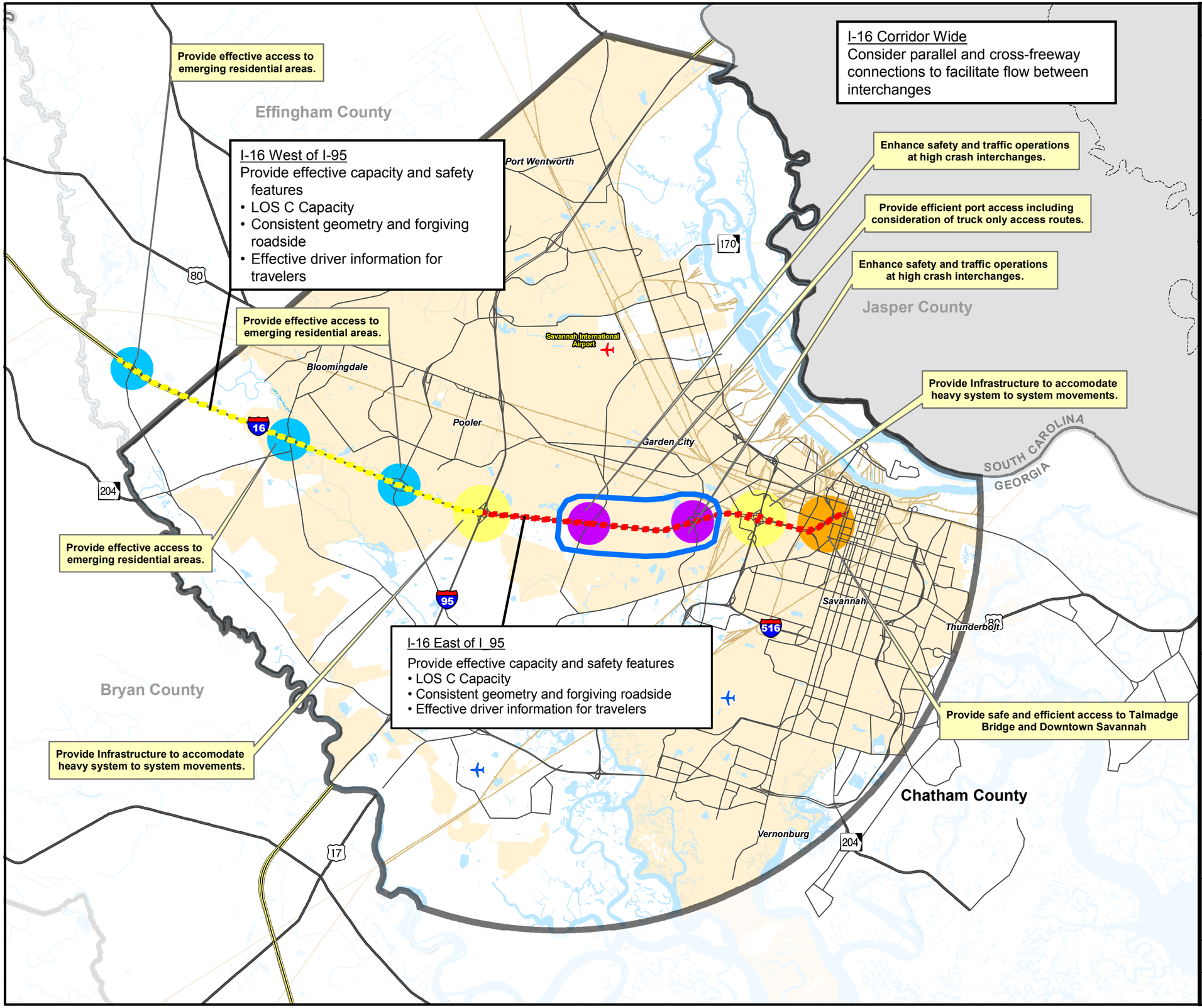
Figure 7.4

I-16 Summary of Transportation Needs



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I-16 Summary Transportation Needs (Types)

- Provide Effective Access to Emerging Residential Areas
- Enhance Safety and Traffic Operations
- Provide Better Infrastructure
- Provide Better and Safer Access
- Provide Efficient Port and Industrial Access (Truck Rts)
- I-16 Corridor (East of I-95 Interchange)
- I-16 Corridor (West of I-95 Interchange)

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, SkyComp, and Carter & Burgess, Inc.

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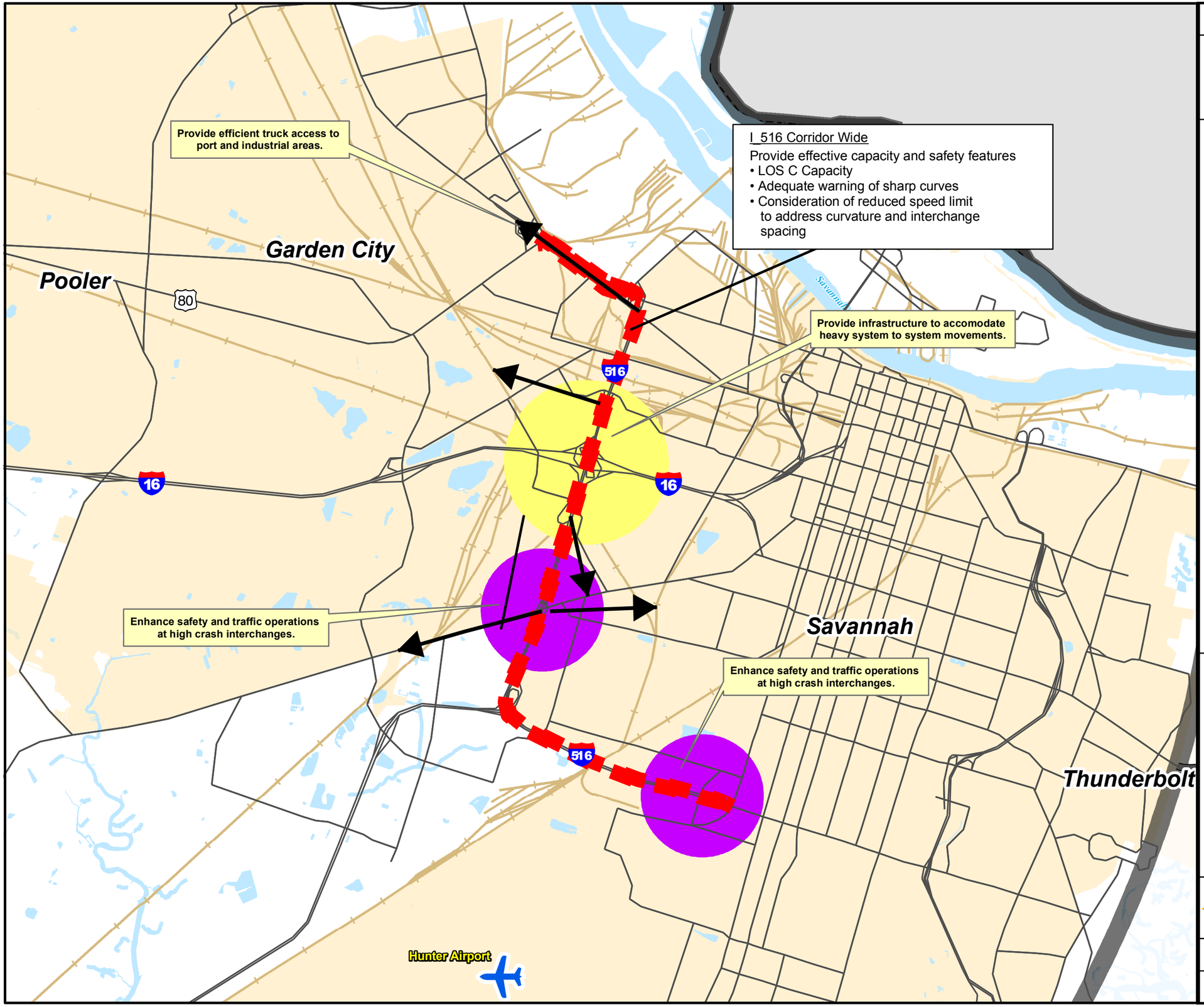

Figure 7.5

I-516 Summary of Transportation Needs

Legend

I-516 Summary Transportation Needs (Types)

- Enhance Safety and Traffic Operations
- Provide Better Infrastructure
- I-516 Corridor
- Provide Effective Truck Access to Port and Industrial Areas

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, SkyComp, and Carter & Burgess, Inc.

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7.3.4 Common Elements for Consideration in Developing Potential Improvements

In translating the transportation needs by corridor into alternative improvements for analysis, the following key elements should be considered:

- Maintain LOS Standards - Provide capacity to maintain appropriate LOS standards to provide for mix of trip purposes and vehicles. LOS C is the rural standard to be used in this area. It is appropriate for I-95 and I-16 west of I-95. In these areas, through traffic and trucks are mixed with local commuter traffic. In order to accommodate needs of longer distance drivers having lower expectancy for the need to stop or react, a rural standard of LOS C is recommended. However, I-16 east of I-95 and I-516 have urban characteristics and a higher proportion of regular users. Therefore, LOS D is likely to be acceptable to most drivers on those roads.

- Consider Truck-Only Lanes - Consider separation of truck traffic along freeway or at separate interchanges to avoid congested areas. Trucks have different operational characteristics than automobiles. As roads become more congested, these differences are more likely to result in reduced operational efficiency or safety issues. When truck volumes are high enough to comprise the majority of a lane volume, implementation of truck lanes may be appropriate.

- Provide parallel roadway connections - Provide parallel roadway connections where needed to facilitate movement between arterials crossing the freeway. Where freeway access is congested, providing alternative connections can move the demand for freeway access to less congested interchanges.

- Provide connections across freeways - Provide connections across freeways without access (no interchange) to foster local traffic movement without contributing to congestion at existing interchanges. Full utilization of the roadway network involves travel along arterials as well as freeways for longer trips. Providing key arterial connections across freeways allows this to be a viable option for travel without impacting congested interchanges.

- Provide effective truck connections to Port and Industrial areas - Enhanced connections to Port and Industrial areas for truck traffic is vital for providing time effective travel to and from this important resource. These connections can also reduce truck traffic on other arterials providing freeway access.

- Consider implementation of high occupancy vehicle (HOV) lanes or other benefits to increase overall user occupancy – HOV lanes have provided a means to recognize and reward high occupancy users of the freeway system. As congestion grows on the Chatham County freeway system over time, consideration of HOV lane implementation may be appropriate.

- Design interchanges to prevent queue spillback to freeway – Designing interchanges to effectively accommodate peak hour demand and providing

ramps with sufficient length to prevent queue spillback from reaching the freeway is a step to providing freeway safety.

- Design system to system interchanges to accommodate anticipated traffic – The design of system to system interchanges is important to provide seamless flow along the freeway system. As traffic volumes grow west of I-95, more freeway traffic will converge on the I-95 at I-16 interchange, making it a critical component in the operation of these freeways.

- Provide clear signage and driver information – Effective signage is a key element to providing for interstate travel where a significant proportion of drivers are passing through on the freeway. Concise signage, with interchanges that are clearly marked and provide full access will enhance travel for those not familiar with the area. These elements are also critical along roads such as east of I-95 to assist drivers traveling to Savannah and the Georgia Coast.

- Provide safe and forgiving roadside – A roadside with adequate shoulders and protection of clear zones provides a forgiving roadside to prevent crashes and injuries due to errant vehicles. This is particularly important where high speed long distance travel is prevalent.

8 Projects Identified in Previous and Ongoing Studies

8.1 Transportation Improvements Program (TIP) Projects

Projects being implemented through the Chatham Urban Transportation Study (CUTS) are included in the regional Transportation Improvement Program (TIP). The fiscal year 2007 – 2009 TIP document was adopted in June 2006 with amendments in August 2006. This document covers transportation programming for fiscal years 2007 through 2009. **Table 8.1** shows projects included in the 2007-2009 TIP. This table indicates the year for construction of the project. If the project does not have construction activities planned as a part of the TIP (such as a planning study or project in initial design phases) the construction year is shown as N/A. Projects included in the TIP are included in the existing plus committed roadway network for the travel demand model.

Table 8.1: Projects in 2007-2009 Transportation Improvement Program

PI#	Project Title	Description	FY CST
0000690	I-95 Welcome Center	Reconstruction of the I-95 southbound welcome center	2009
0002921	Truman Pkwy	Construct Truman Pkwy Phase V from Whitfield Ave to Abercorn St	2009
0002922	SR 204/Abercorn Ext.	Widen SR 204/Abercorn from Rio Rd to Truman Pkwy Phase V	Long Range
0007885	CS 650/Grange Rd	Widen Grange Rd from SR 21 to SR 25	2010
522850	I-516/Lynes Pkwy	Widen I-516/Lynes Pkwy from Veterans Pkwy to I-16	2009
522855	I-516 Bridge	I-516/Lynes Pkwy SBL & NBL @ SR 25/US 17 in Savannah	2009
522880	SR 21	Widen SR 21 from Smith Ave north to SR 307	2012
522920	SR 404/US 17	Replace SR 404/US 17 bridge over Back River	2012
533160	SR 25/Ocean Highway	Replace bridge on SR 25 @ Norfolk Southern Railroad	2008
533200	SR 204/Abercorn Ext.	Replace the SR 204 bridge over the Harmon Canal	2008
533205	CR 302/Montgomery X-Rd	Replace CR 302/Montgomery X-Rd bridge over Casey Canal	2008
0007400	CMS Update	Update Congestion Management System	n/a
0007401	LRTP Update	Update the 2030 Long Range Transportation Plan	n/a
0007402	Gwinnett St Widening	Widen Gwinnett St from I-16 to Stiles Ave	2008
550550	SR 204 Spur	Widen SR 204 Spur/Diamond Cswy from Ferguson to McWhorter	2010
550560	Whitefield Ave	Widen Whitfield Ave from Old Whitfield Rd to Ferguson Ave.	2008
0008316	MPO Study – Sector One	Savannah MPO Transportation Study – Sector One	n/a
0008317	MPO Study – Sector Two	Savannah MPO Transportation Study – Sector Two	n/a
0008318	MPO Study – Sector Three	Savannah MPO Transportation Study – Sector Three	n/a
n/a	DeRenne Ave	DeRenne Ave Short-Term Congestion Mitigation Strategies	n/a

PI#	Project Title	Description	FY CST
n/a	Hampstead Connector	West DeRenne/Hampstead Ave Connector Corridor	n/a
n/a	East DeRenne	East DeRenne Widening	n/a
n/a	Bay St	Bay St Signal and Intersection Improvement	n/a
0000345	SR 307 Overpass	Construct SR 307 overpass over new Ports Authority rail line	2009
0002140	SR 307	Widen SR 307/Dean Forest Rd from US 17 to I-16	2009
521855	SR 26/US 80	Widen SR 26/US 80 from I-516 to Victory Dr.	2008
0006700	Effingham Pkwy	Effingham Pkwy from SR 119 in Effingham to SR 30 in Chatham	Long Range
562165	SR 307	SR 307/Dean Forest Rd from R. B. Miller Rd to SR 21	2008
0008241	Planning Study	Study of Savannah Northwest Tollway	
0002923	Bay St	Widening from I-16 to the Bay Street Viaduct	Long Range

8.2 Other Committed Projects

In addition to projects committed in the TIP, projects reflecting work performed between the model base year and the current year are included in the existing plus committed network. In the case of the Chatham County network, these include projects between 2001 and 2006. **Table 8.2** lists the projects included in the 2030 existing plus committed roadway network. The location and project limits for these projects are shown on **Figure 8.1**.

Table 8.2: Projects Included in 2030 Existing Plus Committed Network

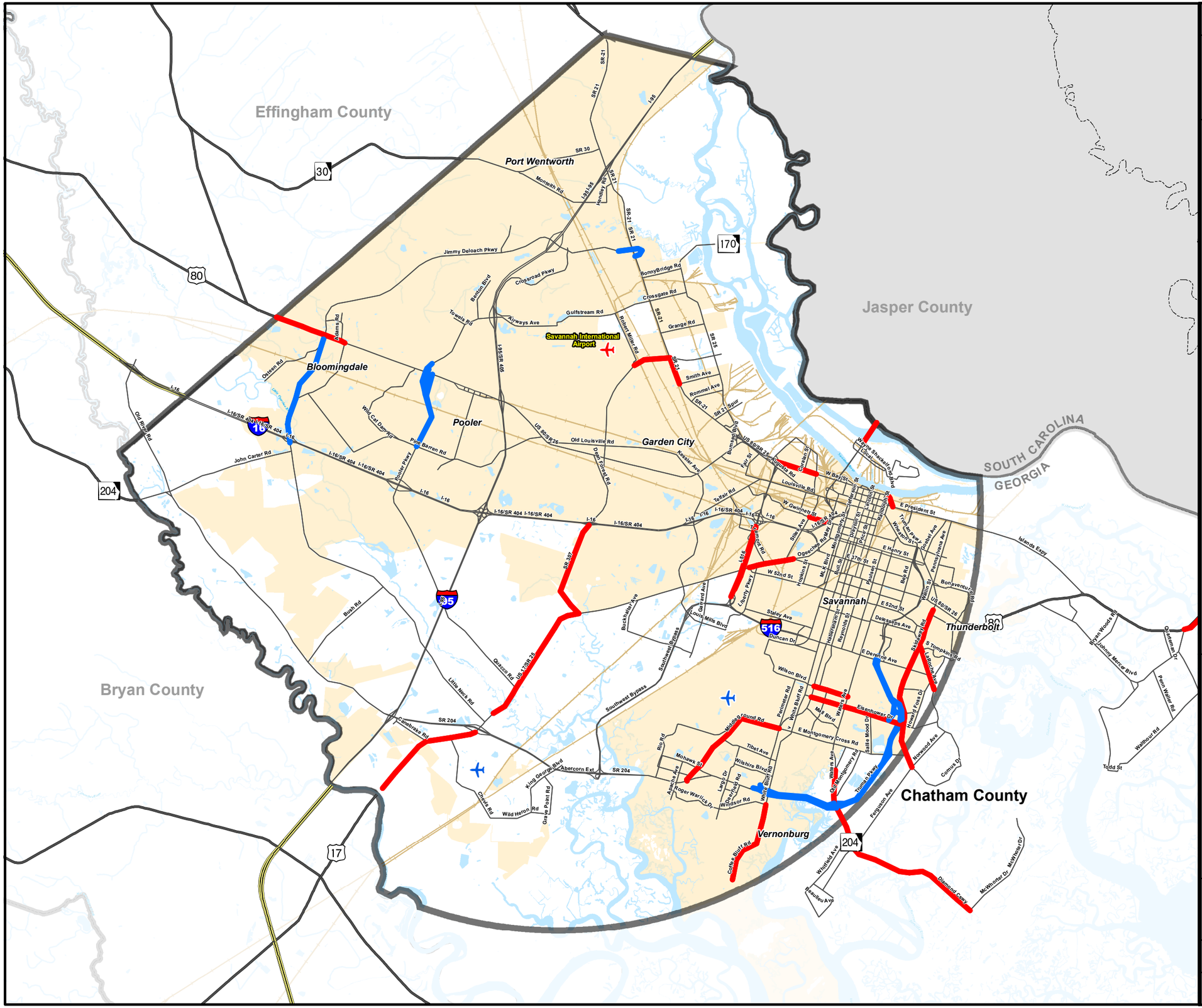
PI #	Project	From	To	Type	Lanes		Length (mi)
					Existing	Planned	
n/a	General McIntosh Boulevard	President Street	Bay Street	Widening	2	4	0.35
521505	Harry S. Truman Parkway, Phase Four	Whitfield Avenue	Montgomery Cross Road	New Road	0	4	1.90
521508	Harry S. Truman Parkway, Phase Three	Montgomery Cross Road	DeRenne Avenue	New Road	0	4	4.81
522803	Jimmy DeLoach Parkway Interchange	Jimmy DeLoach Parkway	SR 21	Interchange	2	4	0.40
550590	Pooler Parkway Extension	Pine Barren Road	South of US 80	New Road	2	4	2.20
550594	Pooler Parkway/US 80 Interchange	US 80	Pooler Parkway	Interchange	0	2	1.10
	Stephenson Avenue	SR 204/Abercorn	Waters Road	Widening	2	4	0.80
521865	US 17/SR 25	Ogeechee River	SR 204/Abercorn	Widening	2	4	2.40
521860	US 17/SR 25	SR 204 /Abercorn Extension	SR 307/DeanForest Road	Widening	2	4	3.70
0002924	Eisenhower Drive	SR 204/Abercorn Street	Harry S. Truman Parkway	Widening	4	5	1.80
511180	I-16	MP 165.1, 164.0, 163.2 & 162.3	I-516	Widening, bridges	4	4	-
522790	Jimmy DeLoach Parkway	US 80 South	I-16	New Road / Widening	0,2	4	2.70
n/a	LaRoche Avenue	Skidaway Road	S. City Limits	Widening	2 10"	2 12' w/med	1.20
550570	Middleground/Montgomery Cross Road	SR 204/Abercorn Street	Abercorn Extension	Widening	2	4	2.80
571060	Skidaway Road	Rowland Avenue	Ferguson Avenue	Widening	2	3,4	4.00
522170	SR 17/US 80	SR 17 in Effingham County	Cherry St., Bloomingdale	Widening	2	5	2.80
533160	SR 25/OceanHighway	SR 25/Ocean Highway	NS Railroad	Widening, bridge	2	4	0.22
0000345	SR 307	SR 307/Bourne Avenue	NS Railroad	Overpass, RR	4	4	0.30

Table 8.2 (cont.): Projects Included in 2030 Existing Plus Committed Network

PI #	Project	From	To	Type	Lanes		Length (mi)
					Existing	Planned	
562165	SR 307/Dean Forest Road	Robert B. Miller	SR 21	Widening	4	5	1.00
522920	US 17/SR 404 Spur	US 17/SR 404 Spur	Back River in SC	Widening, bridge	2	4	0.80
522490	US 80	Bull River	Lazaretto Creek	Widening	2	4	5.40
550580	White/Coffee Bluff Road	Little Ogeechee River	Willow Road	Widening	2	2 , 3	2.70
550560	Whitfield Avenue	Old Whitfield Road	Ferguson Avenue	Widening	2	4	1.90
0002923	SR 25CO/Bay Street	I-516	Bay Street Viaduct	Widening	4	5	1.00
0002921	Harry S. Truman Parkway, Phase Five	Abercorn Street	Whitfield Avenue	New Road	0	4	2.20
522850	I-516/Lynes Parkway	Veterans Parkway	I-16	Widening	4	6	2.00
550550	SR 204/Spur Diamond Causeway	Ferguson Avenue	McWhorter Drive	Widening	2	4	3.00
522880	SR 21	Smith Ave/CS 590 N	SR 307/Dean Forest Road	Widening	4	6	0.70
521855	SR 26/US 80/Ogeechee Road	E. Lynes Pkwy	Victory Drive/CS 188	Widening	2	4	1.20
0002140	SR 307/Dean Forest Road	US 17	I-16	Widening	2	4	2.40
0007402	Gwinnett Street	Stiles Avenue	I-16	Widening	2	4	0.60

Figure 8.1

Projects Included in the Existing Plus Committed Roadway Network (Chatham Interstate Plan Model (2006))



Legend

Project Types Included in the Existing Plus Committed Network

- Widening
- New Location Roadway

Other Layers

- Other 2030 E+C Model Network
- Other Interstate
- Other State Highway
- Georgia County Boundary
- Incorporated Area
- Study Area
- S. Carolina County Boundary
- Railroad

Source: Georgia Department of Transportation (GDOT), JJG, SkyComp, and Carter & Burgess, Inc.

GDOT Georgia Department of Transportation

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8.3 Chatham Long Range Transportation Plan

The Chatham County-Savannah Metropolitan Planning Commission completed the County's 2030 Long Range Transportation Plan in 2004. The projects identified in that study related to the County's interstate system, including the Northwest Tollway, are compiled in **Tables 8.3**, **8.4**, and **8.5**.

Table 8.3: Priority 2 Highway Projects – Mid-Range

Interstate Projects	From	To	Type	Existing Lanes	Proposed Lanes	Total Cost ($)
I-516	Veterans Pkwy	Mildred St	Widen	4	6	17,000,500
I-16	I-95	I-516	Widen	4	6	58,503,500
I-95	Bryan Co.	I-16	Widen	6	8	23,292,500
Mildred St/Hampstead Ave	I-516	Abercorn St	Widen	2	4	48,125,000
Abercorn	At I-95		Interchange Recon			37,982,000

Table 8.4: Priority 3 Highway Projects – Long-Range

Interstate Projects	From	To	Type	Existing Lanes	Proposed Lanes	Total Cost ($)
I-95	I-16	Effingham Co., S C	Widening	6	8	39,627,500
SR-21	Northwest Tollway	SR 30 (W of I-95)	Widen	4	6	28,694,600
Northwest Tollway	SR-21 (near I-95)	I-16 @ I-516	New	0	4	195,717,500
Delesseps Ave	Waters Ave	Skidaway Rd	Operational	2	2	7,544,900
Quacco Rd	Pooler Pkwy	I-95	Widen	2	4	16,364,700
Quacco Rd/Little Neck Rd	I-95		New Interchange			8,662,500

Table 8.5: Priority ATMS Projects (GDOT)

Interstate Projects	From	To	Total Cost ($)
I-95 Communication/Surveillance	SR 204	US 80/SR 226	13,359,112
I-95 Communication/Surveillance	All		15,658,000
I-16 Communication/Surveillance	I-95	End (Savannah)	12,814,000
Regional TCC	NA		1,213,000
Savannah Slow Scan/CMS Radar			3,101,972

8.4 Chatham County Intermodal Freight Study

The Georgia Department of Transportation completed the Chatham County Intermodal Freight Study in 1998. The projects identified in that study related to the County's interstate system are compiled in **Table 8.6**.

Table 8.6: Interstate-related Projects Identified in the Intermodal Freight Study

Project Number	Project Name
1.1	Extend I-516 from its current end to I-95
1.2	Interchange at SR 26 (Burnsed Blvd) to Brampton, Allen, Foundation Roads, SR 21, US 80 and SR 25
1.3	Optional interchange at SR 25
1.4	Trumpet interchange with SR 307
1.5	Half-diamond interchange with slip ramps
1.6	Interchange at Crossgate Road
1.7	Interchange at Jimmy DeLoach Parkway
1.8	Interchange at I-95
1.9	Relocate CSX "A" line to CSX "S" line near I-516/I-95
2.2	Build connector road from Louisville Road to the West Portal. Widen/improve Louisville Road. Build connector road from Bay Street to West Portal.
Source: Chatham County Intermodal Freight Study, May 13, 1998.	

9 Public Involvement and Coordination Efforts

Public involvement is a critical task of the study. There are five main components to the public involvement activities: 1) Stakeholder Interviews, 2) Project Team Meetings, 3) Coordination with the CUTS Technical Coordinating Committee, 4) Survey of freight haulers and warehousing businesses, and 5) Public Information Meetings.

9.1.1 Stakeholder Interviews

In order to gain a better understanding of the views towards transit and transportation improvement issues along the Chatham County Interstate system, face-to-face interviews with key community partners were conducted. The interviews will allow the Department to better understand the specific attitudes, perceptions, concerns and understanding of transportation issues within the corridor.

Seven interviews have been conducted to date including the following:

- Pete Liakais - Chatham County Commission Chair
- Russ Abolt - Chatham County Manager
- Eric Winger – President, Savannah Economic Development Authority
- Mark Wilkes – Director of Transportation, Metropolitan Planning Commission
- Trip Tollison, Governmental Affairs Chair, Savannah Area Chamber of Commerce
- Wayne Dawson – Disabilities Community Activist
- Lisa Sundrla – Executive Director, Savannah Development and Redevelopment Authority

Resounding Themes from First Round of Interviews

- There is generally strong support for the study but many of the stakeholders feel other counties (Byron and Effingham) should be involved because of growth and subsequent impacts.
- There are also several State Routes that need to be considered through coordination including:
    - 21 (leading to the Port area growing at a rate of 21% per year),
    - 204 (significant commercial and residential growth) and
    - 80 (used as an alternate to I-95 into Chatham County from Effingham County).
- There are high profile growth issues facing the County and the study must consider these issues. It is equally important that economic development data be received from the State level as it is at the local level. The State is heavily recruiting for a major development (preferably auto manufacturer) for the area at the northeast corner of I-95 and I-16. If developed, the area would experience significant traffic congestion and needs to be looked at. There are between 15 and 17 thousand acres with two 250-acre pads ready for building.

- The Port is experiencing major growth leading to the doubling of truck traffic. State Route 21 is choking with truck traffic and other industrial and residential growth in the vicinity.
- The end of I-16 at MLK Drive is a major traffic challenge and heavily impacts several low-income and minority neighborhoods.
- Strong residential growth is beginning to occur west of I-95 with several national residential builders looking at large tracts of land. Future growth must be taken into consideration.
- All stakeholders felt that a regional look at the transportation issues is needed and that sooner or later, transit outside of Savannah will need to be considered. Currently, there is no access to many parts of the County without a car. Also, if additional job growth occurs, many will not be able to take advantage because of the lack of transportation.
- Public involvement must be localized and not too broad. The outreach should focus on areas where definite improvements are likely to occur.

9.1.2 Fact Sheet and Website

The study has two primary outlets for keeping the community abreast of the status of the study prior to the Public Information Meetings. The Volume 1 Fact Sheet was distributed to the seven City/County libraries, the Chatham County Government Center, and the Savannah City Hall in the fall of 2006. The Volume 2 Fact Sheet is underway and expected for distribution in March of 2007 and will provide an update on the Needs Assessment portion of the study. Additional Fact Sheets will be distributed at key points in the project to help keep the community abreast of the status of the study. Web updates are made in conjunction with the distribution of the fact sheets.

9.2 Coordination Efforts

This study is not being conducted in isolation. There are three other critical ongoing studies that will play a key role in shaping the results of this study. In each case, the project team is working closely with members of those other studies to coordinate modeling efforts, findings, and recommendations.

9.2.1 The Statewide Truck Lanes Study

The Department is exploring the feasibility of implementing Truck Only Lanes on sections of interstate and other limited-access highways across the state. The Statewide Truck Lanes Needs Identification Study will identify specific locations where Truck Only Lanes can be used to decrease congestion and improve safety for all types of traffic. While the study is scheduled to proceed through October 2007, preliminary recommendations will be prepared much earlier. The project team is coordinating with members of this study to ensure the recommendations for truck-only facilities in Chatham County are coordinated.

9.2.2 The SRTA Northwest Toll Expressway Study

SRTA is studying the possibility of creating a new toll facility between I-16 and I-95 with direct access to the Port of Savannah. The Study will consider several alignments and toll options for the facility. It will also consider the effectiveness of managed lanes –

lanes that are Truck-Only or HOV Only all or part of the time. The primary purpose of the proposed expressway is to improve truck access between the port and distribution facilities and the interstate system. Again, the project team is working closely with members of this study to ensure proper coordination.

9.2.3 Effingham Parkway

Effingham County is planning an improved four-lane facility with a median that would come from Effingham County and terminate at or near I-95. The Chatham County portion of the project is not in the LRTP, but the Savannah MPO is working with the Parkway's project team and, at this time, supports the extension of the parkway into Chatham County to the interstate. The project presents opportunities for this study in several ways:

- The Toll Expressway and Effingham Parkway could be linked into a continuous facility.
- The Effingham Parkway project could be coordinated with a new or improved interchange on I-95.
- A completed Parkway will alter the need for or the types of improvements needed on SR 21.