Southwest Georgia Interstate Study

Future Conditions Final Technical Memorandum

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1.0 Background

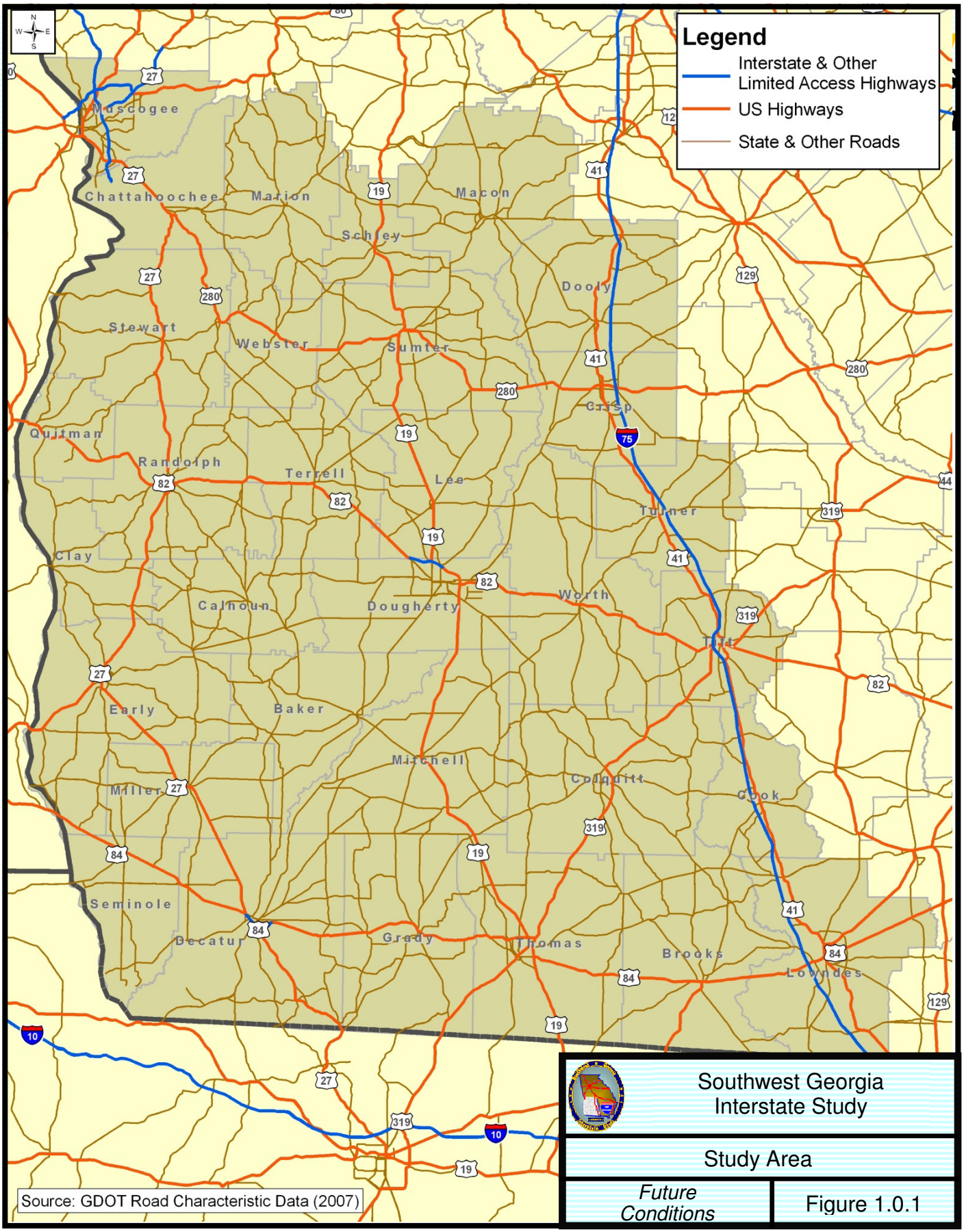
The Georgia Department of Transportation (GDOT) identified the need to study the travel conditions within southwest Georgia to determine if a freeway connecting Albany to the Interstate system would provide significant accessibility and economic benefits to the region. The study is identifying transportation needs, examining potential alignments/corridors, and developing cost estimates for study-evaluated improvements.

The study area includes 32 counties in southwest Georgia located west of Interstate-75 (I-75), from the City of Columbus south to the Florida state line and west to the Alabama state line. Counties included in the study area are: Baker, Brooks, Calhoun, Chattahoochee, Clay, Colquitt, Cook, Crisp, Decatur, Dooly, Dougherty, Early, Grady, Lee, Lowndes, Macon, Marion, Miller, Mitchell, Muscogee, Quitman, Randolph, Schley, Seminole, Stewart, Sumter, Terrell, Thomas, Tift, Turner, Webster, and Worth. The study purpose was to investigate all of southwest Georgia and identify the various capacity and operational needs to improve regional access to the existing interstate system (I-75, I-185, and I-10). Figure 1.0.1 identifies the study area.

A detailed analysis of the existing and future conditions was performed for the Southwest Georgia Interstate Study (SWGIS) area. This analysis considered all facets of conditions in the study area including demographics, land use, and travel conditions. The existing conditions are documented in a separate technical memorandum, ***Existing Conditions Technical Memorandum***. The information presented in this Technical Memorandum summarizes the results from the analysis of forecast future travel conditions as they compare to the existing travel conditions within the study area. Conditions were analyzed for the base year 2006 and for the study horizon year of 2040. The future system network for the year 2040 is assumed to include those projects that were existing in 2006, plus improvements committed to be constructed (i.e., funding has been programmed to perform the system improvements). Throughout the document, the horizon year base network will be referred to as the 2040 Existing plus Committed (E+C) network. The list of projects assumed to be included in the E+C network is listed in Section 6.0 Travel Patterns.

2.0 Socio-Economic Data

A comprehensive collection and review of socioeconomic (SE) and demographic data for the study area was performed. These data provided valuable insights to the unique characteristics of the residents and employees of the study area. In addition, this information was used to assist with the development and application of the travel demand model as well as the development of the Public Involvement Plan.


Legend
Interstate & Other Limited Access Highways
US Highways
State & Other Roads
Muscogee
Chattahoochee
Marion
Macon
Schley
Stewart
Webster
Sumter
Dooly
Crisp
Quitman
Randolph
Terrell
Lee
Turner
Clay
Calhoun
Dougherty
Worth
Tift
Early
Baker
Mitchell
Colquitt
Cook
Miller
Seminole
Decatur
Grady
Thomas
Brooks
Lowndes
Source: GDOT Road Characteristic Data (2007)
Southwest Georgia Interstate Study
Study Area
Future Conditions
Figure 1.0.1

2.1 Population and Households

Population and employment data are some of the key data inputs to the development and application of the travel demand model used for this study. The base year (2006) and projected study horizon year (2040) population and employment information was developed for the application of the travel demand model for the SWGIS area transportation system to evaluate existing and future conditions. Reliable data is needed to ensure that the transportation model accurately reflects current and future transportation system conditions. Population and employment data were collected and developed for the study area as well as the rest of the country. The travel demand model encompasses the entire continental United States to improve the model's representation of inter- and intra-state trips as well as freight and goods movements. The detailed summary of the collection and preparation of the base year (2006) data is documented in the *Socio-Economic and Demographic Technical Memorandum* and *Existing Conditions Technical Memorandum.*

The future year SE data for population and households were developed from the existing series of the historical data published by the U.S. Census. In addition, the locally adopted Comprehensive Plans were also used to gain insight into future growth activities by county. The U.S. Census provides state population projections up to year 2030 and county level historical populations from 1960 to 2006. Therefore, the 2040 data for population at both the state and county levels can be forecasted based on the available historical trends. Since the U.S. Census's state population projection for 2030 is relatively close to the forecasted year of 2040, this total is considered more accurate than the state total that is summarized from the forecasted county population, which is calculated using historical trends from 1960 to 2006. Table 2.1.1 shows the state population projection by the U.S Census and the forecasted 2040 state population. The annual growth rate calculated for each state between 2000 and 2040 is close to the Census projected annual growth rate observed between the 2000 and 2030. The population growth trends for the six southeastern states and the study area are shown in Figures 2.1.1 to 2.1.7, respectively. These figures also show the forecasted 2040 population and the R-squared value which is a statistical measure of how well a regression line approximates real data points. An R-squared of 1.0 (100%) indicates a perfect fit. The 2040 population by state is also listed in Table 2.1.1.

Table 2.1.1
State Population Forecast for 2040

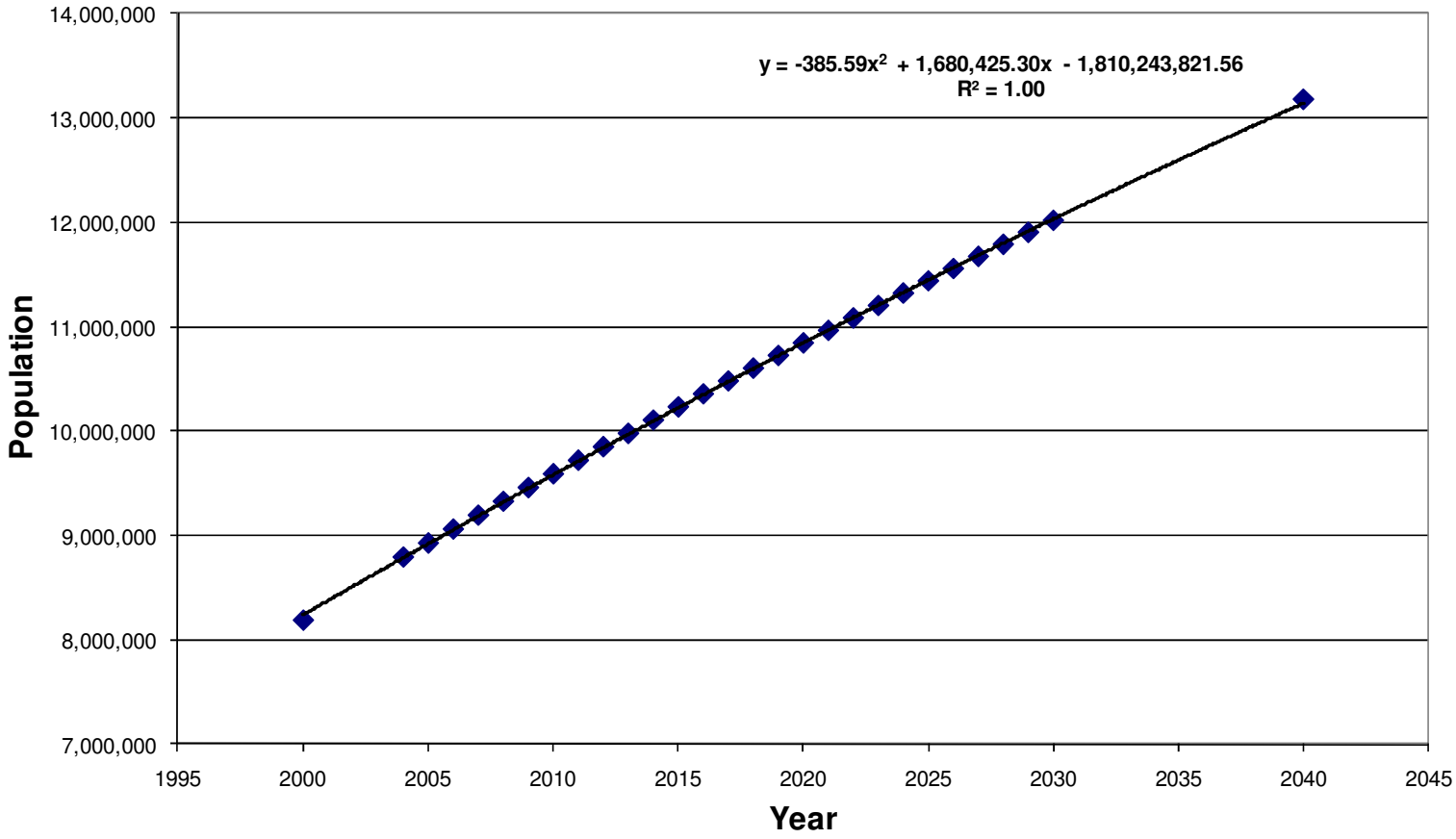
State Abbreviation	Census 2000	Census Projection 2010	Census Projection 2020	Census Projection 2030	Forecast 2040	Census Annual Growth Rate (2000 - 2030)	Forecasted Annual Growth Rate (2000 - 2040)
US	281,421,906	308,935,581	335,804,546	363,584,435	391,833,137	0.90%	0.80%
AL	4,447,100	4,596,330	4,728,915	4,874,243	5,022,591	0.30%	0.30%
AK	626,932	694,109	774,421	867,674	961,525	1.10%	1.10%
AZ	5,130,632	6,637,381	8,456,448	10,712,397	13,067,702	2.50%	2.40%
AR	2,673,400	2,875,039	3,060,219	3,240,208	3,418,981	0.60%	0.60%
CA	33,871,648	38,067,134	42,206,743	46,444,861	50,720,560	1.10%	1.00%
CO	4,301,261	4,831,554	5,278,867	5,792,357	6,329,233	1.00%	1.00%
CT	3,405,565	3,577,490	3,675,650	3,688,630	3,684,799	0.30%	0.20%
DE	783,600	884,342	963,209	1,012,658	1,056,825	0.90%	0.80%
DC	572,059	529,785	480,540	433,414	389,739	-0.90%	-1.00%
FL	15,982,378	19,251,691	23,406,525	28,685,769	34,216,772	2.00%	1.90%
GA	8,186,453	9,589,080	10,843,753	12,017,838	13,177,835	1.30%	1.20%
HI	1,211,537	1,340,674	1,412,373	1,466,046	1,520,688	0.60%	0.60%
ID	1,293,953	1,517,291	1,741,333	1,969,624	2,202,956	1.40%	1.30%
IL	12,419,293	12,916,894	13,236,720	13,432,892	13,617,799	0.30%	0.20%
IN	6,080,485	6,392,139	6,627,008	6,810,108	6,987,687	0.40%	0.30%
IA	2,926,324	3,009,907	3,020,496	2,955,172	2,879,384	0.00%	0.00%
KS	2,688,418	2,805,470	2,890,566	2,940,084	2,982,635	0.30%	0.30%
KY	4,041,769	4,265,117	4,424,431	4,554,998	4,685,346	0.40%	0.40%
LA	4,468,976	4,612,679	4,719,160	4,802,633	4,883,656	0.20%	0.20%
ME	1,274,923	1,357,134	1,408,665	1,411,097	1,404,852	0.30%	0.20%
MD	5,296,486	5,904,970	6,497,626	7,022,251	7,540,428	0.90%	0.90%
MA	6,349,097	6,649,441	6,855,546	7,012,009	7,159,313	0.30%	0.30%
MI	9,938,444	10,428,683	10,695,993	10,694,172	10,655,786	0.20%	0.20%
MN	4,919,479	5,420,636	5,900,769	6,306,130	6,700,640	0.80%	0.80%
MS	2,844,658	2,971,412	3,044,812	3,092,410	3,138,451	0.30%	0.20%
MO	5,595,211	5,922,078	6,199,882	6,430,173	6,659,242	0.50%	0.40%
MT	902,195	968,598	1,022,735	1,044,898	1,060,245	0.50%	0.40%
NE	1,711,263	1,768,997	1,802,678	1,820,247	1,835,371	0.20%	0.20%

Table 2.1.1 (continued)
State Population Forecast for 2040

State Abbreviation	Census 2000	Census Projection 2010	Census Projection 2020	Census Projection 2030	Forecast 2040	Census Annual Growth Rate (2000 - 2030)	Forecasted Annual Growth Rate (2000 - 2040)
NV	1,998,257	2,690,531	3,452,283	4,282,102	5,119,496	2.60%	2.40%
NH	1,235,786	1,385,560	1,524,751	1,646,471	1,766,434	1.00%	0.90%
NJ	8,414,350	9,018,231	9,461,635	9,802,440	10,134,065	0.50%	0.50%
NM	1,819,046	1,980,225	2,084,341	2,099,708	2,088,343	0.50%	0.30%
NY	18,976,457	19,443,672	19,576,920	19,477,429	19,352,014	0.10%	0.00%
NC	8,049,313	9,345,823	10,709,289	12,227,739	13,782,508	1.40%	1.40%
ND	642,200	636,623	630,112	606,566	578,473	-0.20%	-0.30%
OH	11,353,140	11,576,181	11,644,058	11,550,528	11,439,825	0.10%	0.00%
OK	3,450,654	3,591,516	3,735,690	3,913,251	4,097,899	0.40%	0.40%
OR	3,421,399	3,790,996	4,260,393	4,833,918	5,428,079	1.20%	1.20%
PA	12,281,054	12,584,487	12,787,354	12,768,184	12,703,236	0.10%	0.10%
RI	1,048,319	1,116,652	1,154,230	1,152,941	1,143,556	0.30%	0.20%
SC	4,012,012	4,446,704	4,822,577	5,148,569	5,466,978	0.80%	0.80%
SD	754,844	786,399	801,939	800,462	797,661	0.20%	0.10%
TN	5,689,283	6,230,852	6,780,670	7,380,634	7,994,792	0.90%	0.90%
TX	20,851,820	24,648,888	28,634,896	33,317,744	38,207,779	1.60%	1.50%
UT	2,233,169	2,595,013	2,990,094	3,485,367	4,003,823	1.50%	1.50%
VT	608,827	652,512	690,686	711,867	729,116	0.50%	0.50%
VA	7,078,515	8,010,245	8,917,395	9,825,019	10,744,539	1.10%	1.00%
WA	5,894,121	6,541,963	7,432,136	8,624,801	9,878,638	1.30%	1.30%
WV	1,808,344	1,829,141	1,801,112	1,719,959	1,627,695	-0.20%	-0.30%
WI	5,363,675	5,727,426	6,004,954	6,150,764	6,276,005	0.50%	0.40%
WY	493,782	519,886	530,948	522,979	511,146	0.20%	0.10%

Source: US Census Bureau

Population Trend (Georgia)

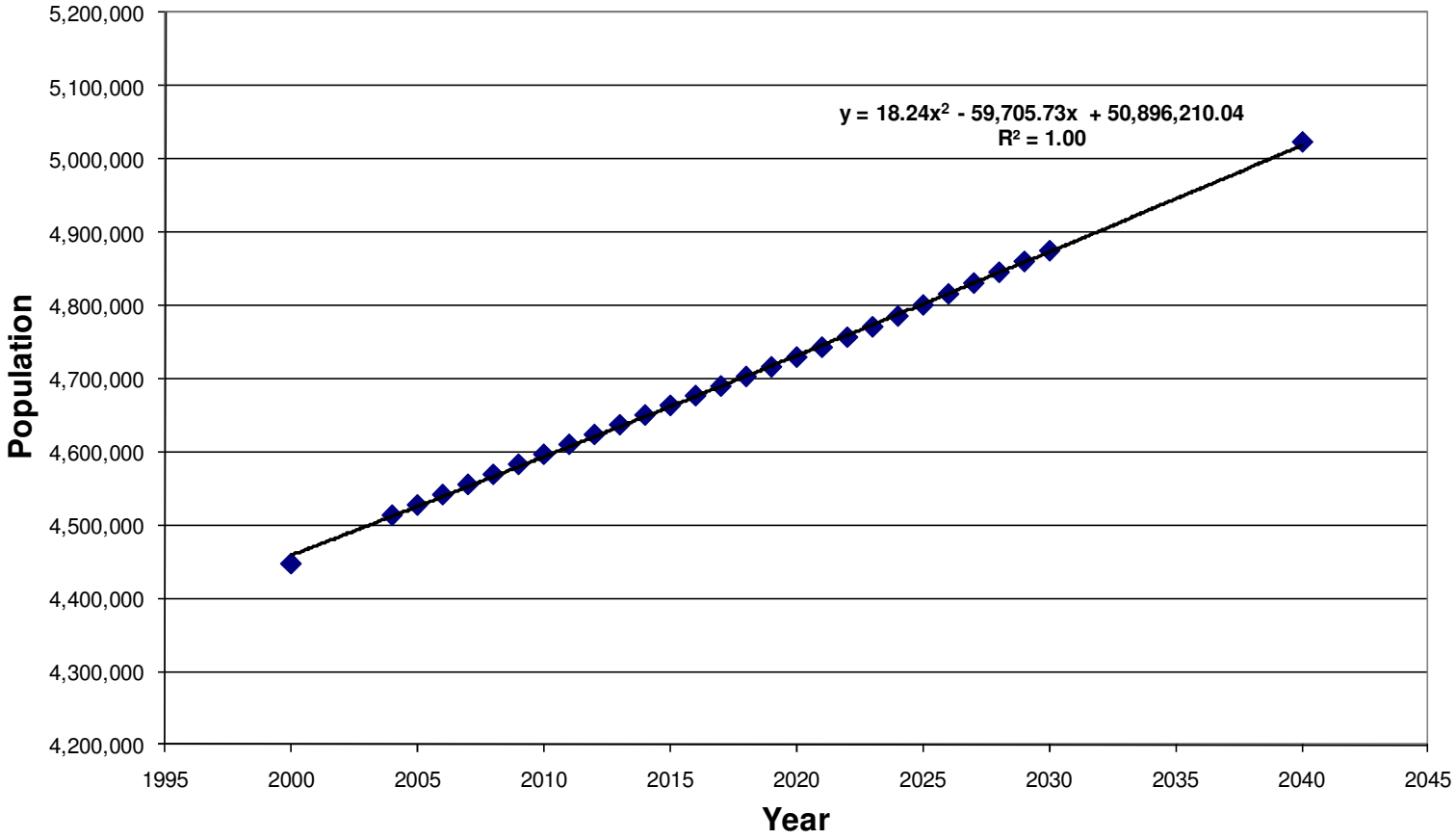


Southwest Georgia Interstate Study

Future Population

Future Conditions	**Figure 2.1.1**

Population Trend (Alabama)

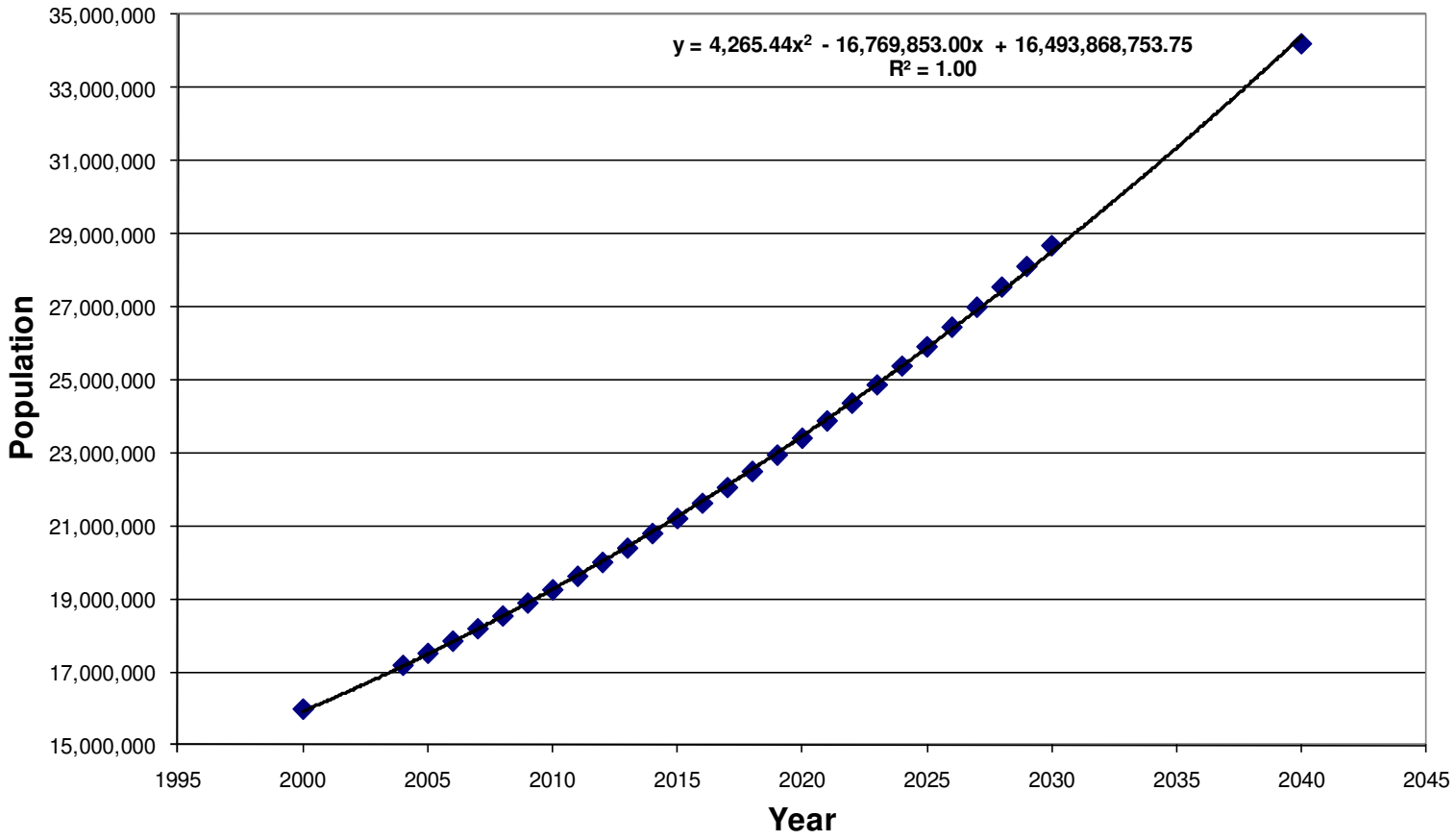


Southwest Georgia Interstate Study

Future Population

Future Conditions | Figure 2.1.2

Population Trend (Florida)

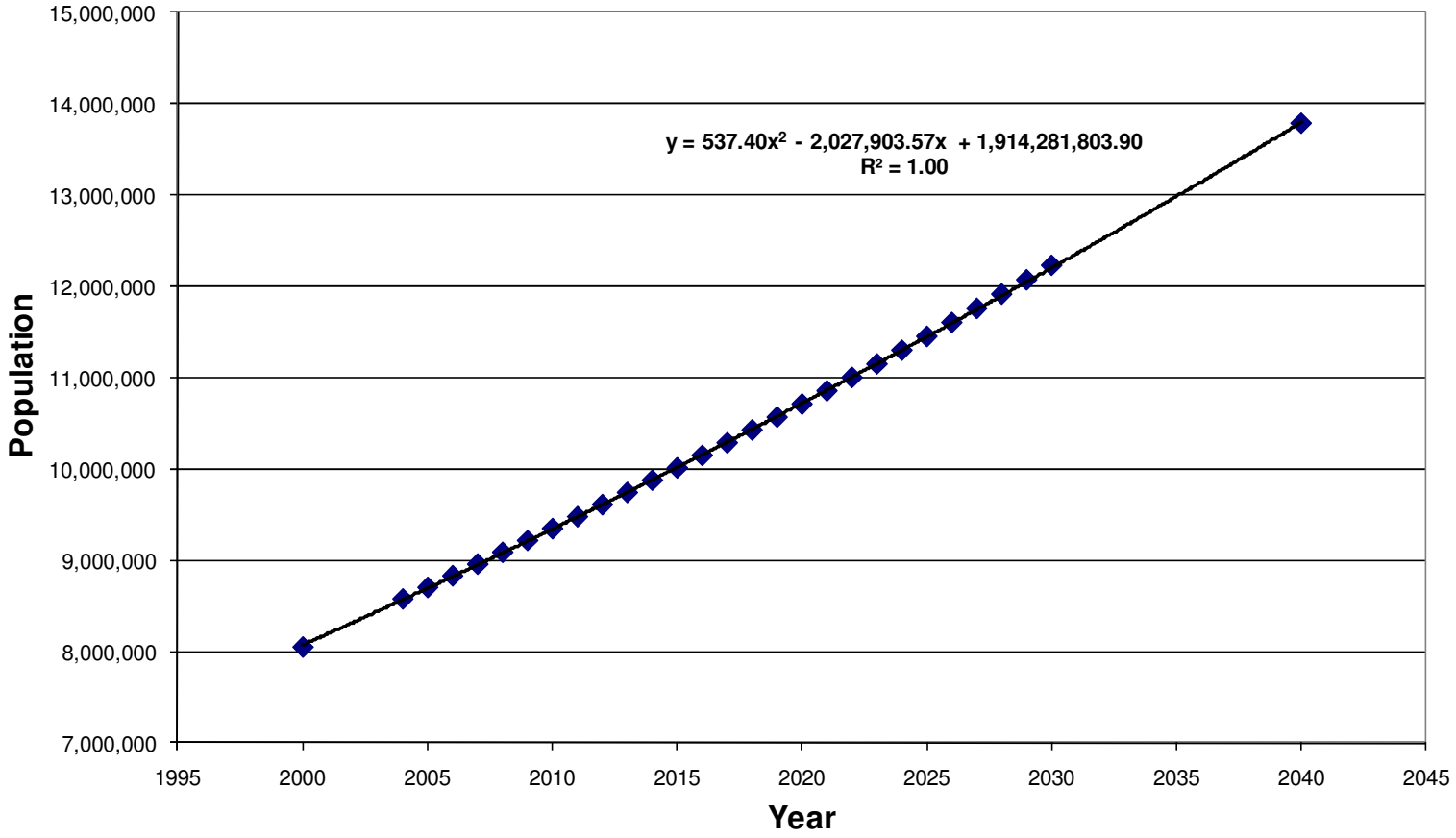


Southwest Georgia Interstate Study

Future Population

Future Conditions | **Figure 2.1.3**

Population Trend (North Carolina)

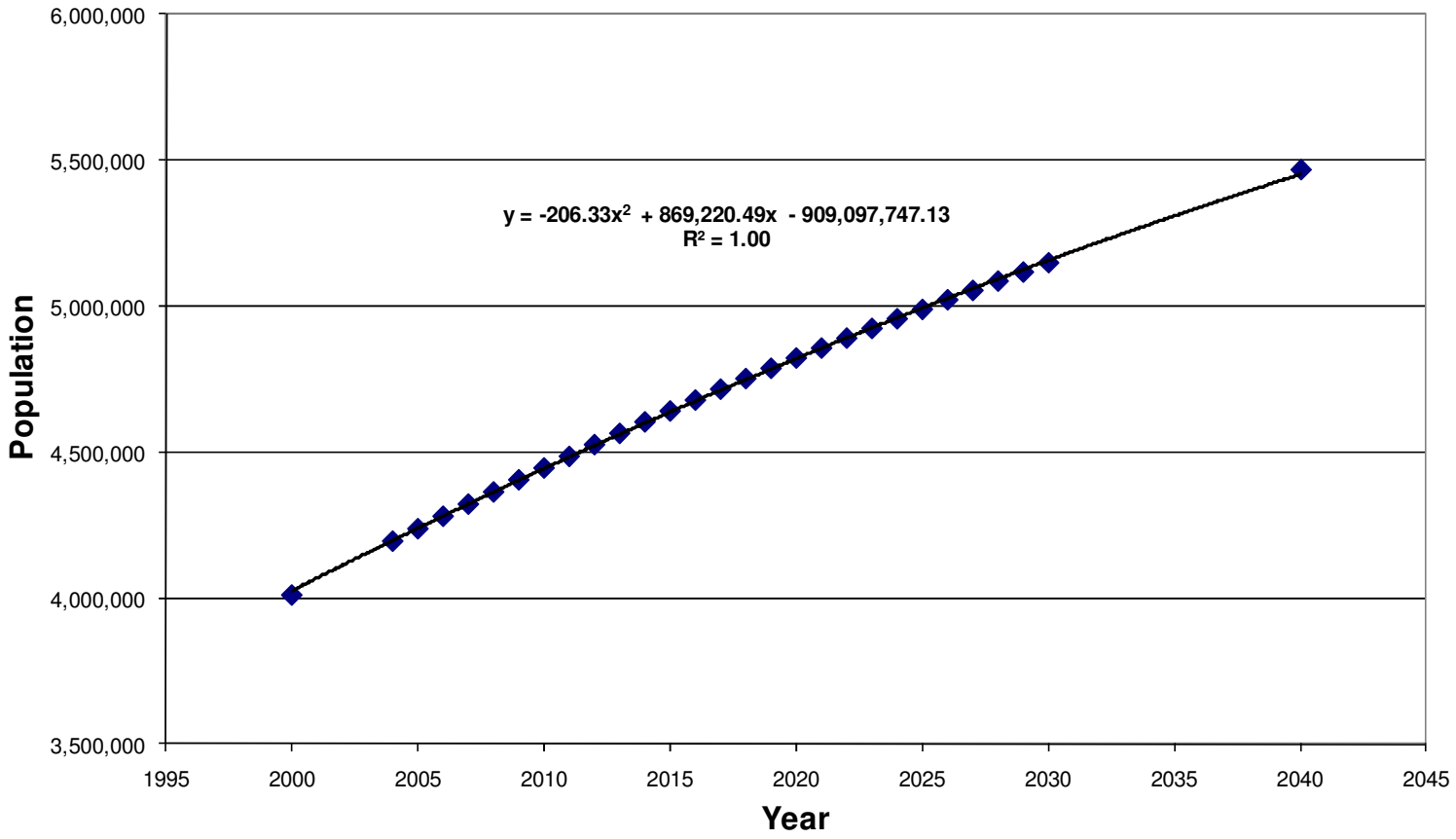


Southwest Georgia Interstate Study

Future Population

Future Conditions | **Figure 2.1.4**

Population Trend (South Carolina)

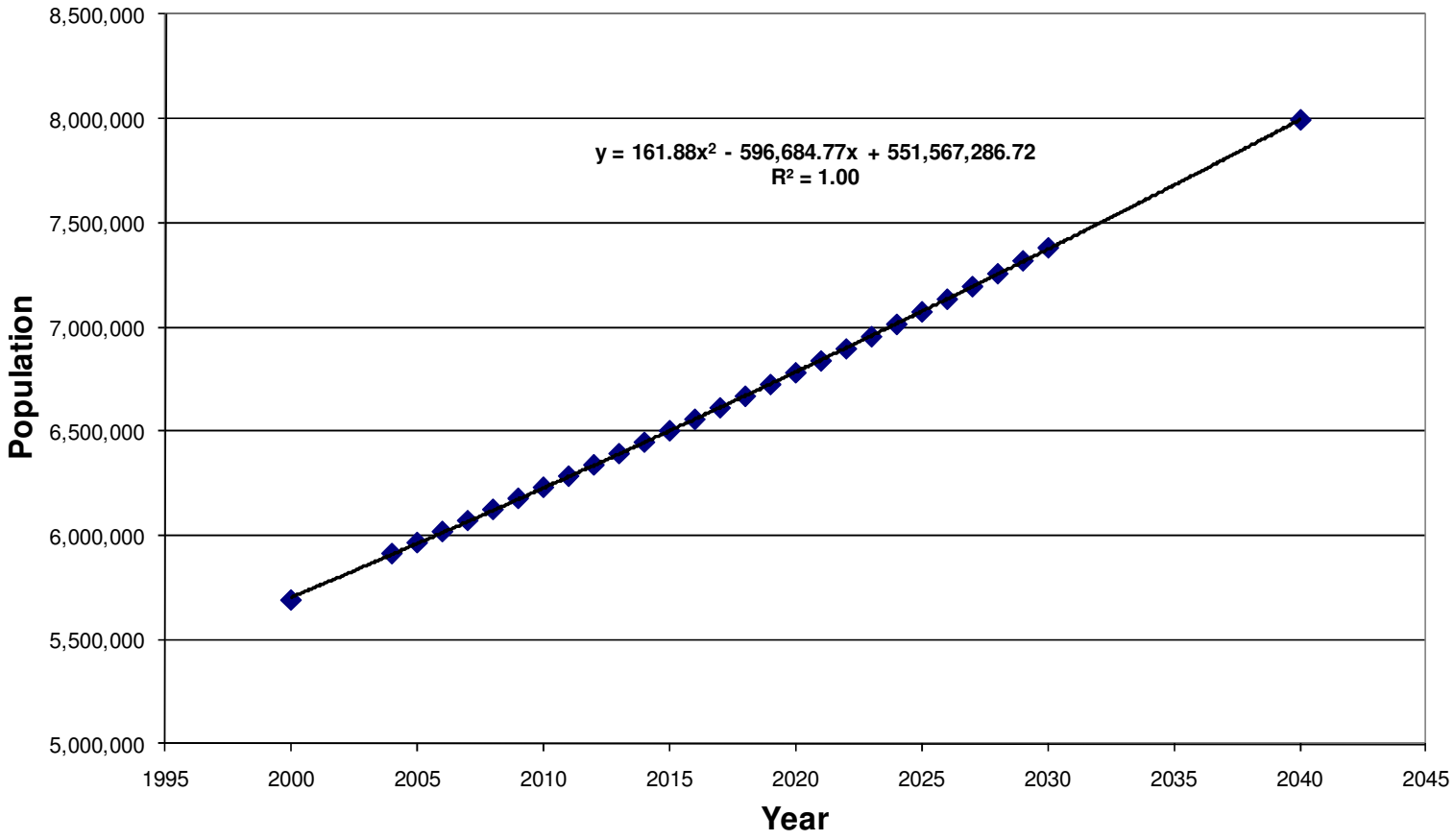


Southwest Georgia Interstate Study

Future Population

Future Conditions	**Figure 2.1.5**

Population Trend (Tennessee)

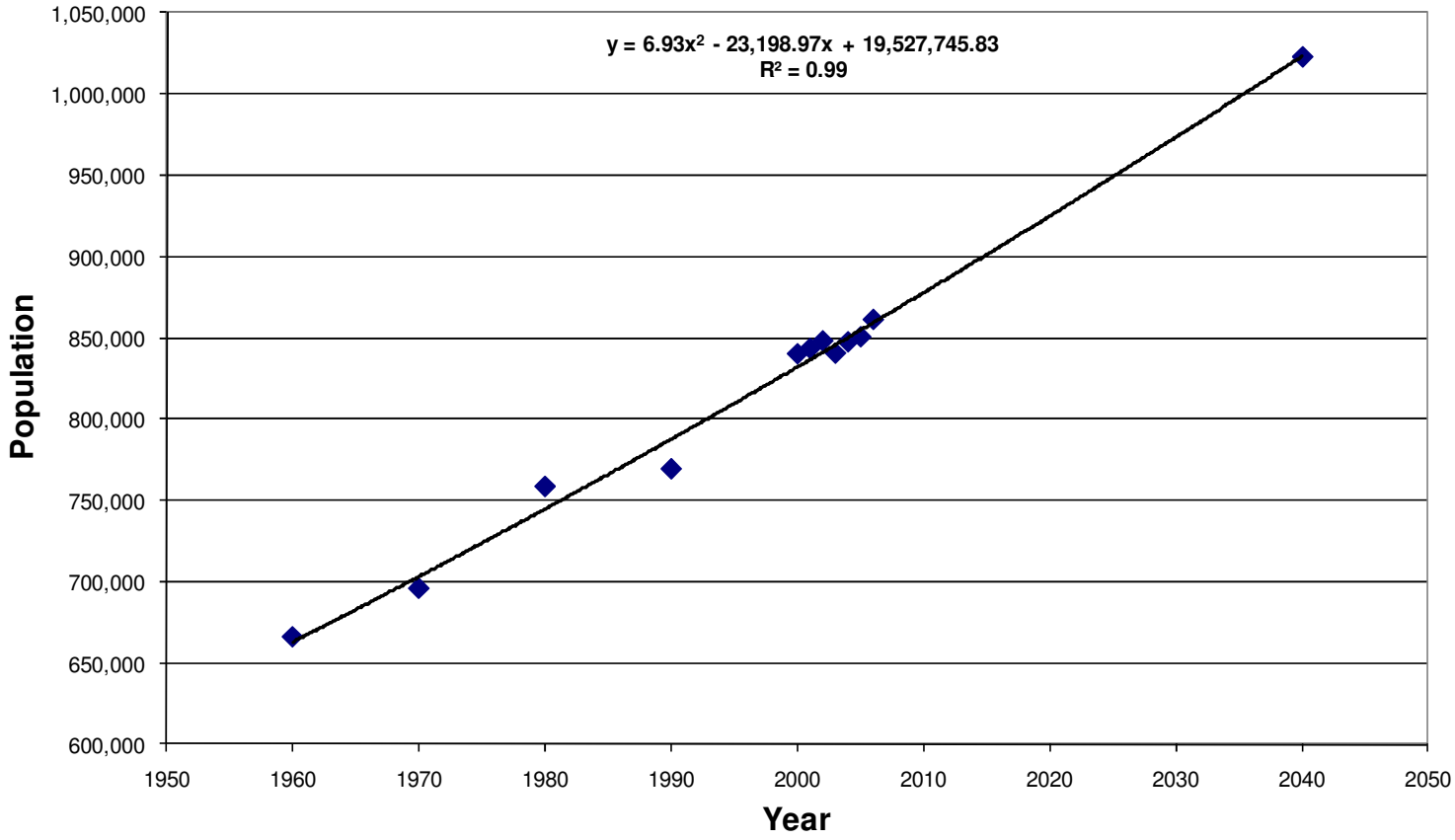


Southwest Georgia Interstate Study

Future Population

Future Conditions | **Figure 2.1.6**

Population Trend (Study Area)



Southwest Georgia Interstate Study	
Future Population	
Future Conditions	Figure 2.1.7

In addition to the state projections for 2040, the forecasted population for the counties within the six (6) southeastern states was summed accordingly, and the summarized total was compared with that from the state projections. As expected, the two state totals do not match exactly with each other. Since the state population for the future year (2040) was forecasted based on the U.S. Census projection (2000 – 2030), it is considered more reliable than the state total summarized from the individual county forecasts. Therefore, the total for each county within a state was adjusted to match the projected total of each state. Table 2.1.2 shows the population comparison between the projected state total and forecasted state total summarized from the counties. The adjustment factors calculated were applied to the population of each county. Final checks were conducted on the forecasted county total population, especially for the counties within the study area for reasonableness. Table 2.1.3 shows the forecasted population for the 32 counties within the study area. The census forecasted annual average growth rate between 1990 and 2006 was compared with that between 1990 and the forecast year 2040. The growth rate for the study area is 0.6 percent annually compared with the 0.7 percent obtained from the census data.

Table 2.1.2
State Population Adjustment Factors

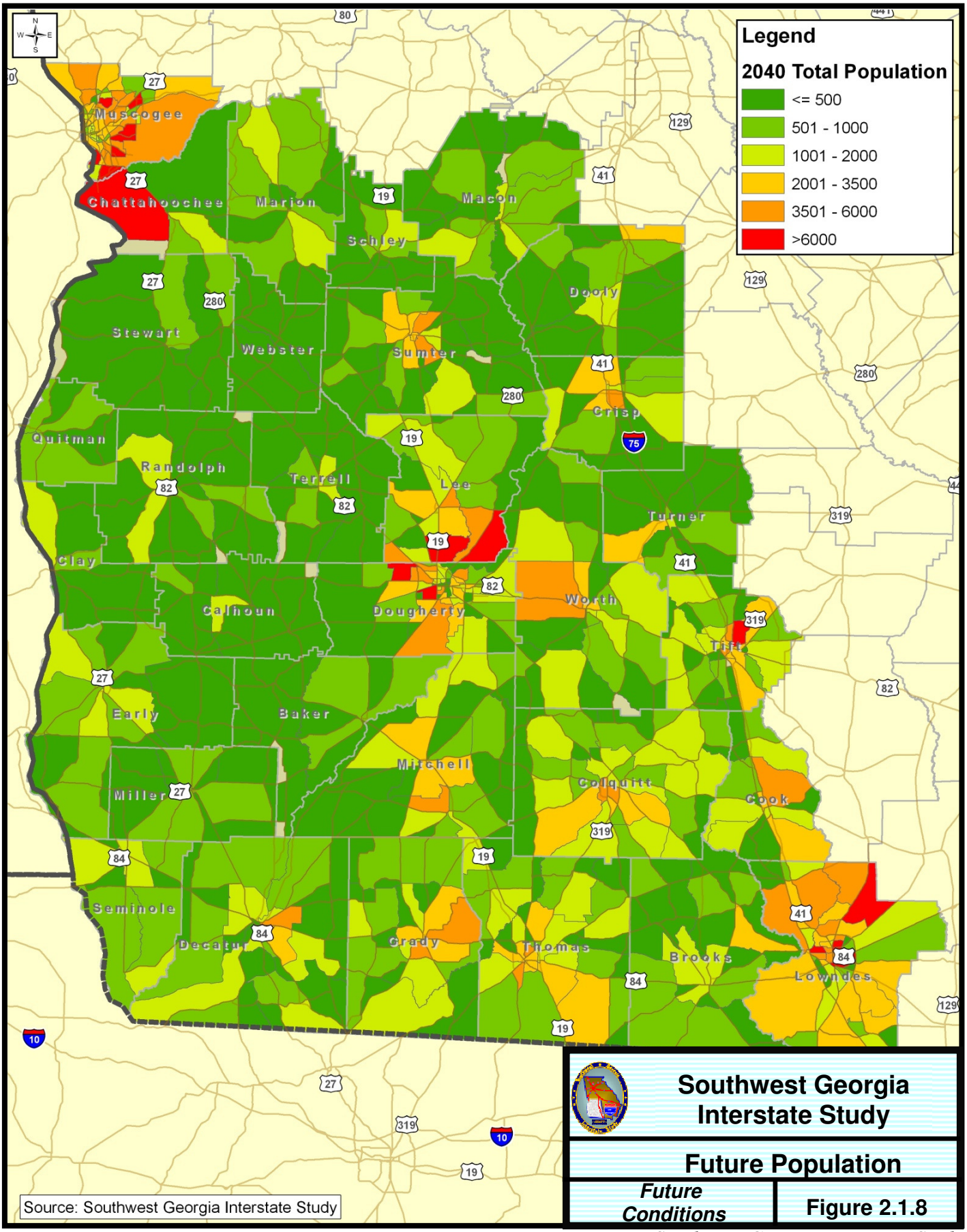
State	2040 State Projection	2040 County Total	Adjustment Factors
AL	5,022,591	5,599,514	0.90
FL	34,216,772	27,884,218	1.23
GA	13,177,835	13,209,307	1.00
NC	13,782,508	11,970,353	1.15
SC	5,466,978	5,761,687	0.95
TN	7,994,792	7,869,103	1.02

Since the TAZ system for the travel demand model was developed in such a way that several different geographic buffer layers were designated to accommodate different TAZ sizes, the allocation of the future state and county population data to each TAZ was performed depending on the location of the TAZ. For example, a TAZ located outside the six (6) southeastern states was represented by individual states. The projected state population therefore was directly allocated to those zones. For the surrounding six southeastern states, the data was disaggregated to Regional Planning Commissions (RPC) which are the regional or metropolitan planning agencies comparable to metropolitan planning agencies ((MPOs). The total population for each Regional Planning Commission RPC region TAZ was calculated by summarizing the population of all counties located within each RPC. For a county level TAZ, the county forecasted population was directly allocated. Finally, for a TAZ at the sub-county level, the base year distribution pattern of population within a county was applied to the forecasted county population to calculate the future zonal population. The 2040 population in the study area is shown in Figure 2.1.8.

Table 2.1.3
County Population Forecast for 2040 within the Study Area

County	Census 1990	Census 2000	Census 2006	Forecasted 2040	Census Annual Growth Rate (1990-2006)	Forecasted Annual Growth Rate (1990-2040)
Baker	3,615	4,053	4,101	4,307	0.80%	0.40%
Brooks	15,398	16,477	16,461	19,036	0.40%	0.40%
Calhoun	5,013	6,323	6,095	5,613	1.20%	0.20%
Chattahoochee	16,934	14,991	14,042	10,800	-1.20%	-0.90%
Clay	3,364	3,357	3,180	2,750	-0.40%	-0.40%
Colquitt	36,645	42,128	44,821	56,740	1.30%	0.90%
Cook	13,456	15,837	16,332	20,305	1.20%	0.80%
Crisp	20,011	21,988	22,054	25,795	0.60%	0.50%
Decatur	25,511	28,242	28,664	34,668	0.70%	0.60%
Dooly	9,901	11,501	11,747	13,019	1.10%	0.50%
Dougherty	96,311	95,912	94,776	99,624	-0.10%	0.10%
Early	11,854	12,346	12,065	11,482	0.10%	-0.10%
Grady	20,279	23,660	25,083	31,938	1.30%	0.90%
Lee	16,250	24,893	32,492	56,532	4.40%	2.50%
Lowndes	75,981	92,117	97,843	138,202	1.60%	1.20%
Macon	13,114	14,065	13,817	12,437	0.30%	-0.10%
Marion	5,590	7,185	7,276	9,071	1.70%	1.00%
Miller	6,280	6,384	6,239	6,088	0.00%	-0.10%
Mitchell	20,275	23,970	23,852	28,478	1.00%	0.70%
Muscogee	179,278	186,428	188,661	208,758	0.30%	0.30%
Quitman	2,209	2,606	2,486	2,774	0.70%	0.50%
Randolph	8,023	7,758	7,356	6,055	-0.50%	-0.60%
Schley	3,588	3,784	4,196	5,240	1.00%	0.80%
Seminole	9,010	9,372	9,167	11,161	0.10%	0.40%
Stewart	5,654	5,246	4,755	3,096	-1.10%	-1.20%
Sumter	30,228	33,244	32,490	37,737	0.50%	0.40%
Terrell	10,653	10,974	10,654	9,940	0.00%	-0.10%
Thomas	38,986	42,843	45,136	55,163	0.90%	0.70%
Tift	34,998	38,437	41,686	55,285	1.10%	0.90%
Turner	8,703	9,513	9,322	9,826	0.40%	0.20%
Webster	2,263	2,383	2,252	2,147	0.00%	-0.10%
Worth	19,745	21,966	21,941	28,707	0.70%	0.80%
Grand Total	**769,120**	**839,983**	**861,042**	**1,022,774**	**0.70%**	**0.60%**

Source: US Census Bureau


Legend
2040 Total Population
<= 500
501 - 1000
1001 - 2000
2001 - 3500
3501 - 6000
>6000
Muscogee
Chattahoochee
Marion
Schley
Macon
Dooly
Stewart
Webster
Sumter
Crisp
Quitman
Randolph
Terrell
Lee
Turner
Clay
Calhoun
Dougherty
Worth
Tift
Early
Baker
Mitchell
Colquitt
Cook
Miller
Seminole
Decatur
Grady
Thomas
Brooks
Lowndes
Source: Southwest Georgia Interstate Study
Southwest Georgia Interstate Study
Future Population
Future Conditions
Figure 2.1.8

Unlike the state populations, the state household projections are not available from the U.S. Census. Since households have a close correlation to the population, it was decided that the base year household to population ratio at zonal level would be applied to the future year population for estimating the future zonal households. The resulting households in the study area are shown in Figure 2.1.9.

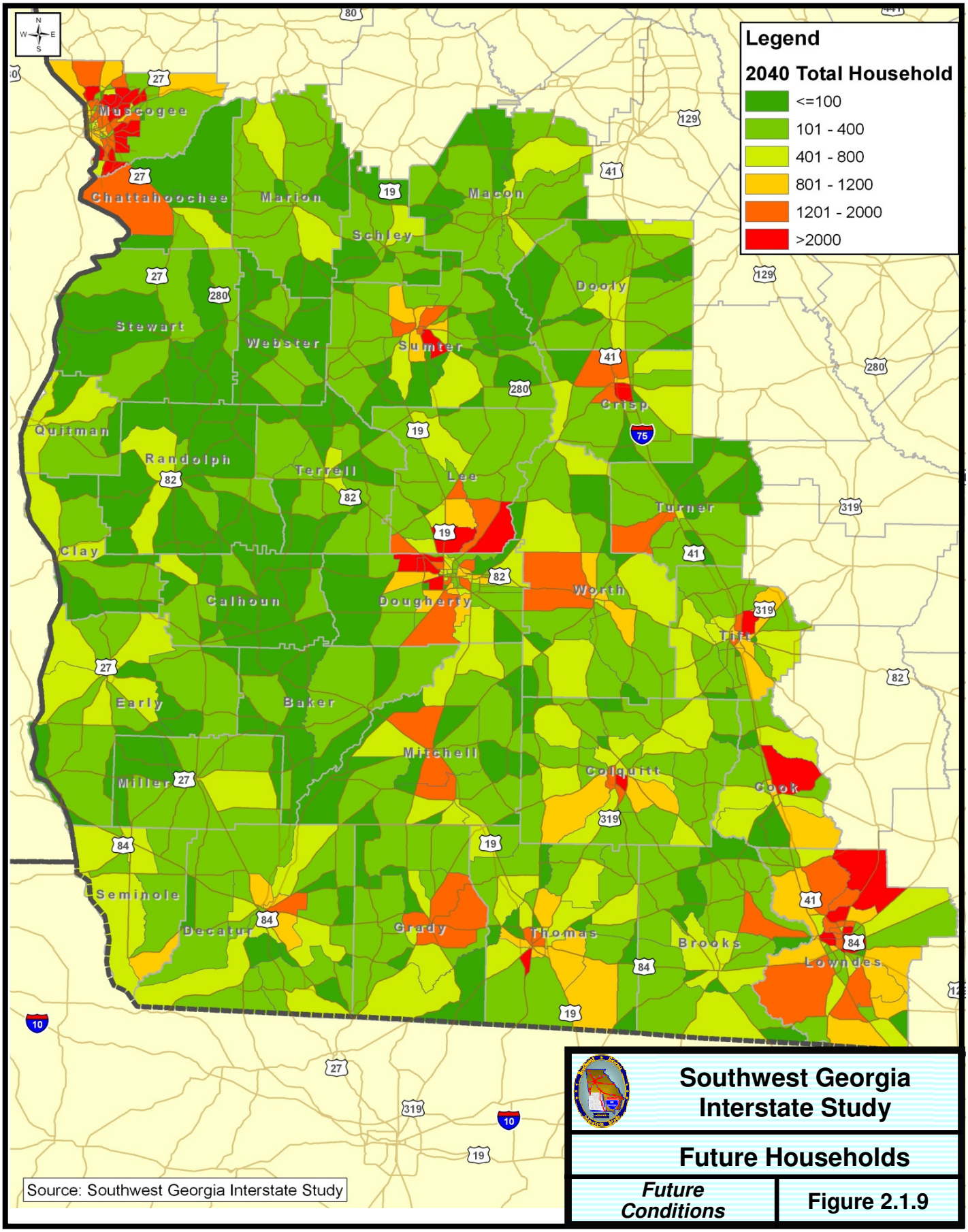
2.2 Future Year (2040) Employment Forecast

The future zonal employment was developed in a similar fashion to the population. The data sources for the forecast task were Georgia Department of Labor (GADOL) for counties within the study area and the Bureau of Economic Analysis (BEA) for states and counties outside the study area. The historical trend of employment from 1990 to 2006 was used to forecast the 2040 employment. Table 2.2.1 shows the forecasted state employment and the annual growth rates for the forecasted period. The employment forecast for counties within the study area is shown in Table 2.2.2. Figures 2.2.1 to 2.2.7 show the forecasted trend line and the R-squared values for the six southeastern states as well as the counties within the study area.

The state and county level employment were allocated to each TAZ according to the buffer layers as previously done in the allocation of the population. The state and county projections were directly allocated into the TAZs that are either states or counties. For TAZs at the sub-county level, the future county level employment was distributed to TAZs according to the base year employment distribution pattern. The resulting future employment for the study area is shown in Figure 2.2.8. The future year employment by sector was also estimated according to the base year employment type distribution. The 2006 share of each employment sector relative to the total employment of each zone was calculated and then applied to the future zonal employment to estimate the future count. Table 2.2.3 shows the future employment by sector within the study area.

2.3 Supplemental Information for the Study Area

The U.S. Census 2000 contains a variety of demographic characteristics that provide a broad view of the region. Identifying these characteristics and understanding their impact on travel patterns within a specific project area is crucial to understanding travel conditions. In additon, these data sets were used to assist with the design and development of a public outreach and involvement program to solicit input from populations that usually do not participate in the planning process. For detailed information related to the identification and use of this data, refer to the ***Existing Conditions Technical Memorandum***. Future year data by the various characteristics was not available



Southwest Georgia Interstate Study

Future Households

Future Conditions | **Figure 2.1.9**

Table 2.2.1
State Employment Forecast for 2040

State Abbreviation	BEA 1990	BEA 1995	BEA 2000	BEA 2006	BEA 2040	BEA Annual Growth Rate (1990 - 2006)	Forecasted Annual Growth Rate (1990 - 2040)
AL	2,061,101	2,256,073	2,416,422	2,590,042	3,574,523	1.40%	1.10%
AZ	1,909,879	2,275,033	2,819,302	3,366,201	6,434,529	3.60%	2.50%
AK	1,211,177	1,390,772	1,503,867	1,601,339	2,368,123	1.80%	1.40%
CA	16,965,207	17,058,764	19,626,033	20,525,491	29,949,388	1.20%	1.10%
CO	2,054,265	2,441,399	2,949,831	3,175,268	5,663,987	2.80%	2.00%
CT	2,018,357	1,957,936	2,113,957	2,236,062	2,813,125	0.60%	0.70%
DE	422,940	445,378	507,820	543,093	830,268	1.60%	1.40%
DC	788,475	739,642	756,979	806,855	839,039	0.10%	0.10%
FL	6,800,161	7,554,305	8,933,114	10,521,966	18,490,844	2.80%	2.00%
GA	3,689,354	4,215,080	4,892,294	5,381,295	9,137,261	2.40%	1.80%
ID	552,404	671,786	787,929	915,021	1,628,830	3.20%	2.20%
IL	6,439,873	6,821,755	7,416,309	7,601,747	10,256,955	1.00%	0.90%
IN	3,089,817	3,399,530	3,673,247	3,744,661	5,168,105	1.20%	1.00%
IW	1,645,944	1,795,644	1,934,077	2,027,293	2,786,556	1.30%	1.10%
KS	1,483,043	1,609,299	1,771,218	1,844,852	2,654,604	1.40%	1.20%
KY	1,918,471	2,122,906	2,332,023	2,432,901	3,544,631	1.50%	1.20%
LA	2,018,862	2,209,120	2,404,237	2,439,028	3,561,087	1.20%	1.10%
ME	706,689	710,076	792,255	844,635	1,196,418	1.10%	1.10%
MD	2,759,870	2,788,164	3,091,547	3,413,120	4,992,186	1.30%	1.20%
MA	3,646,584	3,679,800	4,096,551	4,216,027	5,791,533	0.90%	0.90%
MI	4,824,727	5,174,594	5,629,498	5,542,222	7,595,229	0.90%	0.90%
MN	2,711,618	3,014,905	3,343,518	3,571,011	5,463,838	1.70%	1.40%
MI	1,209,606	1,373,875	1,492,672	1,531,373	2,231,751	1.50%	1.20%
MO	2,993,361	3,217,944	3,497,220	3,671,337	5,172,231	1.30%	1.10%
MT	436,338	506,891	559,055	637,401	1,021,109	2.40%	1.70%
NE	994,282	1,077,348	1,183,320	1,240,199	1,784,649	1.40%	1.20%
NV	766,439	963,957	1,267,999	1,611,936	3,389,383	4.80%	3.00%

Table 2.2.1 (continued)
State Employment Forecast for 2040

State Abbreviation	BEA 1990	BEA 1995	BEA 2000	BEA 2006	BEA 2040	BEA Annual Growth Rate (1990-2006)	Forecasted Annual Growth Rate (1990-2040)
NH	647,635	684,551	784,839	861,053	1,379,775	1.80%	1.50%
NJ	4,344,458	4,330,143	4,755,379	5,114,577	7,029,866	1.00%	1.00%
NM	767,139	904,934	972,954	1,099,401	1,732,000	2.30%	1.60%
NY	9,817,397	9,601,228	10,455,409	10,952,095	13,886,888	0.70%	0.70%
NC	3,928,125	4,380,498	4,924,918	5,317,153	8,229,379	1.90%	1.50%
ND	376,396	420,792	447,380	485,172	686,703	1.60%	1.20%
OH	5,904,767	6,340,680	6,835,688	6,893,151	9,269,549	1.00%	0.90%
OK	1,664,461	1,810,296	2,015,085	2,144,708	3,132,334	1.60%	1.30%
OR	1,638,149	1,858,019	2,110,915	2,304,410	3,699,006	2.20%	1.60%
PA	6,342,434	6,471,174	6,973,171	7,295,987	9,467,209	0.90%	0.80%
RI	555,265	541,109	583,826	619,991	799,381	0.70%	0.70%
SC	1,925,779	2,050,657	2,291,238	2,441,522	3,583,074	1.50%	1.20%
SD	412,013	475,042	519,228	555,921	835,940	1.90%	1.40%
TN	2,796,010	3,164,061	3,496,446	3,724,901	5,678,255	1.80%	1.40%
TX	9,304,146	10,507,238	12,244,699	13,514,130	22,511,668	2.40%	1.80%
UT	944,329	1,157,659	1,387,847	1,591,476	2,911,652	3.30%	2.30%
VT	343,568	364,634	404,463	434,333	642,121	1.50%	1.30%
VA	3,726,176	3,931,060	4,407,324	4,859,015	7,377,041	1.70%	1.40%
WA	2,862,956	3,123,229	3,551,468	3,868,813	5,904,793	1.90%	1.50%
WV	782,852	844,350	886,620	927,285	1,208,904	1.10%	0.90%
WI	2,834,282	3,139,722	3,431,272	3,611,453	5,290,009	1.50%	1.30%
WY	272,431	302,472	328,036	376,249	559,782	2.00%	1.50%

Source: Bureau of Economic Analysis (BEA)

Table 2.2.2
County Employment Forecast for 2040 within the Study Area

County	GA DOL 1990	GA DOL 2000	GA DOL 2006	Forecasted 2040	GADOL Annual Growth Rate (1990 - 2006)	Forecasted Annual Growth Rate (1990 - 2040)
Baker	633	596	523	540	-1.2%	-0.3%
Brooks	3,422	3,234	3,016	3,110	-0.8%	-0.2%
Calhoun	1,385	1,590	1,594	2,098	0.9%	0.8%
Chattahoochee	5,914	1,299	1,382	1,427	-8.7%	-2.8%
Clay	566	665	831	1,439	2.4%	1.9%
Colquitt	12,308	15,122	16,222	25,327	1.7%	1.5%
Cook	4,046	5,770	4,780	6,538	1.0%	1.0%
Crisp	7,905	8,892	8,910	11,391	0.8%	0.7%
Decatur	10,307	11,594	10,244	10,570	0.0%	0.1%
Dooly	2,646	3,685	3,446	5,308	1.7%	1.4%
Dougherty	47,672	53,860	51,638	61,906	0.5%	0.5%
Early	4,801	4,469	4,694	4,794	-0.1%	0.0%
Grady	6,000	5,932	6,454	7,667	0.5%	0.5%
Lee	1,856	3,686	4,874	11,633	6.2%	3.7%
Lowndes	31,723	43,754	49,403	89,734	2.8%	2.1%
Macon	4,142	4,114	3,637	3,755	-0.8%	-0.2%
Marion	1,409	2,201	1,714	2,437	1.2%	1.1%
Miller	1,233	1,465	1,699	2,770	2.0%	1.6%
Mitchell	5,978	8,839	8,850	15,427	2.5%	1.9%
Muscogee	76,464	98,396	97,937	148,183	1.6%	1.3%
Quitman	166	279	422	1,001	6.0%	3.7%
Randolph	2,384	2,466	2,202	2,273	-0.5%	-0.1%
Schley	997	1,250	1,424	2,403	2.3%	1.8%
Seminole	2,229	2,647	2,348	2,690	0.3%	0.4%
Stewart	1,059	1,224	1,063	1,109	0.0%	0.1%
Sumter	12,216	14,526	12,836	14,608	0.3%	0.4%
Terrell	2,930	2,613	2,414	2,490	-1.2%	-0.3%
Thomas	17,127	21,136	23,813	39,211	2.1%	1.7%
Tift	16,908	20,990	21,015	30,702	1.4%	1.2%
Turner	1,988	2,352	2,628	4,120	1.8%	1.5%
Webster	366	456	550	972	2.6%	2.0%
Worth	3,256	3,479	3,448	3,973	0.4%	0.4%
Grand Total	**292,036**	**352,581**	**356,011**	**521,606**	**1.2%**	**1.2%**

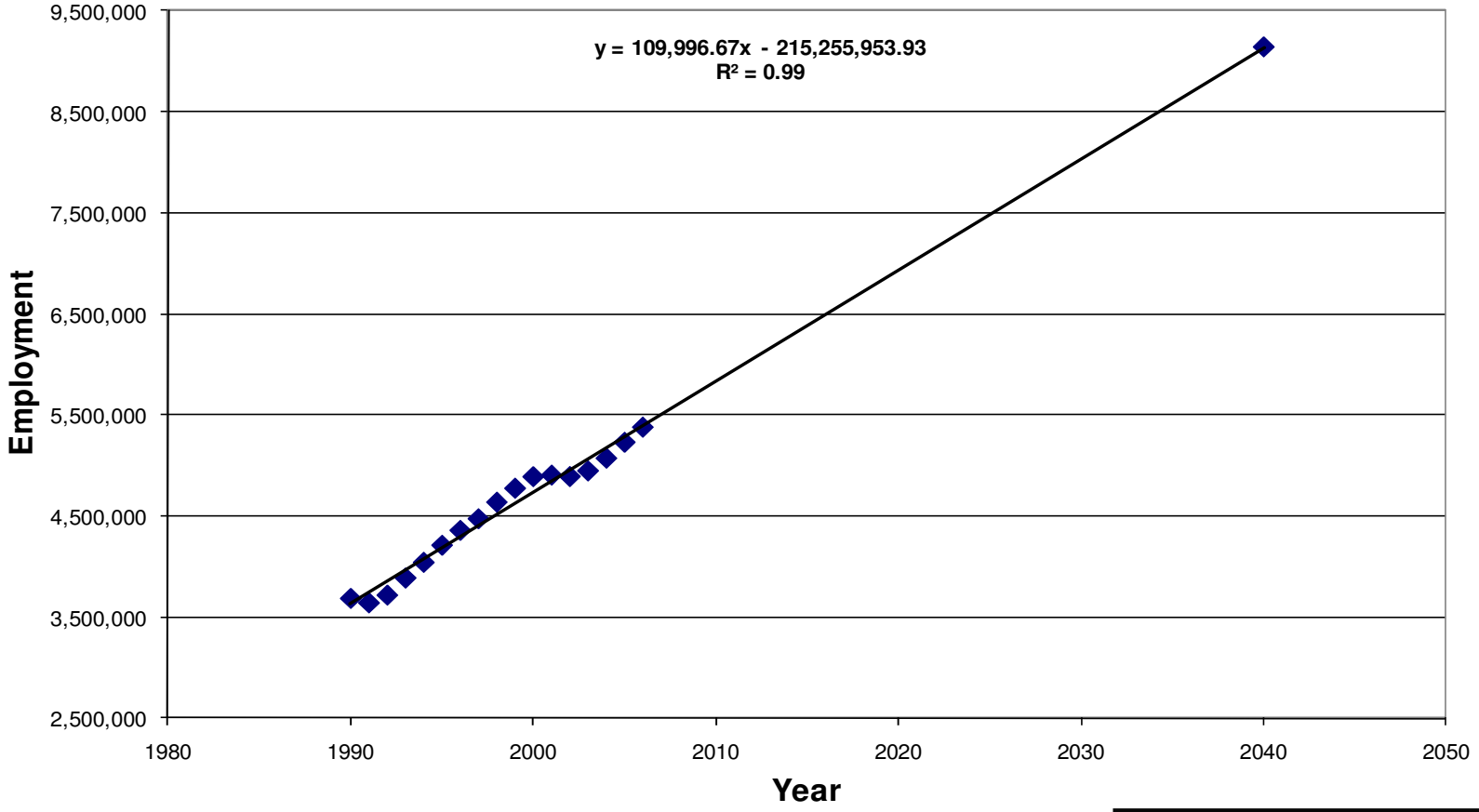
Source: Georgia Department of Labor (GADOL)

Table 2.2.3
2040 County Employment by Sector

COUNTY	AMC	MFG	WFW	RET	SER
Baker	72	0	7	48	413
Brooks	599	574	130	292	1,516
Calhoun	243	335	95	192	1,235
Chattahoochee	55	0	57	90	1,225
Clay	432	0	22	174	810
Colquitt	3,641	6,184	1,119	2,947	11,444
Cook	1,148	1,446	190	617	3,133
Crisp	827	1,557	905	1,984	6,119
Decatur	1,419	1,422	754	1,603	5,369
Dooly	213	1,878	570	466	2,179
Dougherty	2,700	7,080	4,641	7,863	39,628
Early	533	1,036	484	375	2,364
Grady	1,313	1,124	506	938	3,786
Lee	2,624	545	859	1,296	6,307
Lowndes	5,537	9,968	5,014	15,097	54,126
Macon	355	1,015	90	438	1,856
Marion	308	958	41	196	933
Miller	234	56	315	382	1,784
Mitchell	1,004	5,832	776	1,443	6,371
Muscogee	7,073	14,977	4,352	17,311	104,475
Quitman	121	185	107	103	485
Randolph	417	201	118	174	1,363
Schley	61	1,305	131	123	785
Seminole	274	140	175	409	1,690
Stewart	67	115	64	96	766
Sumter	1,448	2,620	933	1,640	7,967
Terrell	121	524	264	286	1,295
Thomas	2,249	5,915	2,211	3,932	24,904
Tift	2,520	4,257	3,947	3,924	16,053
Turner	203	636	388	594	2,303
Webster	54	516	41	46	316
Worth	383	280	223	641	2,444

Source: Georgia Department of Labor (GADOL)

Employment Trend (Georgia)

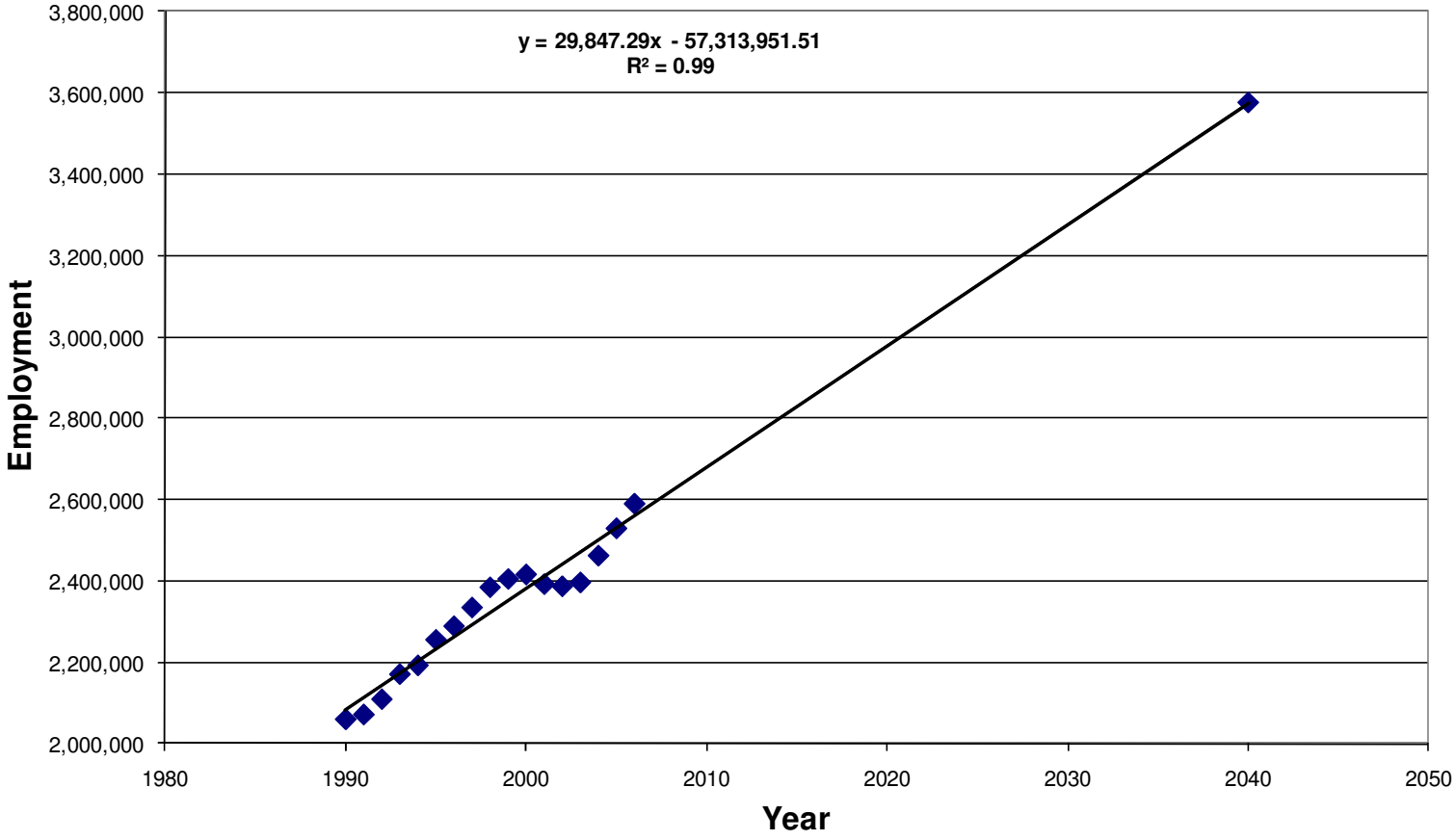


Southwest Georgia Interstate Study

Future Employment

Future Conditions	**Figure 2.2.1**

Employment Trend (Alabama)

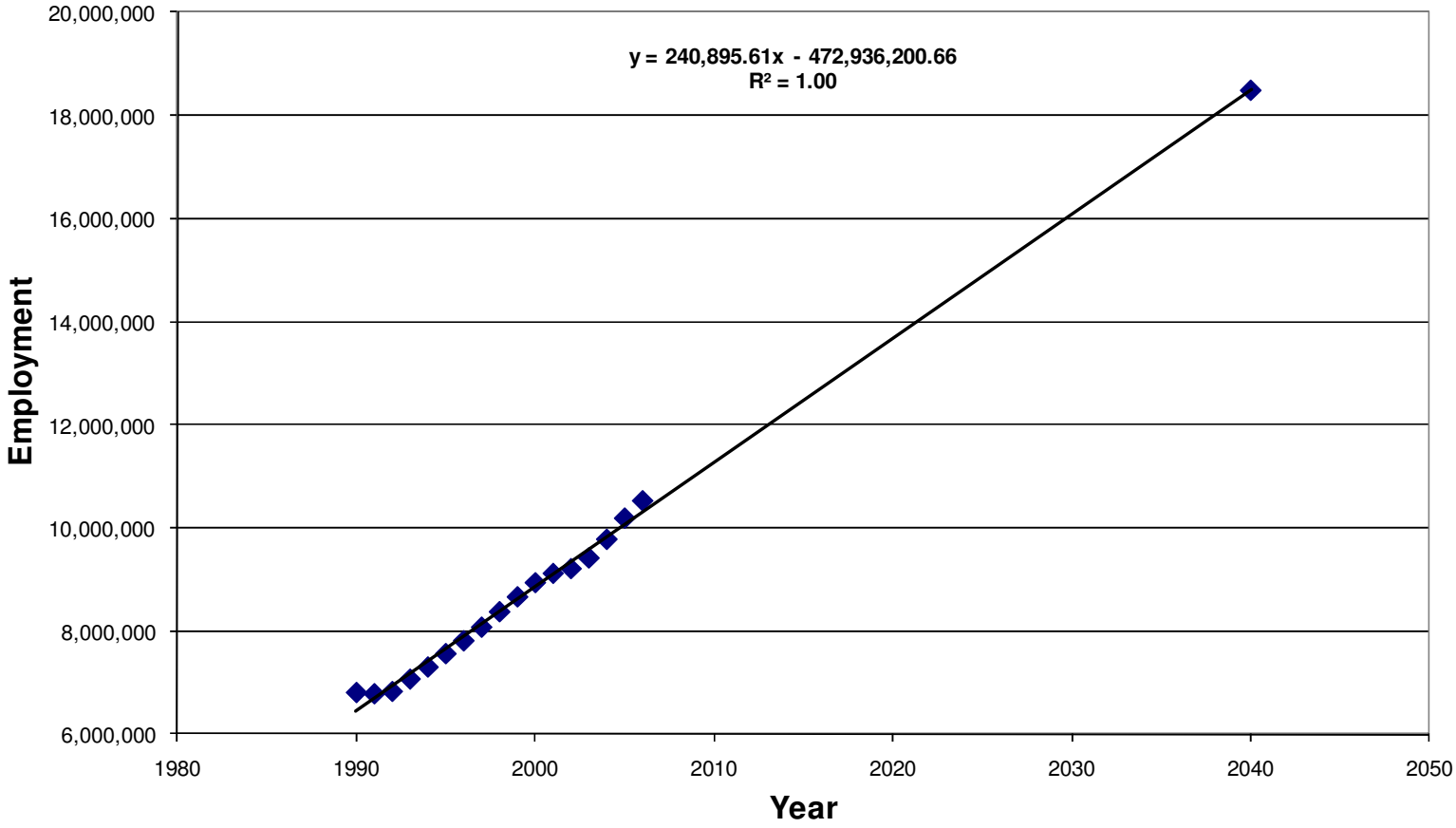


Southwest Georgia Interstate Study

Future Employment

Future Conditions | Figure 2.2.2

Employment Trend (Florida)

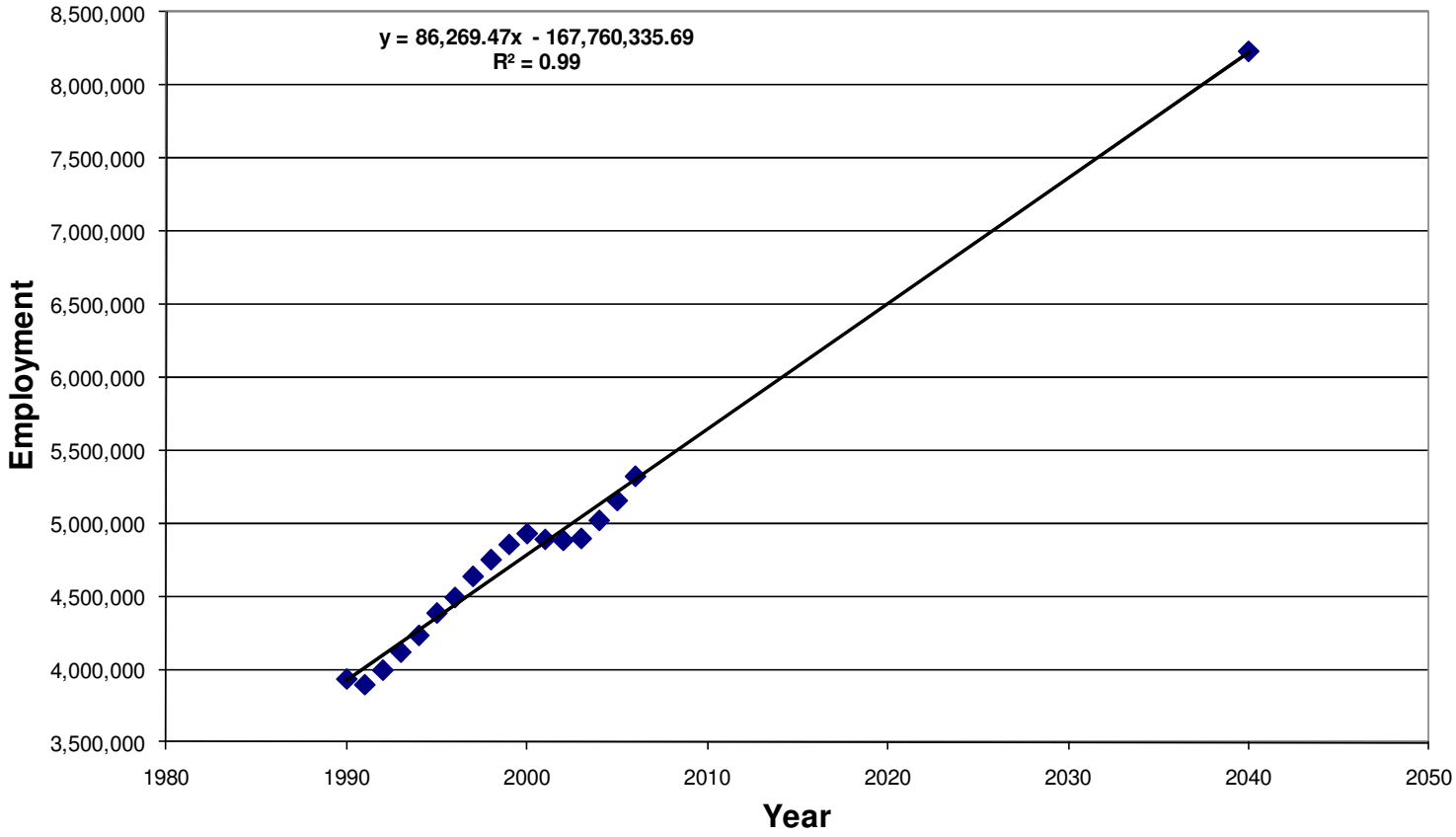


Southwest Georgia Interstate Study

Future Employment

Future Conditions	**Figure 2.2.3**

Employment Trend (North Carolina)

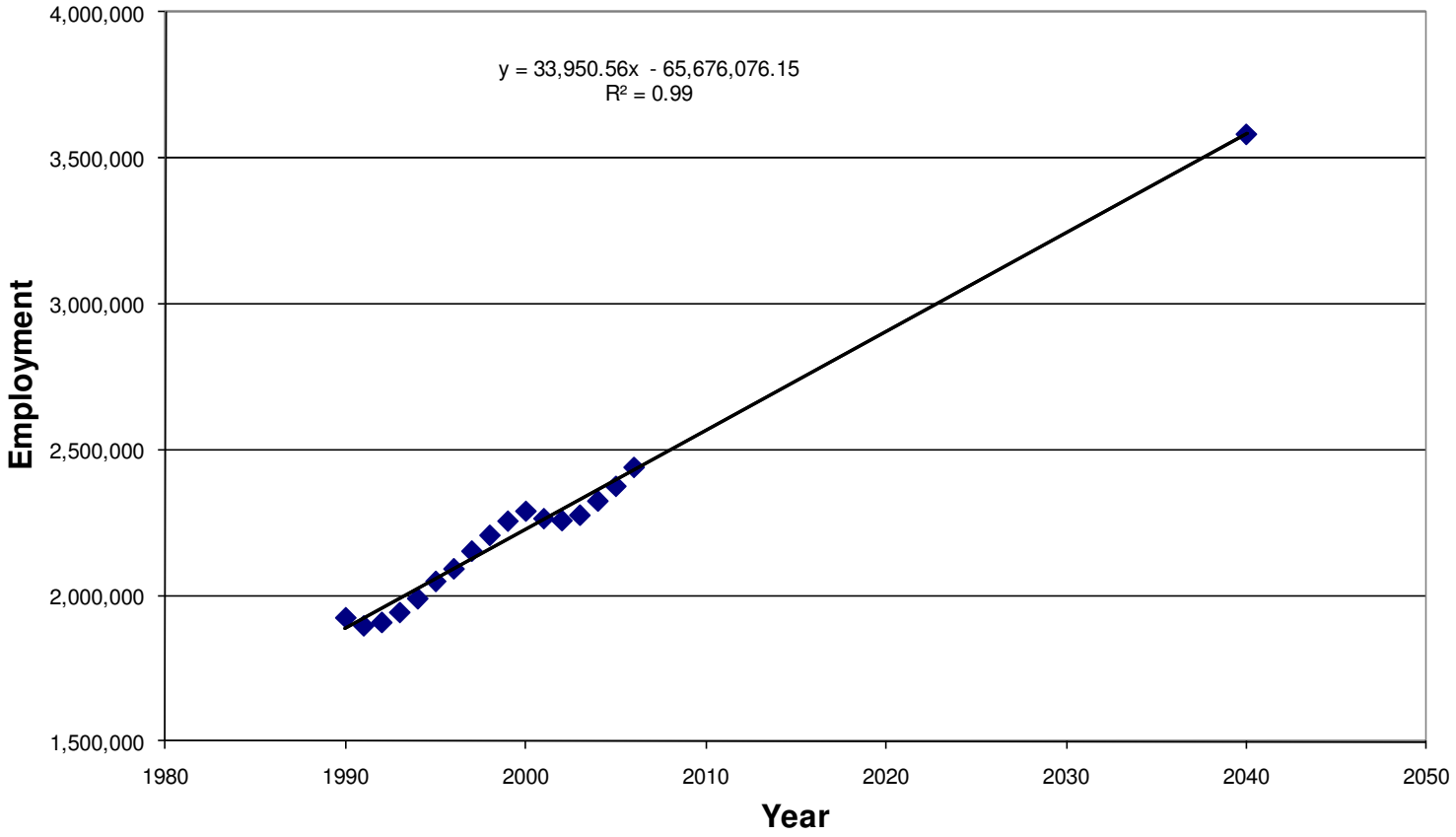


Southwest Georgia Interstate Study

Future Employment

Future Conditions | **Figure 2.2.4**

Employment Trend (South Carolina)

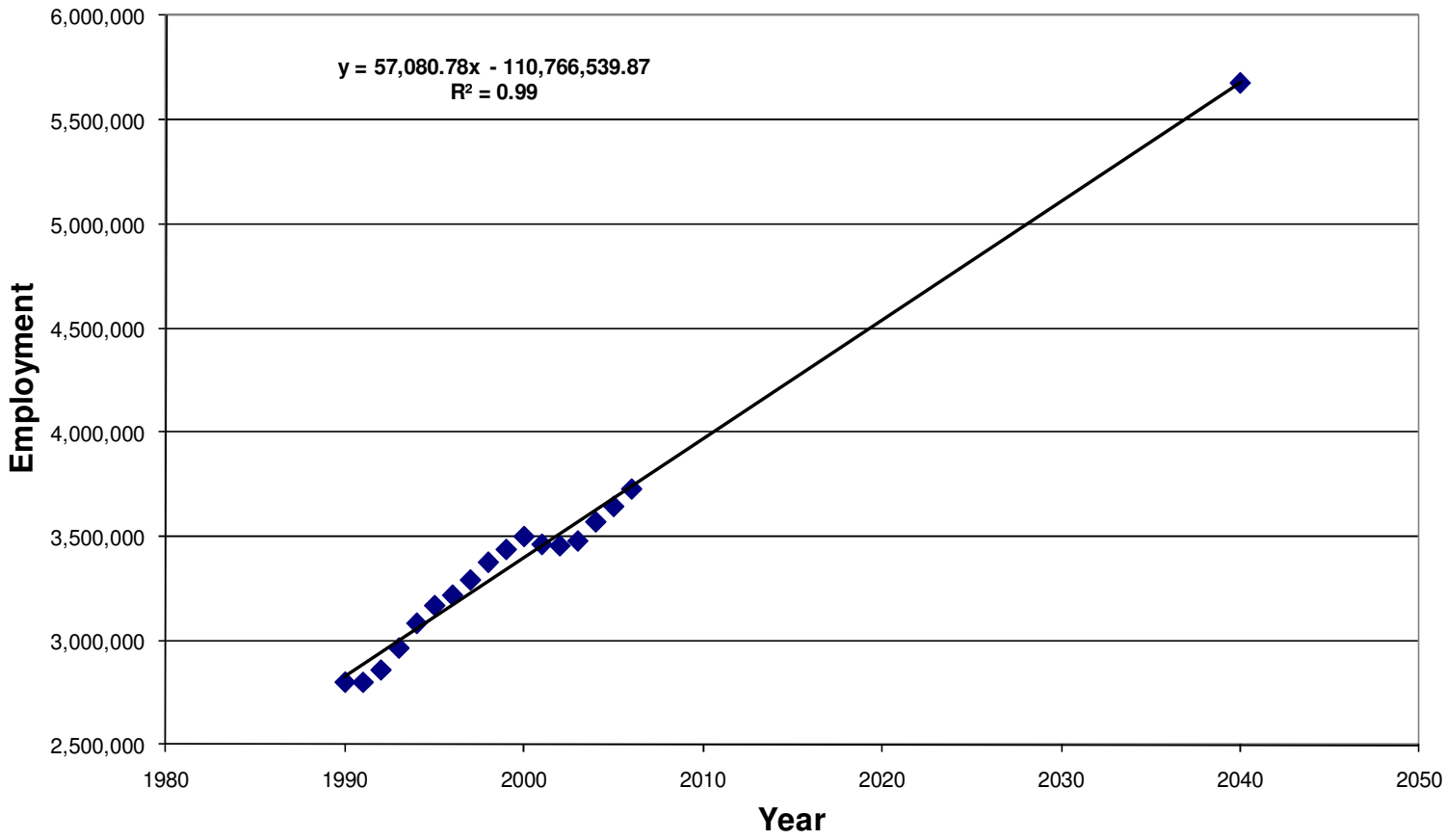


Southwest Georgia Interstate Study

Future Employment

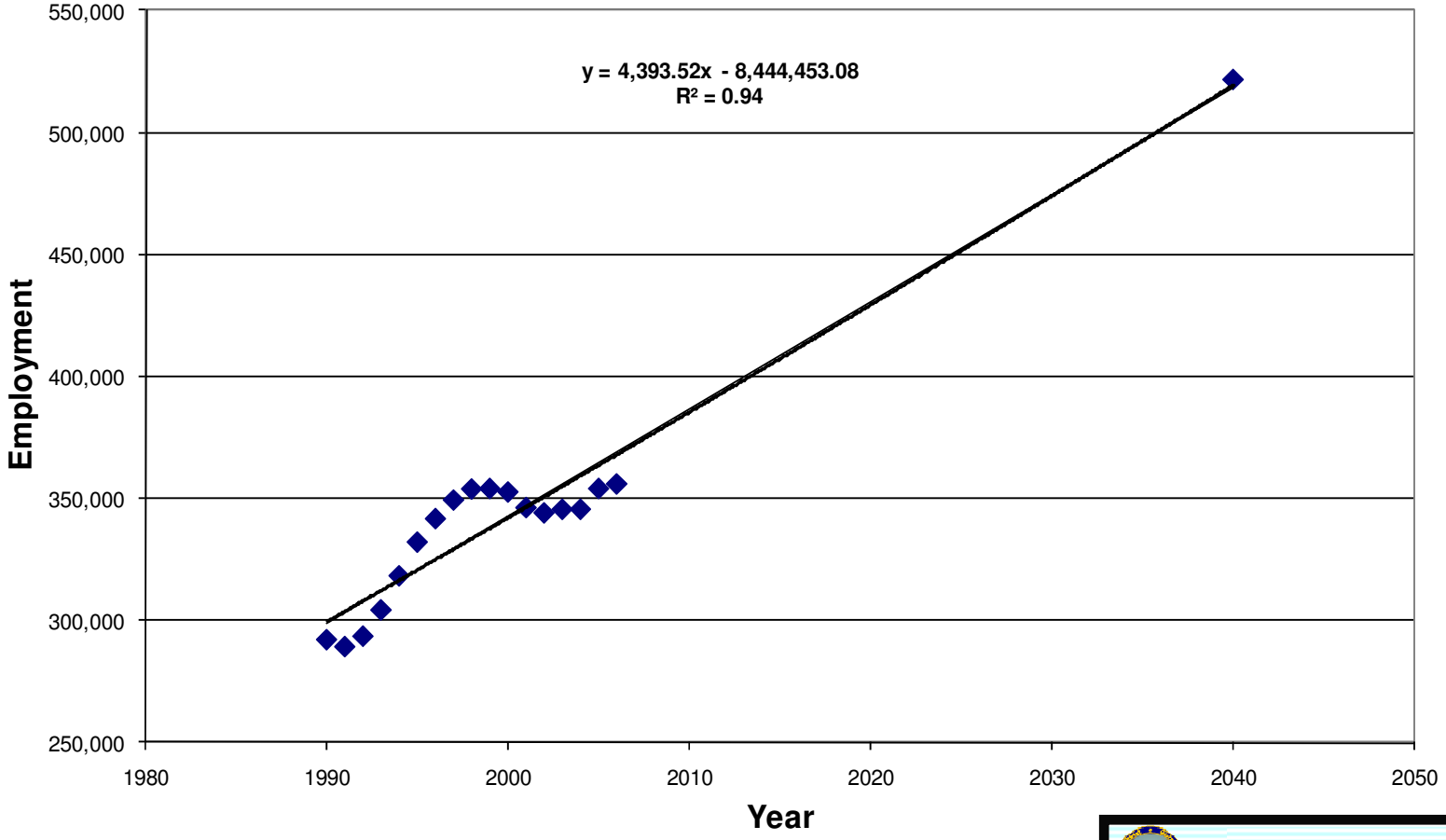
Future Conditions	**Figure 2.2.5**

Employment Trend (Tennessee)



Southwest Georgia Interstate Study	
Future Employment	
Future Conditions	Figure 2.2.6

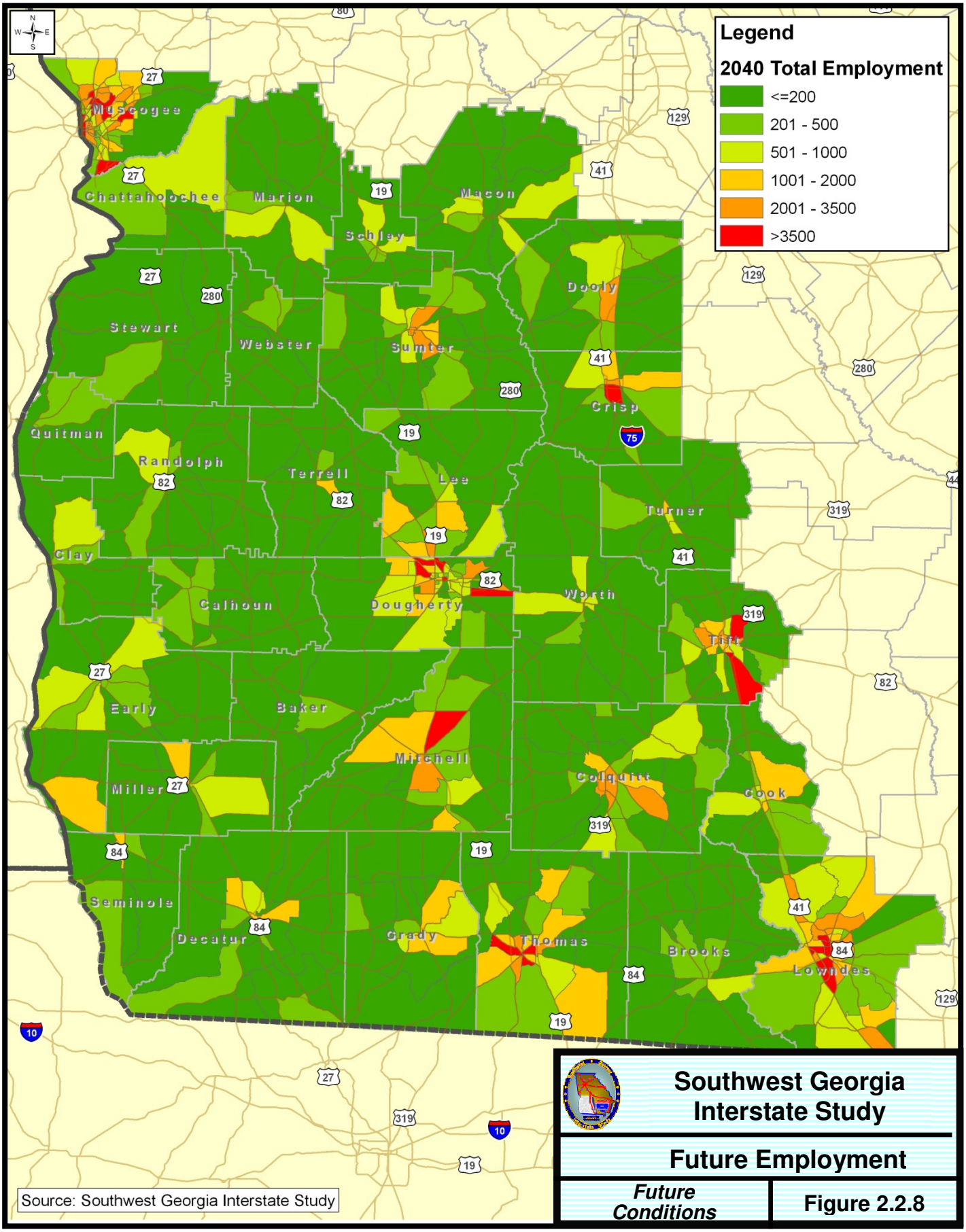
Employment Trend (Study Area)



Southwest Georgia Interstate Study

Future Employment

Future Conditions | **Figure 2.2.7**


Legend
2040 Total Employment
<=200
201 - 500
501 - 1000
1001 - 2000
2001 - 3500
>3500
Chattahoochee
Marion
Macon
Schley
Dooly
Stewart
Webster
Sumter
Crisp
Quitman
Randolph
Terrell
Lee
Turner
Clay
Calhoun
Dougherty
Worth
Tift
Early
Baker
Mitchell
Colquitt
Cook
Miller
Seminole
Decatur
Grady
Thomas
Brooks
Lowndes
Source: Southwest Georgia Interstate Study
Southwest Georgia Interstate Study
Future Employment
Future Conditions
Figure 2.2.8

3.0 Natural and Cultural Resources

Information was collected on natural and cultural resources from a variety of sources such as the Georgia Department of Natural Resources, US Fish and Wildlife Service and the Georgia Conservancy. The purpose of the collection of the natural and cultural resources was to identify sensitive areas and corridors that would be significantly impacted by the construction of a new highway or re-routing of an existing facility. For detailed information related to the evaluation of natural and cultural resources, refer to the ***Existing Conditions Technical Memorandum***. Future natural and cultural resources were not available.

4.0 Land Use, Comprehensive Plans, and Growth

Each county's Comprehensive Plan was reviewed[1] to determine long range growth priorities, development projects, particular land use sensitivities (such as historic preservation and environmental concerns), and economic development initiatives. Approximately half of the counties' Comprehensive Plans were out-of-date (i.e., written in the early 1990s) or were incomplete; in addition, many contain only the minimum level of information required for such plans. The analysis presented must therefore be viewed in this context and used with caution as each county is not equally represented due to the varying quality of their Comprehensive Plans.

This analysis of local growth issues such as those mentioned above helps identify high-level opportunities for or barriers to the implementation of transportation improvements in southwest Georgia. This section provides input into a larger technical study to more fully understand local issues and complexities of counties which may be directly affected by transportation improvements in southwest Georgia.

4.1 Overview of Growth Patterns

The southwest Georgia study area is largely rural in character; however, there are regional and sub-regional cities such as Albany, Columbus, Valdosta, Thomasville and Americus which are growing at considerable rates and which have aspirations to strengthen their roles as economic hubs. Only Baker County, in fact, reported a population which is expected to shrink in the future. A number of smaller cities seek progress as well, and have smaller-scale development plans to help support their growth.

Perhaps due to these centers' growth, there are several more small cities and towns which desire to preserve their agricultural nature and see their local downtowns thrive again, bucking the trend of strip mall/shopping center development which may have affected many small businesses. Some of these counties wish to remain small and rural despite development pressures and have implemented measures to safeguard their heritage and character. Others anticipate growth but not at a significant rate and are content to maintain the status quo by remaining small and rural, while a few counties

[1] All counties' Comprehensive Plans have been reviewed except for Quitman County's plan, which was not available.

are simply restricted to grow due to physical constraints or large, long-term private landholdings which are unlikely to be developed.

Table 4.1.1 provides an overview of the growth patterns and aspirations for each county in the study area. The symbols in the table represent the following general growth trends recognized:

" **+** " represents a county which is anticipating significant growth and / or has aspirations for significant growth;

" **?** " represents a county where *growth is expected* although the county desires to remain rural and protect its heritage (i.e., the county generally does not want growth yet expects it);

" **x** " represents a county where *no significant growth is expected* and it desires to remain rural and protect its heritage, or growth is restricted due to physical or landownership constraints (i.e., the county generally does not want growth and it is not expecting it); and

" **–** " represents a county which expects to lose population / decline.

Table 4.1.1
General Overview of Growth Patterns for Study Area Counties[2]

Desires Growth	Does Not Desire Major Growth		Declining
+	?	x	–
Colquitt Co	Cook Co	Brooks Co	Baker Co
Decatur Co	Crisp Co	Calhoun Co	
Dooly Co	Grady Co	Chattahoochee Co	
Dougherty Co	Lee Co	Clay Co	
Lowndes Co	Macon Co	Early Co	
Muscogee Co	Marion Co	Miller Co	
Sumter Co	Mitchell Co	Randolph Co	
	Seminole Co	Schley Co	
	Terrell Co	Stewart Co	
	Thomas Co	Tift Co	
	Worth Co	Turner Co	
		Webster Co	

Source: County Comprehensive Plans as interpreted by EDAW

4.2 Significant Growth Trends

A review of the Comprehensive Plans for counties within the study area revealed several growth trends which may help measure their relative desire for an interstate. Trends were formed based on

[2] Quitman County's Comprehensive Plan was not available.

counties' long range growth priorities, eagerness to undertake significant roadway improvements, economic development aspirations and preservation and heritage concerns. The trends were recognized as follows:

1. Commercial growth around / along highway nodes
2. Especially supportive of major roadway improvements to stimulate growth or economic development, such as the Governor's Road Improvement Program (GRIP)
3. Desire to strengthen regional economic roles of cities
4. Residential growth in urban areas / clusters
5. Need to diversify economic base
6. Protection of natural resources as a priority
7. Desire to maintain rural character

Each trend is described in further detail below, followed by a list of counties which appear to conform to a particular trend.

1. Commercial growth around / along highway nodes

Several counties credit much commercial growth in past years to the presence of highways in their areas. Major intersections, interchanges, and corridors are more visible and easily accessible, thus making them natural sites for commercial growth. Although some counties are resisting such strip or nodal development along highways due to the resulting decline of their traditional downtowns (such as Mitchell County and Schley County), the following jurisdictions envision continued commercial development along major roadways:

- Baker County, which encourages crossroads commercial development, such as at Highways 37 and 91;
- Colquitt County, which expects commercial growth to continue in clusters at major county intersections;
- Crisp County, which expects all four corners of the GA 300 / I-75 interchange to be developed for mixed use;
- Grady County, which highlights a primary commercial area along Highway 84 which needs strengthening;
- Lee County, where commercial development is encouraged adjacent to intersections of major transportation corridors (although it stresses that traditional downtown areas should be maintained as focal points of the community);
- Lowndes County, which expects commercial growth in Hahira to continue to cluster around the I-75 interchange;

- Seminole County, which expects commercial growth in its cities but also north of Donalsonville along major roadways;
- Sumter County, which expects Americus to grow most substantially in the county and requiring 229 additional commercial acres along Highway 280 East and Highway 30;
- Terrell County, whose major urban areas developed around crossroads and anticipates that development will continue in this way;
- Tift County, which recognizes that commercial growth is found primarily adjacent to I-75 interchanges and in strip development along U.S. highways near Tifton; and
- Turner County, which has commercial uses largely clustered at exits adjacent to I-75.

2. Especially supportive of major roadway improvements to stimulate growth or economic development

Many counties recognize the substantial economic benefits roadway improvements can generate through providing greater access to local amenities, employment and shopping opportunities, and tourist attractions; therefore, their development is supported All the counties listed below have noted that they encourage the development or improvement of highways.

- Baker County pointedly states that they encourage developmental highways in the southwest Georgia region;
- Dougherty County anticipates major transport corridors which lead into Albany and other residential areas to be developed;
- Marion County recognizes the development of proposed I-14 along current route GA 26 (following the Fall Line Freeway) as an opportunity[3] and highlights the future need for a state route through Buena Vista;
- Muscogee County encourages the review of a potential need for an east-west corridor between downtown Columbus and I-185 and long-range highway uses at Williams Road interchange; and
- Sumter County sees the county's economic future as dependent on several major roadways being improved, including the widening of US 19 and US 280. Additionally, the County Administrator has categorically stated that they are in favor of a southwest Georgia interstate being located in Sumter.

[3] I-14 is a potential interstate set to run from Natchez, Mississippi or Alexandria, Louisiana to Augusta, Georgia or North Augusta, South Carolina. Funding for FHWA to study the costs and potential need for I-14 was included as part of the 2005 Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) signed into law by President Bush; however, the legislation did not allocate funding for the interstate. It is unknown if I-14 will ever be constructed. As of December 2009, FHWA had not begun the I-14 study, nor had along the corridor begun any work on or programmed any phases of a project on I-14. For additional information please read Section 1927 of SAFETEA-LU or go to FHWA's I-14 website at http://www.fhwa.dot.gov/planning/sec1927corridors.htm.

The following counties also support major highway improvements in their areas:

- Clay County
- Decatur County
- Dooly County
- Lee County
- Lowndes County
- Webster County
- Worth County

3. Desire to strengthen regional economic roles of cities

The largest cities in southwest Georgia – Albany, Valdosta and Columbus – are expected to grow in the next several years and are making plans to capitalize on the expected growth. Major economic development initiatives requiring millions of dollars of investment are planned or underway, which the counties hope will help raise their profile in the region. Thomasville, considered a mid-sized city, also expects to widen its draw as a retail and services hub. The following briefly describes some of the initiatives and local aspirations:

- Dougherty County and the City of Albany expect to increase their role as a major growth / trade center in the region over the next 20 years. Two projects which will help realize this vision are the mixed-use Albany Downtown Master plan and the Phoebe Putney Memorial Hospital expansion. In addition, a recent freight study conducted by the Dougherty Area Regional Transportation Study (DARTS) focuses on the United Parcel Service (UPS) presence at the Southwest Georgia Regional Airport.
- Lowndes County and the City of Valdosta aspire to be home to a regional headquarters office park with easy access to major transportation corridors.
- Muscogee County and the City of Columbus expect growth from Fort Benning and plan to invest in riverfront activities and the construction of a regional recreation center.
- Thomas County and the City of Thomasville propose that its good connections and proximity to Leon County / Tallahassee (Florida) may encourage the establishment of a small regional shopping hub.

Likewise, many smaller-tiered cities have identified economic development projects which might help them transition into a higher-performing hub on a sub-regional level. These are represented by the following counties:

- Cook County, which is planning a governmental / medical service corridor along US 41 in Adel; and
- Decatur County, which wants to explore how Bainbridge's small port facility which supports barge transportation can realize its potential.

4. Residential growth in urban areas / clusters

Smart growth is encouraged when new development is sited in proximity to existing infrastructure. This often equates to growth being planned for areas adjacent to existing developed areas. Clustering growth also helps preserve the countryside by preventing sprawl which can blight natural resources and diminish character. For these reasons, several counties have specifically stated that they will seek to consolidate residential growth in the future. It is important to note that recommending clustering does not necessarily mean the counties wish to become 'more urban'; rather, in cases such as Schley County, it is expected that development be planned in clusters to preserve the rural character of the county's non-residential areas. Below is the list of counties which are specifically seeking the consolidation of residential areas (for whatever reason):

- Baker County
- Cook County
- Decatur County
- Dougherty County
- Grady County
- Lee County
- Lowndes County
- Miller County
- Schley County
- Sumter County
- Thomas County
- Tift County;
- Worth County

5. Need to diversify economic base

Many counties in southwest Georgia are dependent on agricultural yields for their welfare, or they lack employment opportunities. Therefore, the following counties may be more willing to

explore ways to attract new business in their areas to help bolster their economic outlook – perhaps by opening up their areas through highway improvements:

- Calhoun County
- Clay County
- Early County
- Grady County
- Lee County
- Mitchell County
- Seminole County
- Terrell County
- Webster County

It is interesting to note that most of these rural counties also list tourism as a potential economic development tool which could bring business and new activity to their areas.

6. Protection of natural resources as priority

The presence of prime farmland, large private plantations, groundwater recharge areas, wildlife protection areas, significant wetlands and other sensitive environmental land uses are prevalent in many counties in southwest Georgia.

Grady County appears to contain the most environmentally sensitive land in the southwest region. This is primarily due to the fact it is covered by the Red Hills Region, which includes the plantation lands between Thomasville and Tallahassee and west into Grady County. As the largest concentration of undeveloped plantation lands in the country, the Red Hills Region has been identified for special conservation efforts. The Nature Conservancy has designated Red Hills as one of America's "Last Great Places." Grady County also has prime farmland and forested land, which accounts for 40 percent of land cover, which it seeks to protect. Part of this forest contains a significant portion of the native longleaf pine forests remaining in the U.S.

While mapping these and other designations will help clarify which areas of southwest Georgia are most collectively sensitive, it is helpful to understand which other counties contain major barriers to growth and are thus most likely to prove problematic or prohibitive to large-scale developments in the future. These include:

- Baker County, which contains prime farmland, a large number of private plantations, significant wetlands, and a large wildlife management area; development is also restricted due to floodplain designations and large landholders unwilling to subdivide parcels;

- Chattahoochee County, which contains prime farmland (which it wants to protect) and a groundwater recharge area susceptible to pollution which should be protected; a Natural Resource Conservation Area is also put forward as a future land use;
- Cook County, which has prime farmland which it seeks to protect;
- Dooly County, which has prime farmland, wetlands which cover 30 percent of the county, and two natural areas designated as significant;
- Lowndes County, which has groundwater recharge areas that cover 23.9 percent of the entire county, and upon which development should be avoided;
- Marion County, which contains wetland protection areas, groundwater protection areas, and potentially significant numbers of protected / endangered species of plants and animals in the northern third of the county; and
- Schley County, which has groundwater recharge areas – considered to be among the state's most significant – covering 75 percent of the county, as well as significant wetlands covering 5.4 percent of the total land area.

7. Desire to maintain rural character

Finally, many counties have expressed a desire to retain their agricultural roots and resist major development; they cherish their rural character and abundant natural resources. Many of the counties listed above who place particular emphasis on protecting environmentally sensitive areas therefore appear in this list again. The following counties have rural / agricultural protection measures outlined in their plans:

- Baker County
- Calhoun County
- Chattahoochee County
- Clay County
- Cook County
- Crisp County
- Early County
- Grady County
- Lee County
- Marion County
- Schley County
- Turner County
- Worth County

4.3 Opportunities for Growth and Growth Initiatives

Southwest Georgia is only expecting moderate growth across the region as a whole. Most areas in the region cherish their rural character; however, more urban areas such as Albany, Columbus, and Valdosta welcome continued growth and are poised to develop considerably.

This section presents an analysis of significant opportunities for future growth in Southwest Georgia which may result in an acute increase in population or traffic in a certain area. The analysis is meant to capture new and proposed expansions in industry or housing across the 32-county study area to provide insight into growth areas which might not be predicted through traditional forecasting. Information on future projects was sourced primarily from local newspapers and regional economic plans. Growth initiatives are presented by region below.

This section provides baseline research to determine the relative need for and potential location of transportation improvements in southwest Gerogia. It is part of a larger technical study to help better understand local issues and complexities of counties which may be directly affected by transportation improvements.

Southwest Georgia is expected to grow at a nominal rate in upcoming years. However, certain initiatives – largely focused around the urban centers of the region – are expected to help boost population and employment numbers at an increased rate. Although there are many economic development projects which are being undertaken, the following describes the principal endeavors which will spur this growth in the future as these will likely have the biggest implications for traffic in the area.

4.3.1 Lower Chattahoochee Region

The Lower Chattahoochee region is situated on the western edge of Georgia bordering Alabama. The counties within the SWGIS study area within the Lower Chattahoochee region are Muscogee, Chattahoochee, Stewart, Quitman, Randolph, and Clay; Harris and Talbot counties, while in the region, are not included in the study area. The City of Columbus (in Muscogee County) is within the region and is the economic center.

Generally, the region reported higher than state and national average unemployment rates in 2006, although per capita income has been increasing since 1980 and is forecasted to continue. Educational attainment is also increasing, which should positively impact the quality of the workforce.

According to the "Comprehensive Economic Development Strategy for Lower Chattahoochee" (Lower Chattahoochee Regional Development Center, 2005), the region faces several critical issues which hinder its advancement. One primary issue is workforce development, as literacy, poverty,

and educational attainment are problems. Re-training employees who had been employed in manufacturing to work in a service-based economy is another challenge. Inadequate infrastructure is another issue in the region, as each county is not sufficiently equipped with water, sewer, natural gas, and other utilities.

Several growth initatives promise to help raise the region's profile in the upcoming years, and these projects are summarized below.

4.3.1.1 Fort Benning (City of Columbus, Muscogee County and beyond)

Undoubtedly the most significant impact on the region's growth will be a result of the expansion of Fort Benning, which is located in Columbus in Muscogee County. A Regional Growth Management Plan is studying the impact that Base Realignment and Closure (BRAC) activities will have on counties within a 35-mile radius of Fort Benning. Within the SWGIS area, affected counties include Columbus, Chattahoochee, Marion, and Stewart. However, Fort Benning is located primarily in Columbus and Chattahoochee counties. Studies by the Columbus Consolidated Government estimate that 75 percent of the BRAC growth will occur in the Columbus-Muscogee region.

Due to BRAC realignment activities, Fort Benning is poised to accommodate a population increase of more than 27,500 people. This growth promises to significantly impact local infrastructure, including transportation networks which are expected to have to accommodate increases in traffic at a rate of 2 percent per year, and increases truck traffic at 5.75 percent each year. On the military base, 17,444 new daily trips are expected for employees and trainees associated with BRAC. Off-base, increases in population plus the development of major nearby industries such as the Kia automobile plant located in nearby West Point and Aflac expansion, are anticipated to contribute to future problem areas in Columbus-Muscogee County by the year 2030. Sections of I-185 / Lindsay Creek Parkway and U.S. 80 / J.R. Allen Parkway and Sections of SR 22 Spur / Macon Road and Buena Vista at St Mary's Road ar among the corridors expected to be affected. However, it is not anticipated that Cusseta-Chattahoochee County should experience any transportation network problems due to the growth, although it is unclear what the designation of SR 26 as part of the Strategic Highway Network entails with regard to new or additional traffic volumes.

A separate document ("Southwest Georgia Interstate Study Military Operations Growth") addresses these concerns in more detail.

4.3.1.2 Aflac (City of Columbus, Muscogee County)

In 2005, Georgia Governor Sonny Perdue announced that the insurance company Aflac planned to add 2,000 new employees to its Columbus location, according to a press release from the Governor's office ("Governor Perdue Announces Aflac Expansion in Columbus," November 15, 2005). This growth was planned to take place over five to seven years. Additionally, the company planned to grow its campus by 340,000 square feet of office space, bringing the total footprint to over one million square feet. Phase I of the expansion (building 90,000 square feet of space) has been completed and Phase II is under construction. The expansion is expected to cost $100 million. Although it was reported that Aflac planned to outsource 225 data processing jobs earlier in 2008, the company is set to re-train its employees for other jobs in the company to prevent a net job loss ("Aflac outsourcing data processing jobs," Columbus Ledger-Enquirer, February 11, 2008).

4.3.1.3 Kia Automotive Assembly Plant (City of West Point, Harris and Troup counties)

South Korean automaker Kia's assembly plant is being built on I-85 in West Point, GA, located north of Columbus and near the Alabama border. Although the Kia plant is technically located outside the study area (West Point is located in Harris and Troup counties), it is within the Lower Chattahoochee region and so will have an impact on surrounding counties and towns due to the size of the project. The $1 billion plant which measures 2.4 sq.ft million was just recently completed and open for production; it has been under construction since 2006. It is expected that 275 hourly workers will be hired to staff the plant ("Kia construction on target," Columbus Ledger-Enquirer, August 7, 2008).

The construction of the Kia plant is expected to attract suppliers to the region as well. For example, Daehan Solution is a tier I Kia supplier which manufactures interior automotive components such as sound insulation materials like carpeting, insulation, and interior foam. The business is expected to make a $35 million capital investment to begin operations in Harris County. It is estimated that Daehan Solution will employ 300 people over the next five years to work in the facility, which opened in early 2009.

4.3.1.4 Other Noteworthy Growth Generators

Although not of the same magnitude as the projects listed above, the following are worthy of recognition due to the relative growth they promise to engender in the region:

- **D&J Plastics (Quitman County)** – A 14,000 square foot expansion of the D&J Plastics facility is expected by 2009. The company, which makes fishing lures, will invest $600,000 for the project ("Governor Perdue Announces over $7 million in OneGeorgia Awards," June 11, 2008).

- **Columbus State University (Muscogee County)** – This four-year university – part of the University System of Georgia – has increased its enrollment by over 50 percent since 1999 and now has a student body of nearly 8,000 people. It is anticipated to continue to grow, which will be a boon for the local economy as the university contributed $212 million in FY 2007 (Humphreys, Dr. Jeffrey M. "The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2007," April 2008).
- **TSYS (City of Columbus, Muscogee County) –** One of the largest credit card processing companies in the world, TSYS (located in Columbus) has grown significantly in the past 25 years. Although no specific projects for expansion were found, the RDC notes in its Economic Development Strategy that new services may be needed to support TSYS operations, signaling potential small business growth.
- **Medical Industry (Muscogee, Stewart, and Randolph counties)** – The Economic Development Strategy also describes the potential for the medical cluster – consisting of three existing major hospitals in Columbus, an internationally recognized orthopedic hospital, and hospitals in Stewart and Randolph counties – to require increasing support services.
- **Callaway Gardens** – Although technically located outside the study area in the City of Pine Mountain in Harris County, the 13,000-acre Callaway Gardens resort is a significant attraction in the region, attracting 750,000 visitors annually ("The Ida Cason Callaway Foundation Appoints Noble Management Group to Operate Callaway Gardens Resort & Preserve," Hotel Online Special Report, December 6, 2004). The resort contains lodging, meeting spaces, a number of lakes, golf courses, and other sporting facilities. The resort hosts a number of events, including the annual Steeplechase horse race and arts event which in 2008 was in its 24th year. While $250,000 was recently allocated for improvements to the race grounds, attendance at this year's event was 7,000, which was down by 2,000 from last year. However, Steeplechase is still known as one of the top 5 events of its nature in the country (Okamoto, Sandra. "Steeplechase still going strong, especially with its upgrades," Columbus Ledger-Enquirer, November 25, 2008).

4.3.2. Middle Flint Region

The Middle Flint Region is located to the east of the Lower Chattahoochee Region. Marion, Webster, Schley, Sumter, Macon, Dooly, and Crisp counties comprise the region and are within the study area; although Taylor County is also within the region, it is not in the study area. The cities of Americus (Sumter County) and Cordele (Crisp County) are located in the Middle Flint Region and are its economic centers.

Manufacturing, services, State and Local Government, and retail trade account for the vast majority of total employment earnings in the Middle Flint Region and are expected to continue to do so, according to the "Middle Flint Technical Staff Report" (Middle Flint RDC, January 2004). Like the Lower Chattahoochee Region, the Middle Flint area's unemployment rates are generally higher than state and national averages. Historically, in fact, Middle Flint had the highest unemployment rate of all six regions adjoining it. Low educational attainment and low skill levels are prevalent in the region and attribute to this joblessness.

Several major employers are located in Middle Flint, however. Cargill, Inc. has a poultry processing facility in Marion County and employed 1,380 people in 2002. Cooper Industries, Inc. – a worldwide manufacturer of electrical products, tools, and hardware – employed 1,150 people in Sumter County (plus another 185 people in Schley County). Weyerhaeuser (a manufacturer of wood products), Tyson (poultry processing), and Airxcel, Inc. (manufacturers of a variety of specialty air conditioning, heating, and related appliances) also employ hundreds of people each. Although it employs relatively few people, Habitat for Humanity - perhaps the most well-known employer in the area – also has its operational headquarters in Americus (Sumter County) where approximately 100 people work.

Although several economic development projects were noted in the Technical Staff Report, the information is dated and thus is not reflective of current initiatives. However, preliminary research revealed two potential growth generators in the Middle Flint Region.

4.3.2.1 PharmaCentra's Americus Center (City of Americus, Sumter County)

PharmaCentra is an Atlanta-based company that provides call center services for the pharmaceutical industry. An article in the Atlanta Journal-Constitution ("PharmaCentra's South Georgia center to employ 150," October 16, 2008) describes the firm's decision to open a center in Americus which employs 150 people. A company representative reported that access to a skilled, motivated workforce graduating from Georgia Southwestern State University and South Georgia Technical College – both in Americus – was a key factor in choosing the town as the location for a new call center. According to the article, this is the third operations center PharmaCentra opened in southern Georgia since 2006.

4.3.2.2 Georgia Southwestern State University (City of Americus, Sumter County)

Georgia Southwestern State University is a four-year college located in Americus and is part of the University System of Georgia. In FY 2007, the university contributed $78 million to the local economy (Humphreys, Dr. Jeffrey M. "The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2007," April 2008). According to the school's

website, it is growing: from Fall 2007 enrollment, the student body has increased by approximately 16 percent to 2,804 students (as of August 15, 2008).

4.3.3. South Georgia Region

The South Georgia region borders Florida to the south and touches the Middle Flint region to the north. Turner, Tift, Cook, Brooks, and Lowndes counties are within the study area and the region. Ben Hill, Irwin, Lanier, and Echols counties are also within the region; however, they are not in the study area. Valdosta (Lowndes County) and Tifton (Tift County) are the major urban and growth areas within the region.

According to the "Comprehensive Economic Development Strategy" for the area (South Georgia RDC, August 2006), per capita income is low in the South Georgia region in relation to the state and nation; however, South Georgia does not generally have the same degree of problems with unemployment as adjacent regions as opportunities for work in the region are better. Consistent economic distress and long-term population decline is characteristic of the region, and educational attainment has lagged behind national averages (as with most rural areas in the state).

Potential to grow, however, is noted in that the area has a labor force which is available and trainable. Industrial diversification and the creation of new job opportunities are seen as key to reversing the region's negative trends. Producing ethanol (made from grain) as an alternative fuel is an exciting prospect for future industry in the region. Additionally, growing economic clusters around manufacturing industries (including transportation equipment, food manufacturing, and wood products) and non-manufacturing industries (including finance / insurance, medical and diagnostic laboratories, and waste treatment and disposal) is recommended. Projects listed below also promise to inject capital and help economic development in the region.

4.3.3.1 Millennium Technology Pointe (City of Fitzgerald, Ben Hill and Irwin counties)

Although technically outside the study area but within the region, Millennium Technology Pointe (MTP) is a 214-acre technology park which has received around $20 million in local, state, and federal funding. Beyond building infrastructure to attract high tech industries to MTP, this investment includes the development of a $15 million Technology Training Center as part of East Central Technical College, located adjacent to the technology park, which opened in 2006. Diplomas and certificates (based on a curriculum developed by a Georgia Tech study) for data center operations, including computer information systems and telecommunications, are currently offered. By situating the campus next to MTP, it is hoped that graduates can work in the new high tech jobs expected to occupy the park and continue to stay within the area.

As reported in a Georgia Trend article (Southerland, Randy. "Fitzgerald/Ben Hill County: Small Place, Big Thinking," December 2006), the Wall Street Journal recognized the city of Fitzgerald as one of the most successful small towns in America due to its capacity to secure new business and industry. According to the paper, the city was "the recruiting colossus from nowhere." Therefore, this is an area poised for considerable future growth.

4.3.3.2 PharmaCentra's Fitzgerald Center (City of Fitzgerald, Ben Hill and Irwin counties)

The marketing and services firm PharmaCentra opened another call center in southern Georgia in early 2007. The business was the first to locate on the campus of the East Central Technical College, adjacent to Millennium Technology Pointe (described above). The call center will be staffed by around 40 healthcare representatives ("PharmaCentra Makes the Call," http://www.georgia.org/PressCenter/NewsItems/Business/ PharmaCentra+Makes+The+Call.htm).

4.3.3.3 Valdosta State University (City of Valdosta, Lowndes County)

Valdosta State University offers undergraduate, master's, and doctoral degrees. With a student body of approximately 11,500 and a faculty of 585, the university has a major presence in the South Georgia region. In FY 2007, the school contributed $302 million to the local economy (Humphreys, Dr. Jeffrey M. "The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2007," April 2008). The university is expected to grow as well with anticipated enrollment of 16,000 students (an increase of about 4,500) by 2020. To cope with the growth, VSU has invested $35.6 million to re-develop its student housing, and is in the midst of transforming its campus through a three-phase master plan initiative (Pope, Jessica. "Valdosta State University Building for the Future." Valdosta Scene, October 31, 2007).

4.3.3.4 Creekside West (City of Hahira, Lowndes County)

Creekside West is a planned Doubletree Communities project set on 174 acres near I-75, convenient for prospective residents to commute to Valdosta. The development contains 300 residential lots (Bruce, Billy. "Creekside West Emerges." Valdosta Daily Times, October 20, 2007).

4.3.3.5 Other Noteworthy Growth Generators

Tourism has long been associated with the South Georgia region as two relatively major sites – Andersonville National Historic Site and the Jimmy Carter National Historic Site – are located here. Additionally, Moody Air Force Base has long been an economic driver in the region. While no specific plans for expansion are proposed for these places, they are significant contributors to growth in the region and thus worthy of inclusion.

- **Andersonville National Historic Site, Sumter and Macon Counties** – Located 12 miles north of Americus, the Andersonville National Historic Site (officially "Camp Sumter") has long been a major tourist attraction in the region and promises to remain so into the future. While the National Parks Service (NPS) *Forecast Report for 2008 and 2009* shows that 153,686 people visited the site in 2007, it also forecasts a slight drop in visitation in the upcoming years (down to 125,823 in 2009). Despite this anticipated decline, the site remains a significant draw in this part of Southwest Georgia (www.nature.nps.gov /stats/forecasts/forecast0809.pdf).

  Andersonville, the largest Confederate military prison during Civil War, was known for its overcrowded conditions and poor treatment of Union soldiers confined within its walls. Of the approximate 45,000 Union soldiers held there, nearly 13,000 perished due to malnutrition, starvation, exposure to the elements, and disease. The prison grounds now serve as the Andersonville National Historic Site, which includes the Andersonville National Cemetery and the National Prisoner of War Museum. The museum not only focuses on life at Andersonville but the experiences of all American prisoners of war. Andersonville is unique not only because of this museum, but because it is one of only two active National Cemeteries (i.e., continues to bury veterans and their dependents) that the National Park Service maintains in the country (the other is Andrew Johnson National Historic Site in Greeneville, TN). While no entrance fees are charged for visiting the park or museum, Andersonville is supported by the NPS and an active Friends of Andersonville organization, which has contributed nearly $300,000 to the National Historic Site since 1996 (www.nps.gov/ande/; http://friendsof andersonville.org/).

- **Jimmy Carter National Historic Site (City of Plains, Sumter County)** – Located about 20 miles from Andersonville National Historic Site, the Jimmy Carter National Historic Site contains the 39th U.S. President's boyhood farm with exhibits which describe the history and culture of the rural community in which he grew up. The site also includes Plains High School, the Historic District of Plains, the Plains train depot, the Carter private residence and compound (although not open to the public), and 100 foot easements along both sides of Old Plains Highway (U.S. 280). Entrance to the historic site is free. During 2007, 84,501 people visited the site, and this number is expected to increase to 105,429 by 2009 (www.nature.nps.gov/stats/forecasts/ forecast0809.pdf).

- **Moody Air Force Base (near City of Valdosta, Lowndes County)** – Moody Air Force Base trains and employs approximately 5,500 personnel, including para-rescuemen and other military and civilian employees. It is estimated that about 26,000 people in the

Valdosta community are associated with the base (military families, civilians and family, and retirees and family). This number is striking when compared to the population of Valdosta (48,000) and Lowndes County (85,000). The total economic impact has been calculated at around $323 million, considering direct payroll to the local economy; construction, services, and commodities contracts; and other expenditures such as pay from secondary jobs created by the base (www.moody.af.mil/library/factsheets/ factsheet.asp?id=3441). While the base is not involved with the BRAC activities and no specific growth projects have been found for Moody Air Force Base, it has been reported that the base is expected to grow in the future (particularly by adding more training aircraft) and continue to play a vital role in the prosperity of the City of Valdosta, Lowndes County, and the region as a whole.

4.3.4. Southwest Georgia Region

The Southwest Georgia region is located in the southwest corner of the state, bordered to the north and east by the other study area regions (Lower Chattahoochee, Middle Flint, and South Georgia) and to the west and south by Alabama and Florida, respectively. The counties within this region are Terrell, Lee, Calhoun, Dougherty, Worth, Early, Miller, Baker, Mitchell, Colquitt, Seminole, Decatur, Grady, and Thomas; they are all located within the study area. Principal cities within the Southwest Georgia region are Albany (Dougherty County), Thomasville (Thomas County), Moultrie (Colquitt County), Bainbridge (Decatur County), and Cairo (Grady County).

Growth in the Southwest Georgia region has not been significant over time, except for in Dougherty County which is more urban. Primarily a rural area, the region's economy revolves around agriculture and is to a large degree dependent on federal farm support programs, particularly the peanut program, according to the "Southwest Georgia Technical Staff Report" (Southwest Georgia RDC, 1997). The report states that from 1990 to 1995, "all employment sectors experienced declines in available jobs with the exception of services, TCPU (transportation, communications and public utilities) and agricultural services" (pp. 3-4). A challenge for the local economy is the proximity of major shopping and service outlets of Tallahassee, Florida, which many of the region's residents frequent rather than patronizing local establishments.

Although the trend at the time of the report was negative, Southwest Georgia had the most job opportunities compared to the other regions examined as part of this interstate study, totaling 152,228 jobs in 1995. It is anticipated that employment trends evident in the region in the 1995 reporting will generally continue into the future, with services providing around 21 percent of jobs by 2020, followed by manufacturing (18 percent), retail (16 percent), and state and local government (16 percent).

Perhaps more telling of the growth the region is expecting, however, is reflected in projected population growth. According to the Albany-Dougherty County Comprehensive Plan 2005 – 2025 (June 2006), it is estimated that Albany alone will grow by 45,000 households. To accommodate this growth, 27,669 acres will need to be allocated. The projects which follow illustrate some of the areas where a portion of job growth will likely occur.

4.3.4.1 Marine Corps Logistics Base (City of Albany, Dougherty County)

The mission of the Marine Corps Logistics Base (MCLB) is repairing, rebuilding, and maintaining military combat and combat support equipment. The base is located in Dougherty County just outside the Albany city limits, about 33 miles from I-75 (served also by US 82, US 19, GA 133 and GA 300), and is therefore considered to be at the nexus of major regional highways transecting the Southeast U.S.

MCLB Albany is one of three Marine Corps Logistics Bases (known as LOGCOM) in the country, with the others located in Barstow, California and Blount Island in Jacksonville, Florida. MCLB Albany and MCLB Barstow furnish supplies for Marine Corps' forces worldwide, while the Blount Island port facility contains sealift, storage, and maintenance facilities used to load and unload equipment to and from overseas locations. Significant traffic is generated between MCLB Albany and the Jacksonville facility as equipment is transported to the inland Albany location for repairs and then shipped back to the Florida location for redeployment abroad. MCLB Albany serves not only the Marine Corps, but also other branches of the military, civil service, and private contract teams. During the Persian Gulf War (1990 – 91), the base distributed more than nine million pounds of equipment to air and seaports for rapid transport to troops abroad, and the base has been actively involved in supplying logistics support for the current Iraq and Afghanistan wars.

More than 2,200 civilians and 600 Marines work at MCLB Albany, making it the second largest employer in Albany (behind Phoebe Putney Memorial Hospital) and serves an estimated 3,400 local military retirees through the Commissary, PX, and other benefits. Additionally, the Albany Marine Corps schools offer training on site, bringing 1,000 students to the area each year.

While MCLB Albany will not experience the same degree of growth as Fort Benning due to the BRAC activities, it has been recommended in 2005 by the U.S. Secretary of Defense that many of the maintenance procedures undertaken by the MCLB in Barstow, CA be realigned at MCLB Albany (www.globalsecurity.org/military/facility/mclb-barstow.htm), promising increased growth into the future.

4.3.4.2 Longleaf Energy Associates' Coal Plant (Early County)

The New Jersey energy corporation, LS Power (who together with their Houston-based partner Dynegy comprise Longleaf Energy Associates), acquired a permit in May 2007 to build a 1,200-megawatt coal plant along the Chattahoochee River in Early County. The cost of the plant is expected to top $2 billion. However, a Fulton County Superior Court judge invalidated the state permit the same year, advising the state Environmental Protection Division (EPD) to put a limit on carbon dioxide emissions in any new permit for the plant. Early County leaders will lobby for the plant to be built as its development promises to bring over 100 high-paying jobs into the area and millions of dollars in tax revenues. The electricity generated, which would supply power for around one million homes, could be sold in Alabama and Florida as well as Georgia (Shelton, Stacy. "Fulton judge invalidates permit for coal plant." Atlanta Journal-Constitution, June 30, 2008).

4.3.4.3 Other Noteworthy Growth Generators

While no specific plans for expansion are planned for the following, they are significant contributors to growth in the region:

- **Southwest Georgia Regional Airport (Dougherty County)** – Located in Albany, the airport is the largest in the region at 950 acres. In addition to commercial connections service provided by Delta Airlines, United Parcel Service (UPS) uses the airport to transport freight to 11 locations via Boeing 757-200 and Airbus A300-600 aircraft. UPS contributes more than 50 jobs to the local economy. In 2006, facilities were expanded for UPS to include a new cargo apron of 400,000 square feet, and a new air cargo sorting facility.
- **Albany State University (Dougherty County)** – The only four-year public institution in the region, ASU contributed $137 million to the local economy in FY 2007 (Humphreys, Dr. Jeffrey M. "The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2007," April 2008).

4.3.5. Summary and Conclusions

Four regions comprised of 32 counties form the study area for the Southwest Georgia Interstate Study: Lower Chattahoochee, Middle Flint, South Georgia, and Southwest Georgia. In general, these regions are rural and are typified by higher than average unemployment rates, with a contributing factor often being poor educational attainment among the resident populations.

Based on desktop research, several initiatives were found which promise to bring growth to the area in the upcoming years, however, as follows:

- Fort Benning expansion due to the BRAC activities (City of Columbus, Muscogee County and beyond)
- AFLAC expansion (City of Columbus, Muscogee County)
- Kia Automotive Assembly Plant development (City of West Point, Harris and Troup counties)
- PharmaCentra's Americus Center development (City of Americus, Sumter County)
- Georgia Southwestern State University growth (City of Americus, Sumter County)
- Millennium Technology Pointe development (City of Fitzgerald, Ben Hill and Irwin counties)
- PharmaCentra's Fitzgerald Center development (City of Fitzgerald, Ben Hill and Irwin counties)
- Valdosta State University growth (City of Valdosta, Lowndes County)
- Creekside West development (City of Hahira, Lowndes County)
- Marine Corps Logistics Base growth (City of Albany, Dougherty County)
- Longleaf Energy Associates' Coal Plant development (Early County)

Other noteworthy industries / institutions which may or may not have specific growth plans yet may help grow the region in the future include:

- D&J Plastics (Quitman County)
- Columbus State University (Muscogee County)
- TSYS (City of Columbus, Muscogee County)
- Medical Industry (Muscogee, Stewart, and Randolph counties)
- Andersonville National Historic Site (Sumter and Macon Counties)
- Jimmy Carter National Historic Site (City of Plains, Sumter County)
- Moody Air Force Base (near City of Valdosta, Lowndes County)
- Southwest Georgia Regional Airport (City of Albany, Dougherty County)
- Albany State University (City of Albany, Dougherty County)

Reviewing the locations of most of these projects, several potential activity centers are apparent, mainly focused in or near existing urban areas. Generally, major growth initiatives appear to exist in Columbus, Americus, Valdosta, and Albany. PharmaCentra has located several call centers in the southwest Georgia area in the past several years and could be expected to continue into the future. Local universities which are part of the University System of Georgia are also expected to grow by thousands of students; however, the number of students simply relocating to these universities from inside the four-region study area will likely represent a significant portion of the projected growth. The City of Fitzgerald, located just outside the study area in Ben Hill and Irwin counties, is the

exception. Due to local leaders' interest in luring high tech industries to the area, Fitzgerald has been able to attract new businesses to the Millennium Technology Pointe technology park, in addition to a new student population to the neighboring East Central Technical College.

Although these projects will make a sizeable impact on local economies and populations, it must be determined if they alone will generate substantial increases in traffic demand to justify a new interstate due to the relatively small number of jobs and transportation impacts they will create. The most significant anticipated growth occurring around military bases (Fort Benning in Columbus and the Marine Corps Logistics Base in Albany) may well have a more significant affect, however. The next section addresses these bases' plans for growth in further detail.

4.4 Military Operations Growth

Southwest Georgia is expecting moderate growth across the region as a whole; however, military bases within the study area are poised for expansion, largely due to Base Realignment and Closure (BRAC) activities, which will impact population and traffic growth.

There are three bases in the area: Fort Benning near Columbus, the Marine Corps Logistics Base near Albany, and Moody Air Force Base in Lowndes County. This document presents an analysis of their projected expansion activities to provide insight into growth areas which might not be picked up through typical modeling. Information on future projects was sourced primarily from consultants' and base-generated reports pertaining to future planned and proposed activities.

4.4.1 Fort Benning (near Columbus, GA)

Fort Benning, located south of Columbus, Georgia along US 27, covers over 180,000 acres in land and is anticipated to experience significant growth due to BRAC activities. Already serving a daily population of around 105,000 people, installation operations are set to grow as part of the initiative, causing increases in post and civilian populations. Of the military personnel currently assigned to Fort Benning, 34 percent live on base and 66 percent live off base who commute to work daily; the majority of those living off-post (92 percent) reside in Georgia.

Approximately 27,546 people are expected to move into the community, plus an additional 30,000 per year in military students and trainees (U.S. Army Approved Growth Estimates as of January 29, 2008), with the majority of growth expected by 2013. Table 4.4.1.1 below shows the breakdown of how population growth is expected to be distributed.

EDAW, working as a sub-consultant with SAIC, is participating in a Regional Growth Management Plan to study the impact that BRAC activities will have on counties within a 35-mile radius of Fort Benning. The study analyzes the impact this growth will have not only on Columbus, but a wider 10-county area, including three counties in Alabama (although 93 percent of Fort Benning is located in the State of Georgia, primarily in Chattahoochee and Muscogee counties), as listed below:

- Columbus – Muscogee County, GA
- Cusseta – Chattahoochee County, GA
- Harris County, GA
- Marion County, GA
- Talbot County, GA
- Taylor County, GA
- Stewart County, GA
- Barbour County, AL
- Lee County, AL
- Russell County, AL

Table 4.4.1.1
Population Growth at Fort Benning due to BRAC Activities

Growth Categories	Jobs	Spouses	Children	School Age Children	Total*
Military Service Members	5,125	2,973	4,780	3,021	12,878
Government Civilians	1,658	1,236	1,274	962	4,168
Contractors	3,500	2,800	4,200	3,150	10,500
Total	10,283	7,009	10,254	7,133	27,546

*Note: Total reflects the sum of jobs, spouses and children – school age children are a subsect of children

Source: U.S. Army Approved Growth Estimates as of January 29, 2008 and SAIC – Regional Growth Management Plan

Four of these counties – Muscogee, Chattahoochee, Marion, and Stewart – overlap with the SWGIS area. As part of the first phase of the Fort Benning growth study, transportation data has been generated by SAIC, considering both baseline conditions and future need based on projected growth due to BRAC. Results of the analysis in Muscogee and Chattahoochee Counties will be available in February 2009. The full Regional Growth Management Plan, including the more rural counties of Stewart and Marion will be released in April 2009.

The following summary of growth impacts for Muscogee and Chattahoochee counties is derived from the initial phase of work. It must be noted that the information that follows is in draft form and has not yet been approved by the client. It should therefore be considered confidential and used for internal purposes only. Additionally, figures contained within this document should be used with caution as they have yet to be finalized.

4.4.1.1 Existing Conditions On Base

Nine major roadways serve Fort Benning, with I-185 (Lindsay Creek Parkway), Fort Benning Boulevard, South Lumpkin Road, and Victory Drive (US 27/US 280) being the most utilized. Seven access control points (ACP) exist on post, with an entrance on I-185 being the most utilized with almost 70 percent of all traffic coming to / from the post passing through this point. Table 4.4.1.1.1 summarizes existing traffic volumes to / from the post.

Table 4.4.1.1.1
Fort Benning Traffic Volume Summary at the Access Control Points

No.	Access Control Points	DAILY TRAFFIC			PEAK HOUR TRAFFIC		% Total of Installation Access Traffic
		Inbound	Outbound	Both Directions	AM Peak Inbound	PM Peak Outbound	
1	I-185 (Lindsay Creek Parkway)	14,283	7,235	21,518	1,900	1,100	42%
2	Sand Hill	4,654	4,595	9,249	530	520	18%
3	Fort Benning Boulevard	2,896	3,124	6,020	445	545	12%
4	South Lumpkin Road	3,161	2,732	5,893	460	425	11%
5	Custer Road	2,126	2,278	4,404	165	190	9%
6	Eddy Bridge	1,192	1,163	2,355	190	175	5%
7	First Division Road	1,179	878	2,057	165	145	4%
	GRAND TOTAL	**29,491**	**22,005**	**51,496**			**100%**

Souce: 2006 Traffic Data from Fort Benning Comprehensive Traffic Study

4.4.1.2 Future Growth On Base

BRAC activities necessitate transportation improvements on and off post. On the installation, which is divided into four cantonments (Main Post, Harmony Church, Kelley Hill, and Sand Hill)

and range and training areas, an estimated $482.9 million of BRAC-related construction is anticipated to be built (mostly by 2011) to accommodate the growth, including hospital facilities, barracks, and ranges. The Harmony Church Cantonment will house most of the newly assigned troops and is expected to be the most impacted. The ACP here is currently being renovated to accommodate this new growth. A hospital being built in the Main Post area will also be a significant addition, as it is expected to generate the largest increase in military and civilian traffic from the neighboring communities. This will certainly have a substantial impact on the transportation network surrounding the installation.

In total, 17,444 new daily trips are expected for employees and trainees associated with BRAC. Of these new trips, it is estimated that 60 percent will be to the Harmony Church Cantonment, 25 percent to Sand Hill, 15 percent to Main Post, and 0 percent to Kelley Hill, based on proposed BRAC development plans. This distribution increases traffic at the Harmony Church ACP by 60 percent, and therefore traffic demand along US 27 /US 280 mainline and interchange as well.

The impacts anticipated on the transportation networks of Columbus-Muscogee County and Cusseta-Chattahoochee County due to BRAC are described below.

4.4.1.3 Columbus – Muscogee County

Existing Conditions

Approximately 75 percent of BRAC growth is expected to occur in the Columbus – Muscogee region, according to the Columbus Consolidated Government, which will require residential, commercial, transportation, infrastructure, and other improvements to be constructed. Eight major arterials were identified in Columbus and Muscogee County:

- I-185 / Lindsay Creek Bypass;
- US 80 / J.R. Allen Parkway / SR 22;
- US 27 /US 80 / Victory Drive south of Columbus;
- Veterans Parkway / SR 1 / US 27;
- SR 22 Spur / Macon Road / Wynnton Road;
- 13th Street / Buena Vista Road;
- St. Mary's Road; and
- SR 219 / River Road.

Five existing highways were identified as major truck corridors for freight movement:

- I-185 north to I-85, I-75 and I-20 corridors;
- I-185 south to I-65 and I-10 corridors;
- US 80 west to I-65;
- US 280 northwest to Birmingham, and I-20, I-59 and I-65 corridors; and
- US 27 south to I-10 and I-75 corridors.

The highest tonnage roadway segments within the Columbus-Muscogee County include I-185 north of Columbus carrying over 12.6 million tons and US 280 south of Columbus carrying over eight million tons.

About 60 percent of the Fort Benning daily traffic is generated from the Columbus-Phenix City area, with the remaining 40 percent from the neighboring counties in Georgia and Alabama. Table 4.4.1.3.1 shows major roadways which currently experience congestion.

Table 4.4.1.3.1
Columbus – Muscogee County Major Roadway Congestion Levels

Roadway	Limits	Direction	Level of Congestion	Improvement Priority
Manchester Highway	River Rd. and US 27/Veterans Pkwy	EB	Serious	Short-Term
	US 27/Veterans Pkwy and Hilton Ave /Lake Dr	WB	Serious	Short-Term
	US 27/Veterans Pkwy and Hilton Ave /Lake Dr	EB	Congested	Short-Term
	Armour Rd and I-185	WB	Serious	Short-Term
	River Rd and US 27/ Veterans Pkwy	WB	Congested	Short-Term
	I-185 and Anglin Rd / Reese Rd	EB & WB	Congested	Short-Term
US 27 / Veterans Pkwy	16th St and 13th St/Macon Rd	SB	Congested	Long-Term
	50th St to Airport Thruway	NB	Congested	Long-Term
	Whitesville Rd and Airport Thruway	SB	Congested	Long-Term
	US 80/J.R. Allen Pkwy to Weems Rd	SB	Congested	Long-Term
13th St / Macon Rd	Hilton Ave and 18th Ave	WB	Congested	Long-Term
	Forrest Rd and I-185	WB	Serious	Short-Term
	Reese Rd to Woodruff Farm Rd	EB	Congested	Long-Term
Buenta Vista Rd	13th St/Macon Rd to Wynnton Rd/Macon Rd	EB	Serious	Long-Term
	Morris Rd to Brennan Rd	EB	Serious	Long-Term

Source: Columbus-Phenix City Long Range Transportation Plan

Traffic data from the Georgia Department of Transportation Traffic Count Database for 2007 reveals that the existing section of US 80 / J.R. Allen Parkway / SR 22 between Summerville Road (State of Alabama) and River Road (State of Georgia) operates at unacceptable LOS E under the existing traffic demand conditions. The other major roadway sections operate at acceptable LOS levels under the existing traffic demand conditions.

Future Growth Impacts

In Columbus – Muscogee County, 2030 traffic projections were modeled using a two percent annual growth rate, based on traffic volumes obtained from the Georgia Department of Transportation. Additionally, growth resulting from the proposed KIA automobile plant development and Aflac office facility in the region were also factored into the projections. Planned short and long-term transportation projects in the Columbus and Fort Benning region, as identified by the Columbus Consolidated Government, the Transportation Improvement Plan (TIP), and Long-Range Transportation Plan (LRTP), were also taken into account. Increases in truck traffic for the county were also calculated based on freight tonnage demand projected by the Georgia Statewide Freight Plan (2005 – 2035), resulting in an estimation of 5.75 percent annual truck growth along major roadways.

Under the projected BRAC / KIA / Aflac growth scenario, transportation problems are expected to persist in the future even with the planned TIP and LRTP improvements, notably at the following areas, while other major roadway sections will operate at acceptable LOS standards:

- Sections of I-185 / Lindsay Creek Parkway and US 80 / J.R. Allen Parkway continue operating at unacceptable LOS E and/or F; and
- Sections of SR 22 Spur / Macon Road and Buena Vista at St Mary's Road also operate at unacceptable LOS E and/or F.

It is recommended that modifications be made to the existing list of long-term transportation improvements so that these major roadway segments will be able to accommodate traffic demands generated from growth due to BRAC and the KIA and Aflac developments in the year 2030.

4.4.1.4 Cusseta – Chattahoochee County

Existing Conditions

About 90 percent of the population of Chattahoochee County resides within the Fort Benning installation. Three major urban freeways / expressways and principal arterials were identified in Cusseta – Chattahoochee County as part of the growth plan:

- US 27 / SR 1;
- SR 520 / US 280; and
- SR 26 / Clarke Duncan Highway.

No major roadways were identified as major truck corridors within the Cusseta-Chattahoochee County area.

However, the U.S. Department of Defense designated a section of SR 26 as part of the Strategic Highway Network (STRAHNET) in 2007, from the Fort Benning installation through Marion, Schley, Macon, Houston, Pulaski, and Bleckley counties to I-16 / SR 404 in Laurens County. This part of SR 26 is considered strategic as it is the most direct route from Fort Benning to the Port of Savannah. To ensure the route is kept in good condition to support defense deployments, it was officially added to the National Highway System.

A review of the existing operations of the major roadways within Chattahoochee County and the City of Cusseta revealed no congestion or queuing along the major roadways. All major roadway sections within Cusseta-Chattahoochee County operate at acceptable LOS levels for rural areas (with LOS of C considered acceptable for analysis purposes). The existing roadway network throughout Cusseta-Chattahoochee is considered as one of the many assets that can be used for attracting residents and industrial development.

Future Growth Impacts

As with the Columbus-Muscogee County analysis, the future potential impact of the development of the KIA automobile plant and Aflac facility, planned roadway improvements, and the BRAC growth were taken into consideration when modeling traffic demands in the year 2030. These developments were factored into anticipated annual growth rates of 1 percent for SR 26 / Clarke Duncan Highway and 2 percent for US 27 / SR 1 and SR 520 / US 280, based on historic and existing traffic volumes for 2007.

The results of the modeling revealed that all major roadway segments will be able to adequately accommodate future traffic demands generated by the large planned developments (i.e., BRAC, Kia, and Aflac) in 2030. Therefore, no long-term recommendations have been identified as part of the Fort Benning growth study. It is unclear what the ramifications of designating SR 26 as part of the Strategic Highway Network will be.

4.4.2 Marine Corps Logistics Base (near Albany, GA)

The following description of current and future activities and plans for the Marine Corps Logistics Base at Albany is a summary of findings from the Albany Marine Corps Logistics Base Special Area

Study (HDR, December 2004) and pamphlets produced by the base. Where appropriate, information found on the internet is cited.

4.4.2.1 Existing Conditions

The mission of the Marine Corps Logistics Base (MCLB) is repairing, rebuilding, and maintaining military combat and combat support equipment. The base is located in Dougherty County just outside the Albany city limits, about 33 miles from I-75 (served also by US 82, US 19, SR 133 and SR 300), and is therefore considered to be at the nexus of major regional highways transecting the southeastern U.S.

MCLB Albany is one of three Marine Corps Logistics Bases (known as LOGCOM) in the country, the others are located in Barstow, California and Blount Island in Jacksonville, Florida. MCLB Albany and MCLB Barstow furnish supplies for Marine Corps forces worldwide, while the Blount Island port facility contains sealift, storage, and maintenance facilities and is used to load and unload equipment to and from overseas locations. Significant traffic is generated between MCLB Albany and the Jacksonville facility as equipment is transported to the inland Albany location for repairs and then shipped back to the Florida location for redeployment abroad. MCLB Albany serves not only the Marine Corps but also other branches of the military, civil service, and private contract teams. During the Persian Gulf War (1990-91), more than nine million pounds of equipment were serviced at the post and shipped to troops abroad. The base has been actively involved in supplying logistics support for the Iraq war.

MCLB Albany covers 3,458 acres used for industrial, administrative, and residential use; it functions like a typical large-scale industrial warehousing facility. Additionally, the base has a "downtown" area and two areas of housing, one with eight residential barracks (239 rooms) and another with family housing (250 units). More than 2,200 civilians and 600 Marines work at MCLB Albany, making it the second largest employer in Albany (behind Phoebe Putney Memorial Hospital) and serves an estimated 3,400 local military retirees through the Commissary, PX, and other benefits. Additionally, the Albany Marine Corps schools offer training on-site, bringing 1,000 students to the area each year.

Although rail lines service Albany (freight rail service is provided to the area by Norfolk and Southern and the Atlantic and Gulf Railroad), most shipping of equipment to and from MCLB Albany is by truck on local highways. Truck usage is preferred over rail as equipment can be loaded as soon as it is ready for transport. With rail, on the other hand, response times are slowed as an entire rail car or series of cars must be full prior to shipping.

4.4.2.2 Future Growth Impacts

While MCLB Albany will not experience the same degree of growth as Fort Benning due to the BRAC activities, it was recommended in 2005 by the U.S. Secretary of Defense that many of the maintenance procedures undertaken by the MCLB in Barstow, CA be realigned at MCLB Albany (www.globalsecurity.org/military/facility/mclb-barstow.htm).

Although this announcement was made after the publication of the primary source document for this paper, transportation improvements recommended in the HDR study (December 2004) may still be relevant, although a more in-depth analysis must be performed to confirm if these recommendations represent the full extent of projects planned for the base in light of the realignment of MCLB Barstow.

According to the HDR report, a series of transportation improvements are vital to the expanded use of MCLB Albany, including the widening of SR133. It is proposed that this route be widened to four lanes all the way to I-75 and include a new spur into the base, linking to the entrance on Fleming Road. The result of this highway improvement will be a 4-lane, direct, one-traffic-light access to Interstate 75 and into Blount Island port facilities. Improvements to SR 82 have also been proposed. These improvements are especially critical if the base expands, such as onto the 3,100-acre parcel adjacent to the base on the southern boundary across from Fleming Road (the "Bridges Site") or to the northeast, on a large tract of undeveloped land fronting on US 82.

4.4.3 Moody Air Force Base (near Valdosta, GA)

The following summary was generated from correspondence with a local planner at Lowndes County (email from Jason Davenport, Lowndes County Planner, dated October 27, 2008) and information contained on the Moody Air Force Base website.

4.4.3.1 Existing Conditions

Moody Air Force Base trains and employs approximately 5,500 personnel, including para-rescuemen and other military and civilian employees. It is estimated that about 26,000 people in the Valdosta community are associated with the base (military families, civilians and family, and retirees and family). This number is striking when compared to the population of Valdosta (48,000) and Lowndes County (85,000). The total economic impact has been calculated at around $323 million, considering direct payroll to the local economy; construction, services, and commodities contracts; and other expenditures such as pay from secondary jobs created by the base (www.moody.af.mil/library/factsheets/factsheet.asp?id =3441).

4.4.3.2 Future Growth Impacts

While no specific growth projects have been found for Moody Air Force Base, it has been reported that the base is expected to grow in the future and continue to play a vital role in the prosperity of the City of Valdosta, Lowndes County, and the region as a whole. A project for a New South Commercial Gate (Bemis Road / Davidson Road) includes some indication of vehicle volumes that will occur from future growth, including an increase of a projected 420 personnel on base by 2011. According to proposal text, "Based on an eight-hour turn movement traffic count performed at this intersection on 02/06/07 by GDOT, the estimated average daily traffic for SR 125 is 13,590 vehicles per day. For Davidson Road, the estimated traffic will be 1,493 vehicles per day." As growth at the base is not expected to be particularly significant, it is assumed that this information gives an indication of the traffic which will regularly be travelling to and from the base.

4.4.4 Military Growth Summary

Fort Benning, MCLB Albany, and Moody Air Force Base are major institutions in Southwest Georgia and promise to continue to be so in the future.

Fort Benning, due to the BRAC realignment activities, is poised to accommodate the greatest growth with a population increase of more than 27,500 people. This growth promises to significantly impact local infrastructure, including transportation networks which are expected to have to accommodate increases in traffic at a rate of 2 percent per year and increases in truck traffic at 5.75 percent each year. On-post, 17,444 new daily trips are expected for employees and trainees associated with BRAC. Off-post, increases in population coupled with the development of major nearby industries such as the KIA automobile plant and Aflac expansion, highlight future problem areas in Columbus-Muscogee County by the year 2030: Sections of I-185 / Lindsay Creek Parkway and US 80 / J.R. Allen Parkway and Sections of SR 22 Spur / Macon Road and Buena Vista at St, Mary's Road. However, it is not anticipated that Cusseta-Chattahoochee County should experience any transportation network problems due to the growth, although it is unclear what the designation of SR 26 as part of the Strategic Highway Network entails in regards to new or additional traffic volumes.

MCLB Albany, one of only three Marine Corps logistics facilities in the country, will be taking on some of the responsibility from MCLB Barstow, California, if a 2005 recommendation on the BRAC activities from the U.S. Secretary of Defense is acted upon. While it is remains to be seen what the specific ramifications in terms of road network will be, it is clear that the widening of SR133 into a four-lane facility, connecting to I-75 and providing a direct link to the Blount Island logistics facility in Jacksonville, Florida, is of interest to military officials.

For Moody Air Force Base, no significant growth plans have been found. However, some growth will occur as an additional 420 personnel are expected at the base by 2011. It is also estimated that on average, 13,590 vehicles per day will travel SR 125 and 1,500 vehicles will travel Davidson Road per day.

4.5 Overall Land Use Summary

Although southwest Georgia is primarily a rural region, there are several counties which will experience modest growth in the future. These counties contain the largest cities in the area, namely Albany (Dougherty County), Valdosta (Lowndes County), and Columbus (Muscogee County); however, there are also counties which have high aspirations seeking opportunities for growth. Of special significance in this category is Sumter County, which has expressed its desire to generate economic development through major highway improvements. However, there are numerous counties which cherish their rural / agricultural heritage and have swathes of protected / environmentally sensitive land on which they do not welcome major development. Those counties which contain particularly sensitive landscapes, such as Grady County; or with restricted development areas, such as Chattahoochee County; or those which simply want to remain rural, such as Schley County dot the region. Due to the age of many of the Comprehensive Plans and the iterative nature of this study, more detailed analyses must be carried out and individual counties consulted to gain a more complete understanding of where growth of the transportation system may be beneficial and desirable.

5.0 Economic Development Conditions

The Southwest Georgia Interstate Study was undertaken to assess the feasibility and expected outcomes of investments to improve the accessibility of southwest Georgia. Among the outcomes desired from such an investments is the promotion of economic growth and development in this primarily rural and agricultrual region of the State. For detailed information related to the evaluation of economic development conditions, refer to the ***Existing Conditions Technical Memorandum.***

6.0 Travel Conditions and Patterns

A variety of information was collected to assist with the analysis of existing (year 2006) and projected future (year 2040) travel patterns and conditions within the study area. This information was also used to develop a travel demand model used to evaluate existing and future travel conditions within the study area. The detailed summary on the development of the inputs to the travel demand model and the model itself is contained in the following technical memorandums.

- Highway Network Development
- Traffic Analysis Zone Development
- Model Development

The results from the application of the travel demand model are shown in this section for the existing conditions of 2006 compared to future projected conditions of 2040 E+C network. The 2040 E+C network includes all of the 2006 network plus those projects that are in the GDOT CWP for construction and/or right-of-way. Although the travel demand model was developed that encompassed the entire 32-county study area, the level of detail for the urban areas of Albany, Columbus and Valdosta was not as fine as would be expected for a detailed urban model. GDOT has prepared separate travel demand models for each of these areas which are more detailed in order to develop the MPO transportation plans and programs. Since the MPO's are responsible for the analysis and evalution of transportation operations and plan within their boundaries, the results from the MPO areas of Albany, Columbus and Valdosta are not included in the results shown in this section.

6.1 Existing and Future Facilities

The study area consists of 32 counties encompassing 7.6 million acres. Figure 6.1.1 displays the roadway facilities in the study area by functional classification. Federal guidance states that functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently in any major way; rather, most travel involves movement through a network of roads. It then becomes necessary to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a highway network. There is a hierarchy to the classifcation system. The higher classified facilities are designed to carry more traffic at higher speeds. The almost 8,300 centerline miles in the study area in 2006 is expected to increase slightly by the year 2040 based on the number of committed projects in the study area. Centerline miles include both directions of a roadway facility with multi-lane sections calculated as the same length despite the number of travel lanes in a section. Table 6.1.1 includes the number of centerline miles by functional classification for 2006 and the 2040 E+C networks. The committed projects included in the 2040 E+C network are listed in Table 6.1.2. Figure 6.1.2 illustrates the locations of the committed projects included in the 2040 E+C network. The most noteable change is the projected roughly nine (9) percent increase in the Rural Principal Arterial classification from a 2-lane facility to a multi-lane facility.

On the 2040 E+C network, collectors account for over one-half of the centerline miles. Minor arterials such as SR 26, SR 49, SR 30, SR 27, SR 62, SR 37 and SR 91 account for just over one-fourth of the centerline miles. Prinicpal arterials such as US27, US19, US82, US84 and US280 account for just over one-sixth of the centerlane miles.

Table 6.1.1
Number of Centerline Miles by Functional Classification
2006 and 2040 E+C Network

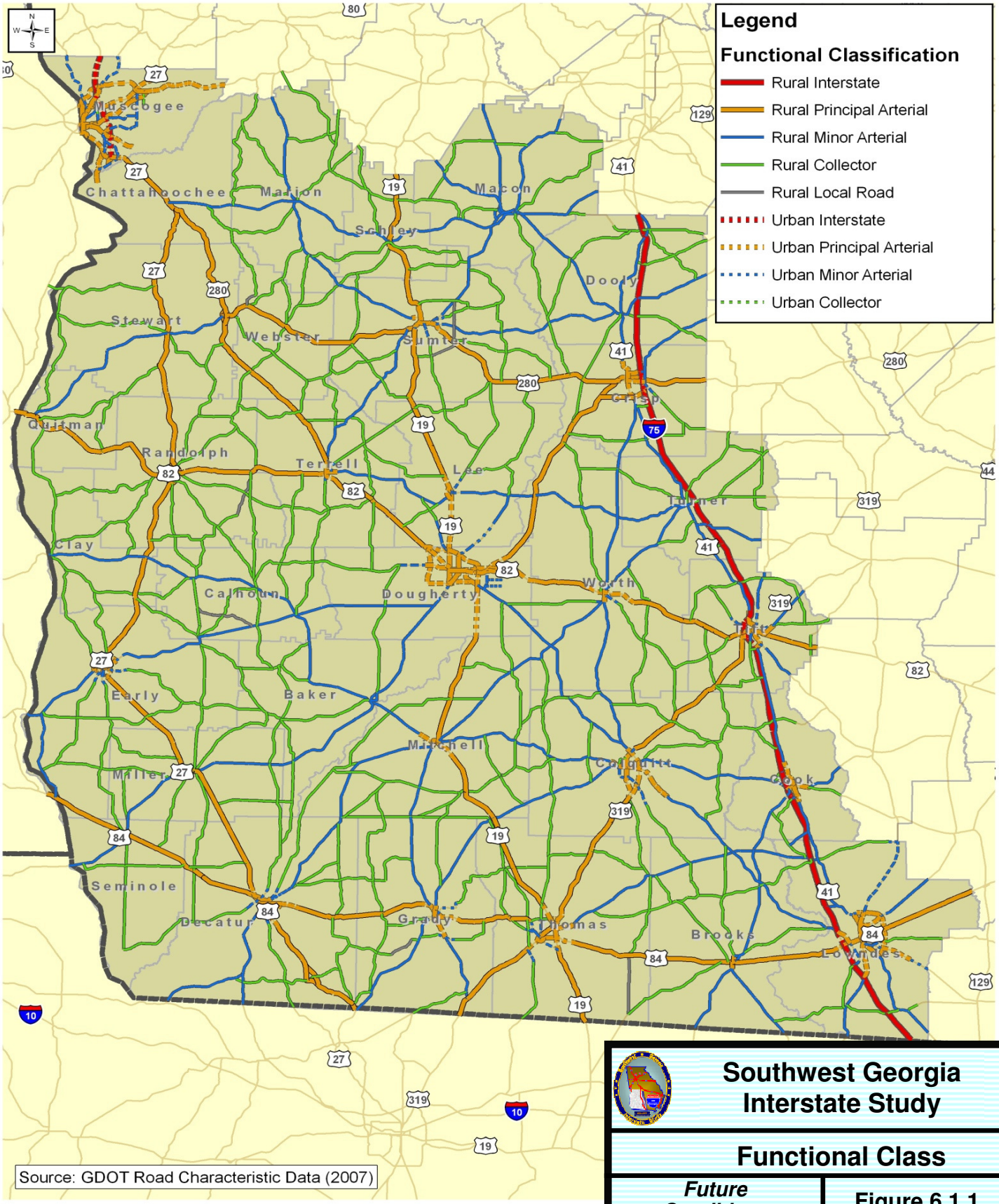
Area	Functional Class	2006			2040 E+C		
		2-Lane	Multi-Lane	Total	2-Lane	Multi-Lane	Total
Rural	Rural Interstate	0	159	159	0	159	159
	Rural Principal Arterial	377	728	1,105	282	823	1,105
	Rural Minor Arterial	1,997	2	1,999	1,998	2	2,000
	Rural Major Collector	4,022	16	4,038	4,024	16	4,040
	Rural Minor Collector	346	0	346	347	0	347
	Rural Local	72	0	72	72	0	72
	Total	**6,814**	**905**	**7,719**	**6,723**	**1,000**	**7,723**
Urban	Urban Interstate	0	27	27	0	27	27
	Urban Freeway	0	10	10	0	10	10
	Urban Principal Arterial	105	201	306	107	203	310
	Urban Minor Arterial	186	5	191	184	6	190
	Urban Collector	3	0	3	3	0	3
	Total	**294**	**243**	**537**	**294**	**246**	**540**
Grand Total	Interstate	0	186	186	0	186	186
	Principal Arterial	482	939	1,421	389	1,036	1,425
	Minor Arterial	2,183	7	2,190	2,182	8	2,190
	Collector	4,371	16	4,387	4,374	16	4,390
	Local Road	72	0	72	72	0	72
	Grand Total	**7,108**	**1,148**	**8,256**	**7,017**	**1,246**	**8,263***

Source: Southwest Georgia Interstate Study Travel Demand Model – *The number of increased miles between 2006 and 2040 E+C networks differs slightly from the total number of miles in the Committed Projects list due to rounding and slight differences in coding and network distances.

Table 6.1.2
Committed Projects Included in 2040 E+C Network

Project ID	Road	From	To	Improvement	County	Length (Mi.)
311445	I-185	SR 520	St. Marys Rd	Widen from 4 to 6 lanes	Muscogee	2.83
410520	I-75	SR 37	CR 246/Kinard Bridge Rd	Widen from 4 to 6 lanes	Cook	9.47
410530	I-75	CR 246/Kinard Bridge Rd	Tift CO line	Widen from 4 to 6 lanes	Cook	3.99
410260	I-75	SR 300	Dooly CO line	Widen from 4 to 6 lanes	Crisp	6.56
410500	I-75	North of SR 133	Cook CO line	Widen from 4 to 6 lanes	Lowndes	13.60
0006073	I-75	Cook CO line	CR204/Southwell Blvd	Widen from 4 to 6 lanes	Tift	6.24
0006016	I-75	SR 32	SR 159	Widen from 4 to 6 lanes	Turner	5.49
410245	I-75	Tift CO line	SR 32	Widen from 4 to 6 lanes	Turner	5.58
0006472	Schatulga Rd (Eastern Connector)	Red Arrow Rd/Cargo Rd	Chattsworth Rd	New 4 lane road	Muscogee	1.16
422215	SR 1/US 27	CR 279/Damascus-Hilton Rd	Blakely Bypass	Widen from 2 to 4 lanes	Early	7.00
422210	SR 1/US 27	West City Limits Colquitt	CR 279/Damascus-Hilton Rd	Widen from 2 to 4 lanes	Miller	9.50
350880	SR 22SP/Macon Rd	Reese Rd	Woodruff Farm Rd	Widen from 2 to 4 lanes	Muscogee	1.67
462395	SR 3/SR 49/ US 19	North of CR 151	Sumter CO line	Widen from 2 to 4 lanes	Lee	8.98
322195	SR 3/SR 49/ US 19	Lee CO Line	CR 42/Sumter	Widen from 2 to 4 lanes	Sumter	5.33
322190	SR 3/SR 49/ US 19	CR 42	0.3 Mi North of US-280	Widen from 2 to 4 lanes	Sumter	6.34
322420	SR 3/US 19	Angelica Creek/Sumter	SR 271	Widen from 2 to 4 lanes	Schley	6.73
322730	SR 3/US 19	SR 271	SR 240	Widen from 2 to 4 lanes	Schley	10.85
322720	SR 3/US 19	SR 240	CR 201/Cooper Rd/Taylor	Widen from 2 to 4 lanes	Schley	6.81
0000352	SR 38/US 84	Alabama State Line	SR 370	Widen from 2 to 4 lanes	Early	1.29
350790	St. Marys Rd	Buena Vista Rd	Robin Dr	Widen from 2 to 4 lanes	Muscogee	1.50

Source: GDOT Construction Work Program in July, 2008, GDOT review, and TREX



Southwest Georgia Interstate Study

Functional Class

Future Conditions | **Figure 6.1.1**

Southwest Georgia Interstate Study

Committed Projects

Future Conditions	**Figure 6.1.2**

Figure 6.1.3 displays the facilities in the study area by the number of lanes in 2040. Sections of I-185 and US 280 in Columbus and all of I-75 are the primary 6-lane facilities.

6.2 Travel Conditions and Level-of-Service

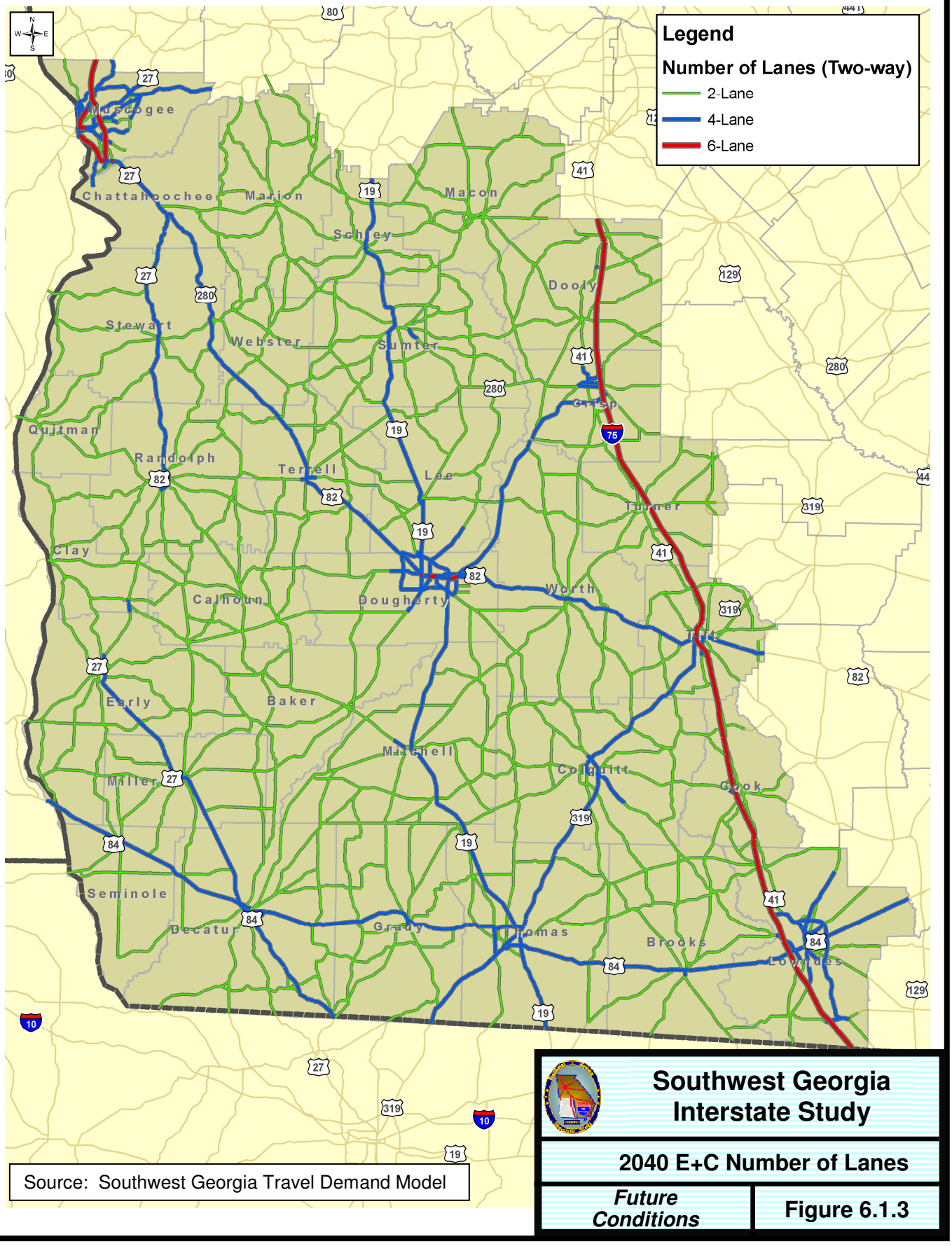
Table 6.2.1 lists the daily vehicle miles traveled (VMT) for the existing 2006 and 2040 E+C networks by functional class. In both conditions, 82 percent of the daily VMT takes place on the rural facilities. In the year 2040, an increase in the percentage distribution of VMT is anticipated on rural interstates, rural principal arterials, and urban interstates. All other functional classifications are expected to remain at the same percentage of VMT or should see a decrease in percentage distribution.

Table 6.2.1
Distribution of Total Daily Vehicle Miles Traveled
for 2006 and 2040 E +C Network

Area	Functional Class	2006		2040 E + C	
		VMT	% of Total VMT	VMT	% of Total VMT
Rural	Rural Interstate	3,226,983	22.8%	4,778,416	23.4%
	Rural Principal Arterial	3,512,861	24.9%	5,812,724	28.4%
	Rural Minor Arterial	2,651,689	18.8%	3,546,555	17.3%
	Rural Major Collector	2,130,690	15.1%	2,617,515	12.8%
	Rural Minor Collector	100,133	0.7%	111,374	0.5%
	Rural Local	19,445	0.1%	24,974	0.1%
	Total	**11,641,802**	**82.4%**	**16,891,558**	**82.6%**
Urban	Urban Interstate	563,020	4.0%	844,468	4.1%
	Urban Freeway	58,954	0.4%	83,341	0.4%
	Urban Principal Arterial	1,487,729	10.5%	2,127,261	10.4%
	Urban Minor Arterial	376,466	2.7%	497,526	2.4%
	Urban Collector	2,957	0.0%	5,747	0.0%
	Total	**2,489,126**	**17.6%**	**3,558,343**	**17.4%**
Grand Total		**14,130,927**	**100.0%**	**20,449,901**	**100.0%**

Source: Southwest Georgia Interstate Study Travel Demand Model

Table 6.2.2 lists the change in daily VMT by functional class between 2006 and the 2040 E+C conditions. Total daily VMT increases by 44.7 percent or 6.3 million in the entire study area. The majority of this increase in VMT is forecasted to occur on the rural functionally classified facilities.


Legend
Number of Lanes (Two-way)
2-Lane
4-Lane
6-Lane
Muscogee
Chattahoochee
Marion
Macon
Schley
Stewart
Webster
Sumter
Dooly
Crisp
Quitman
Randolph
Terrell
Lee
Turner
Clay
Calhoun
Dougherty
Worth
Tift
Early
Baker
Mitchell
Colquitt
Cook
Miller
Seminole
Decatur
Grady
Thomas
Brooks
Lowndes
Source: Southwest Georgia Travel Demand Model
Southwest Georgia Interstate Study
2040 E+C Number of Lanes
Future Conditions
Figure 6.1.3

Daily VMT is forecasted to increase by 45.1 percent or 5.2 million on the rural functionally classified facilities while daily VMT is forecasted to increase by 43.0 percent to 1.1 million on the urban functionally classified facilities.

Table 6.2.2
Total Daily Vehicle Miles Traveled (VMT)
for 2006 and 2040 E +C Network

Area	Functional Class	2006	2040 E + C	Difference	Percent Change
Rural	Rural Interstate	3,226,983	4,778,416	1,551,433	48.1%
	Rural Principal Arterial	3,512,861	5,812,724	2,299,863	65.5%
	Rural Minor Arterial	2,651,689	3,546,555	894,866	33.8%
	Rural Major Collector	2,130,690	2,617,515	486,825	22.9%
	Rural Minor Collector	100,133	111,374	11,241	11.2%
	Rural Local	19,445	24,974	5,529	28.4%
	Total	**11,641,802**	**16,891,558**	**5,249,756**	**45.1%**
Urban	Urban Interstate	563,020	844,468	281,448	50.0%
	Urban Freeway	58,954	83,341	24,387	41.4%
	Urban Principal Arterial	1,487,729	2,127,261	639,532	43.0%
	Urban Minor Arterial	376,466	497,526	121,060	32.2%
	Urban Collector	2,957	5,747	2,790	94.4%
	Total	**2,489,126**	**3,558,343**	**1,069,217**	**43.0%**
Grand Total		**14,130,927**	**20,449,901**	**6,318,974**	**44.7%**

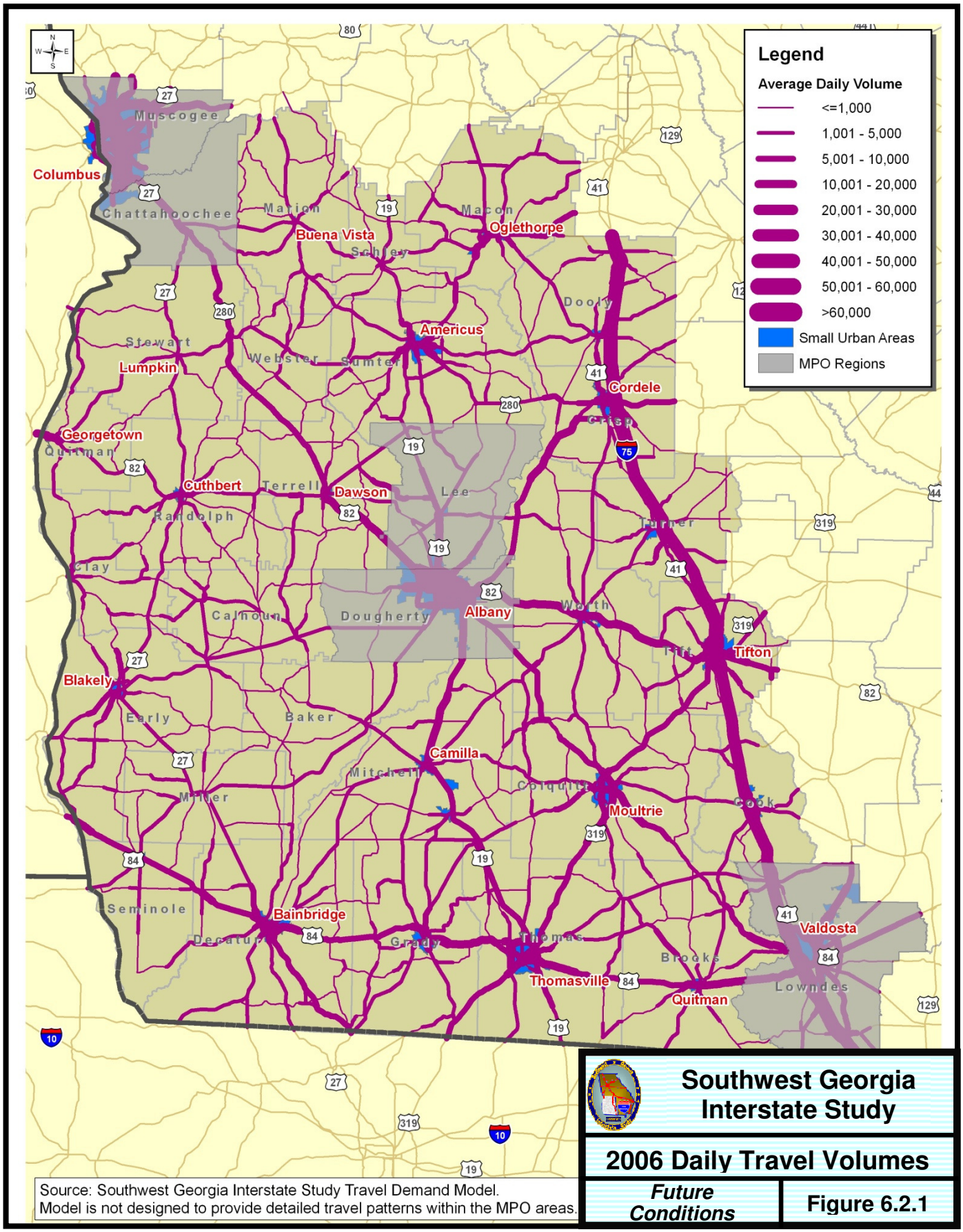
Source: Southwest Georgia Interstate Study Travel Demand Model

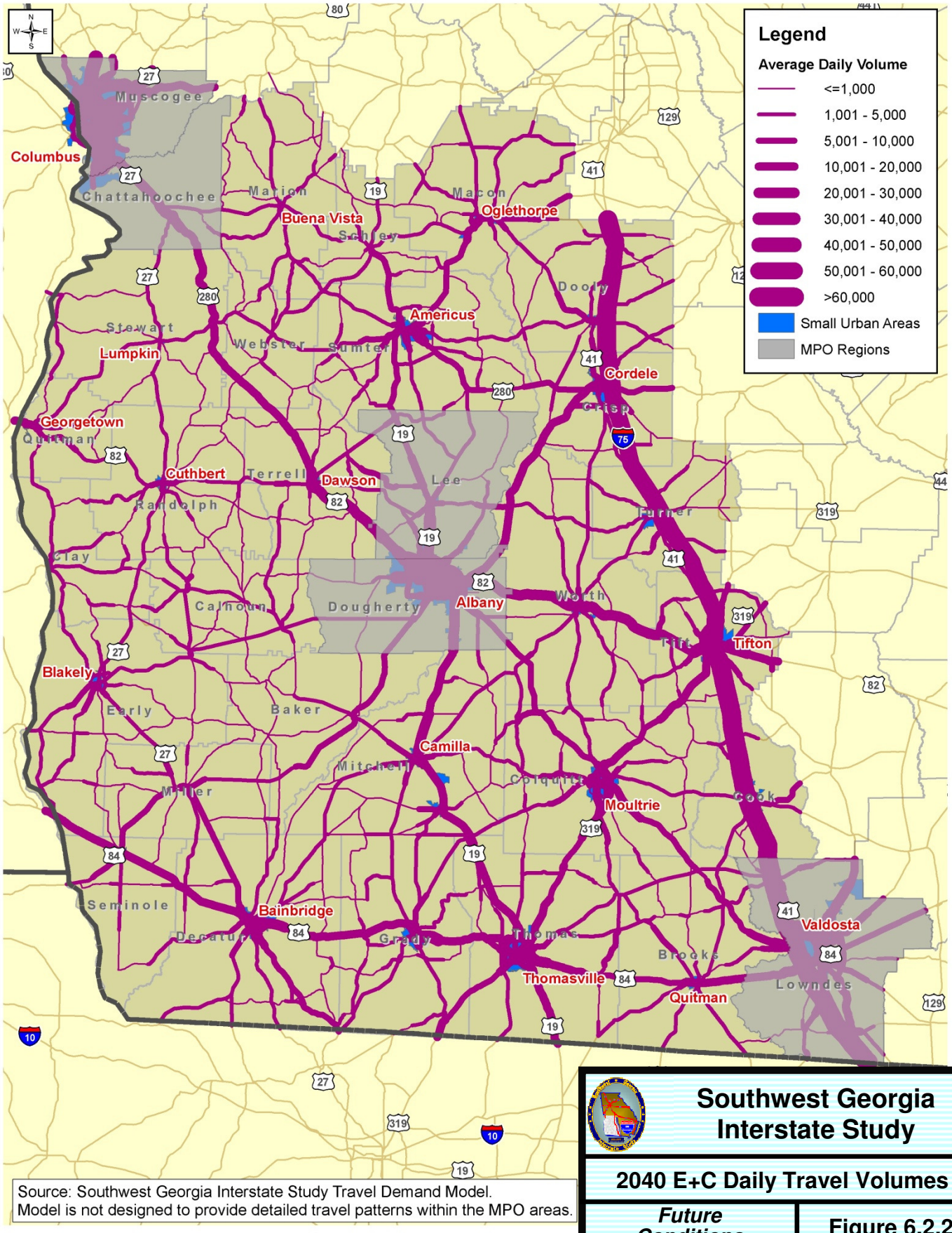
Figure 6.2.1 displays the daily travel volumes by volume range for 2006 and Figure 6.2.2 displays the daily volumes by volume range for the 2040 E+C network. Figure 6.2.3 displays the total daily traffic volume difference between the 2006 existing network and the 2040 E+C network. The I-75 corridor, which provides for north-south travel within the study area and through the study area, has the highest daily travel volumes. Daily travel volumes on I-75 range from 50,000 to over 60,000 vehicles a day. US 280, US 82, US 19 and SR 300 carry the largest non-interstate north-south travel. The largest east-west travel movements occur on US 84 and parts of US 82. The major travel corridors are listed below.

- I-75 from the northern end of the study area to the southern end
- US 280 to US 82 from Columbus to Albany to Tifton

- US 19 from Americus to Albany to Thomasville to Tallahassee
- SR 300 from Cordele to Albany
- US 319 from Tifton to Moultrie to Thomasville
- US 84 from Valdosta to Thomasville to Bainbridge to Georgia-Alabama line

Table 6.2.3 lists the total daily truck VMT for 2006 by functional class. Trucks account for one-fourth of the daily VMT traveled within the study area. Approximately 60 percent of daily truck VMT occurs on interstates, freeways and principal arterials. The percent of truck VMT by functional class ranges between 23-32 percent for all of the facilities with the exception of urban collectors. The high percentage on urban collectors is probably due to the exclusion of the MPO areas and the small amount of urban collectors included in this analysis.


Legend
Average Daily Volume
<=1,000
1,001 - 5,000
5,001 - 10,000
10,001 - 20,000
20,001 - 30,000
30,001 - 40,000
40,001 - 50,000
50,001 - 60,000
>60,000
Small Urban Areas
MPO Regions
Columbus
Muscogee
Chattahoochee
Marion
Schley
Macon
Oglethorpe
Buena Vista
Stewart
Webster
Sumter
Americus
Lumpkin
Dooly
Cordele
Crisp
Georgetown
Quitman
Cuthbert
Randolph
Terrell
Dawson
Lee
Albany
Dougherty
Turner
Worth
Tift
Tifton
Clay
Calhoun
Blakely
Early
Baker
Mitchell
Camilla
Miller
Colquitt
Moultrie
Cook
Seminole
Bainbridge
Decatur
Grady
Thomas
Brooks
Thomasville
Quitman
Lowndes
Valdosta
Source: Southwest Georgia Interstate Study Travel Demand Model.
Model is not designed to provide detailed travel patterns within the MPO areas.
Southwest Georgia Interstate Study
2006 Daily Travel Volumes
Future Conditions
Figure 6.2.1


Legend
Average Daily Volume
<=1,000
1,001 - 5,000
5,001 - 10,000
10,001 - 20,000
20,001 - 30,000
30,001 - 40,000
40,001 - 50,000
50,001 - 60,000
>60,000
Small Urban Areas
MPO Regions
Columbus
Muscogee
Chattahoochee
Marion
Schley
Macon
Oglethorpe
Buena Vista
Americus
Sumter
Webster
Stewart
Lumpkin
Georgetown
Quitman
Cuthbert
Randolph
Terrell
Dawson
Lee
Dooly
Cordele
Crisp
Turner
Clay
Calhoun
Dougherty
Albany
Worth
Tift
Tifton
Blakely
Early
Baker
Camilla
Mitchell
Miller
Colquitt
Moultrie
Cook
Seminole
Bainbridge
Decatur
Grady
Thomas
Brooks
Thomasville
Quitman
Lowndes
Valdosta
Source: Southwest Georgia Interstate Study Travel Demand Model.
Model is not designed to provide detailed travel patterns within the MPO areas.
Southwest Georgia Interstate Study
2040 E+C Daily Travel Volumes
Future Conditions
Figure 6.2.2

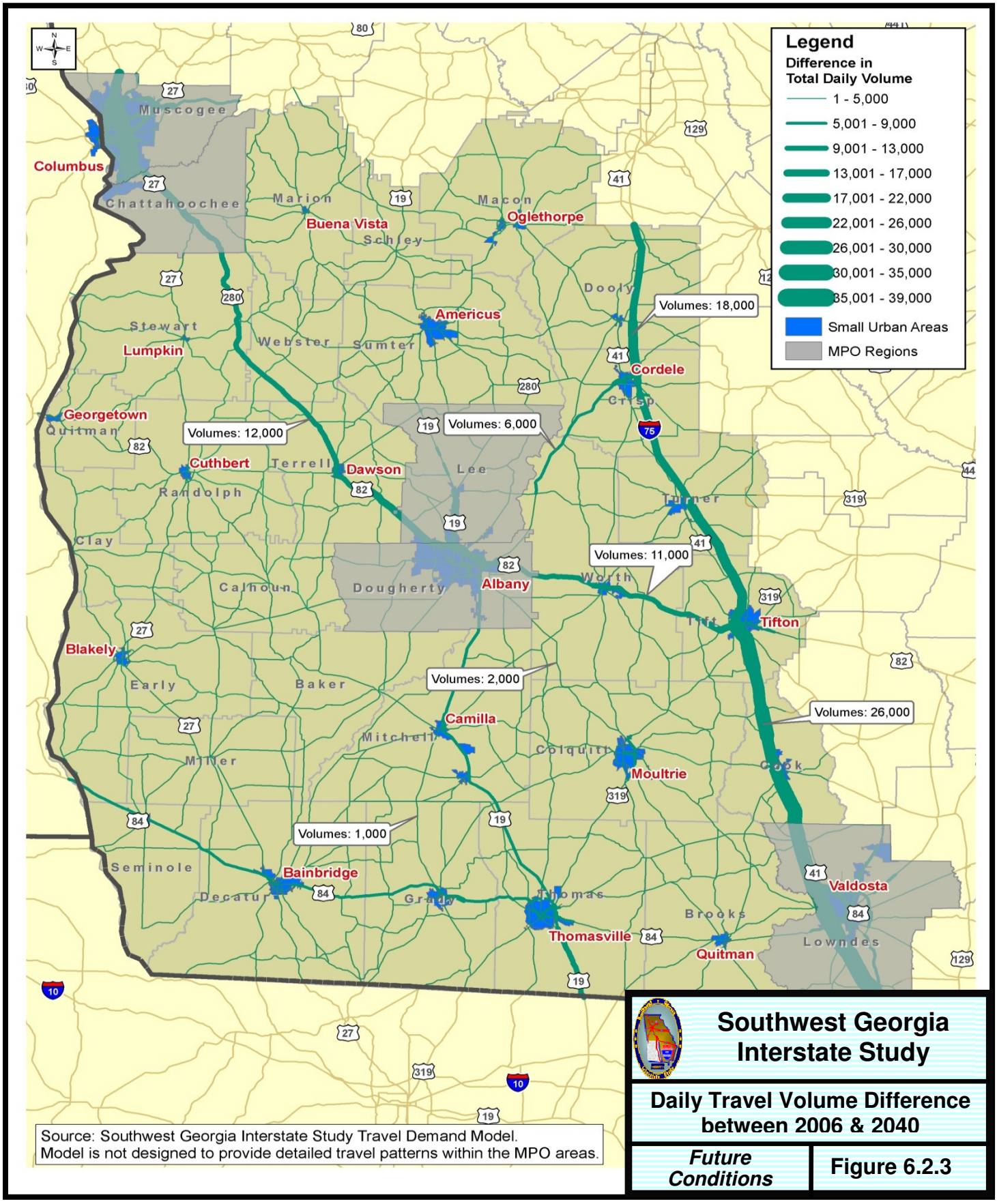

Legend
Difference in Total Daily Volume
1 - 5,000
5,001 - 9,000
9,001 - 13,000
13,001 - 17,000
17,001 - 22,000
22,001 - 26,000
26,001 - 30,000
30,001 - 35,000
35,001 - 39,000
Small Urban Areas
MPO Regions
Volumes: 18,000
Volumes: 12,000
Volumes: 6,000
Volumes: 11,000
Volumes: 2,000
Volumes: 26,000
Volumes: 1,000
Columbus
Americus
Oglethorpe
Cordele
Georgetown
Cuthbert
Dawson
Albany
Tifton
Blakely
Camilla
Moultrie
Bainbridge
Thomasville
Quitman
Valdosta
Muscogee
Chattahoochee
Marion
Buena Vista
Schley
Macon
Dooly
Stewart
Lumpkin
Webster
Sumter
Crisp
Quitman
Terrell
Lee
Randolph
Turner
Clay
Calhoun
Dougherty
Worth
Tift
Early
Baker
Mitchell
Colquitt
Miller
Cook
Seminole
Decatur
Grady
Thomas
Brooks
Lowndes
Source: Southwest Georgia Interstate Study Travel Demand Model.
Model is not designed to provide detailed travel patterns within the MPO areas.
Southwest Georgia Interstate Study
Daily Travel Volume Difference between 2006 & 2040
Future Conditions
Figure 6.2.3

Table 6.2.3
Distribution of Total Daily Truck Vehicle Miles Traveled
for 2006 and 2040 E+C

Area	Functional Class	2006			2040 E+C		
		Truck VMT	Total VMT	% Truck	Truck VMT	Total VMT	% Truck
Rural	Rural Interstate	791,703	3,226,983	24.5%	1,154,163	4,778,416	24.2%
	Rural Principal Arterial	781,001	3,512,861	22.2%	1,689,293	5,812,724	29.1%
	Rural Minor Arterial	698,579	2,651,689	26.3%	895,588	3,546,555	25.3%
	Rural Major Collector	660,773	2,130,690	31.0%	798,136	2,617,515	30.5%
	Rural Minor Collector	31,867	100,132	31.8%	34,603	111,374	31.1%
	Rural Local	4,376	19,444	22.5%	5,444	24,974	21.8%
	Total	**2,968,299**	**11,641,799**	**25.5%**	**4,577,227**	**16,891,558**	**27.1%**
Urban	Urban Interstate	140,327	563,019	24.9%	215,629	844,468	25.5%
	Urban Freeway	15,847	58,953	26.9%	27,679	83,341	33.2%
	Urban Principal Arterial	405,998	1,487,728	27.3%	638,651	2,127,261	30.0%
	Urban Minor Arterial	113,719	376,465	30.2%	157,969	497,526	31.8%
	Urban Collector	1,785	2,957	60.4%	2,444	5,747	42.5%
	Total	**677,676**	**2,489,122**	**27.2%**	**1,042,372**	**3,558,343**	**29.3%**
Grand Total		**3,645,975**	**14,130,921**	**25.8%**	**5,619,599**	**20,449,901**	**27.5%**

Source: Southwest Georgia Interstate Study Travel Demand Model

Table 6.2.4 lists the change in daily truck VMT by functional class between 2006 and the 2040 E+C conditions. Total daily truck VMT increases by 54.2 percent or 1.6 million in the entire study area. Daily truck VMT is forecasted to increase at a slighly higher rate than total VMT. The majority of this increase, 82 percent, in truck VMT is again forecasted to occur on the rural functionally classified facilities. Daily truck VMT is forecasted to increase by 54.2 percent or 1.6 million on the rural functionally classified facilities while daily truck VMT is forecasted to increase by 53.8 percent or 365,000 on the urban functionally classified facilities.

Table 6.2.4
Total Daily Truck Vehicle Miles Traveled for 2006 and 2040 E+C

Area	Functional Class	2006	2040 E+C	Difference	Percent Change
Rural	Rural Interstate	791,703	1,154,163	362,460	45.8%
	Rural Principal Arterial	781,001	1,689,293	908,292	116.3%
	Rural Minor Arterial	698,579	895,588	197,009	28.2%
	Rural Major Collector	660,773	798,136	137,363	20.8%
	Rural Minor Collector	31,867	34,603	2,736	8.6%
	Rural Local	4,376	5,444	1,068	24.4%
	Total	**2,968,299**	**4,577,227**	**1,608,928**	**54.2%**
Urban	Urban Interstate	140,327	215,629	75,302	53.7%
	Urban Freeway	15,847	27,679	11,832	74.7%
	Urban Principal Arterial	405,998	638,651	232,653	57.3%
	Urban Minor Arterial	113,719	157,969	44,250	38.9%
	Urban Collector	1,785	2,444	659	36.9%
	Total	**677,676**	**1,042,372**	**364,696**	**53.8%**
	Grand Total	**3,645,975**	**5,619,599**	**3,582,552**	**54.1%**

Source: Southwest Georgia Interstate Study Travel Demand Model

Figure 6.2.4 displays the daily truck volumes within the study area in 2006 and Figure 6.2.5 displays the daily truck volumes on the 2040 E+C network. Figure 6.2.6 displays the total daily truck traffic volume difference between the 2006 existing network and the 2040 E+C network. As expected, the largest truck travel volumes occur on I-75. The largest increase in truck traffic between 2006 and the 2040 E+C network is anticipated on I-75 From Tifton south to the Valdosta MPO area with roughly 8,000 more trucks traveling in this corridor daily. The truck traffic increase along US 280 south of the Columbus MPO area to Richland, SR 520 between Richland and Dawson, and US 82 from Dawson east to I-75 is anticipated to be approximately 6,000 additional trucks daily. The I-75 corridor north of Tifton is anticipated to carry approximately 3,000 additional trucks daily.

Figure 6.2.7 displays the Level–of-Service (LOS) within the study area. LOS represents the level of service for operations on a roadway facility and is represented by grades denoted by the letters A, B, C, D, E and F. Their meanings are similar to grades in school with an "A" representing little or no congestion/delay and "F" representing extreme congestion or long delays. This measure is derived by dividing the theoretical facility capacity by the traffic volume. Qualitative descriptions of traffic flow associated with each LOS are provided below. These descriptions are based on definitions established in the Highway Capacity Manual (HCM) 2000.

- LOS A: Represents free flow conditions. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high.

- LOS B: In the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A.

- LOS C: In the range of stable flow, but it marks the beginning of the range of flow in which the operations of individual users become significantly affected by interactions with others in the traffic stream.

- LOS D: Represents high density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.

- LOS E: Represents operating conditions at or near capacity level. Freedom to maneuver within the traffic stream is extremely difficult. Comfort and convenience levels are extremely poor, and driver frustration is generally high.

- LOS F: Describes forced or break-down flow. This condition exists when the amount of traffic approaching a point exceeds that which can traverse the point.

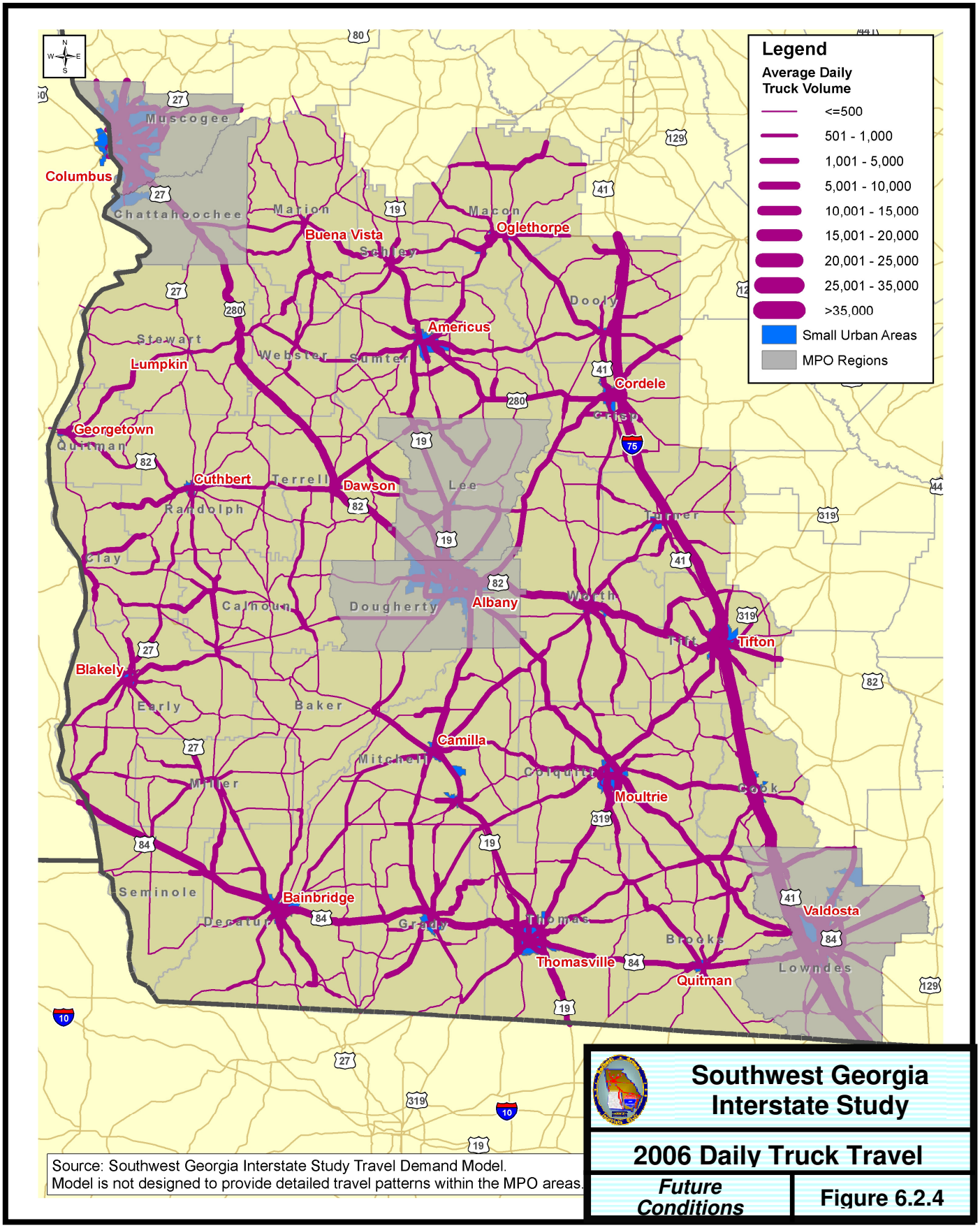
Outside of the MPO and urban areas, there were no facilities operating at LOS below C in 2006. This demonstrates that traffic volumes currently flow smoothly throughout the study area on a corridor level. On the 2040 E+C network, over 90% of the facilities operate at LOS C or better with the exception of urban principal arterial of which 87 percent of the roads classified in this category operate at LOS C or better. During this study GDOT conducted the Colquitt County

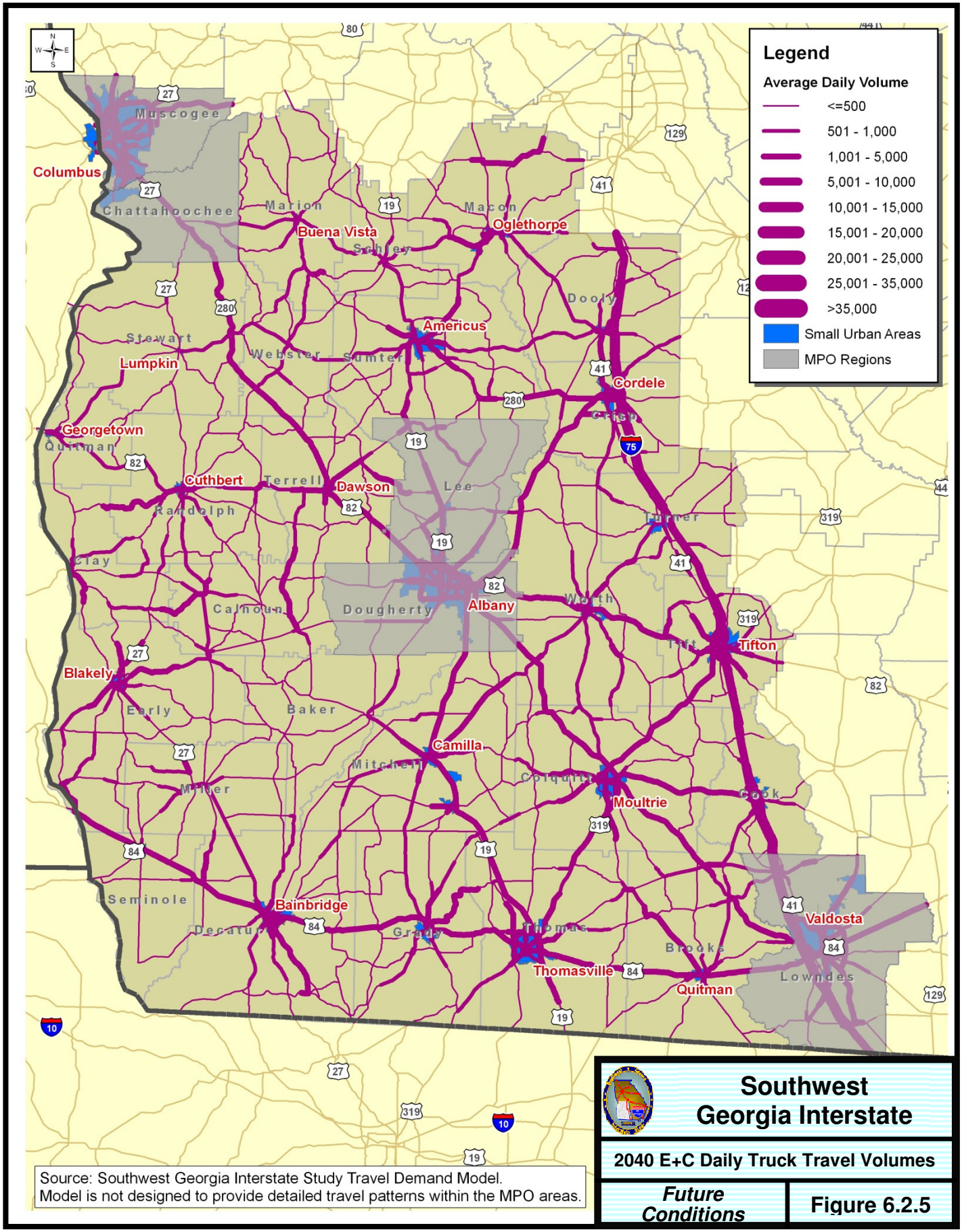
Long Range Transportation Study which evaluated Colquitt Count's transportation needs in more detail. The LOS for SR 133 was used for this analysis. Based on this study, traffic is forecasted to increase on the SR 133 corridor from Albany to Valdosta by 2040 which will result with an unacceptable LOS. Table 6.2.5 summarizes the percent of mileage operating at LOS C or better for the 2040 E+C conditions.

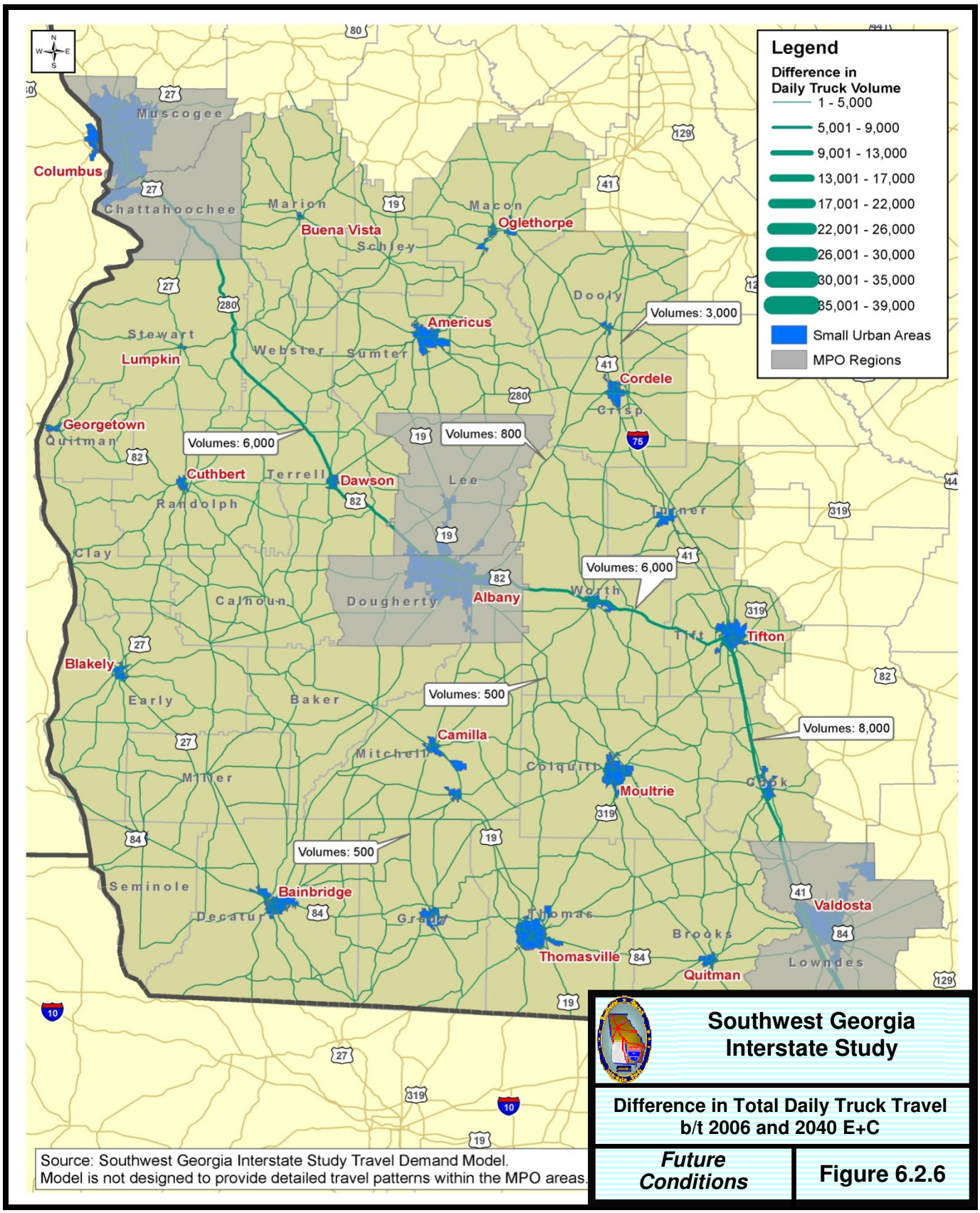
Table 6.2.5
Percent of Mileage Operating at LOC C or Better for 2040 E+C

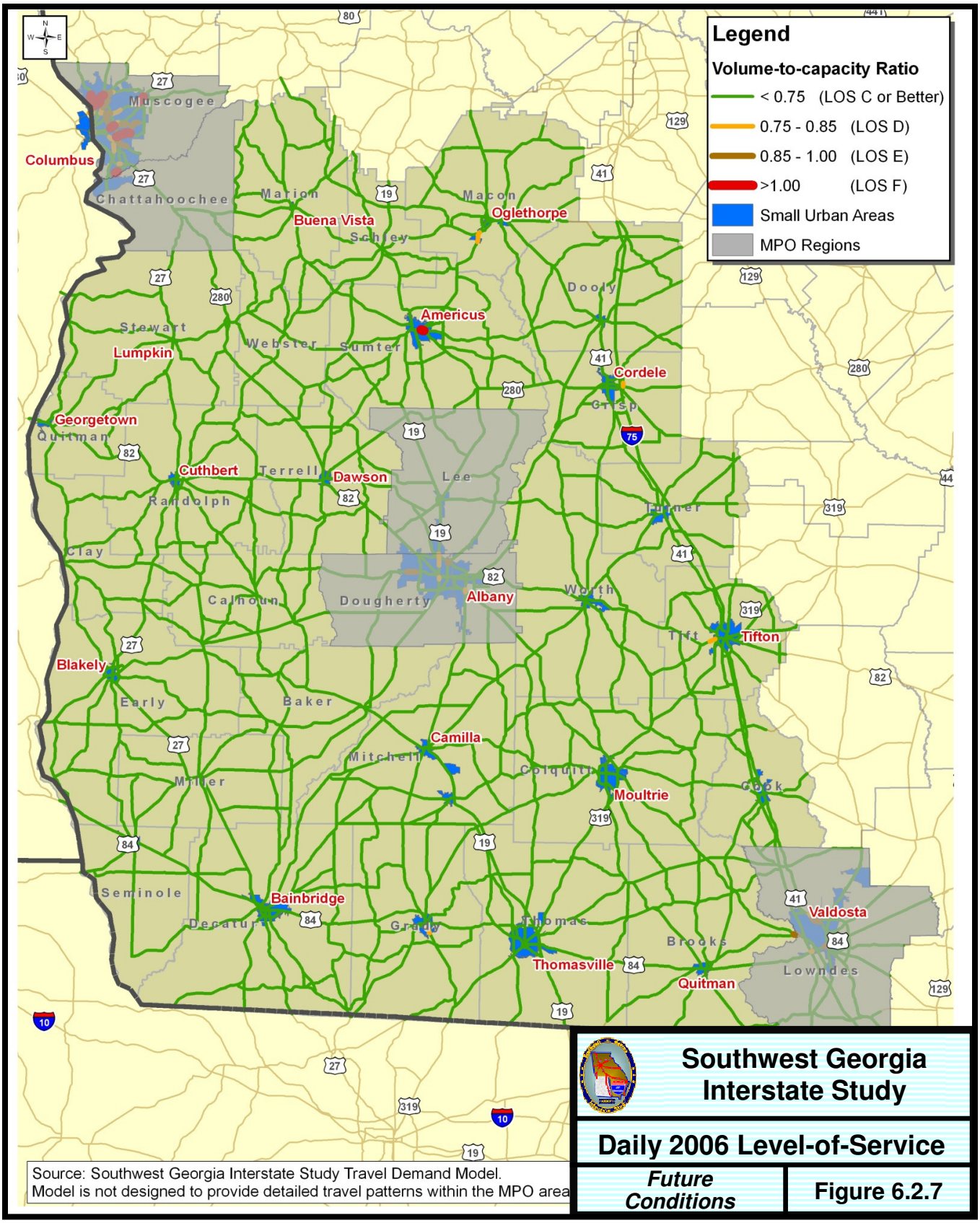
Area	Functional Class	% of Mileage
Rural	Rural Interstate	92%
	Rural Principal Arterial	99%
	Rural Minor Arterial	95%
	Rural Major Collector	100%
	Rural Minor Collector	100%
	Rural Local	100%
Urban	Urban Interstate	93%
	Urban Freeway	100%
	Urban Principal Arterial	87%
	Urban Minor Arterial	95%
	Urban Collector	100%

Source: Southwest Georgia Interstate Study Travel Demand Model and Colquitt County Long Range Transportation Study


Legend
Average Daily Truck Volume
<=500
501 - 1,000
1,001 - 5,000
5,001 - 10,000
10,001 - 15,000
15,001 - 20,000
20,001 - 25,000
25,001 - 35,000
>35,000
Small Urban Areas
MPO Regions
Columbus
Buena Vista
Oglethorpe
Americus
Lumpkin
Cordele
Georgetown
Cuthbert
Dawson
Albany
Tifton
Blakely
Camilla
Moultrie
Bainbridge
Thomasville
Quitman
Valdosta
Muscogee
Chattahoochee
Marion
Schley
Macon
Dooly
Stewart
Webster
Sumter
Quitman
Randolph
Terrell
Lee
Turner
Clay
Calhoun
Dougherty
Worth
Tift
Early
Baker
Mitchell
Colquitt
Cook
Miller
Seminole
Decatur
Grady
Thomas
Brooks
Lowndes
Source: Southwest Georgia Interstate Study Travel Demand Model.
Model is not designed to provide detailed travel patterns within the MPO areas.
Southwest Georgia Interstate Study
2006 Daily Truck Travel
Future Conditions
Figure 6.2.4


Legend
Average Daily Volume
<=500
501 - 1,000
1,001 - 5,000
5,001 - 10,000
10,001 - 15,000
15,001 - 20,000
20,001 - 25,000
25,001 - 35,000
>35,000
Small Urban Areas
MPO Regions
Columbus
Muscogee
Chattahoochee
Marion
Buena Vista
Schley
Macon
Oglethorpe
Americus
Sumter
Webster
Stewart
Lumpkin
Georgetown
Quitman
Cuthbert
Randolph
Terrell
Dawson
Lee
Dooly
Cordele
Crisp
Turner
Clay
Calhoun
Dougherty
Albany
Worth
Tift
Tifton
Blakely
Early
Baker
Camilla
Mitchell
Miller
Colquitt
Moultrie
Cook
Seminole
Bainbridge
Decatur
Grady
Thomas
Thomasville
Brooks
Lowndes
Valdosta
Quitman
Source: Southwest Georgia Interstate Study Travel Demand Model.
Model is not designed to provide detailed travel patterns within the MPO areas.
Southwest Georgia Interstate
2040 E+C Daily Truck Travel Volumes
Future Conditions
Figure 6.2.5


Legend
Difference in Daily Truck Volume
1 - 5,000
5,001 - 9,000
9,001 - 13,000
13,001 - 17,000
17,001 - 22,000
22,001 - 26,000
26,001 - 30,000
30,001 - 35,000
35,001 - 39,000
Small Urban Areas
MPO Regions
Columbus
Muscogee
Chattahoochee
Marion
Schley
Buena Vista
Macon
Oglethorpe
Dooly
Americus
Stewart
Lumpkin
Webster
Sumter
Cordele
Crisp
Georgetown
Quitman
Clay
Randolph
Cuthbert
Terrell
Dawson
Lee
Turner
Albany
Dougherty
Calhoun
Worth
Tift
Tifton
Blakely
Early
Baker
Mitchell
Camilla
Colquitt
Moultrie
Miller
Cook
Seminole
Decatur
Bainbridge
Grady
Thomas
Thomasville
Brooks
Lowndes
Valdosta
Quitman
Volumes: 3,000
Volumes: 6,000
Volumes: 800
Volumes: 6,000
Volumes: 500
Volumes: 8,000
Volumes: 500
Source: Southwest Georgia Interstate Study Travel Demand Model.
Model is not designed to provide detailed travel patterns within the MPO areas.
Southwest Georgia Interstate Study
Difference in Total Daily Truck Travel b/t 2006 and 2040 E+C
Future Conditions
Figure 6.2.6


Legend
Volume-to-capacity Ratio
< 0.75 (LOS C or Better)
0.75 - 0.85 (LOS D)
0.85 - 1.00 (LOS E)
>1.00 (LOS F)
Small Urban Areas
MPO Regions
Columbus
Muscogee
Chattahoochee
Marion
Schley
Macon
Oglethorpe
Buena Vista
Americus
Stewart
Webster
Sumter
Lumpkin
Dooly
Cordele
Crisp
Georgetown
Quitman
Cuthbert
Terrell
Dawson
Lee
Randolph
Turner
Clay
Calhoun
Dougherty
Albany
Worth
Tift
Tifton
Blakely
Early
Baker
Mitchell
Camilla
Miller
Colquitt
Moultrie
Cook
Seminole
Bainbridge
Decatur
Grady
Thomas
Brooks
Thomasville
Quitman
Valdosta
Lowndes
Source: Southwest Georgia Interstate Study Travel Demand Model.
Model is not designed to provide detailed travel patterns within the MPO area
Southwest Georgia Interstate Study
Daily 2006 Level-of-Service
Future Conditions
Figure 6.2.7

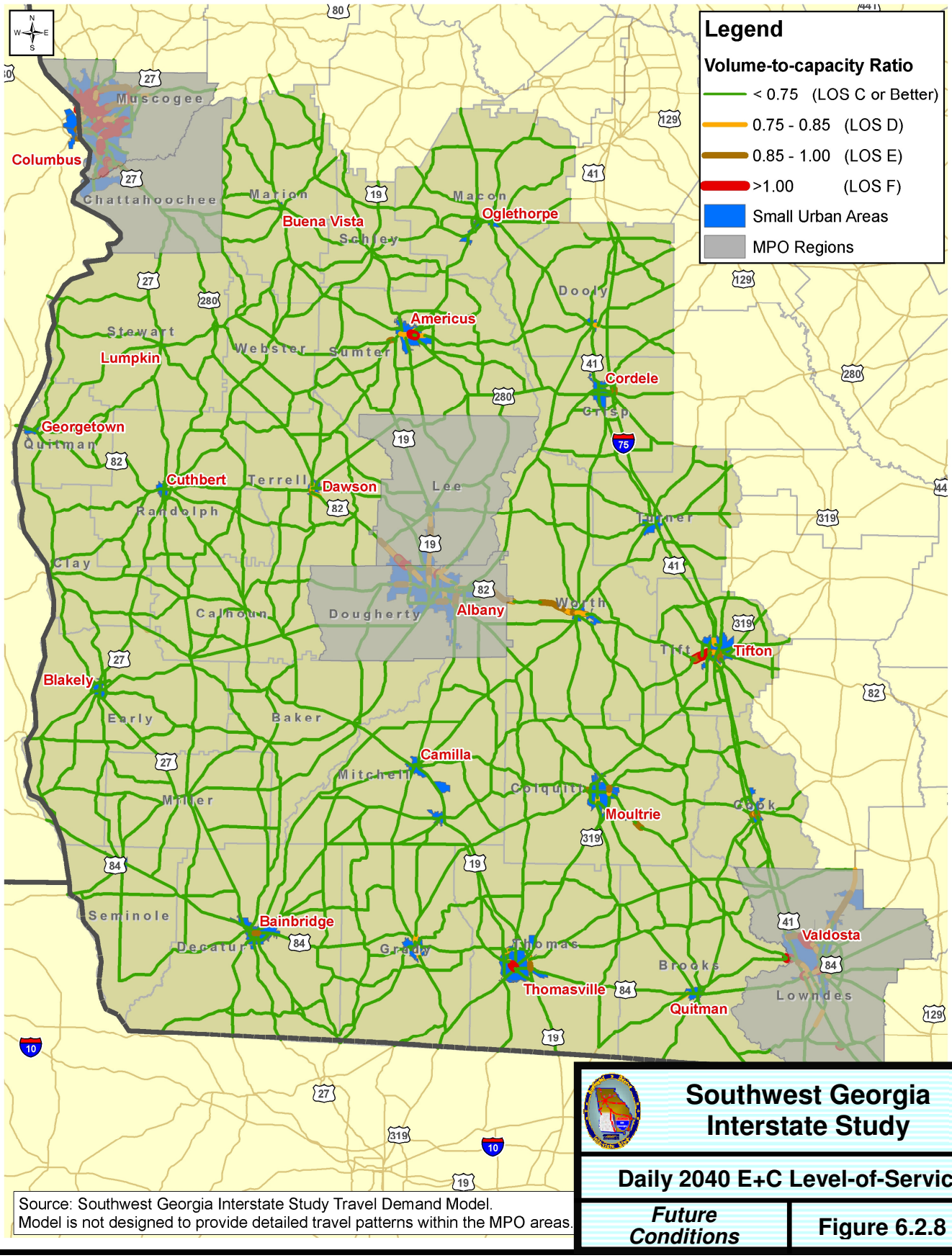

Legend
Volume-to-capacity Ratio
< 0.75 (LOS C or Better)
0.75 - 0.85 (LOS D)
0.85 - 1.00 (LOS E)
>1.00 (LOS F)
Small Urban Areas
MPO Regions
Columbus
Muscogee
Chattahoochee
Marion
Schley
Buena Vista
Macon
Oglethorpe
Dooly
Americus
Stewart
Lumpkin
Webster
Sumter
Cordele
Crisp
Georgetown
Quitman
Cuthbert
Randolph
Terrell
Dawson
Lee
Turner
Clay
Calhoun
Dougherty
Albany
Worth
Tift
Tifton
Blakely
Early
Baker
Camilla
Mitchell
Miller
Colquitt
Moultrie
Cook
Seminole
Bainbridge
Decatur
Grady
Thomas
Thomasville
Brooks
Lowndes
Valdosta
Quitman
Source: Southwest Georgia Interstate Study Travel Demand Model.
Model is not designed to provide detailed travel patterns within the MPO areas.
Southwest Georgia Interstate Study
Daily 2040 E+C Level-of-Service
Future Conditions
Figure 6.2.8

Table 6.2.6 displays the average volume to capacity ratio (V/C) and the percentage of the system operating at level of service (LOS) C or better on the 2006 and 2040 E+C network. A system operating at a V/C ratio of 0.75 or lower is classified LOS C or better. A LOS of C or better is considered to be free of any congestion requiring investment to correct. The 2006 rural system is free of congestion and only one percent of the entire 2006 urban roadway mileage is currently experiencing congestion. This demonstrates no serious and constant congestion currently in the study area. On the 2040 E+C network, based on the Southwest Georgia Interstate Model and the Colquitt County Long Range Transportation study model, the only facility with constant congestion is SR 133 between Albany and Valdosta. On the 2040 E+C network, seven (7) percent of the urban interstate, 12 percent of the urban principal arterial, and four (4) percent of the urban minor arterial and roadway mileage is anticipated to experience congestion.

Table 6.2.6
Level of Service for 2006 and 2040 E+C Network

Area	Functional Class	2006		2040 E+C	
		Average V/C	LOS C or Better (V/C < 0.75)	Average V/C	LOS C or Better (V/C < 0.75)
Rural	Rural Interstate	0.50	100%	0.60	100%
	Rural Principal Arterial	0.15	100%	0.24	98%
	Rural Minor Arterial	0.18	100%	0.24	95%
	Rural Major Collectors	0.07	100%	0.09	100%
	Rural Minor Collector	0.05	100%	0.05	100%
	Rural Local Road	0.04	100%	0.06	100%
	Total	**0.12**	**100%**	**0.16**	**100%**
Urban	Urban Interstate	0.46	100%	0.52	93%
	Urban Freeway/ Expressway	0.14	100%	0.20	100%
	Urban Principal Arterial	0.33	98%	0.45	88%
	Urban Minor Arterial	0.25	100%	0.33	96%
	Urban Collector	0.13	100%	0.33	100%
	Total	**0.30**	**99%**	**0.41**	**91%**
	Grand Total	**0.13**	**100%**	**0.17**	**99%**

Source: Southwest Georgia Interstate Study Travel Demand Model and Colquitt County Long Range Transportation Study

Table 6.2.7 and Figures 6.2.9 – 6.2.12 display the seconds of delay per daily VMT by rural and functional class for 2006 and the 2040 E+C Network. The four classifications with the highest number of seconds of delay are rural interstate, urban interstate, urban principal arterial, and urban minor arterial. Between 2006 and the 2040 E+C network, the urban principal arterial and urban

minor arterial are projected to experience the largest increase in number of seconds of delay within the system.

Table 6.2.7
Seconds of Delay Per Vehicle Mile Traveled for 2006 and 2040 E+C

Area	Functional Class	2006	2040 E+C	Difference
Rural	Rural Interstate	1.39	3.22	1.83
	Rural Principal Arterial	0.11	1.12	1.01
	Rural Minor Arterial	0.65	1.48	0.83
	Rural Major Collector	0.22	0.66	0.44
	Rural Minor Collector	0.33	1.00	0.67
	Rural Local	0.01	0.00	-0.01
	Total	**0.61**	**1.71**	1.10
Urban	Urban Interstate	1.10	2.19	1.09
	Urban Freeway/Expressway	0.00	0.04	0.04
	Urban Principal Arterial	2.20	9.36	7.16
	Urban Minor Arterial	1.61	5.87	4.26
	Urban Collector	0.03	0.63	0.60
	Total	**1.80**	**6.94**	5.14
Grand Total		**0.82**	**2.62**	1.80

Figure 6.2.9
Seconds of Delay per Vehicle Mile of Travel in 2006
By Rural Functional Classification

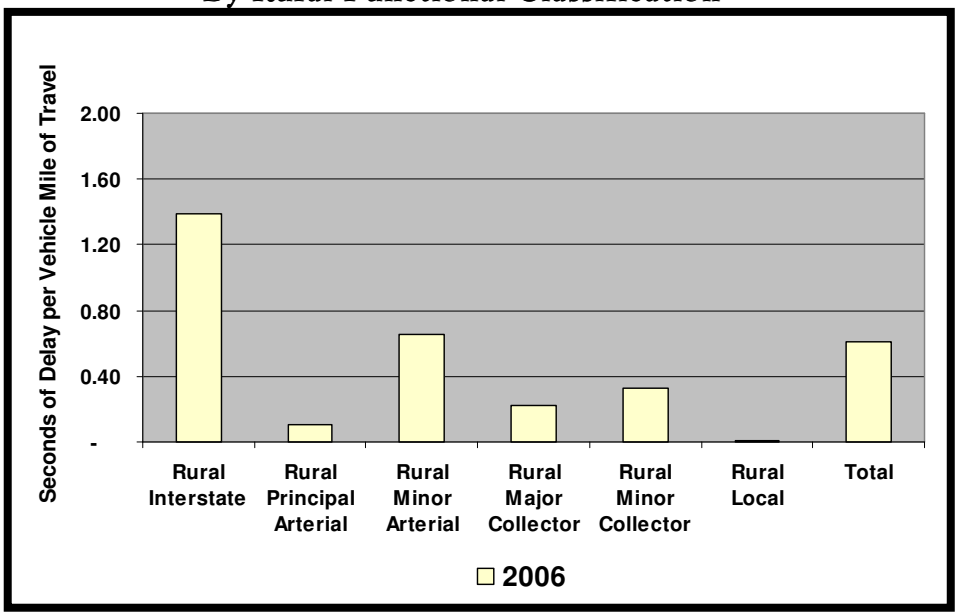


Figure 6.2.10
Seconds of Delay per Vehicle Mile of Travel in 2006
By Urban Functional Classification

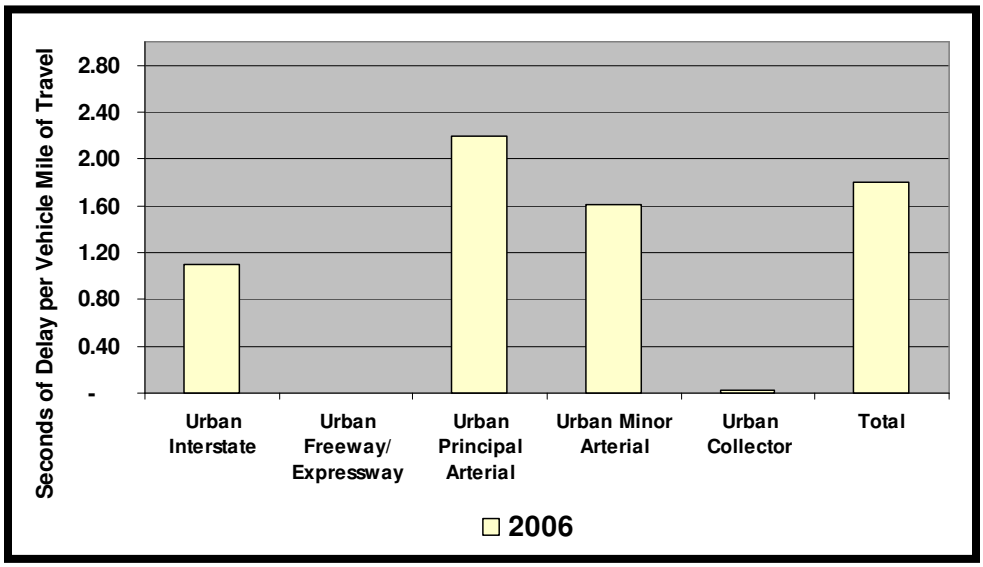


Figure 6.2.11
Seconds of Delay per Vehicle Mile of Travel in 2040 E+C
By Rural Functional Classification

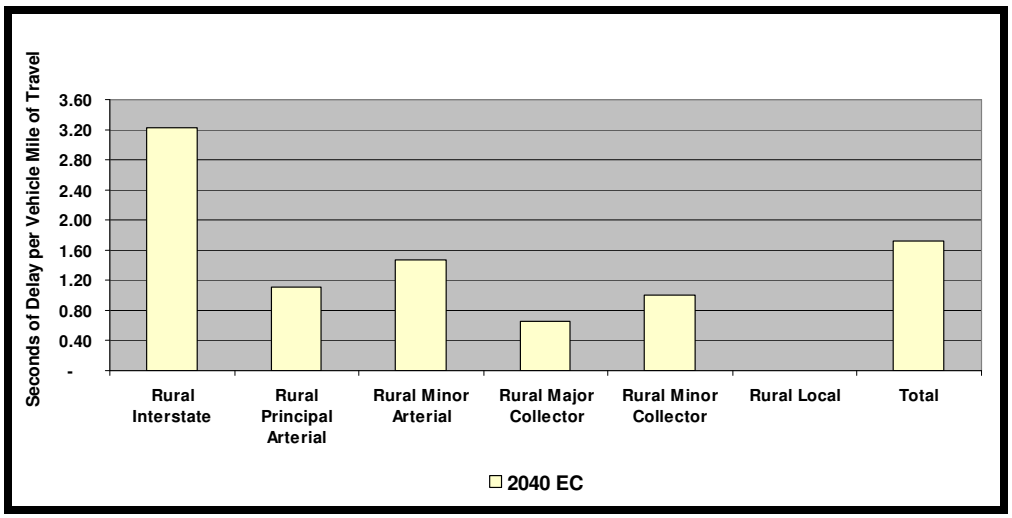
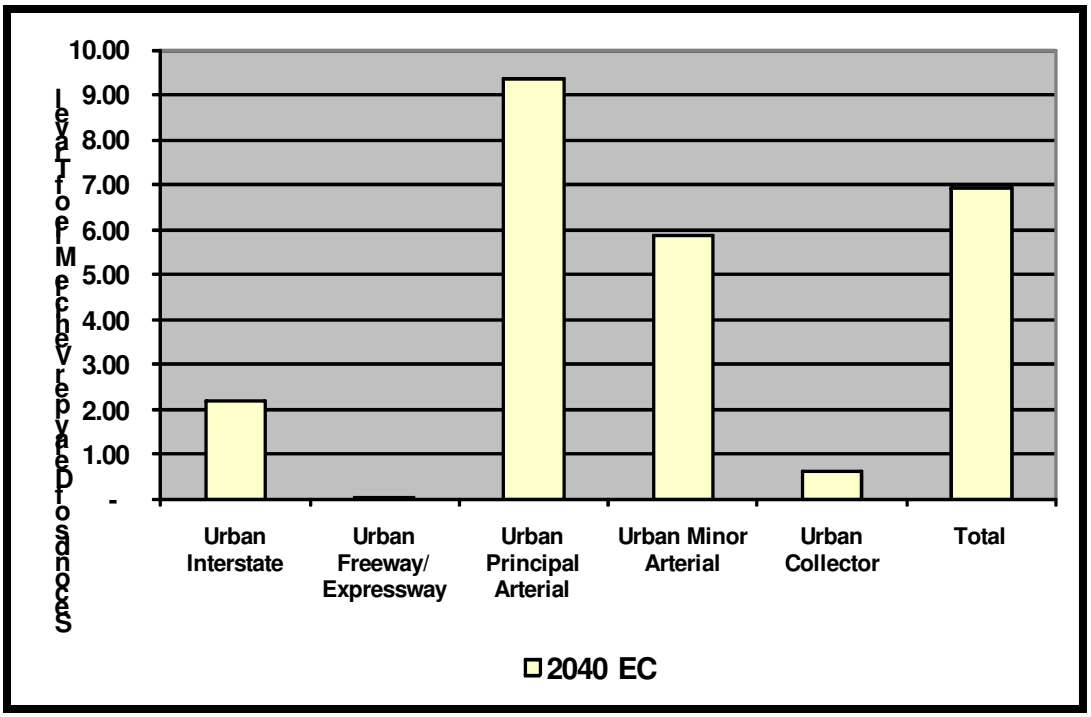


Figure 6.2.12
Seconds of Delay per Vehicle Mile of Travel in 2040 E+C
By Urban Functional Classification



Accessibility to interstate facilities is reflected in Table 6.2.8. There are three interstate facilities (I-75, I-185, and I-10) that are accessible to residents and workers in the study area. Almost all of the study area is within one hour access to an interstate facility in 2006 with the exception of the western middle area of Early, Baker, Clay, Calhoun and Randolph counties. In comparing the 2006 network to the 2040 E+C network, the travel time to I-75 increased by 15 percent from Albany and by ten (10) percent from Quitman and Thomasville. Travel time from Lumpkin, Tifton, and Valdosta to I-185 increased over ten (10) percent. Travel times from Georgia cities to I-10 in Florida by far show the highest percentage of increase in travel times during the study period with Bainbridge and Thomasville showing the largest percentage increase at 40 percent or higher. Table 6.2.8 shows travel time calculations to the three interstates for many of the urban areas within the study area.

Table 6.2.8
Access Time to Interstate Facility in 2006 and on 2040 E+C Network
(in Minutes)

City	I-75			I-185			I-10		
	2006	2040	% Increase	2006	2040	% Increase	2006	2040	% Increase
Albany	49	56	15%	96	105	9%	118	143	21%
Americus	42	43	3%	81	86	6%	169	198	17%
Bainbridge	95	101	6%	142	144	1%	61	86	40%
Blakely	117	125	7%	103	107	4%	112	139	24%
Buena Vista	82	83	1%	46	50	8%	197	219	11%
Camilla	72	73	2%	129	140	9%	81	104	28%
Columbus	117	122	5%	0	0	0%	205	236	15%
Cordele	0	0	0%	117	122	5%	133	140	5%
Cuthbert	92	93	1%	64	69	8%	145	170	17%
Dawson	64	65	2%	71	75	6%	145	175	21%
Georgetown	121	122	1%	66	71	7%	175	203	16%
Lumpkin	93	94	1%	49	54	11%	167	191	15%
Moultrie	33	33	1%	147	159	8%	79	98	24%
Oglethorpe	46	47	2%	85	87	2%	175	182	4%
Quitman	24	26	10%	185	198	7%	76	82	8%
Thomasville	48	53	10%	159	171	8%	50	71	42%
Tifton	0	0	0%	139	156	12%	101	107	6%
Valdosta	0	0	0%	181	202	12%	61	65	6%

6.3 Crash Analysis

The primary purpose of the crash analysis is to identify above average probability crash locations for year 2006 in the study area. This information will be used in the study to aid in determining potentially feasible limited access transportation corridors as well as identifying areas where countermeasures could possibly address potential safety issues. In addition, it will be used to rank potentially feasible freeway corridors in terms of their relative effectiveness toward overall crash reduction. A secondary utility of the above average crash location analysis findings is to provide Georgia DOT District offices and local public works officials with a list of highway sections whose three-year crash experience from 2004 to 2006 exceeds average or ordinary crash rate, total crash frequency or fatal crash frequency experience. Details related to the existing crash locations,

methodology, and analysis can be found in the *Existing Conditions Technical Memorandum* and the *Crash Analysis Technical Memorandum*.

The projected number of crashes for the 2040 E+C network was calculated using the rates in Table 6.3.1. The table was developed using GDOT's crash rates for 2007 as no data was available for 2006. It was assumed that the 2007 rates were sufficiently close to 2006 rates. The rates were specific to a roadway's functional classifications and in the unit of accidents per 100 million vehicle mile of travel. Assuming the crash rates stay constant over time, the estimated number of crashes was calculated based on VMTs from the travel demand models for 2006 and 2040 E+C network and crash rates for each roadway functional classification. In using this method, safety benefit can be measured across the different alternatives by comparing the total number of forecasted crashes and their severity. Tables 6.3.2 and 6.3.3 summarize the 2006 total crashes and the projected total crashes on the 2040 E+C System.

Table 6.3.1
Crash Rates

2007 GDOT Crash Rates (Accidents/100 MVMT)				
Area	**Facility Type**	**Fatal**	**Injury**	**Property Damage**
Rural	Interstates	0.82	17	40
	Principal Arterials	1.99	47	96
	Minor Arterials	2.33	62	122
	Major Collectors	3.24	72	128
	Minor Collectors	1.35	33	57
	Locals	1.87	57	109
Urban	Interstates	0.52	43	142
	Freeways	0.29	44	154
	Principal Arterials	1.46	133	415
	Minor Arterials	1.34	126	387
	Collectors	1.25	114	360

Source: Crash rates are from GDOT Statewide Mileage, Travel & Accident Data – 2007

It is estimated that approximates 8,300 crashes occurred in the study area in the 2006. Crashes with fatalities accounted for less than one percent of all the crashes while crashes with injuries

account for 30 percent of all of the crashes. Crashes with property damage accounted for 70 percent of the crashes. Almost 60 percent of the crashes took place on the functionally classified rural facilities. The majority of the crashes occurred on the arterial facilities.

Table 6.3.2
Total Crashes in 2006

Area	Functional Class	Type Crash			
		Fatal	Injury	Property Damage	Total
Rural	Rural Interstate	8	165	383	555
	Rural Principal Arterial	21	495	1,011	1,527
	Rural Minor Arterial	19	493	972	1,483
	Rural Major Collector	21	460	815	1,296
	Rural Minor Collector	0	10	17	27
	Rural Local	0	3	6	10
	Total	69	1,627	3,204	4,899
Urban	Urban Interstate	1	73	241	314
	Urban Freeway	0	8	27	35
	Urban Principal Arterial	7	594	1,852	2,452
	Urban Minor Arterial	2	142	437	581
	Urban Collector	0	1	3	4
	Total	9	817	2,560	3,386
Grand Total		78	2,444	5,764	8,285

Source: Crash rates are from GDOT Statewide Mileage, Travel & Accident Data – 2007 and Southwest Georgia Travel Demand Model

Table 6.3.3 lists the total crashes forecasted for the 2040 E+C network. It is forecasted that total crashes will increase by 42.1 percent or by 3,500 between 2006 and the 2040 E+C scenario. Although it is forecasted that crashes with fatalities will increase by 41.0 percent, this translates to an increase of only 32 between 2006 and 2040. Again the largest number of crashes will involve property damage and will take place on the arterial facilities.

Table 6.3.3
Total Crashes on 2040 E+C Network

Area	Functional Class	Type Crash			
		Fatal	Injury	Property Damage	Total
Rural	Rural Interstate	12	244	567	822
	Rural Principal Arterial	35	820	1,673	2,527
	Rural Minor Arterial	25	660	1,300	1,984
	Rural Major Collector	25	565	1,002	1,593
	Rural Minor Collector	0	11	19	30
	Rural Local	0	4	8	13
	Total	97	2,304	4,568	6,969
Urban	Urban Interstate	1	109	361	471
	Urban Freeway	0	11	39	50
	Urban Principal Arterial	9	849	2,648	3,506
	Urban Minor Arterial	2	188	577	768
	Urban Collector	0	2	6	8
	Total	13	1,159	3,631	4,802
Grand Total		110	3,462	8,199	11,771

Source: Crash rates are from GDOT Statewide Mileage, Travel & Accident Data – 2007 and Southwest Georgia Travel Demand Model

6.4 Summary

The results of the evaluation of travel conditions between 2006 and 2040 E+C conditions show that there will be a modest increase in daily VMT over the course of the 34 years. Accessibility to the key interstate corridor of I-75 for the study area will only decrease for three of the key urban areas by over 10 percent. The rest of the urban areas will only experience a slight increase in travel time to I-75. The LOS evaluation shows that the 2040 E+C road system will be able to accommodate this increase with the exception of some facilities in the urban areas and the SR 133 corridor between Albany and Valdosta.