



## Economic Development History of Interstate 16 in Georgia [1]

### 1 Interstate 16: The Roadway

#### 1.1 Project Length/Location

Interstate 16 is an east-west highway in Georgia. It is one of the 13 two-digit interstate highways, which are continuous and located only within a single state. I-16 stretches 166.81 miles from the port city of Savannah to its western terminus at I-75 in Macon. It is officially designated as the James Gillis, Sr. Memorial Highway in honor of the late longtime Georgia Highway Department director.



The map shows the location of I-16. According to the latest U.S. Office of Management and Budget designations, I-16 traverses two metropolitan areas, Savannah and Macon, and two micropolitan areas, Statesboro (Bulloch County) and Dublin (Laurens County). [2] Counties in metropolitan statistical areas (MetSAs) are lightly shaded on the map. Chatham, Effingham, and Bryan counties comprise the Savannah MetSA. The Macon MetSA consists of Twiggs and Bibb counties.

#### 1.2 Details of Construction

I-16 opened in sections over the twelve-year period between 1966 and 1978. Construction on the first segment, 16.2 miles in Laurens and Treutlen counties, began in March 1963. It opened to traffic on October 11, 1966. [3] The easternmost 28 miles of I-16 opened in the Savannah area on November 24, 1967. The highway was completed in the Macon area in 1968. Most segments between Macon and Savannah were constructed in the following decade.

The final section of I-16, 25.5 miles in Emanuel, Candler, and Bulloch counties, opened on September 22, 1978.[4] To speed construction, the state used bond revenue to complete the roads and was later reimbursed for the principal out of the federal Highway Trust Fund.

I-16 is four lanes wide. Approximately forty exits exist over its 167 miles. In the mid-2000s, plans were underway to re-build the I-16/I-75 interchange and to widen I-16 to six lanes in the Macon area.

### 1.3 Reason for Project Development: Access to Port of Savannah

The Port of Savannah historically has been the main economic engine of Georgia's coastal region. Macon was founded in the 1820s at the head of navigation of the Ocmulgee-Altamaha River System. One of the state's first railroads, the Central of Georgia, opened between Savannah and Macon in 1843[5].

In the early 20<sup>th</sup> century, the road from Savannah to Macon was designated as part of the Dixie Overland Highway, one of the first transcontinental highways. The Dixie Overland Highway extended from Savannah to San Diego, California.[6] Most of the Dixie Overland Highway from Georgia to Texas, including the Savannah to Macon segment, was designated as U.S. 80 in the late 1920s. The State of Georgia constructed I-16 in the 1960s and '70s in order to facilitate goods movement between the Port of Savannah and the I-75 corridor, especially Atlanta. To provide the most direct route from Savannah to Macon, I-16 bypassed most of the intermediate towns along U.S. 80: Statesboro, Swainsboro, Dublin, and Jeffersonville.

In 1991, the ISTEA designated I-16 as part of High Priority Corridor 6 (Savannah, Georgia to Meridian, Mississippi via I-16, U.S. 80, U.S. 280, and I-85). The Georgia DOT funded a study, named, the *Central Georgia Corridor Study* with a grant from the National Corridor Planning and Development discretionary program.[7] Within the I-16 corridor, the reports repeatedly criticized the "poor geometry" of the I-16/I-75 interchange. The Transportation System Performance Summary ranked the dozen counties in the I-16 corridor for "transportation accessibility" as follows: excellent (Bibb, Chatham), good (Bryan, Bulloch, Effingham, Twiggs), average (Bleckley, Candler, Laurens, Treutlen, Wilkinson), and low (Emanuel).[8]

As the only inland-bound interstate highway from Georgia's Atlantic coast, I-16 is a vital hurricane evacuation route. For Hurricane Floyd in 1999, the eastbound lanes of I-16 from Savannah to U.S. 1 were opened to westbound traffic, converting the highway into a one-way route for the first time. In 2002, the Georgia DOT installed "drop gate barricades" at all interchanges on the 115 miles of I-16 between Dublin and Savannah; during future emergencies they will block on-ramps so that eastbound lanes may be converted into "contra-flow" lanes.[9] Median crossovers have been paved to provide access from the traditional westbound lanes.

### 1.4 Traffic Counts

Table 1 shows estimated average annual daily traffic (AADT) at selected locations of I-16 from 1990 to 2003. The busiest location is the segment immediately east of the I-16/I-75 junction in Macon. Its AADT has fluctuated around 70,000 since 1990. The second-busiest I-16 segment is in the Savannah area. A mini-peak occurs in Laurens County due to trips to and from Dublin. The lightest traffic on I-16 is in Treutlen County, where nearly 14,000 vehicles traversed the segment west of Exit 71 on a typical day in 2003.

**Table 1: Average Daily Traffic on I-16: 1990-2003**

County	Location	1990	1995	2000	2003	Compounded Average Annual Growth		
						1990-95	1995-2000	2000-03
Chatham	E of Exit 160	28,722	33,600	40,400	51,060	3.2%	3.8%	8.1%
Chatham	W of Jct. I-95	23,323	24,900	28,500	30,420	1.3%	2.7%	2.2%
Emanuel	E of Exit 90	7,412	12,300	15,000	15,060	10.7%	4.0%	0.1%
Treutlen	W of Exit 71	8,466	9,400	12,200	13,930	2.1%	5.4%	4.5%
Laurens	E of Exit 39	14,591	15,600	19,500	19,790	1.3%	4.6%	0.5%

Twiggs	W of Exit 24	12,871	12,900	17,500	15,680	0.0%	6.3%	-3.6%
Bibb	E of Jct. I-75	67,701	74,300	72,500	70,440	1.9%	-0.5%	-1.0%

Source: Office of Transportation Data, Georgia Department of Transportation

The reported AADT varies considerably from year to year at some count locations<sup>[10]</sup>.

## 2 The I-16 Corridor

### 2.1 Physical Features of I-16 Corridor

I-16 traverses the coastal plain of Georgia. The highway's western terminus in Macon is near the fall line, the boundary between the porous, sandy soils of the coastal plain and the red clays of the piedmont plateau. Augusta and Columbus are the other major Georgia cities located on the fall line; the falling water powered their early industries and demarcated the heads of navigation on their respective rivers. Vast Pine Barrens is located in the plain.

One of the world's largest deposits of kaolin clay is located north of the I-16 corridor. Georgia produced 6.83 million metric tons of kaolin in 2002, more than 85 percent of U.S. production.<sup>[11]</sup> The state exported 2.45 million metric tons of kaolin that year, mostly through the Port of Savannah. Georgia kaolin is used in many industrial applications, especially in paper coatings and fillers.

### 2.2 The I-16 Highway Network

I-16 begins west of downtown Savannah. Within the metro area, it intersects with I-516 and I-95, the main north-south highway in the eastern United States. U.S. 25/U.S. 301 connects Statesboro to I-16 in Bulloch County. The next major highway crossing is the U.S. 1/I-16 junction in Emanuel County; U.S. 1 leads northward to Swainsboro, Augusta, and ultimately to Columbia, S.C. Prior to the construction of I-95, U.S. 1 was the main north-south route on the Eastern Seaboard. Soperton in Treutlen County is south of I-16 via U.S. 221. Dublin in Laurens County is north of I-16 via U.S. 319/U.S. 441. In the Macon area, I-16 intersects with U.S. 23, U.S. 80, and U.S. 129 before terminating at I-75 northwest of downtown.

U.S. 80 parallels I-16 to its north. As mentioned above, U.S. 80 was the main highway between Savannah and Macon before the Georgia Highway Department constructed I-16.

The Georgia DOT's Developmental Highway System program includes two major highway projects that intersect with I-16. One is the Fall Line Freeway, a four-lane divided highway across the mid-section of the state from Augusta to Macon to Columbus.<sup>[12]</sup> As of July 2004, 76 percent of its planned 215 miles were open to traffic or under construction<sup>[13]</sup>.

The other developmental highway that will intersect with I-16 is the Savannah River Parkway, a four-lane highway that will extend approximately 156 miles from Savannah to Augusta. It was 91 percent complete in September 2004.<sup>[14]</sup> The parkway consists mostly of widened sections of U.S. 25 and SR 23. When finished, a four-lane roadway will exist between Augusta and Millen. In Millen, it will split into two branches, the SR 23 branch towards I-95 in Savannah and the U.S. 25 branch towards Statesboro to intersect with I-16 in Bulloch County.

Like I-16, the Georgia Central Railroad (GCR) connects Savannah and Macon. The GCR runs north of I-16 in Chatham and Effingham counties and then dips ten miles south of I-16 for several counties to traverse the towns of Vidalia and Soperton. The GCR crosses to the north side of I-16 from Laurens County to Macon.

### 2.3 Interstate 16 Communities

**Chatham County:** Savannah (2000 population: 131,510) is the anchor of Georgia's second-largest metropolitan area. The Port of Savannah is among North America's largest container ports. Tourism is a major industry. Pooler (population 6,239) is a rapidly growing town at the crossroads of I-16 and I-95.

**Effingham & Bryan counties:** Bryan County contains part of Fort Stewart, the largest Army installation east of the

Mississippi River. It is the home of the 3<sup>rd</sup> Infantry Division (Mechanized). Forestry is a significant industry in many of the I-16 counties, especially in Effingham (mostly softwood sawlogs and pulpwood). The two-mile stretch of I-16 at the southern end of Effingham County contains Exit 148. There is also one interchange in Bryan County.

**Bulloch & Candler counties:** Statesboro (population 22,698) is in Bulloch County, a micropolitan area. Georgia Southern University is located there. The Statesboro Mall is on U.S. 80.

Bulloch and Candler have agricultural economies. Georgia is the largest pecan growing state, but most production occurs outside of the I-16 corridor. Bulloch and Candler was respectively the 71<sup>st</sup>-largest and 80<sup>th</sup>-largest pecan producing counties in the country in 1997. Bulloch was the 68<sup>th</sup>-largest cotton producer in the U.S. in 1997; its cotton output more had more than quadrupled since 1992. Although Georgia is the nation's top peach-producing state, none of the I-16 jurisdictions rank in the top 100 counties. Since the mid-1990s, a cluster of antiques sellers has located at Exit 127 in Bulloch County.

Bulloch and Candler are among the five counties in the I-16 corridor that grow Vidalia onions. Under the terms of Federal Marketing Order No. 955 and Georgia law, Vidalia onions include only those grown in twenty southeastern Georgia counties. The other counties in the I-16 corridor covered by the marketing order are Emanuel, Laurens, and Treutlen.

**Emanuel & Treutlen counties:** Swainsboro (population 6,943) and Soperton (2,824) are the largest cities respectively in Emanuel and Treutlen counties. Emanuel ranked 90<sup>th</sup> and 96<sup>th</sup> among U.S. counties respectively in pecan and peanut output in 1997. Emanuel yielded the most timber in the I-16 counties in 2001, 16.7 million cubic feet of softwood (mostly sawlogs and pulpwood) and 3.1 million cubic feet of hardwood (mostly pulpwood).<sup>[15]</sup> Some of the timber is processed into sheets of composite wood, which is increasingly replacing plywood in construction projects.

**Laurens County:** Dublin (population 15,857) is the anchor of a micropolitan statistical area. A small shopping mall is on U.S. 80. In recent years, large distribution centers have located there. Laurens ranked 69<sup>th</sup> among U.S. counties in peanut production in 1997.

**Wilkinson, Bleckley, & Twiggs counties:** Twiggs and Wilkinson are among the thirteen Georgia counties that are in the kaolin clay-producing belt. Bleckley was the nation's 93<sup>rd</sup>-largest peanut-producing county in 1997.

Twiggs is at the geographic center of Georgia. It is part of the Macon metropolitan statistical area. Twiggs and Bleckley share the Ocmulgee Wildlife Management Area; although it is state-managed, the land is privately owned.

I-16 does not traverse Wilkinson County; Wilkinson is included in this report because the county is within one mile of Exit 32. A ceramics manufacturing plant is located in McIntyre.

**Bibb County:** Macon (population 97,255) is the economic center of middle Georgia. Value added by manufacture in the Macon metro area was \$4.54 billion in 1997, second in Georgia to the Atlanta region (\$22.7 billion), and larger than the Savannah metro area (\$1.77 billion).<sup>[16]</sup> Until the boll weevil devastated the Georgia cotton industry in the 1920s, Macon had a large concentration of cotton mills. It remains an industrial center, with the world's largest zipper factory (YKK) and one of the world's largest cigarette factories (Brown & Williamson which is expected to close by 2006). I-16 is rural beyond Exit 6.

### 3. Socioeconomic Trends in the I-16 Corridor

#### 3.1 Population

Table 2 shows that the population of the I-16 corridor in selected years from 1969 to 2002. I-16 was fully opened to traffic in 1978. The third data column shows the population in 1988, ten years later. The highest population growth has consistently been in Bryan County. Effingham and Bulloch have also grown rapidly. Bibb was among the counties with the slowest growth. In all time periods, corridor population grew slower than total Georgia, non-metropolitan Georgia, and total United States. Corridor population increased more rapidly than in the non-metropolitan U.S. from 1978 to 1988 and from 1988 to 2002.

Population peaked in the 1920 census in several rural counties in the I-16 corridor, as the boll weevil was

devastating the Georgia cotton industry. Bleckley and Candler counties surpassed their 1920 population levels in 2000; Emanuel, Treutlen, and Wilkinson counties still remain below their 1920 levels.

Many of the I-16 counties have large Black populations; the 2000 census found that Blacks comprised 37.2 percent of the corridor's population compared to 28.7 percent statewide<sup>[17]</sup>. In 2000, the Hispanic/Latino population in the corridor was 1.9 percent versus 5.3 percent statewide<sup>[18]</sup>.

**Table 2: Population: 1969-2002**

County	1969	1978	1988	2002	Compounded Average Annual Growth Rate		
					1969-78	1978-88	1988-2002
Chatham	186,463	199,703	216,061	234,909	0.8%	0.8%	0.6%
Effingham	13,195	17,277	23,827	41,037	3.0%	3.3%	4.0%
Bryan	6,429	9,113	14,173	25,225	4.0%	4.5%	4.2%
Bulloch*	31,207	34,349	41,210	57,105	1.1%	1.8%	2.4%
Candler*	6,383	7,319	7,581	9,807	1.5%	0.4%	1.9%
Emanuel*	18,481	20,759	20,671	21,782	1.3%	0.0%	0.4%
Treutlen*	5,730	6,142	6,021	6,968	0.8%	-0.2%	1.0%
Laurens*	32,558	36,675	39,463	45,468	1.3%	0.7%	1.0%
Bleckley*	10,273	10,813	10,337	11,799	0.6%	-0.4%	0.9%
Wilkinson*	9,425	10,175	10,275	10,274	0.9%	0.1%	0.0%
Twiggs	8,236	9,326	9,603	10,486	1.4%	0.3%	0.6%
Bibb	143,204	151,267	151,281	154,384	0.6%	0.0%	0.1%
<b>I-16 Corridor</b>	<b>471,584</b>	<b>512,918</b>	<b>550,503</b>	<b>629,244</b>	<b>0.9%</b>	<b>0.7%</b>	<b>1.0%</b>
<b>Georgia</b>	4,551,000	5,286,148	6,316,139	8,544,005	1.7%	1.8%	2.2%
<b>United States</b>	201,298,000	222,098,244	244,499,004	287,973,924	1.1%	1.0%	1.2%
<b>Non-Metro GA</b>	1,198,787	1,320,293	1,413,576	1,695,082	1.1%	0.7%	1.3%
<b>Non-Metro U.S.</b>	38,926,788	43,146,601	44,639,729	49,182,854	1.2%	0.3%	0.7%

\* Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of Economic Analysis

### 3.2 Employment

As seen in Table 3, total full-time and part-time employment generally has grown more slowly in the I-16 corridor than in the state and nation. The only exception was in 1988-2000, when employment expanded at a slightly greater rate in the corridor than in the nation. Employment growth was most robust in all time periods in the suburban Savannah counties, Effingham and Bryan. Georgia Southern University may be aiding job creation in Bulloch County. Employment has declined in Twiggs County since I-16's completion in 1978; this may be because Jeffersonville, its largest city, lost most of its through traffic. Employment growth has also been sluggish in Treutlen County.

I-16 has increased labor mobility, especially in the Savannah area. The number of Bryan County residents who commute to Chatham County jobs increased almost nine-fold from 1970 to 2000, from 701 to 6,215. Commuter flows within Bryan County merely tripled, from 970 to 2,766. These statistics suggest that I-16 has facilitated much of the residential growth in Bryan County.

**Table 3: Full-Time and Part-Time Employment: 1969-2000**

County	1969	1978	1988	2000	Compounded Average Annual Growth		
					1969-78	1978-88	1988-2000
Chatham	95,532	102,704	125,595	156,321	0.8%	2.0%	1.8%
Effingham	2,460	3,463	5,749	10,130	3.9%	5.2%	4.8%
Bryan	1,341	2,022	3,760	7,002	4.7%	6.4%	5.3%
Bulloch*	11,335	14,763	18,013	27,653	3.0%	2.0%	3.6%
Candler*	2,691	3,015	3,151	4,250	1.3%	0.4%	2.5%
Emanuel*	7,740	8,947	9,537	10,237	1.6%	0.6%	0.6%
Treutlen*	1,431	1,697	1,798	1,817	1.9%	0.6%	0.1%
Laurens*	13,738	19,089	20,205	25,600	3.7%	0.6%	2.0%
Bleckley*	3,352	3,988	4,505	5,900	1.9%	1.2%	2.3%
Wilkinson*	3,047	3,768	4,242	4,242	2.4%	1.2%	0.0%
Twiggs	2,305	2,792	2,628	2,434	2.2%	-0.6%	-0.6%
Bibb	67,484	74,570	89,772	109,839	1.1%	1.9%	1.7%
<b>I-16 Corridor</b>	<b>212,456</b>	<b>240,818</b>	<b>288,955</b>	<b>365,425</b>	<b>1.4%</b>	<b>1.8%</b>	<b>2.0%</b>
<b>Georgia</b>	2,119,105	2,622,314	3,568,219	4,892,294	2.4%	3.1%	2.7%
<b>United States</b>	91,057,200	109,688,600	134,506,900	166,758,800	2.1%	2.1%	1.8%
<b>Non-Metro Georgia</b>	470,988	564,375	650,124	815,293	2.0%	1.4%	1.9%
<b>Non-Metro U.S.</b>	15,994,931	19,041,266	20,948,439	25,495,489	2.0%	1.0%	1.7%

\* Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of Economic Analysis

### 3.3 Personal Income

The I-16 corridor has a lower real per capita personal income than in Georgia and the nation. Only in Chatham and Bibb counties has the per capita income exceeded the statewide level. Per capita income is lowest in Treutlen and Twiggs counties (53 percent and 64 percent respectively of the U.S. level in 2002). Perhaps because of the low bases, personal income has grown more rapidly in the corridor than in the U.S. in all time periods. Growth rates have varied considerably across the corridor counties. Bryan is the only county that has consistently exceeded the Georgia and U.S. personal income growth rates.

**Table 4: Real Per Capita Personal Income: 1969-2002**

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County	1969	1978	1988	2002	Compounded Average Annual Growth Rate		
					1969-78	1978-88	1988-2002
Chatham	\$ 12,924	\$ 17,349	\$ 21,937	\$ 28,303	3.3%	2.4%	1.8%
Effingham	\$ 10,576	\$ 14,932	\$ 18,278	\$ 22,046	3.9%	2.0%	1.3%
Bryan	\$ 9,178	\$ 12,833	\$ 18,244	\$ 24,398	3.8%	3.6%	2.1%
Bulloch*	\$ 7,880	\$ 12,172	\$ 14,816	\$ 19,490	5.0%	2.0%	2.0%
Candler*	\$ 9,361	\$ 11,517	\$ 16,191	\$ 19,188	2.3%	3.5%	1.2%
Emanuel*	\$ 8,141	\$ 10,498	\$ 14,423	\$ 19,640	2.9%	3.2%	2.2%
Treutlen*	\$ 7,052	\$ 10,627	\$ 12,499	\$ 15,936	4.7%	1.6%	1.7%
Laurens*	\$ 9,491	\$ 13,797	\$ 17,369	\$ 22,468	4.2%	2.3%	1.9%
Bleckley*	\$ 10,584	\$ 12,773	\$ 17,700	\$ 23,174	2.1%	3.3%	1.9%
Wilkinson*	\$ 9,756	\$ 13,448	\$ 17,429	\$ 20,263	3.6%	2.6%	1.1%
Twiggs	\$ 7,595	\$ 10,229	\$ 13,527	\$ 19,087	3.4%	2.8%	2.5%
Bibb	\$ 13,189	\$ 15,730	\$ 21,027	\$ 28,606	2.0%	2.9%	2.2%
<b>I-16 Corridor</b>	\$ 11,803	\$ 15,365	\$ 19,798	\$ 25,632	3.0%	2.6%	1.9%
<b>Georgia</b>	\$ 12,457	\$ 16,072	\$ 21,338	\$ 27,865	2.9%	2.9%	1.9%
<b>United States</b>	\$ 15,189	\$ 19,064	\$ 23,498	\$ 29,881	2.6%	2.1%	1.7%
<b>Non-Metro GA</b>	\$ 9,471	\$ 12,662	\$ 16,228	\$ 21,059	3.3%	2.5%	1.9%
<b>Non-Metro U.S.</b>	\$ 11,566	\$ 15,298	\$ 17,578	\$ 22,587	3.2%	1.4%	1.8%

\* Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of Economic Analysis (adjusted with National Implicit Price Deflators for Personal Consumption Expenditures)

### 3.4 Industry Mix

Table 5 shows the non-farm employment by industry in the I-16 corridor (sum of the twelve I-16 counties) in selected years from 1969 to 2000. The growth rate for total non-farm employment increased in the decade after the highway's completion. Retail trade employment expanded rapidly in all time periods.

**Table 5: Non-Farm Employment by Industry in the I-16 Corridor: 1969-2000**

Industry Sector	1969	1978	1988	2000	Compounded Average Annual Growth		
					1969-78	1978-88	1988-2000
Ag. Services/Forestry/Fishing	1,455	1,559	2,037	NA	0.8%	2.7%	NA
Mining	NA	NA	NA	NA	NA	NA	NA
Construction	12,099	14,959	18,242	22,110	2.4%	2.0%	1.6%
Manufacturing	42,733	41,984	45,915	NA	-0.2%	0.9%	NA
Transportation/Public Utilities	NA	NA	16,879	19,787	NA	NA	1.3%
Wholesale Trade	NA	12,375	NA	NA	NA	NA	NA

Retail Trade	31,424	39,053	53,224	69,543	2.4%	3.1%	2.3%
Finance/Insurance/Real Estate	NA	NA	18,200	24,149	NA	NA	2.4%
Services	NA	NA	NA	109,757	NA	NA	NA
Government/Gov't Enterprises	40,187	41,617	45,438	52,903	0.4%	0.9%	1.3%
<b>Total Nonfarm Employment</b>	<b>204,635</b>	<b>233,680</b>	<b>284,120</b>	<b>360,980</b>	<b>1.5%</b>	<b>2.0%</b>	<b>2.0%</b>

Source: Bureau of Economic Analysis

Table 6 compares the corridor, state, and national industry mix derived from total nonfarm employment in selected years. Retail trade is much more important in the I-16 corridor than in Georgia or the nation. For example, it now accounts for nearly one-quarter of employment in Bulloch County, a micropolitan area that serves as a trading center for neighboring rural counties. Finance, insurance, and real estate employ relatively fewer workers in the corridor than in the state and nation.

Although Bibb County is the anchor of the state's largest manufacturing region outside of Atlanta, only 11.6 percent of Bibb's non-farm employment was in this sector in 2000, below the Georgia and U.S. percentages. In contrast, manufacturing employs nearly one-fifth of all non-farm workers in Laurens County, one-quarter of non-farm workers in Emanuel County, and nearly one-third of the active labor force in Wilkinson County. Mining accounts for nearly one-third of employment in Twiggs County, where kaolin clay extraction is the major industry. Government's share of total employment is high in Emanuel and Treutlen counties.

**Table 6: Industry Sectors As Percent of Total Nonfarm Employment: 1969-2000**

Industry Sector	1969			1978			2000		
	Corridor	Georgia	U.S.	Corridor	Georgia	U.S.	Corridor	Georgia	U.S.
Ag. Services/Forestry/Fishing	<b>0.7%</b>	0.5%	0.6%	<b>0.7%</b>	0.6%	0.8%	<b>NA</b>	1.2%	1.3%
Mining	<b>NA</b>	0.4%	0.8%	<b>NA</b>	0.3%	1.0%	<b>NA</b>	0.2%	0.5%
Construction	<b>5.9%</b>	5.2%	5.1%	<b>6.4%</b>	5.3%	5.3%	<b>6.1%</b>	6.3%	5.8%
Manufacturing	<b>20.9%</b>	23.9%	23.6%	<b>18.0%</b>	20.7%	19.8%	<b>NA</b>	12.5%	11.7%
Transportation/Public Utilities	<b>NA</b>	5.4%	5.5%	<b>NA</b>	5.5%	5.1%	<b>5.5%</b>	6.3%	5.0%
Wholesale Trade	<b>NA</b>	5.2%	4.7%	<b>5.3%</b>	6.5%	5.1%	<b>NA</b>	5.7%	4.6%
Retail Trade	<b>15.4%</b>	14.0%	15.4%	<b>16.7%</b>	15.4%	16.3%	<b>19.3%</b>	16.9%	16.6%
Finance/Insurance/Real Estate	<b>NA</b>	6.1%	6.8%	<b>NA</b>	7.4%	7.8%	<b>6.7%</b>	7.2%	8.1%
Services	<b>NA</b>	18.0%	19.2%	<b>NA</b>	19.0%	21.7%	<b>30.4%</b>	29.4%	32.4%
Government/Gov't Enterprises	<b>19.6%</b>	21.4%	18.2%	<b>17.8%</b>	19.3%	17.0%	<b>14.7%</b>	14.4%	14.0%
<b>Total Nonfarm Employment</b>	<b>100.0%</b>								

Source: Bureau of Economic Analysis

### 3.5 Business Establishments

The numbers of business establishments in each I-16 corridor county, Georgia, and the U.S. in selected years from 1964 to 2001 are presented in Table 7. The Census Bureau defines an "establishment" as "a single physical

location at which business is conducted or services or industrial operations are performed." It is not necessarily identical to a company or enterprise, which may consist of one or more establishments. Before 1974, the Census Bureau used "reporting units" as the unit of measurement. The definition of "establishment" has changed since it was first adopted in 1974, most significantly in 1983. Although reporting unit and establishment data are not directly comparable from year-to-year, they can be used to compare relative levels of economic activity in various communities because the definitional changes were uniformly implemented nationwide.

The index section of Table 7 shows that Georgia's I-16 corridor counties have gained reporting units/business establishments at a slower rate than the U.S. as a whole since the highway was completed in 1978. Growth in number of establishments statewide far outpaced the corridor counties. Growth was most rapid in the Savannah metro area; the index has more than tripled for Effingham and Bryan counties. Bleckley, Treutlen, and Emanuel counties have gained establishments at the slowest rates.

**Table 7 Business Establishments: 1964-2001**

County	Reporting Units*	Establishments*			Index (1978=100.0)			
	1964	1978	1988	2001	1964	1978	1988	2001
Chatham	3,317	4,241	5,835	6,636	78.2	100.0	137.6	156.5
Effingham	104	161	252	520	64.6	100.0	156.5	323.0
Bryan	87	110	210	403	79.1	100.0	190.9	366.4
Bulloch**	444	691	874	1,244	64.3	100.0	126.5	180.0
Candler**	116	169	169	206	68.6	100.0	100.0	121.9
Emanuel**	283	365	398	408	77.5	100.0	109.0	111.8
Treutlen**	79	80	99	90	98.8	100.0	123.8	112.5
Laurens**	553	720	981	1,051	76.8	100.0	136.3	146.0
Bleckley**	130	187	200	192	69.5	100.0	107.0	102.7
Wilkinson**	126	126	150	163	100.0	100.0	119.0	129.4
Twiggs	48	56	72	90	85.7	100.0	128.6	160.7
Bibb	2,801	3,414	4,357	4,575	82.0	100.0	127.6	134.0
<b>I-16 Corridor</b>	<b>8,088</b>	<b>10,320</b>	<b>13,597</b>	<b>15,578</b>	<b>78.4</b>	<b>100.0</b>	<b>131.8</b>	<b>150.9</b>
<b>Georgia</b>	69,011	100,657	152,937	202,505	68.6	100.0	151.9	201.2
<b>United States</b>	3,457,722	4,409,223	6,018,600	7,095,302	78.4	100.0	136.5	160.9

\*Data are not comparable across all years because of definitional changes. In 1974, the Census Bureau changed from a "reporting unit" concept to establishment-based data. The definition of "active" establishments changed in 1983.

\*\* Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of the Census, *County Business Patterns*.

### 3.6 Property Value Changes

Median home values are a measure of property values in a particular region. Table 8 compares median values of owner-occupied no condominium housing units in the I-16 counties, Georgia, and the U.S. from 1980 to 2000. Home values in all I-16 counties were below the national median value in all years. The counties that exceeded the Georgia values were Bulloch in 1980 and Bryan in 2000. The high appreciation rates in Effingham and Bryan counties are possibly a consequence of access to jobs in Savannah via I-16.

**Table 8 Median Value of Specified Owner-Occupied No condominium Housing Units: 1980-2000**

Location	1980	1990	2000	Compounded Average Annual Growth Rate	
				1980-90	1990-2000
Chatham	\$36,100	\$63,300	\$95,000	5.8%	4.1%
Effingham	\$33,400	\$61,300	\$106,600	6.3%	5.7%
Bryan	\$30,000	\$70,200	\$115,600	8.9%	5.1%
Bulloch*	\$38,400	\$59,900	\$94,300	4.5%	4.6%
Candler*	\$29,000	\$44,700	\$62,700	4.4%	3.4%
Emanuel*	\$23,400	\$35,200	\$50,800	4.2%	3.7%
Treutlen*	\$17,900	\$33,300	\$56,600	6.4%	5.4%
Laurens*	\$28,700	\$46,500	\$73,900	4.9%	4.7%
Bleckley*	\$27,200	\$41,000	\$66,500	4.2%	5.0%
Wilkinson*	\$22,600	\$40,000	\$61,500	5.9%	4.4%
Twiggs	\$21,000	\$37,300	\$61,800	5.9%	5.2%
Bibb	\$32,300	\$57,900	\$84,400	6.0%	3.8%
<b>Georgia</b>	<b>\$36,900</b>	<b>\$71,300</b>	<b>\$111,200</b>	<b>6.8%</b>	<b>4.5%</b>
<b>United States</b>	<b>\$47,300</b>	<b>\$79,100</b>	<b>\$119,600</b>	<b>5.3%</b>	<b>4.2%</b>

\* Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of the Census (current dollars)

## 4. I-16: Economic Development Trends

### 4.1 Central Savannah: Port & Tourism

As I-16 neared completion in 1978, then-Governor George Busbee declared, "The importance of linking the Georgia coast with the rest of the state and the economic impact of I-16 on the movement of goods from the port of Savannah cannot be underestimated."<sup>[19]</sup> The Port of Savannah handled 1.5 million TEUs (twenty-foot equivalent units) in 2003, ranking with New York/New Jersey, Hampton Roads, and Charleston as one of the top container ports on North America's Atlantic coast. This was seven times its 1980 throughput, 201,000 TEUs. Nationwide, container traffic merely quadrupled during the same time period. Almost all of the containers are handled at the Garden City Terminal, the largest single-terminal container facility in the eastern United States (1200 acres). It is located about six miles from both I-16 and I-95. The on-terminal intermodal container transfer facility (the James D. Mason ICTF) provides overnight rail service to Atlanta. It opened in 2001 and may divert containers from trucks, reducing traffic on I-16 and other highways.

The manager of economic and industrial development at the Georgia Ports Authority says that I-16 benefits the Port of Savannah, Georgia, and the nation.<sup>[20]</sup> It is the main east-west truck link between the port's hinterland, which is primarily metropolitan Atlanta, but also includes population and industrial centers throughout the South and Midwest. Savannah now resembles the Pacific coast ports in that most vessels that call are in the Far East trade.

Many major retail chains have sited distribution centers in the Savannah region. Developed by the Savannah Economic Development Authority (SEDA), the Crossroads Business Center is home to distribution facilities for Pier 1 Imports, Home Depot, Wal-Mart, and other national retailers. It is located between the port's Garden City container terminal and I-95.

The SEDA heavily promotes the region's proximity to I-16 and I-95 and to the tracks on two Class I railroads (CSX

and Norfolk Southern). The Garden City terminal has on-dock rail. If on-dock rail is more heavily utilized, it may remove trucks from I-16; nevertheless, truck traffic will likely increase due to the port's rapid growth[21].

I-16 has also been helpful in luring heavy industry to Savannah. The Fort Howard Paper Company built a \$1 billion plant near Rincon in Effingham County in the mid-1980s in part due to I-16 access (now known as the Fort James Savannah River Mill). A company spokesman observed, "There would have been an obvious deficiency in road transportation from here if I-16 had not been there." [22]

The Savannah tourism industry depends heavily upon visitors by automobile. I-95 passes through the metro area about ten miles west of the historic district; most motorists use I-16 to complete their journey. In order to boost Savannah tourism, a 2003 Georgia statute re-designated I-16 east of I-95 as "Jim Gillis-Historic Savannah Parkway."

#### 4.2 Western Savannah Area: I-16/I-95 Crossroads

The western side of Savannah has experienced and accommodated substantial growth in the past decade. A series of road improvement projects, accompanied by water and sewer lines, has spurred change in areas that were mostly undeveloped piney woodlands in the early 1990s. The Pooler Parkway and Jimmy DeLoach Parkway loop around the northwestern part of the Savannah area. A large cluster of retail establishments has located at the I-95/Pooler Parkway interchange since January 2000. By early 2004, the four-lane Pooler Parkway was complete from I-95 through Pooler to I-16. The Chatham Parkway intersects with I-16 between downtown Savannah and I-95; new auto dealerships and other businesses have located on Chatham Parkway near I-16 since 1999. The Southwest Bypass has brought change to that portion of the city [23].

The greatest change in western Savannah is centered on the I-16/I-95 crossroads, which was essentially vacant in the mid-1990s. Projects are planned or underway in all four quadrants [24].

Bryan County is the westernmost jurisdiction in the Savannah metro area. The Bryan County-Pembroke Development Authority is developing Interstate Centre, an industrial park at the I-16/U.S. 280 interchange (Exit 143) [25].

#### 4.3 The Developmental Highways/GRIP Controversy

In 1984, University of Georgia Professor Charles Floyd prepared a report for Georgia DOT, which concluded that the state had under-invested in rural four-lane highways in favor of constructing the interstate system and maintaining existing roads. [26] The Floyd report concluded that transportation was linked to economic development and that Georgia's under-investment in rural four-lane roads relative to other southern states helped to create "two Georgias," the prosperity gap between metropolitan and rural areas. Bolstered by the Floyd report, Georgia DOT released a "developmental highway" plan to construct 2,500 miles of four-lane roadways between all towns of 10,000 or more population. Portions of this plan were ultimately adopted as the Governor's Road Improvement Program (GRIP), also known as the Developmental Highway System. [27] The Savannah River Parkway (Augusta to Savannah) and Fall Line Freeway (Augusta to Macon to Columbus) are projects in this program. More recently, two studies have analyzed the relationship between the GRIP and economic development. [28]

I-16 has been embroiled in Georgia's developmental highway debate since the 1980s. [29] GRIP critics cite the rural communities of the I-16 corridor as examples of how the project did not provide economic development. Georgia DOT explains I-16 by stressing its importance to the Port of Savannah and associated commerce throughout the state [30]. "The justification for I-16 was to tie the Port of Savannah with the rest of the state," a Georgia DOT planning engineer said in 1986. "When you build a road through the middle of nowhere, all you're going to get is truck stops and restaurants." [31]

#### 4.4 U.S. 80 Corridor: Small Towns Left Behind

The Georgia Department of Community Affairs considers five of the dozen counties in the I-16 corridor to be among the most economically distressed in the state under its One Georgia program. Candler, Emanuel, Treutlen, Twiggs, and Wilkinson counties are classified as "Tier 1" jurisdictions in 2004, making local industries eligible for the Georgia Jobs Tax Credit. "Tier 1" status has a significant impact on the incentives available to businesses locating or expanding such jurisdictions. Laurens County was in Tier 1 in 2003; its improving economy removed it from the list for 2004. The One Georgia program partially funds industrial parks in Twiggs and Treutlen counties. The large

towns in all of the "Tier 1" counties are on U.S. 80, the highway that I-16 replaced as the main route between coastal and northern Georgia. Most of the inter-regional traffic and its related business have moved to the interstate highway.

Jeffersonville in Twiggs County is an example of a community that has not benefited from I-16. The once-steady flow of traffic on U.S. 80 has moved to the interstate. In 1986, a single service station adjacent to the highway was the only apparent benefit that the county derived from I-16's existence.

Swainsboro, the seat of Emanuel County, is about 15 miles north of I-16 via U.S. 1. The Georgia DOT is widening U.S. 1 to four lanes between Swainsboro and I-16. The local economic development agency is raising funds for a 570-acre industrial park on U.S. 1 about one mile north of I-16.<sup>[32]</sup> Provision of water and sewer services (wells and spray fields) will cost \$3 to \$5 million; the park will be located so far from the city that a separate treatment plant will need to be constructed. The development agency is faced with the classic infrastructure dilemma. Companies will not locate in the park because infrastructure is not in place; the agency cannot finance the improvements because it lacks the requisite business commitments to justify the project.

If a motor vehicle assembly plant is constructed in Pooler, then communities throughout the I-16 corridor may benefit. Some automobile manufacturers require that their suppliers be located within a "doughnut" around the plant, not too close but not too far away. One company mandates that its suppliers be at least 90 miles away in order to minimize labor competition. The suppliers cannot be located so far away that "just-in-time" input supply lines could be disrupted, causing the assembly line to stop. The net result is that towns in the I-16 corridor from Swainsboro westward may gain new automobile-related manufacturing businesses.

#### 4.5 Dublin: New Distribution Centers

Dublin, which is not a metropolitan area, has nonetheless successfully utilized its proximity to I-16. With several manufacturers that each employs a few hundred employees, a general acute care hospital, and a veterans' hospital, Dublin is an economic and medical center of south central Georgia. In the late 1990s, the region was reeling from the closure of textile and apparel operations.

The 21<sup>st</sup> century brought a new industry to Dublin: warehousing. Located midway between Savannah and Atlanta, with much cheaper land than in those metro areas, Dublin attracted two distribution centers for major retailers in the early 2000s. Proximity to I-16 played a decisive role in their location decisions. To accommodate the new traffic, the Georgia DOT reconstructed Exit 49 (Highway 257) on I-16 by widening ramps and rebuilding the viaduct (this product was let to contract in late 2004 and will be constructed over the next two years<sup>[32a]</sup>). Best Buy, an electronics retailer, opened a 748,000 square foot facility in August 2000. One of the chain's seven distribution centers serves the Southeast. Fred's, a discount general merchandiser, constructed a \$25 million, 600,000 square foot distribution center in Dublin in 2003 to augment its facility in Memphis, Tennessee. A cluster of commercial establishments, including a truck stop, is located at Exit 51 (U.S. 319). One sign of Laurens County's increasing prosperity is its removal from the state's "Tier 1" list of economically-distressed counties, beginning in 2004.

#### 4.6 Macon: 1970s Boom in I-16 Corridor

In anticipation of I-16's completion, the Macon Bibb County Industrial Authority (MBCIA) bought and developed about 1,000 acres at U.S. 23 and I-16 (Exit 6) in the early 1970s. The park, Ocmulgee East Industrial Park, attracted a Brown and Williamson cigarette plant, a GEICO insurance company facility, an YKK zipper plant (well known for its high degree of vertical integration), and Texprint, a textile printer. Texprint has departed and the cigarette factory is now in the process of moving to North Carolina as a result of a merger. In the 1980s, 1990s, and early 2000s, the Johns Manville roofing division, Saddlecreek Distribution Center, Plastican injection molding, Drug Transport distribution center, and Greif Bros. corrugated plant located in the park.<sup>[33]</sup> There are currently over 300 acres available with discussions about expanding east into Twiggs County and creating a large two county park.

The Macon Economic Development Commission has four target sectors: aerospace, automotive, high-end back office, and distribution centers. The warehouse industry will receive a boost in 2005 when Kohl's Department Stores opens its Southeast distribution center on Highway 247.

In downtown Macon, the primary economic development goal is revitalization of 1700 acres of brownfields. The president of New Town Macon, a downtown re-development organization, has said that the region's interstate highways drained commerce from the area.<sup>[34]</sup> Economic development officials believe that completion of the

Eisenhower Parkway extension/Fall Line Freeway would improve transportation access to the depressed district south of downtown and increase its viability for re-development. (As discussed above, this highway project is controversial because of the potential effects on Ocmulgee National Monument.)<sup>[35]</sup>

## 5. I-16 Summary

Interstate 16 primarily exists to channel east-west commerce to and from the Port of Savannah. The highway has helped Savannah to become one of the largest container ports in North America and contributed to that city's growing tourism industry. Increasing numbers of employees commute into Savannah via I-16 from neighboring counties. Although the Daimler Chrysler van plant has been cancelled, the Pooler area at the I-16/I-95 junction is emerging as a commercial hotspot in coastal Georgia. Macon is now coping with the impending closure of its largest private employer, a cigarette plant that located near I-16 when the highway was new in the 1970s. Dublin is becoming a preferred site for major distribution centers. Twiggs County, on the other hand, has not fully adjusted from the shift of traffic from U.S. 80 to I-16 and other economic changes.

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<sup>[1]</sup> Jack Faucett Associates, Inc. (JFA) of Bethesda, Md. prepared this report under contract with the Federal Highway Administration (Martin Weiss, principal official for the Economic Development Highway Initiative). Jason Bezis and Kristin Noyes were the primary authors, with assistance from Paul Nguyen, Justine Lam, and Jessica Bonardi. The consultant team of JFA acknowledges the active participation and assistance of local development districts and other local and regional agencies for completion of this case study. Specific individuals from these entities are footnoted throughout this document.

<sup>[2]</sup> The U.S. Office of Management and Budget defines metropolitan and micropolitan statistical areas based on Census Bureau data. Each metropolitan statistical area (MetSA) must have at least one urbanized area of 50,000 or more inhabitants. Each micropolitan statistical area (MicSA) must have at least one urban cluster of at least 10,000 but less than 50,000 populations. The county (or counties) in which at least 50 percent of the population resides within urban areas of 10,000 or more population, or that contain at least 5,000 people residing within a single urban area of 10,000 or more population, is identified as a "central county" (counties). Additional "outlying counties" are included in the MetSA or MicSA if they meet specified requirements of commuting to or from the central counties.

<sup>[3]</sup> Danny Mummey, Georgia DOT Jesup District, "Interstate 16 Dates Opened to Traffic."

<sup>[4]</sup> The last Georgia sections of Interstates 75 and 95 were completed in December 1977.

<sup>[5]</sup> Another line opened between Macon and what is now Atlanta in 1846. The impetus for the Central's construction was to channel the burgeoning cotton trade of middle Georgia through Savannah instead of through the competing Port of Charleston, South Carolina. A railroad opened between Charleston and the Savannah River near Augusta in 1833.

<sup>[6]</sup> The Dixie Overland Highway should not be confused with Dixie Highway, which ran north-south between Michigan and Florida.

<sup>[7]</sup> For copies of the *Central Georgia Corridor Study* reports, visit the Central Georgia Corridor (HPC6) Study Home Page at: <http://www.dot.state.ga.us/DOT/plan-prog/planning/studies/centralgeorgia/index.shtml>

<sup>[8]</sup> *Central Georgia Corridor Study-Phase I Report*, Table 7-2, pp. 7-26 and 7-27. Emanuel County ranked "low" for transportation accessibility.

<sup>[9]</sup> Brian Basinger, "State transportation expert says hurricane evac routes don't match," *Savannah Morning News*, August 16, 2002.

<sup>[10]</sup> A traffic analyst at the Georgia Department of Transportation's Office of Transportation Data says that such fluctuations may be due to abnormal traffic conditions when the data were collected (data collection is done sporadically, not every day). For example, AADT at the westernmost count location on I-16 declined from 79,200 in 1996 to 66,900 in 1997, before increasing to 74,900 in 1998. Such a major decline in one year seems unrealistic. Similarly, the increase in AADT from 2000 to 2003 east of Exit 160 in the Savannah area may be over-stated. AADT

there lurched upwards from 42,200 in 2002 to 51,060 in 2003.

[11] Robert L. Virta, U.S. Geological Survey, "Clay and Shale," 2002 *Minerals Yearbook*.

[12] The Fall Line Freeway is not technically a "freeway;" it will not be grade-separated over most of its length. For the latest information on its construction status, see the GDOT *Fall Line Freeway Fact Sheet* at: <http://www.dot.state.ga.us/DOT/preconstruction/SpecialSubjects/grip/doc%5CFall-Line-Freeway-factsheet.pdf>.

[13] From Columbus to Macon, it consists of widened sections of U.S. 80/SR 22, SR 96, SR 49C, and I-75. From Macon to Augusta, it follows SR 57, a new alignment through parts of Wilkinson County, SR 24, SR 68, SR 88, and U.S. 1. The most controversial unbuilt section includes the interchange with I-16 near Macon. Doubling as an extension of the Eisenhower Parkway/U.S. 80, it would cut through the Ocmulgee National Monument, the site of an ancient Native American settlement and some of the largest Indian mounds in Georgia. The environmental review process may take several more years.

[14] For the latest information, see the GDOT *Savannah River Parkway Fact Sheet* at: <http://www.dot.state.ga.us/DOT/preconstruction/SpecialSubjects/grip/doc%5Csavannah-river-pkwy-factsheet.pdf>

[15] Tony G. Johnson and John L. Wells, *Georgia's Timber Industry-An Assessment of Timber Product Output and Use, 2001*, U.S. Forest Service-Southern Research Station, Resource Bulletin SRS-92, Tables 16, 20 (April 2004).

[16] U.S. Census Bureau, *1997 Economic Census: Manufacturing: Georgia*, Table 2. The Augusta-Aiken, SC-GA MSA had a larger value added by manufacture (\$6.6 billion) than the Macon MSA, but only \$3.0 billion was in the South Carolina portion of the Augusta MSA.

[17] Within the I-16 corridor, the Black percentages of county population ranged from 13.0 percent in Effingham County to 47.3 percent in Bibb County.

[18] The highest percentage of Hispanics in the I-16 corridor was in Candler County, 9.2 percent.

[19] Henry Eason, "I-16 completion set for Sept. 1," *Atlanta Journal & Constitution*, August 4, 1978, p. 1C. Dale Couch, senior archivist at the Georgia Department of Archives and History, provided background information about the role of interstate highways in Southern history in a telephone interview in June 2004. He said that the three most important factors in the development of the modern South are racial desegregation, modernization, and the existence of the Interstate Highway System.

[20] Telephone interview with Mr. Stacy B. Watson, Manager of Economic & Industrial Development, Georgia Ports Authority, August 2, 2004.

[21] Growth at the Port of Charleston, Savannah's chief rival for nearly two centuries, is somewhat constrained by its landside access challenges, especially competing land uses and its distance from the I-95 corridor. The ports at Hampton Roads, Virginia are not viewed as serious competitors because they serve a different hinterland, the Northeast and Mid-Atlantic, supported by the fact that some lines include both locations in their ship rotations.

[22] David Beasley, "I-16 not road to riches for rural areas," *Atlanta Journal & Constitution*, November 23, 1986, p. 1D, 7D.

[23] Abercorn Street, the city's primary commercial strip, is becoming completely developed with a concomitant increase in land prices (Oglethorpe Mall and Savannah Mall are both on Abercorn Street). A similar phenomenon is occurring in western Savannah.

[24] In the northeast quadrant is a large industrial site with infrastructure already in place. In fall 2002, Daimler Chrysler announced plans to construct a van assembly plant there. However, by late 2003, the company withdrew. Southbridge, a 1400-acre master-planned community is under construction in the southeast quadrant of the I-16/I-95 intersection. The southwestern quadrant will become Savannah Quarters another planned community. Sixteen West, expected to become one of the Savannah metro area's most significant retail centers, will open in fall 2005 at the southeast corner of the I-16/Pooler Parkway interchange. A hotel and movie theater complex will also be constructed there. New construction has also occurred in the northwest quadrant of the I-16/I-95 crossing.

[25] Roadway, water, sewage, and utility infrastructure were being installed in mid-2004. The nearly 273-acre site is intended for a light industrial/office building complex. Interstate Centre is Bryan County's first significant development on I-16 since the highway opened through the area in 1967.

[26] Jim Auchmutey, "4-lanes may not be the road to prosperity," *Atlanta Journal & Constitution*, January 27, 1987, p. 1-A.

[27] See Georgia State Code, Title 32, Chapter 4, Section 22.

[28] Douglas C. Bachtel, University of Georgia, et al., *An Analysis of the Governor's Road Improvement Program (GRIP)*. Jeffrey M. Humphreys, University of Georgia, *The Economic Benefits of the Governor's Road Improvement Program (GRIP)* (October 2003). The Bachtel analysis utilized the following study variables: retail sales, total net digest (property value), per capita income, transfer payments, total unemployment, unemployment by race and sex, and total buying power. It included Bulloch County on I-16 among its ten jurisdictions for analysis.

[29] David Beasley, "I-16 not road to riches for rural areas," *Atlanta Journal & Constitution*, November 23, 1986, p. 1D. Corridor Z, an early developmental highway in south Georgia, also generated controversy in the 1980s over its purported economic benefits. See, e.g., Bert Roughton, Jr., "Corridor Z No Sure Route to Prosperity," *Atlanta Journal & Constitution*, February 19, 1989, p. 1A.

[30] Department officials say that whereas I-16 was routed on the most direct path to Savannah, the developmental highways would be routed through or close to existing town centers, thereby creating more economic growth than in the bypassed I-16 communities.

[31] Ibid p. 7D.

[32] Telephone interview with Andy Riley, Swainsboro-Emanuel County Joint Development Authorities, August 20, 2004.

[32a] Per Jan 11, 2005 email from Max Azizi, FHWA Georgia division

[33] E-mail from Patrick Topping, Sr. Vice President, Macon Economic Development Corporation, July 31, 2004.

[34] "Mounds of controversy," *Atlanta Journal Constitution*, April 14, 2002, p. 1C.

[35] Another part of the Macon area, Houston County and the city of Warner Robins, has a booming economy. Robins Air Force Base, Georgia's largest single-site industrial complex, is the economic engine, with more than 24,000 civilian service workers, military members and contractors. Houston County is in the I-75 corridor south of Macon, but is centered on U.S. 129. It provides a stark contrast to the stagnant economy in Twiggs County, its eastern neighbor.

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