U.S. 280 Corridor Management Plan

Final Report

for the Georgia Department of Transportation

Submitted by

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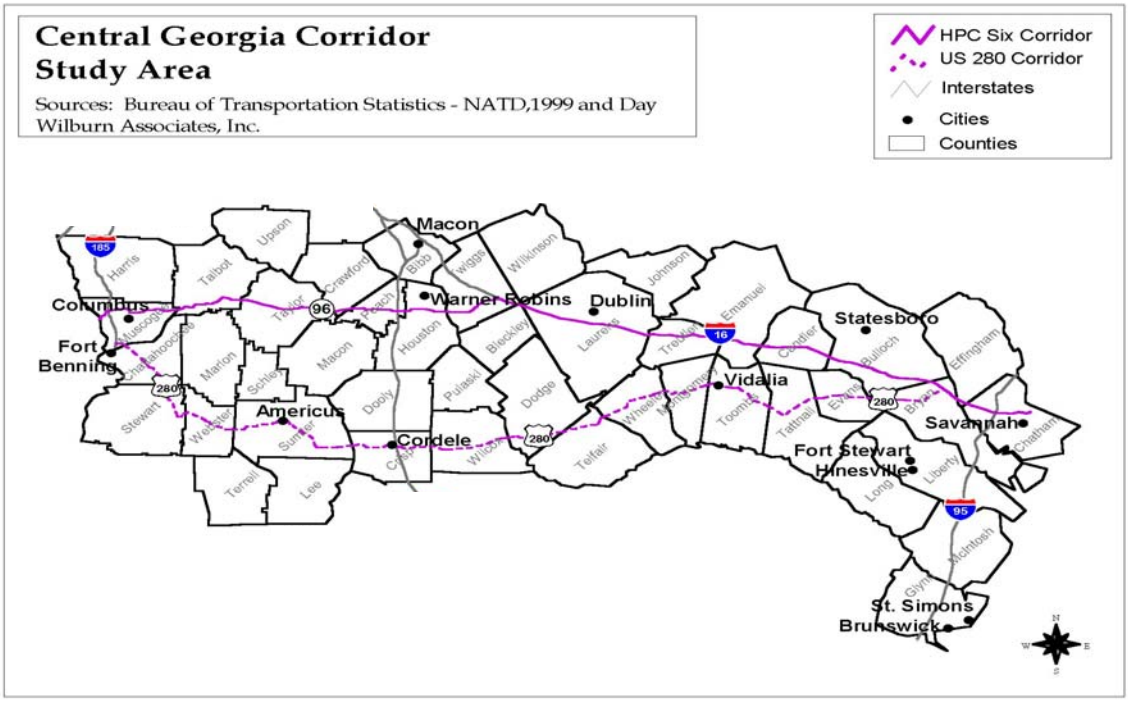
Executive Summary

The United States Department of Transportation (USDOT) awarded the Georgia Department of Transportation (GDOT) a National Corridor Planning and Development (NCPD) Program grant in May 1999. The purpose of the grant was to evaluate the Georgia portion of the strategic east-west High Priority Corridor Six (HPC 6) freight corridor, to more efficiently connect Georgia's Atlantic ports to the west.

GDOT broadened the study area to include an evaluation of transportation, commodity movement, and economic development in 45 counties across south-central Georgia, including US 280 from Columbus to Savannah. The primary purpose of the study was to assess how well transportation infrastructure supports existing and future goods movements and thereby contributes to the economies of central Georgia. By adding US 280 to the HPC 6 study area, both major east-west routes in central Georgia were analyzed as part of the overall needs assessment. The congressionally designated HPC 6 Corridor and US 280 are both shown in Figure E.1

Figure E.1: Study Area



US 280 traverses approximately 250 miles from Columbus to Savannah and was added to the Governor's Road Improvement Program (GRIP) in 2001. The GRIP, initiated in 1989 by state legislation, is a network of highways intended to support Georgia's economic vitality. It was adopted into law as Section 32-4-22 of the Official Code of Georgia. The goal of the GRIP is to place 98 percent of the state's population within 20 miles of a multi-lane highway. Two-thirds of the 150 road projects in the GRIP are

complete or under construction. The GRIP program's role in economic development is a state priority.

The majority of the approximately 250-mile US 280 corridor is a two-lane facility. However, several sections have been widened to four lanes or are programmed to be widened to four lanes in the 2003-2005 Statewide Transportation Improvement Program (STIP). Approximately 55 miles of US 280 are already four lanes and approximately 18 miles of roadway are currently programmed to be widened to four lanes.

Demographics

Central Georgia is characterized by a diverse population with low income, high poverty, and high unemployment. Several existing documents were reviewed and additional data was collected to detail population and employment in the central Georgia region. Analyses were also conducted to examine industry, freight demand, and commodity flow in the study area. Numerous studies have recommended action to reverse the lagging or declining economic conditions prevalent in many rural counties in central Georgia. Below national and state averages for population and economic growth, per capita income, unemployment and poverty, the corridor struggles to identify and implement action to encourage economic development.

Detailed data collection (including source data from interviews with shippers/receivers and carriers), combined with a thorough analysis of commodity flows and transportation infrastructure, offered a baseline from which an investment strategy could be developed. Industry clusters with distinct and measurable competitive advantages were identified, including those dependent on freight transportation infrastructure that benefit from targeted improvements. Transportation deficiencies may be adversely affecting the economic vitality of central Georgia counties.

Study Approach

The Central Georgia Corridor Study was designed to (1) assess the operations and conditions of central Georgia's existing transportation infrastructure and its capability to transport goods to national and international markets, (2) define transportation infrastructure and related technology improvements, and (3) identify potential constraints of implementing freight movement improvements.

Study activities for US 280 included establishing and applying a prioritization methodology for portions of the route not yet widened. The first phase of the study determined the current status of the corridor's economy, identified industry clusters, and estimated the dependence of industries on freight transportation infrastructure. During the second phase, system characteristics such as traffic volumes, roadway capacities, truck percentages, and accident experience were examined to understand the performance of the transportation network. This information was vital to development of the rating analysis and prioritization of projects during the third study phase.

The two-lane portions of the US 280 corridor not yet programmed for widening were divided into 15 sections by GDOT for analysis and widening prioritization. The factors used for rating and prioritizing these US 280 sections included:

- Connectivity, Accessibility and Economic Vitality (40%)
- Safety (30%)
- System Usage and Congestion (15%)
- Pavement Condition (15%)

These four criteria were selected due to their importance in the efficient movement of people and goods. Connectivity to existing major roadways and identified truck or evacuation routes, as well as accessibility to cities, provides logistical incentive for businesses to locate in the corridor. Safety in transportation is very important to all roadway users. System usage and congestion are measures of a roadway's overall use and indicate the level of demand placed on the roadway by users. Pavement condition as a criterion can help the state avoid duplication of improvement efforts.

Once the process of rating the 15 US 280 sections using the four factors was completed, each of the factors was weighted according to its overall importance to transportation infrastructure investment and economic development. While each of the four analysis factors plays a role in the need for improving the transportation system, several were considered to play a more significant role and were thus weighted more heavily. The weighting process resulted in a list of US 280 sections prioritized for widening to four lanes.

The weighted rating of the 15 sections provided a basis for developing an implementation schedule for the complete widening of US 280 to four lanes. The prioritized sections were grouped into four tiers for implementation. The tiers were established using the weighted rating scores, with consideration also given to total estimated cost for each tier. Table E.1 and Figure E.2 show the recommended prioritization of the US 280 sections.

The prioritization of the 15 sections of US 280 does not reflect all of the factors that will ultimately guide completion of widening to four lanes. Constructability issues such as potential environmental, utility, or social impacts that may be identified in the project development stage could lead to a shifting in the order of implementation. As a part of the regular project development process, alternative alignment options, including bypasses around towns, will be considered.

Table E.1: Prioritization of US 280 Sections by Implementation Tiers

Section Number*	County	Section Limits	Length (miles)	Cost Estimate**
TIER 1				
US 280 (1)	Stewart/ Webster	SR 520 (MP 21.09) in Richland to SR 41 (MP 7.02) in Preston	9.44	$17,200,000
US 280 (3)	Crisp/ Wilcox	MP 11.22 in Crisp County to SR 159 (MP 4.21) in Wilcox County	12.59	$25,570,000
US 280 (14)	Evans/ Bryan	MP 5.98 in Evans County to SR 119 (MP 9.37) in Bryan County	16.34	$29,040,000
US 280 (15)	Bryan	SR 119 (MP 9.37) to US 80/SR 26 (MP 21.94)	12.57	$23,620,000
			Subtotal	**$95,430,000**
TIER 2				
US 280 (4)	Wilcox	SR 159 (MP 4.21) to CR 208 (MP 14.03)	9.82	$16,840,000
US 280 (5)	Wilcox/ Dodge	CR 208 (MP 14.03) in Wilcox County to SR 117 (MP 4.84) in Dodge County	10.94	$31,100,000
US 280 (7)	Telfair	Telfair County line (MP 0) to SR 27 (MP 11.06)	11.06	$21,690,000
US 280 (11)	Toombs	West of SR 4/US 1 (MP 6.93) to SR 86 (MP 16.17)	9.24	$14,860,000
			Subtotal	**$84,490,000**
TIER 3				
US 280 (9)	Wheeler	SR 126 (MP 8.30) to SR 19 (MP 15.15)	6.85	$23,330,000
US 280 (10)	Wheeler/ Montgomery	SR 19 (MP 15.15) to eastern Montgomery County line (MP 12.35)	14.80	$38,480,000
US 280 (12)	Toombs/ Tattnall	West of SR 86 (MP 16.17) to CR 219 (MP 10.26)	11.14	$23,420,000
			Subtotal	**$85,230,000**
TIER 4				
US 280 (2)	Webster/ Sumter	SR 41 in Preston (MP 7.02) to Plains city limits (MP 2.18)	8.47	$15,550,000
US 280 (6)	Dodge	SR 117 (MP 4.84) to eastern Dodge County line (MP 13.14)	8.30	$13,810,000
US 280 (8)	Telfair/ Wheeler	SR 27 (MP 11.06) in Telfair County to SR 126 in Wheeler County (MP 8.30)	9.53	$18,770,000
US 280 (13)	Tattnall/ Evans	CR 219 in Tattnall County (MP 10.26) to west of SR 292 in Evans County (MP 1.50)	5.53	$8,970,000
			Subtotal	**$57,100,000**
			TOTAL	**$322,250,000**

*US 280 Sections are listed west to east

** Includes costs for Planning, Preliminary Engineering, Right-of-Way, Utilities, and Construction

US 280 Corridor Sections Prioritized

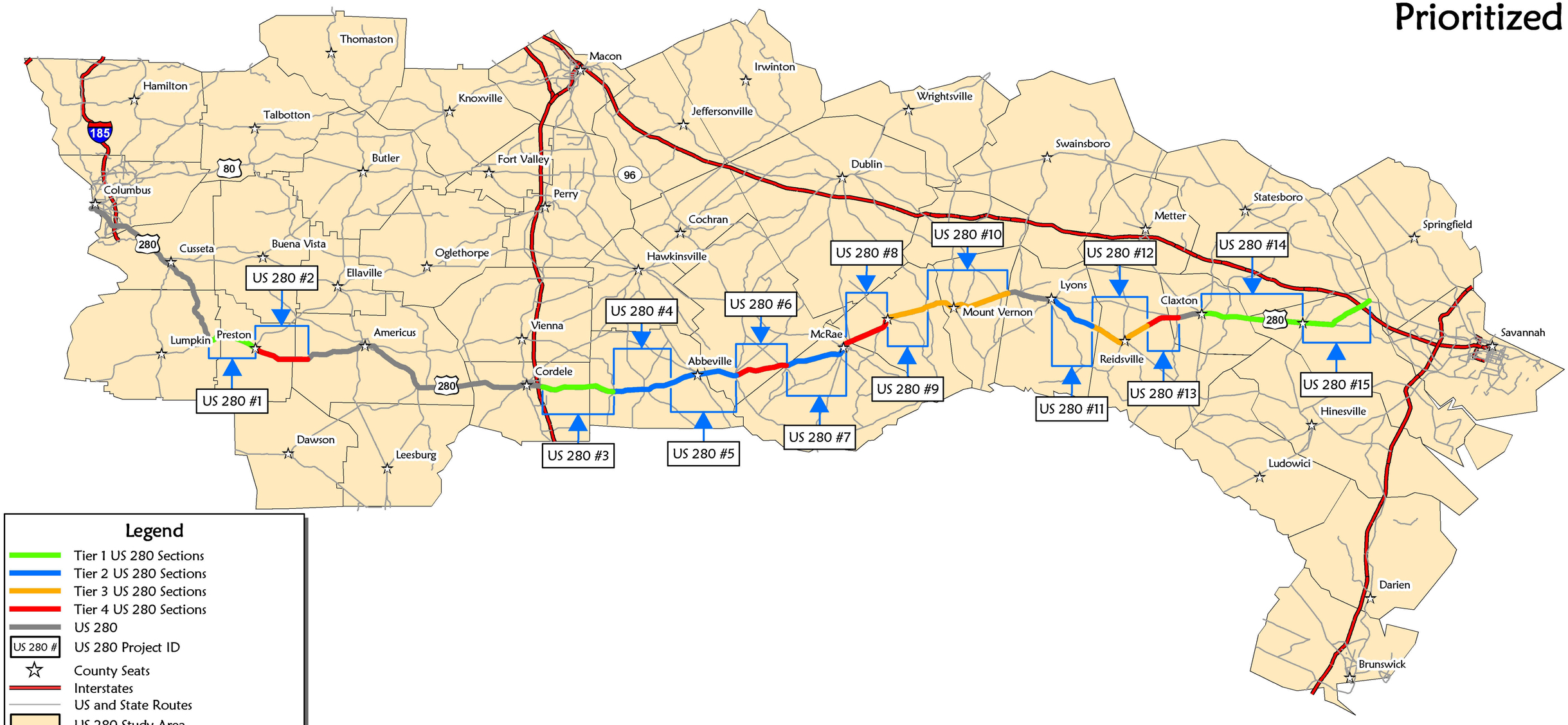


Figure E.2

Source: Georgia DOT, and ESRI.

This map is intended for planning purposes only.

Because US 280 is a designated GRIP corridor, the availability of funding through GRIP will ultimately affect the implementation schedule. Economic shifts in the region over time may cause GDOT to respond to those areas in central Georgia that may most benefit from improved transportation infrastructure. The implementation schedule for the widening of US 280 must adapt to these changes.

For further details about the methodology used for the study and its results, refer to:
Final Report (US 280 Corridor Management Plan)
Phase I Report (Corridor & Transportation System Evaluation)
Phase II Report (Development, Evaluation, & Selection of Recommended Improvements)
Final Report (Central Georgia HPC 6 Corridor Management Plan)

For additional information concerning the US 280 Corridor Management Plan, contact:
Georgia Department of Transportation, Office of Planning at (404) 656-5411

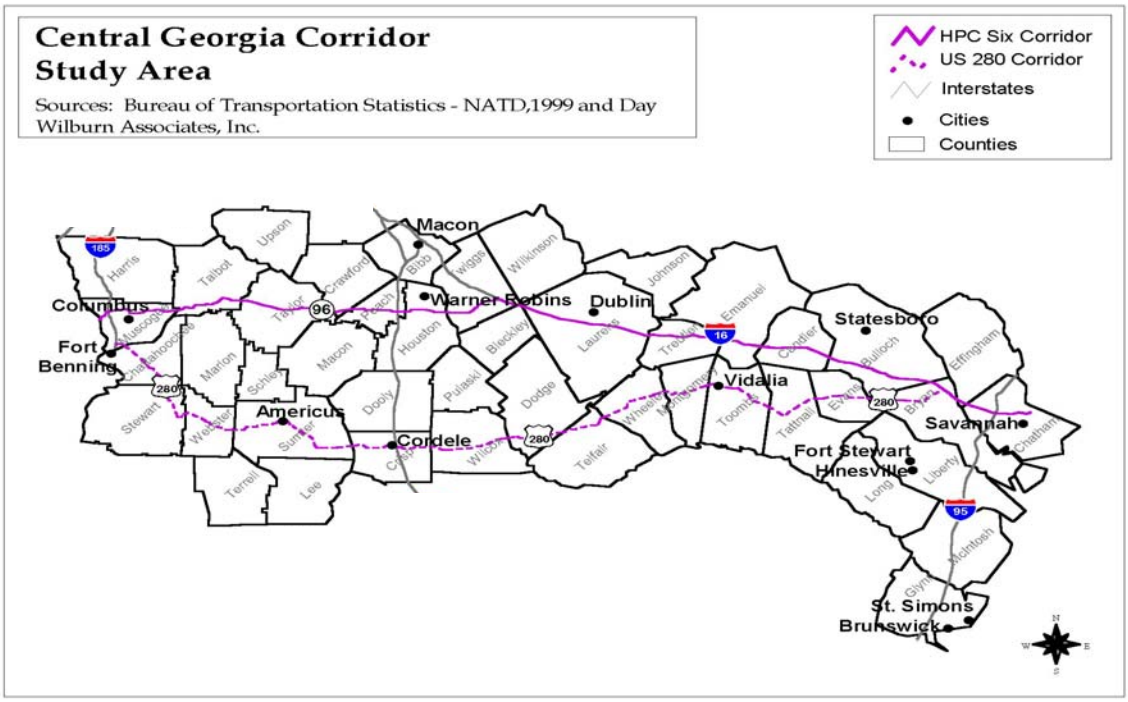
1 Study Overview

The United States Department of Transportation (USDOT) awarded the Georgia Department of Transportation (GDOT) a National Corridor Planning and Development (NCPD) Program grant in May 1999. The purpose of the grant was to evaluate the Georgia portion of the strategic east-west High Priority Corridor Six (HPC 6) freight corridor, to more efficiently connect Georgia's Atlantic ports to the west.

Background

GDOT broadened the study area to include an evaluation of transportation, commodity movement, and economic development in 45 counties across south-central Georgia including US 280. The primary purpose of the study was to assess how well the transportation infrastructure is supporting existing and future goods movements and supporting the economies of central Georgia. By adding US 280 to the HPC 6 study area, both major east-west routes in central Georgia were analyzed as part of the overall needs assessment. The congressionally designated HPC 6 Corridor and US 280 are both shown in Figure 1.1

Figure 1.1: Study Area



US 280 stretches approximately 250 miles from Columbus to Savannah and is otherwise known as the Power Alley. This route was added to the Governor's Road Improvement Program (GRIP) in 2001. The GRIP, initiated in 1989 by state legislation, is a network of economic development four-lane highways and roads was adopted into law as Section 32-4-22 of the Official Code of Georgia. The goal of the GRIP is to place 98 percent of the state's population within 20 miles of a multi-lane highway. Two-thirds of the 150 road projects in the GRIP are complete or under construction. The Governor initiated the Governor's Transportation Choices Initiative (GTCI) in 2001, in part to accelerate completion of the GRIP program, which otherwise would have taken another 20 years. The GRIP program's role in economic development is a state priority.

Study Approach

The Central Georgia Corridor Study was designed to (1) assess the operations and conditions of central Georgia's existing transportation infrastructure and its capability to transport goods to national and international markets, (2) define transportation infrastructure and related technology improvements, and (3) identify potential constraints of implementing freight movement improvements.

The study had four work phases:

- Phase 1 (Corridor Transportation and System Evaluation) provided a baseline assessment of the economies and infrastructure of central Georgia. Phase 1 findings served as the foundation for activities in Phase 2 (Development, Evaluation and Selection of Recommended Improvements), which identified short and long-term transportation infrastructure needs and potential solutions.

- Phase 2 (Development, Evaluation and Selection of Recommended Improvements) activities included examining the transportation system and defining existing and future traffic conditions. This phase also identified transportation deficiencies in central Georgia. Commodity flows and economic profile data were used to construct baseline freight traffic estimates. Travel demand model data supplemented the traffic forecasts. Demographic data was used to establish background (non-freight) traffic in areas where travel demand forecasts did not exist. Findings generated during Phases 1 and 2 are summarized in the *HPC 6 Corridor Management Plan*.

- Phase 3 (Development of an Implementation Program), built on the analyses done in Phases 1 and 2 and focused on final products for the HPC 6 and for the US 280 corridors. The US 280 analysis used a ranking criteria to prioritize projects for the widening of 15 sections of the US 280 GRIP corridor.

- Phase 4 (Public Involvement and Environmental Justice) was conducted simultaneously with the work performed in the other three study phases. The outreach effort described below provided valuable direction throughout the study.

Outreach and Public Involvement

The primary goal of the outreach process was to create ample and ongoing opportunities for input into the development of the HPC 6 Corridor Management Plan and US 280 Corridor Study. This was accomplished primarily through a series of regional stakeholder meetings held throughout the study area. Meetings were held during the study when input was needed to identify deficiencies and review proposed improvements. Representative stakeholders knowledgeable about needs within their region were present at each meeting.

A Stakeholder Advisory Committee, organized at the beginning of the study, provided input to the study team. The committee was comprised of approximately 2,000 members with professional backgrounds in government, industry, transportation, economic development, planning and engineering, public safety, trade, tourism, and special interest topics. Study stakeholders were selected from organizations directly impacted by the performance of the region's transportation system, including shippers, receivers, and freight carriers across all freight modes. The stakeholder committee also included local governmental officials, regional advisory councils, chambers of commerce, development authorities, and individual citizens.

In addition to the stakeholder meetings, GDOT staff and consultant team members participated in Georgia Rural Development Council (GRDC) meetings throughout the region to provide information and gain public input concerning the study. Interviews were conducted with shippers and receivers and economic development officials. Study information was disseminated through newsletters distributed at the completion of each study phase and a website, both of which provided regular project updates and information. Each newsletter provided study information and status reports, opportunities for direct public participation, and key project contacts and sources for additional information. The availability of regular project updates and information was further enhanced through the use of GDOT's website, which posted newsletters, meeting times and locations, presentations, maps, and contact information.

Outreach Activities

Study kick-off meetings were held in Montezuma, McRae, and Statesboro during October 2000 to inform stakeholders about the study. The meetings included a listening session regarding local and regional transportation issues.

The study team interviewed major users of the freight transportation system during Phase 1. These industries were identified through Info USA, Transearch commodity flow data, Transportation Technical Services, Georgia Department of Labor's Area Labor Profiles, and GDOT's Chatham County Intermodal Freight Study. The process resulted in the identification of representatives for a sample of industries in central Georgia with

freight movement needs, providing relatively even coverage of the study area in terms of geography and industrial makeup.

Additional outreach activities in Phase 1 included the following presentations:

- Georgia DOT Project Status Meeting; December 2000; Atlanta, GA
- Georgia DOT Board Presentation; February 2001; Atlanta, GA
- Government Staff Outreach Meetings; February 2001; Americus, Brunswick, Columbus, Macon, McRae, and Statesboro, GA
- Regional Advisory Council Presentation; March 2001; Americus, GA
- Georgia Rural Development Council meetings; Summer 2001

Five stakeholder meetings were held in August 2001 in Americus, Columbus, Macon, McRae, and Savannah to present study findings at the end of Phase 1. An additional six stakeholder meetings were conducted in May 2002 in Americus, Columbus, Dublin, Macon, Savannah, and Vidalia to review deficiencies identified during Phase 2. Following a presentation of progress and findings to date, stakeholders were divided into small groups to review and comment on potential system deficiencies. Stakeholders also reviewed existing transportation programs that address many of the identified system deficiencies.

A final round of stakeholder meetings was held in Americus, Columbus, Dublin, Macon, Savannah, and Vidalia in December 2002 to review findings from Phase 2 and present the Phase 3 recommended projects. The study team received many comments and questions regarding the recommended projects. Comments were addressed by the study team and incorporated as appropriate into the final plan. Comments that were not applicable to the study were directed to the appropriate GDOT personnel.

Stakeholder Input

As a result of the extensive public outreach, significant input was received throughout the study. Congestion in small downtown areas was often noted. In some cases, stakeholders suggested constructing bypass routes around the towns while in other cases they asked that Intelligent Transportation System (ITS) technology involving the use of changeable message signs and cameras to improve traffic flow be considered. Signage deficiencies were noted, as well as recommended locations for turn lanes, acceleration lanes, and deceleration lanes. Safety was a prime concern at all of the meetings, with stakeholders pointing out deficient intersections and roadway conditions. At-grade railroad crossings were a primary concern to the stakeholders due to delays experienced at any crossings with frequent or prolonged train movements.

Stakeholders indicated locations of perceived congestion within their regions. Upon further investigation, volume to capacity (v/c) ratios or accident rate criteria often did not indicate the need for additional through lanes. In many areas with perceived congestion, stakeholders expressed the need for passing lanes. Interstate interchanges

with safety and/or operational needs were noted, along with improvements for military transport within the corridor. Economic development roadways were also mentioned in stakeholder meetings, and their completion is eagerly anticipated.

Those who were contacted and interviewed were candid in their responses. Their opinions and recommendations varied regarding the strengths and weaknesses of the freight transportation network within Georgia and the study area specifically. The interview sample produced a fairly comprehensive set of problem topics and areas and recommended strategies to be assessed as part of the overall study effort. It is perceived that central Georgia possesses many incentives to businesses for relocation and that continuing to encourage businesses to locate within the corridor area is vital to the economic health of central Georgia. Transportation system improvements are viewed as crucial to accomplishing this goal.

Environmental Justice

Environmental justice promotes nondiscrimination to prevent negative environmental impacts to low income and minority populations in federally funded activities. Environmental justice was accounted for in the study's transportation planning process and products. Social, racial, and economic parameters were discussed for each county in the 45-county study area, and environmental justice communities were identified in locations with transportation deficiencies and recommended improvements. Environmental documentation identified the location of environmental justice communities on project location and environmental resource maps. The corridor study found that projects identified to address transportation deficiencies will not disproportionately burden environmental justice communities.

2 Study Area Characteristics

Central Georgia is characterized by a diverse population with low income, high poverty, and high unemployment. Several existing documents were reviewed and additional data was collected to detail population and employment in the central Georgia region. Analyses were also conducted to examine industry, freight demand, and commodity flow in the study area. Data collection and analysis results are illustrated in this chapter.

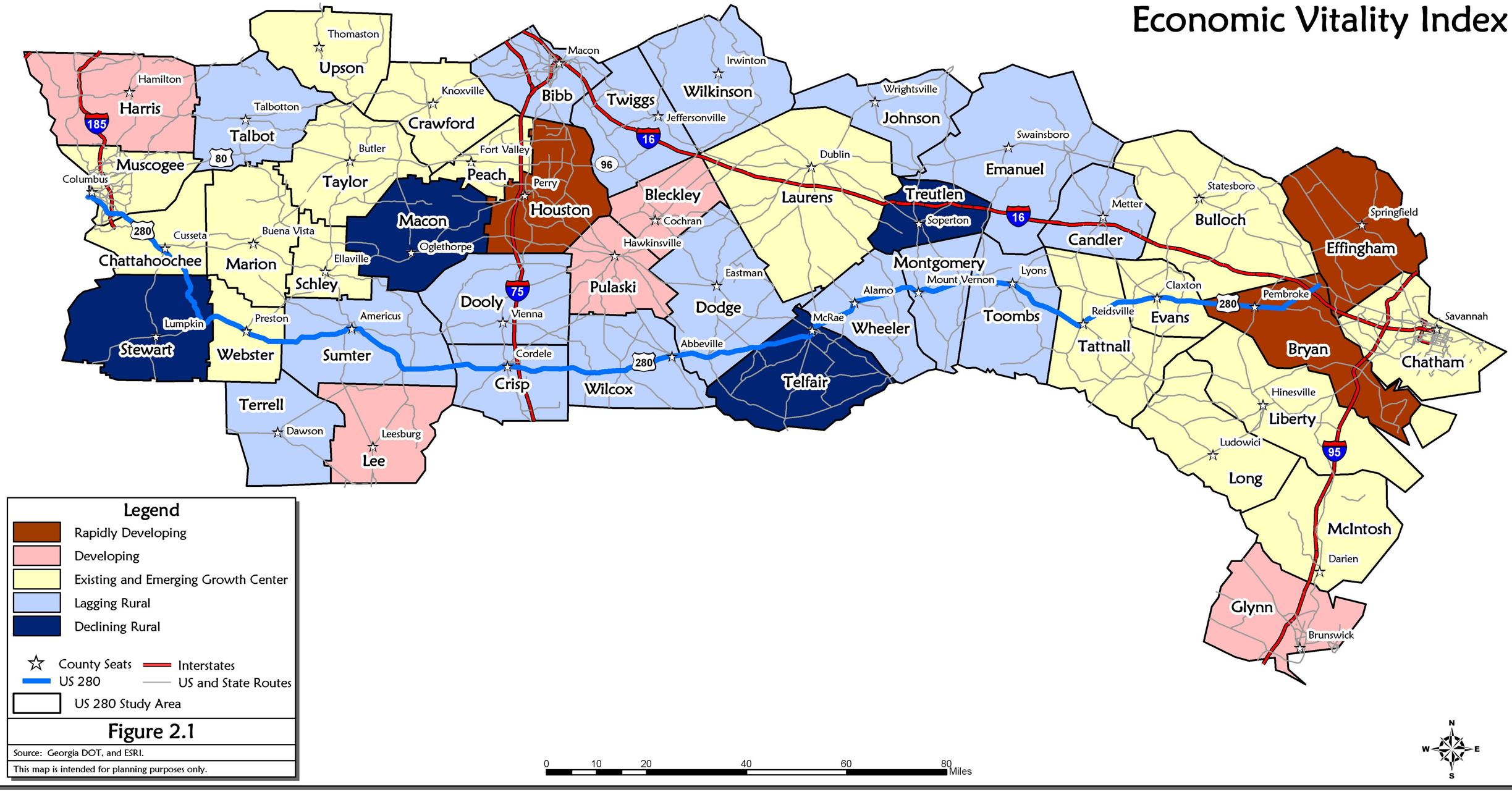
Economic Overview

Three initiatives in 2000 addressed economic and transportation conditions in Georgia. The Georgia Rural Development Council (GRDC), together with the Georgia Institute of Technology, developed *The State of Rural Georgia Report*, while the University of Georgia's Carl Vinson Institute prepared *The Power Alley Initiative: An Assessment of the Economic Development Potential of State Infrastructure Investment in South Georgia*. A third study, prepared by Dr. Douglas Bachtel of the University of Georgia and entitled *An Analysis of the Governor's Road Improvement Program (GRIP)*, addresses the relationship of GRIP and economic development. The three studies concluded that a key factor of sustained community growth depends on maximizing investment return through transportation infrastructure investment. Economic development does not, however, depend upon transportation investment alone. Transportation improvements must be accompanied by community development improvements, such as increased educational and vocational training, job readiness skills, quality day care, and availability of affordable housing. Equally important is the cooperation between state and local governmental officials and the private sector.

The GRDC's Economic Vitality Index is useful in identifying counties classified in one of five categories: Rapidly Developing, Developing, Existing and Emerging Growth Center, Lagging Rural, or Declining Rural. Counties in Georgia have been assigned to these categories based on factors including per capita income, unemployment, bank deposits per 1,000 persons, labor force participation rate, average manufacturing weekly wages, annual growth in total population, and percentage of persons living below the poverty line. The GRDC found these designations are representative of the potential to stimulate growth. The GRDC encourages investment in the corridor, and the *Power Alley Initiative* recommended focused infrastructure investment in these counties to create a "corridor of essential infrastructure" between Columbus and Savannah. The GRDC's final classification of counties was made after publication of the Central Georgia Corridor Study Phase 1 report. The revised statistics are reflected in Figure 2.1.

Of the 15 counties that US 280 traverses, two are classified as Declining Rural, seven are Lagging Rural, five are Existing and Emerging Growth Centers, and one is Rapidly Developing. The majority of the lagging and declining counties are in the central part of the corridor with the counties classified in the top two economically vital categories on

US 280 Corridor Economic Vitality Index



Legend

- Rapidly Developing
- Developing
- Existing and Emerging Growth Center
- Lagging Rural
- Declining Rural

- County Seats
- Interstates
- US 280
- US and State Routes
- US 280 Study Area

Figure 2.1

Source: Georgia DOT, and ESRI.

This map is intended for planning purposes only.

the western and eastern end of the corridor. The exception is Stewart County, classified as Declining Rural, located near the western end of US 280. Bryan County, the most eastern county along US 280, is the only county on the US 280 corridor that is classified as Rapidly Developing, indicating that the economic development within the county is strong.

Building on the Economic Vitality Index, the ability of transportation infrastructure investment to promote community growth was analyzed using the Transportation Accessibility Index. The Transportation Accessibility Index reflects the accessibility of counties to Interstates, commercial airports, business airports of regional impact, intermodal terminals, multi-lane highways, and major rail carriers. Decisions about transportation investment can be better considered by examining both indexes together. A county with a good (growing or emerging) economy and poor transportation access would likely be an excellent candidate for transportation improvements. Conversely, a county with a poor economy and high access may not need additional transportation investments, but rather more focus on other economic or social issues constraining growth and development.

Study Area Population and Employment

Population in the 45-county study area increased 19% between 1980 and 2000 (Figure 2.2), with a growth rate lower than the state or national average between 1980 and 1990. Between 1991 and 2000, the corridor population mirrored the United States as a whole but fell behind the rest of Georgia, which was the fastest growing state east of the Rocky Mountain region. The corridor's fastest growing counties are on the eastern side of the state: Effingham, Bryan, and Long Counties. Four of the eight Georgia counties experiencing declining population (Macon, Stewart, Treutlen, and Telfair Counties) are located in the study area. Bryan, Stewart, and Telfair Counties are located along US 280.

At $21,823, the corridor's per capita income is significantly lower than the statewide average of $25,839 and national average of $27,203. As with population, per capita income is forecast to lag behind the national average over the next 25 years. Private, non-farm employment grew significantly more than the national average during the 1990-2000 decade. The largest job-generating industries were services, durable goods, manufacturing, and construction. Approximately one-third of study area employment is in freight related industries (Figure 2.3). Despite the growth in jobs, unemployment rates were higher in the study corridor than national and state averages. The Metropolitan Statistical Areas of Columbus, Savannah, and Macon had lower unemployment rates than the corridor as a whole, but were still higher than national and statewide averages.

Figure 2.2: Study Area Population

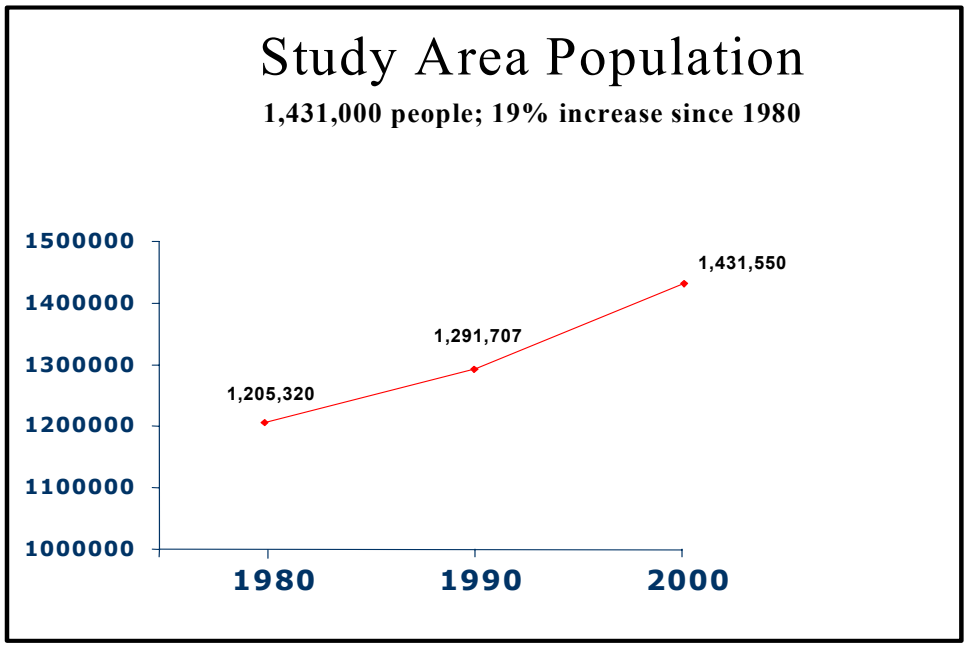
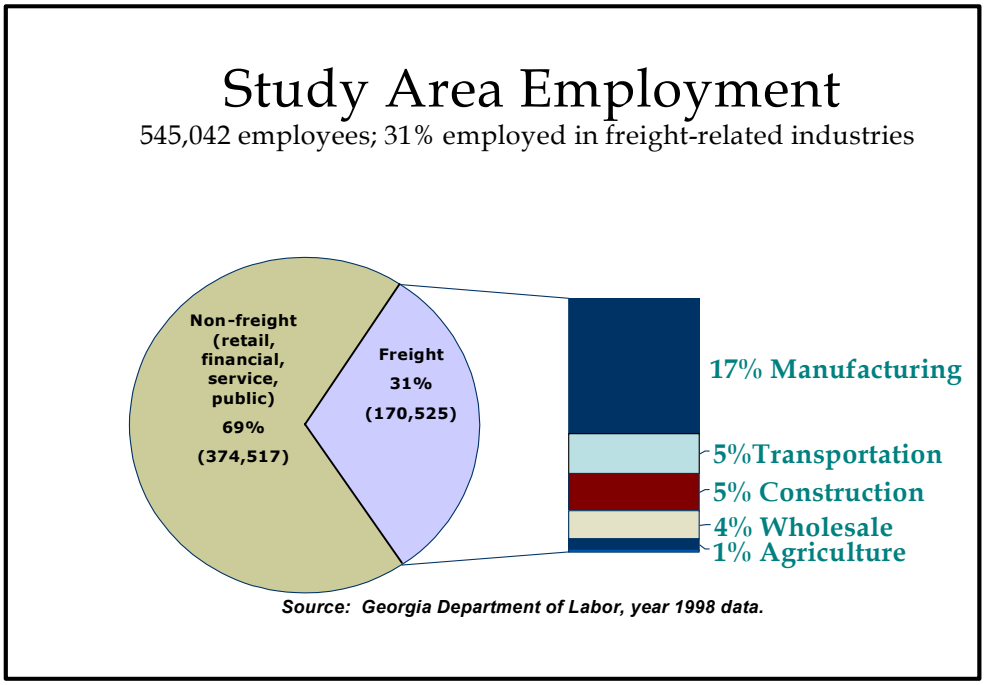


Figure 2.3: Study Area Employment

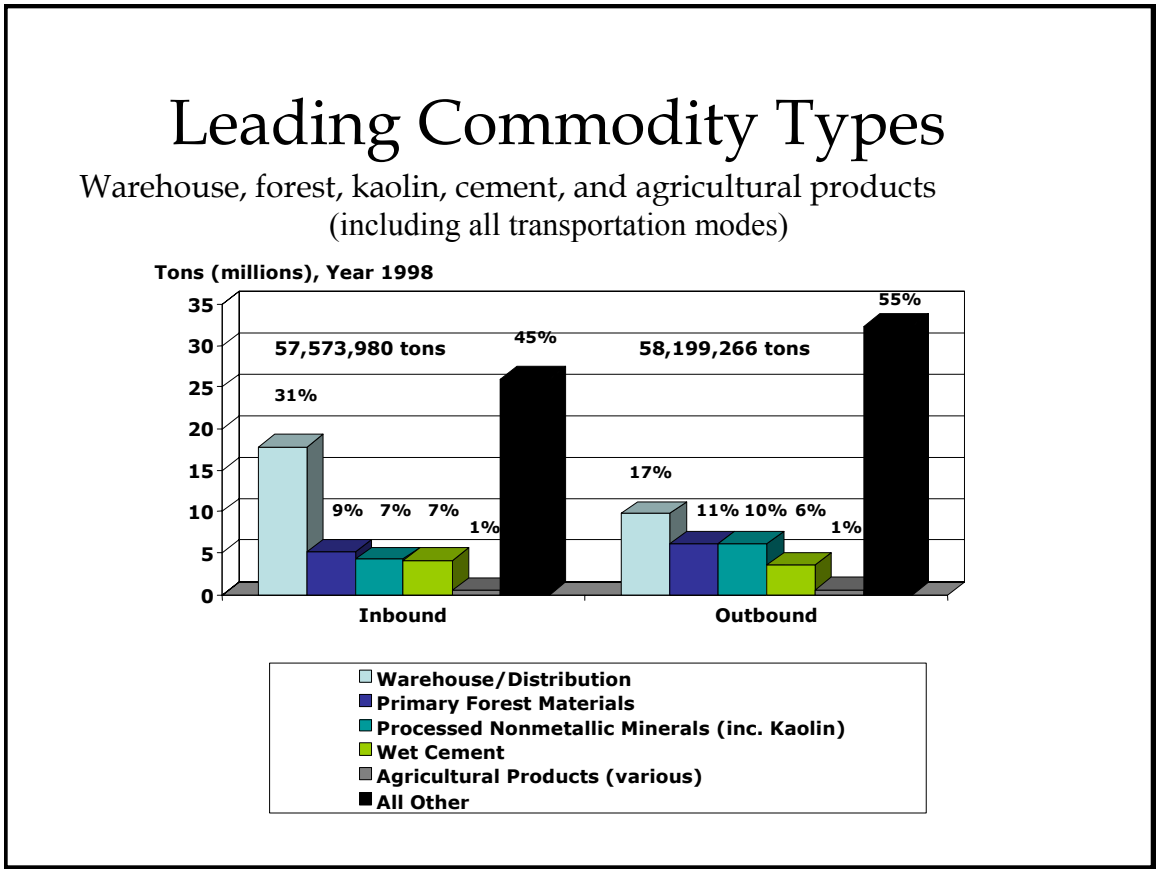


Industry in the Corridor

Location Quotients (LQ) and Shift Share Analysis help identify industry clusters in the corridor that use and are dependent upon freight transportation. LQ measure the concentration of particular industries in a region relative to the nation. In 1998, the corridor's industry mix generally mirrored the national average except for high concentrations of government and non-durable manufacturing (textile products, food, apparel, and tobacco) and lower concentrations in mining, wholesale trade, finance, insurance, and real estate.

Shift Share Analysis measures the shift (movement) of the corridor's economy into faster or slower growth sectors. It also measures the corridor's share of growth in industrial sectors. Nationwide trends show that services, construction, transportation, retail, and agricultural industries are growing while manufacturing, mining, finances, farm employment, and government sector employments are in decline. Within the corridor, Shift Share Analysis shows services, retail, and agriculture, forestry, and fishing are growing faster than national trends. Current leading commodity types are shown in Figure 2.4.

Figure 2.4: Leading Commodity Types



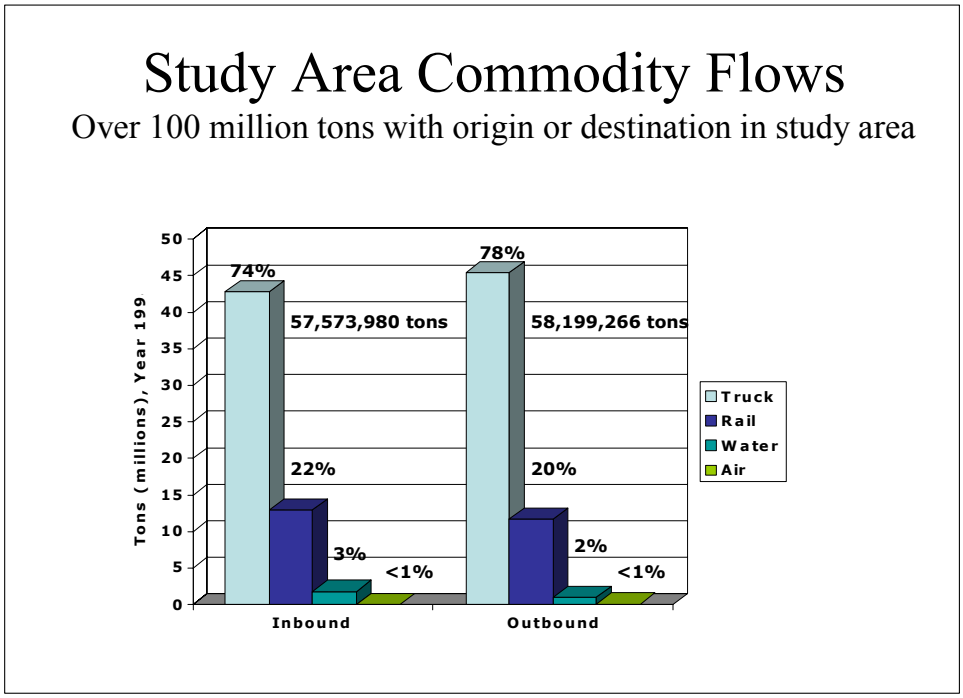
Growth at specific industry levels was identified to gain an understanding of which industries have a comparative advantage so that transportation investments can be strategically targeted, if desired. The industries with a comparative advantage in the corridor are: production of transportation equipment; agriculture; forestry; fishing; electric equipment; fabricated metals; stone; clay; glass and concrete; tobacco manufacturing; and machine, computer, printing, and primary metals manufacturing. Using LQ and Shift Share Analysis, the industry clusters that are judged key in the study corridor include transportation equipment, tobacco manufacturing, stone, clay, military bases, and food.

Freight Demand and Commodity Flow Analysis

The freight transportation demand of key industries was computed, and the agriculture, forestry, food, and tobacco industries were determined to produce the highest demand. Other industries with high freight transportation demand include government, military, transportation, aerospace equipment, apparel textiles, floor coverings, basic materials, wood products, and paper products.

The economic vitality of the central Georgia region may be predominantly lagging, but the study area accommodates a considerable amount of freight traffic (Figure 2.5).

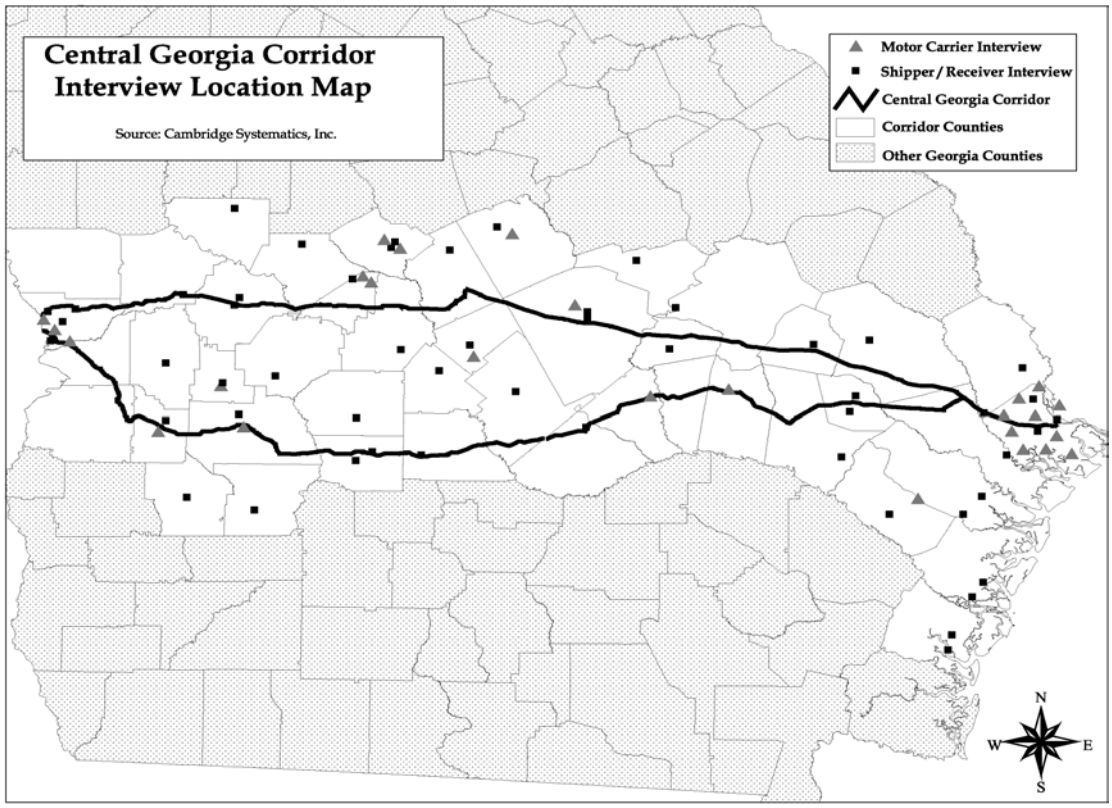
Figure 2.5: Study Area Commodity Flows



Inbound and outbound domestic tonnage in the 45-county study area totaled 122 million, at a worth of $319 billion in 1998, with trucks accounting for 77% of the tonnage, rail 22% and water 1%. The corridor accounted for 7.5 million loaded truck trips and 550,000 loaded rail car trips. Through tonnage (tonnage that only passes through, not within, the corridor) totaled an additional 133 million. International commodity flow is handled by the Ports of Savannah and Brunswick. The Port of Savannah, located near the eastern termini of US 280, ranks 39th in the nation in total tonnage, 7th in container traffic, and 4th among US Atlantic ports in international tonnage. The Port of Brunswick is ranked 112th in the nation with regard to total port tonnage. The Port of Columbus processes 175,000 tons of domestic commodities annually.

A comprehensive list of major freight transportation users in the corridor was developed from various national and local sources. A sampling of 76 shippers/receivers and carriers was interviewed, with their locations mapped (Figure 2.6) to show the geographic dispersion represented. Those interviewed discussed transportation problems, potential solutions, and their thoughts on the climate in their business. They generally agreed that business attraction efforts, including transportation infrastructure investment, are essential to the economic health of central Georgia.

Figure 2.6: Shippers, Receivers, and Carriers Interview Locations



Summary of Key Findings

Numerous studies have recommended action to reverse the lagging or declining economic conditions prevalent in many rural counties in central Georgia. Transportation deficiencies may be adversely affecting the economic vitality of central Georgia counties. Below national and state averages for population and economic growth, per capita income, unemployment and poverty, the corridor struggles to identify and implement action to encourage economic development. Detailed data collection (including source data from interviews with shippers/receivers and carriers), combined with a thorough analysis of commodity flows and transportation infrastructure, offered a baseline from which an investment strategy could be developed. Industry clusters with distinct and measurable competitive advantages were identified, and those dependent on freight transportation infrastructure could benefit from targeted improvements.

3 Corridor Evaluation

The majority of the 250-mile US 280 corridor is a two-lane facility; however, several sections have been widened to four lanes or are programmed to be widened to four lanes in the 2003-2005 Statewide Transportation Improvement Program (STIP). Approximately 55 miles of US 280 are already four lanes, as shown in Figure 3.1, and approximately 18 miles of roadway are currently programmed to be widened to four lanes, as shown in Figure 3.2. The remaining two-lane portions of the US 280 corridor were divided into 15 sections by GDOT for analysis. These sections are shown in Figure 3.3. Project worksheets for each of the sections are in Appendix A.

Analysis Factors

In order to evaluate the two-lane sections of the US 280 corridor, a series of factors to determine the nature of the transportation system were identified. These factors include measures of connectivity, accessibility, economic vitality, safety, usage, congestion, and pavement condition on the system. Each of the analysis factors is discussed in the following paragraphs.

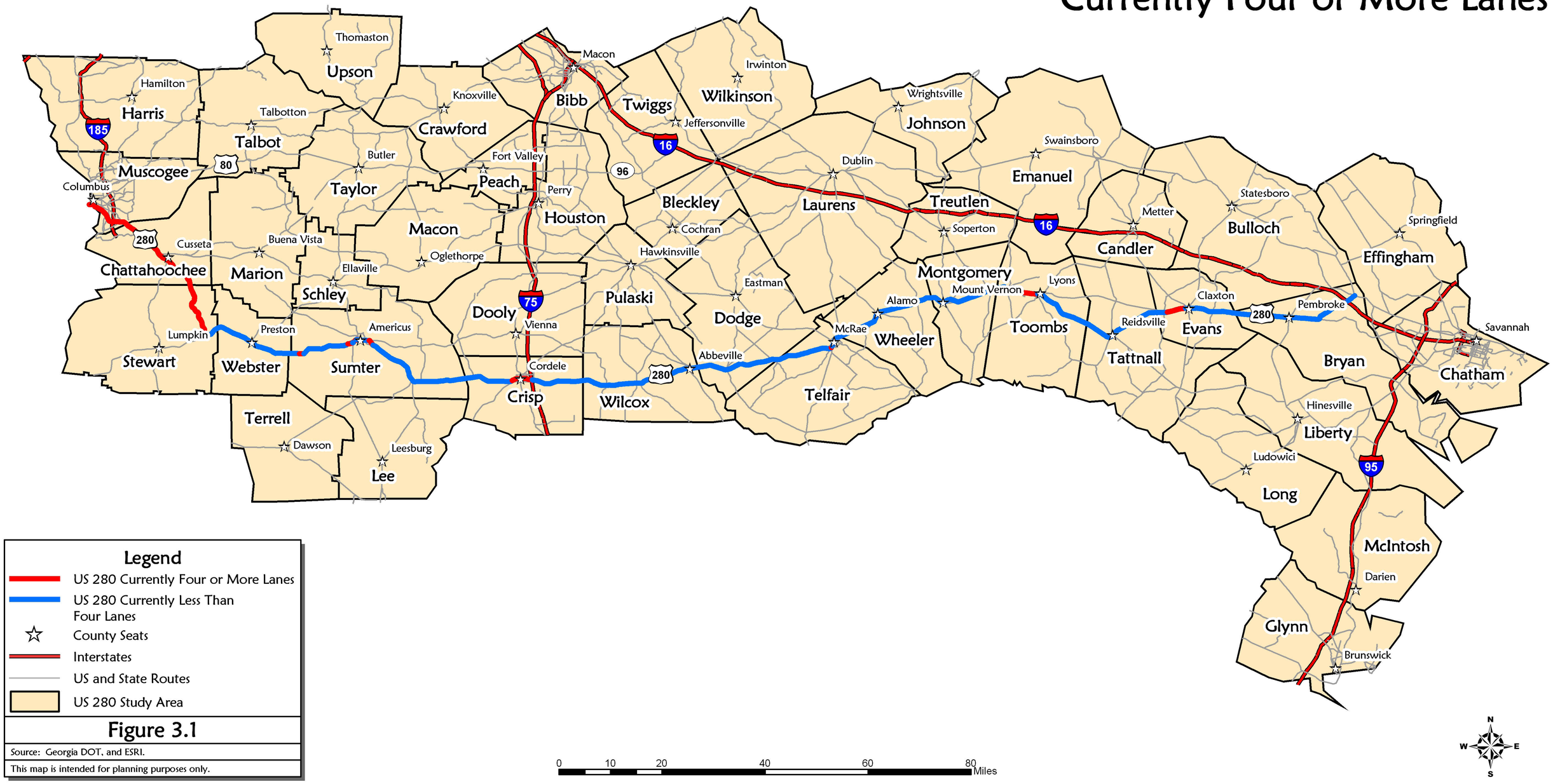
Connectivity, accessibility, and economic vitality were measured by access to interstates, state routes, and other important freight-moving transportation networks, including the National Highway System (NHS), Surface Transportation Assistance Act (STAA), Strategic Highway Network (STRAHNET), and other GRIP corridors. The populations of the towns and cities within the corridor sections were also taken into consideration in the analysis. Roadway sections serving as hurricane evacuation routes were deemed to be an important connectivity factor, while the economic vitality index ranking was used to assess the impact transportation investment may have within an area.

Safety needs within the corridor sections were measured by analyzing accident history within the corridor. The number of accidents per mile (1997 data) and fatalities per mile (2000-2001 data) were used to indicate the need for transportation investment to improve the safety of the corridor.

System usage and congestion were measured by examining the Average Daily Traffic (ADT), projected volume to capacity (v/c) ratios for 2025, and percent of truck traffic along each section of the corridor. Higher ADT, especially coupled with a high percentage of truck traffic, indicates the level at which the transportation system is currently being used. A system with higher usage would likely receive more benefit from widening than a roadway section with less use. Existing congestion was not apparent in the corridor; therefore, projected v/c ratios were used to indicate congestion that may be present in the future.

Pavement condition was taken into consideration to avoid rehabilitating a two-lane section only to have it widened shortly thereafter. The Pavement Condition Evaluation System (PACES) rating was used to reflect pavement condition within each section.

US 280 Corridor Sections Currently Four or More Lanes



Legend

- US 280 Currently Four or More Lanes
- US 280 Currently Less Than Four Lanes
- County Seats
- Interstates
- US and State Routes
- US 280 Study Area

Figure 3.1

Source: Georgia DOT, and ESRI.

This map is intended for planning purposes only.

0 10 20 40 60 80 Miles

N W E S

US 280 Corridor Sections Programmed to be Widened to Four Lanes

Legend

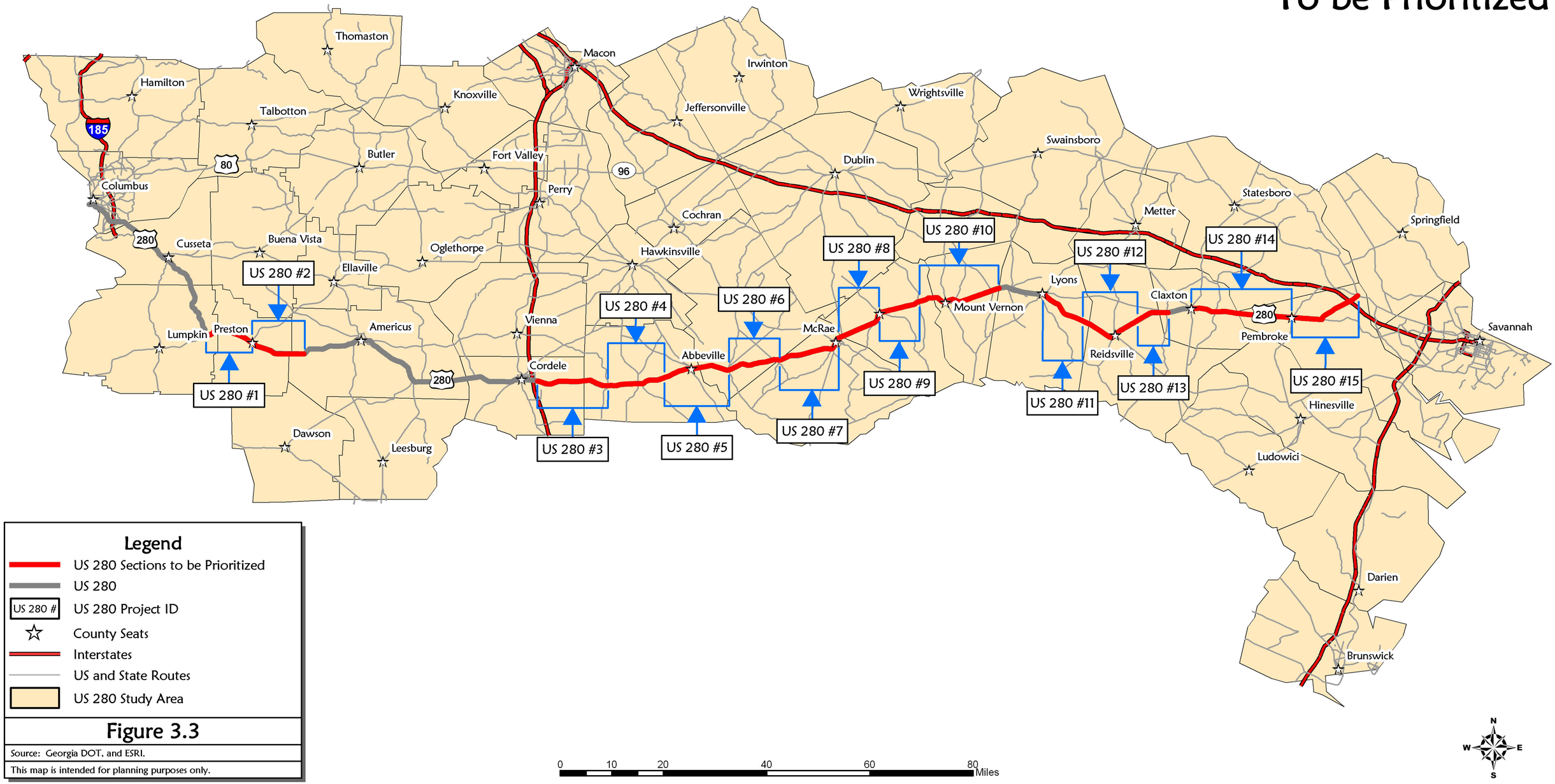
- US 280 Programmed to be Widened to Four Lanes
- US 280
- ☆ County Seats
- Interstates
- US and State Routes
- US 280 Study Area

Figure 3.2

Source: Georgia DOT, and ESRI.

This map is intended for planning purposes only.

US 280 Corridor Sections To be Prioritized



Legend

- US 280 Sections to be Prioritized
- US 280
- US 280 # — US 280 Project ID
- County Seats
- Interstates
- US and State Routes
- US 280 Study Area

Figure 3.3

Source: Georgia DOT, and ESRI.

This map is intended for planning purposes only.

0 10 20 40 60 80 Miles

N W E S

US 280 Travel Time Runs

In addition to simply widening US 280, the identification and elimination of bottlenecks is important to expediting the flow of goods along the corridor. As a form of system evaluation, travel time runs were conducted during peak travel periods for areas along US 280 where driving speeds were consistently less than 40 miles per hour. Potentially congested locations were identified in twelve communities: Plains, Americus, Cordele, Rochelle, Rhine, McRae, Alamo, Vidalia, Lyons, Reidsville, Bellville, and Claxton. Seven of those twelve communities were identified as having low driving speeds and were selected for travel time survey. These locations include Americus, Cordele, McRae, Vidalia, Lyons, Reidsville, and Claxton. Improvements were recommended in Americus, Cordele, McRae, and Vidalia. US 280 in Americus is already programmed for improvement. US 280 in Cordele is already four lanes and operational improvements are recommended to improve traffic operations. A US 280 bypass is recommended in McRae to alleviate the minor congestion delays. Three solutions are proposed to alleviate congestion on US 280 in Vidalia: a bypass around town, full loop around town, or a one-way pair through town. Additional information on the travel time runs and resulting recommendations is in Appendix B.

4 Rating of Corridor Sections

Study activities focused on setting the groundwork for rating sections of the US 280 GRIP corridor not yet widened. The first phase of the study determined the current status of the corridor's economy, identified industry clusters, and estimated the dependence of industries on freight transportation infrastructure. During the second phase, system characteristics such as traffic volumes, roadway capacities, truck percentages, and accident experience were examined to understand the performance of the transportation network. This information was vital to development of the corridor section rating analysis and prioritization of projects during the third study phase.

Rating Criteria

Some parts of US 280 have already been widened to four lanes or are currently programmed for construction. The US 280 Corridor Study examined 15 sections identified by GDOT that are not currently programmed to be widened. The study utilized four analysis factors, as described in Chapter 3, to characterize needs and conditions on each section. The factors for analysis are:

- Connectivity, Accessibility and Economic Vitality (CAEV)
- Safety
- System Usage and Congestion
- Pavement Condition

These four criteria were selected due to their importance in the efficient movement of people and goods. Connectivity to existing major roadways and identified truck or evacuation routes, as well as accessibility to cities, provides logistical incentive for businesses to locate in the corridor. Safety in transportation is very important to all roadway users. System usage and congestion are measures of a roadway's overall use and indicate the level of demand placed on the roadway by users. Pavement condition as a criterion can help the state avoid duplication of improvement efforts.

Rating Methodology

A rating system was developed to help prioritize the widening of the 15 sections of US 280 identified by GDOT. The four factors used in the rating analysis are described in detail in this section.

Connectivity, Accessibility, and Economic Vitality Rating

The Connectivity, Accessibility, and Economic Vitality (CAEV) rating indicates the relative significance of the US 280 sections to other transportation corridors and the region. Factors for evaluation included proximity to state and US routes; proximity to an interstate highway; designation as and/or proximity to Georgia Emergency

Management Agency (GEMA) evacuation routes, NHS, STAA, STRAHNET or GRIP routes; Economic Vitality Index rating; and populations of cities.

Ratings within each category are as follows:

- Interstate Access: Sections were rated based on proximity to an Interstate highway. Sections intersecting an interstate received a rating of 1, while projects located the greatest distance from an interstate received a 5. A rating of 1 indicates priority because the section connects to the interstate system, a key component of freight movement and economic development. Conversely, a rating of 5 demonstrates the section is not accessible to the interstate and, therefore, is of lower priority.

- Intersecting State Routes and US Highways: Sections were rated according to the number of intersections with these roadways. A rating of 1 means the US 280 section had four or more intersections with state routes and US highways and received priority in rating. A rating of 5 demonstrates no intersections with state routes and US highways and is of least priority in this category.

- GEMA Evacuation Route: Sections were rated from 1 to 3 according to classification as or proximity to an evacuation route. If the section was classified as a GEMA route, it received a priority rating of 1 because of its importance during emergency situations. Contrarily, a section that was rated 3 is of low importance during an emergency. Sections in this category are not rated 4 or 5 because they are all within a reasonable distance of a GEMA route and could serve as an extended route in an emergency.

- NHS, STAA, STRAHNET, or GRIP: Sections were rated from 1 to 3 according to designation as or proximity to one of these four route types. The US 280 corridor is a designated GRIP route. For purposes of this analysis, only intersecting GRIP routes were evaluated. A section rated 1 received priority for being connected to NHS, STAA, STRAHNET, or GRIP routes. A section rated 3 was not connected to any of the four route types and received a lower priority. Sections in this category are not rated 4 or 5 because the corridor itself is a GRIP route.

- Economic Vitality Index (EVI): Sections are rated into five categories – Rapidly Developing (1), Developing (2), Existing and Emerging Growth Center (3), Lagging Rural (4), and Declining Rural (5) – based upon the classification of the county where they are located. In the event the section crossed counties with more than one EVI, the average was used. Areas with a higher level of development were given priority in rating to ensure developed areas are well served by the transportation system. Contrarily, declining and lagging areas received a lower priority because of their reduced current need for improved infrastructure alone.

- Populations of Existing Cities: Census 2000 data was utilized to evaluate the number of people provided mobility by a section. Populations ranged from 1,090 to 11,916.

The three highest populations were rated 1 while the lowest three received a rating of 5. Population is used to indicate how many people are served by a roadway section. Sections traversing highly populated areas receive priority because they serve more people.

These factor ratings were averaged to provide an overall CAEV rating in the US 280 GRIP section ranking analysis. The CAEV rating of each section is shown in Table 4.1.

Table 4.1: Connectivity, Accessibility, and Economic Vitality Rating

Section Number	Connectivity, Accessibility, and Economic Vitality (CAEV) Rating						
	Interstate Access	Intersecting State and US Routes	GEMA Evacuation Route	NHS, STAA, STRAHNET, GRIP	Economic Vitality Index	Populations of Existing Cities	CAEV Rating
US 280 (1)	2	3	3	2	4	4	3.000
US 280 (2)	3	5	3	2	3.5	5	3.583
US 280 (3)	1	4	2	3	4	1	2.500
US 280 (4)	2	2	3	3	4	5	3.167
US 280 (5)	4	3	3	3	4	3	3.333
US 280 (6)	4	3	3	3	4	5	3.667
US 280 (7)	5	1	2	2	5	1	2.667
US 280 (8)	5	4	1	2	4.5	1	2.917
US 280 (9)	5	5	1	3	4	3	3.500
US 280 (10)	5	2	1	3	4	2	2.833
US 280 (11)	4	3	1	3	4	2	2.833
US 280 (12)	4	1	1	3	3.5	4	2.750
US 280 (13)	3	4	1	3	3	4	3.000
US 280 (14)	2	3	1	3	2	2	2.167
US 280 (15)	1	3	1	1	1	3	1.667

Safety Rating

The safety rating combines two weighted factors: accidents and severity. The accident factor reflects the total number of accidents per mile for the corridor section based upon 1997 crash data from the Multimodal Transportation Planning Tool (MTPT) crash analysis. The severity factor measures the impact of accidents with fatalities by analyzing the number of accidents with fatalities per mile. Fatality data was derived from National Highway Traffic Safety Administration's (NHTSA's) 2000 and 2001 Fatality Accident Reporting System (FARS) databases. Weighted factors were applied and then combined to form a safety index using the following equation:

Safety Index = .4 (Accidents per Mile) + .6 (Accidents with Fatalities per Mile)

Accidents with fatalities received a weight of .6 because of the severity of the accident. The safety rating is shown in Table 4.2.

Table 4.2: Safety Rating

Section Number	Safety Rating								
	Length (Miles)	Number of Accidents (1997)	Accidents per Mile	Accident Factor	Number of Accidents w/Fatalities (2000-2001)	Accidents with Fatalities per Mile	Severity Factor	Safety Index	S Rating
US 280 (1)	9.44	14	1.483	1.491	2	0.212	4.510	3.302	1
US 280 (2)	8.47	0	0.000	0.000	0	0.000	0.000	0.000	5
US 280 (3)	12.59	7	0.556	0.559	2	0.159	3.381	2.252	1
US 280 (4)	9.82	3	0.305	0.307	1	0.102	2.168	1.423	2
US 280 (5)	10.94	9	0.823	0.827	1	0.091	1.946	1.498	2
US 280 (6)	8.3	1	0.120	0.121	0	0.000	0.000	0.048	5
US 280 (7)	11.06	19	1.718	1.727	0	0.000	0.000	0.691	4
US 280 (8)	9.53	4	0.420	0.422	0	0.000	0.000	0.169	5
US 280 (9)	6.85	7	1.022	1.027	0	0.000	0.000	0.411	4
US 280 (10)	14.8	6	0.405	0.407	0	0.000	0.000	0.163	5
US 280 (11)	9.24	31	3.355	3.372	0	0.000	0.000	1.349	2
US 280 (12)	11.14	9	0.808	0.812	0	0.000	0.000	0.325	4
US 280 (13)	5.53	3	0.542	0.545	0	0.000	0.000	0.218	5
US 280 (14)	16.34	16	0.979	0.984	1	0.061	1.303	1.175	3
US 280 (15)	12.57	30	2.387	2.399	1	0.080	1.693	1.976	2

System Usage and Congestion Rating

Annual Average Daily Traffic (AADT) is commonly used to measure yearly system usage. AADT is the annual average number of vehicles that pass a given point on a roadway during a period of 24 consecutive hours. It is also referred to as the roadway's traffic volume and is an indicator of the roadway's usage.

GDOT provided the AADT numbers for each of the 15 sections in the corridor. The sections were arranged from greatest to least volume. AADT volumes ranged between 1700 and 7000 and were rated accordingly. Sections with higher AADT received lower ratings, thus giving higher priority to roadways with higher levels of usage. The actual scale is listed in Table 4.3.

Table 4.3: Annual Average Daily Traffic Rating

AADT	Rating
>5000	1
4000-4999	2
3000-3999	3
2000-2999	4
<2000	5

Percent truck traffic was also incorporated into the index for the system usage rating. Sections along the US 280 corridor range from 3.3 to 10 percent trucks, with an average of 8.5 percent. Corridor sections considered freight focused (8.5 percent or greater of AADT is truck traffic) were rated with a 1, indicating priority. Sections with truck traffic lower than 4 percent received a rating of 5 for least priority. The scale is shown in Table 4.4 below.

Table 4.4: Truck Percent Rating

AADT	Rating
>8.5	1
7.0-8.5	2
6.0-6.9	3
4.0-5.9	4
<4.0	5

Congestion was measured using a projected volume to capacity (v/c) ratio for 2025 based on peak period travel. The projected v/c ratios were categorized according to Table 4.5 below.

Table 4.5: Volume to Capacity Rating

Volume to Capacity Ratio	Rating
.7 and above	1
.6-.69	2
.5-.59	3
.4-.49	4
.39 and below	5

A v/c ratio of .7 or higher is considered to indicate congestion in rural areas. The v/c analysis of the US 280 corridor does not indicate future congestion problems. The two sections projected to have the highest v/c ratios (.45 and .47) in 2025 received ratings indicating more congestion than the other US 280 sections. All other sections were projected to have v/c ratios of .39 and below.

Table 4.6 provides the combined system usage and congestion rating for each of the 15 sections.

Table 4.6: System Usage and Congestion Rating

Section Number	System Usage and Congestion Rating (SUC)						
	Raw ADT	ADT	Raw v/c 2025	v/c 2025	Raw Truck %	Truck %	SUC Rating
US 280 (1)	3100	4	.24	5	6.5	3	4.000
US 280 (2)	2600	5	.17	5	6	3	4.333
US 280 (3)	3700	4	.18	5	10	1	3.333
US 280 (4)	3300	4	.21	5	10	1	3.333
US 280 (5)	2700	5	.15	5	7	2	4.000
US 280 (6)	1700	5	.33	5	4.7	4	4.667
US 280 (7)	7000	1	.47	4	8	2	2.333
US 280 (8)	4700	3	.45	4	7.5	2	3.000
US 280 (9)	3600	4	.18	5	10	1	3.333
US 280 (10)	4800	3	.38	5	9.5	1	3.000
US 280 (11)	3100	4	.10	5	10	1	3.333
US 280 (12)	4500	3	.17	5	6	3	3.667
US 280 (13)	3300	4	.16	5	3.3	5	4.667
US 280 (14)	4300	3	.34	5	7.5	2	3.333
US 280 (15)	6900	1	.33	5	4	4	3.333

Pavement Condition Rating

The Pavement Condition Evaluation System (PACES) rating is used to measure the overall roadway condition. PACES data, provided by the GDOT District Engineer Offices, includes the following criteria to determine pavement condition: rut depth, load cracking, block cracking, reflection cracking, raveling, edge distress, bleeding/flushing, corrugation/pushing, loss pavement section, cross slopes, patches and potholes, and crack width. In addition to the current physical condition, an estimated remaining life factor was also considered. The deterioration rate was determined, with preference given to pavements that are declining at a faster than normal rate.

A PACES rating of 70 or below indicates that the roadway is in need of maintenance and/or resurfacing, so those sections were rated 1. Each section had PACES ratings above 70 except two sections ((US 280 (1) and US 280 (5)) that averaged high overall PACES ratings, but had small portions below 70. Those two corridor sections were rated 2 because a portion was in need of maintenance. A section with a PACES rating demonstrating a need for maintenance should receive priority for improvement. This would efficiently utilize limited resources and coordinate routine maintenance with improving the roadway. Pavement condition rating is shown in Table 4.7.

Table 4.7: Pavement Condition Rating

Section Number	Pavement Condition Rating (PC)	
	PACES	PC Rating
US 280 (1)	95	2
US 280 (2)	91	4
US 280 (3)	98	5
US 280 (4)	105*	5
US 280 (5)	91	2
US 280 (6)	69	1
US 280 (7)	90	4
US 280 (8)	97	5
US 280 (9)	88	3
US 280 (10)	85	3
US 280 (11)	105*	5
US 280 (12)	100	5
US 280 (13)	98	5
US 280 (14)	60	1
US 280 (15)	60	1

* This value indicates a section of roadway that is under construction, not a true PACES rating.

Next Steps

In Chapter 5, corridor sections are prioritized for implementation. Each of the rating factors described in Chapter 4 will be weighted based on the importance that each factor reflects in the economic development potential of central Georgia's US 280.

5 Prioritization of Corridor Sections

Once the process of rating the 15 sections along US 280 was complete, each of the factors was weighted according to its overall importance to transportation infrastructure investment and economic development. While each of the four analysis factors plays a role in the need for improving the transportation system, several were considered to play a more significant role and were thus weighted more heavily. The weighting process resulted in a list of corridor sections prioritized for four lane implementation.

Weighting of Rating Factors

The Connectivity, Accessibility, and Economic Vitality (CAEV) factors for rating included proximity to state and US routes, proximity to an interstate highway, designation as and/or proximity to Georgia Emergency Management Agency evacuation routes, NHS, STAA, STRAHNET or GRIP routes, Economic Vitality Index, and populations of connecting cities. Due to the multiple criteria involved in the CAEV Rating and the importance of economic development to the GRIP program, the CAEV rating received a weight of 40 percent in the overall ranking.

The safety rating, an index created through a combination of an accident factor and severity factor, is weighted at 30 percent in the overall ranking. Safety for all users of the transportation system is a priority; therefore safety is weighted very high as an individual measure.

The system usage and congestion rating was weighted at 15 percent because AADT, v/c ratio in 2025, and percent truck traffic are important indicators of economic development along the US 280 corridor. Because AADT and v/c ratios along the corridor did not indicate capacity problems, this factor was deemed less influential and was, therefore, weighted less than the CAEV and safety ratings.

The pavement condition rating is also weighted at 15 percent of the overall ranking. A section of roadway with a PACES rating demonstrating a need for maintenance should receive some priority to efficiently utilize limited resources rather than completing routine maintenance only to widen the roadway a short time later. A summary of the results of the weighted ranking factors are shown in Table 5.1. The full methodology for weighting the ratings is in Appendix C.

Table 5.1: Weighted Rating and Section Ranking

Section Number	County	Section Limits	CAEV Rating	Safety Rating	SUC Rating	Pavement Rating	Total Weighted Rating	Ranking
US 280 (1)	Stewart/ Webster	SR 520 (MP 21.09) in Richland to SR 41 (MP 7.02) in Preston	3.00	1	4.00	2	2.40	2
US 280 (2)	Webster/ Sumter	SR 41 in Preston (MP 7.02) to Plains city limits (MP 2.18)	3.58	5	4.33	4	4.18	15
US 280 (3)	Crisp/ Wilcox	MP 11.22 in Crisp County to SR 159 (MP 4.21) in Wilcox County	2.50	1	3.33	5	2.55	4
US 280 (4)	Wilcox	SR 159 (MP 4.21) to CR 208 (MP 14.03)	3.17	2	3.33	5	3.12	7
US 280 (5)	Wilcox/ Dodge	CR 208 (MP 14.03) in Wilcox County to SR 117 (MP 4.84) in Dodge County	3.33	2	4.00	2	2.83	5
US 280 (6)	Dodge	SR 117 (MP 4.84) to eastern Dodge County line (MP 13.14)	3.67	5	4.67	1	3.87	12
US 280 (7)	Telfair	Telfair County line (MP 0) to SR 27 (MP 11.06)	2.67	4	2.33	4	3.217	8
US 280 (8)	Telfair/ Wheeler	SR 27 (MP 11.06) in Telfair County to SR 126 in Wheeler County (MP 8.30)	2.92	5	3.00	5	3.87	13
US 280 (9)	Wheeler	SR 126 (MP 8.30) to SR 19 (MP 15.15)	3.50	4	3.33	3	3.55	10
US 280 (10)	Wheeler/ Montgomery	SR 19 (MP 15.15) to eastern Montgomery County line (MP 12.35)	2.83	5	3.00	3	3.53	9
US 280 (11)	Toombs	West of SR 4/US 1 (MP 6.93) to SR 86 (MP 16.17)	2.83	2	3.33	5	2.98	6
US 280 (12)	Toombs/ Tattnall	West of SR 86 (MP 16.17) to CR 219 (MP 10.26)	2.75	4	3.67	5	3.60	11
US 280 (13)	Tattnall/ Evans	CR 219 in Tattnall County (MP 10.26) to west of SR 292 in Evans County (MP 1.50)	3.00	5	4.67	5	4.15	14
US 280 (14)	Evans/ Bryan	MP 5.98 in Evans County to SR 119 (MP 9.37) in Bryan County	2.17	3	3.33	1	2.42	3
US 280 (15)	Bryan	SR 119 (MP 9.37) to US 80/SR 26 (MP 21.94)	1.67	2	3.33	1	1.92	1

Implementation Prioritization

The weighted ranking of the 15 sections provided a basis for developing an implementation schedule for the widening of US 280 to four lanes. The prioritized sections were grouped into four tiers for implementation. The tiers were established using the weighted ranking scores, with the total level of funding per tier balancing the expense over time. Table 5.2 and Figure 5.1 show the prioritization of projects. Within each Tier, the projects are listed in order by location from west to east along the corridor as opposed to by the actual weighted ranking value.

Additional Factors Related to Prioritization

The prioritization of the 15 sections of US 280 does not reflect all of the factors that will ultimately guide the implementation of the widening of the corridor. Constructability issues such as potential environmental, utility, or social impacts that may surface in the project development stage could lead to a shifting in the order of implementation.

Because US 280 is a designated GRIP corridor, the availability of funding through GRIP will ultimately affect the implementation schedule. Economic shifts in the region over time may cause GDOT to respond to those areas in central Georgia that may most benefit from improved transportation infrastructure. The implementation schedule for the widening of US 280 must adapt to these changes.

Table 5.2: Prioritization of US 280 Sections by Implementation Tiers

Section Number	County	Section Limits	Length (miles)	Cost Estimate
TIER 1				
US 280 (1)	Stewart/ Webster	SR 520 (MP 21.09) in Richland to SR 41 (MP 7.02) in Preston	9.44	$17,200,000
US 280 (3)	Crisp/ Wilcox	MP 11.22 in Crisp County to SR 159 (MP 4.21) in Wilcox County	12.59	$25,570,000
US 280 (14)	Evans/ Bryan	MP 5.98 in Evans County to SR 119 (MP 9.37) in Bryan County	16.34	$29,040,000
US 280 (15)	Bryan	SR 119 (MP 9.37) to US 80/SR 26 (MP 21.94)	12.57	$23,620,000
			Subtotal	**$95,430,000**
TIER 2				
US 280 (4)	Wilcox	SR 159 (MP 4.21) to CR 208 (MP 14.03)	9.82	$16,840,000
US 280 (5)	Wilcox/ Dodge	CR 208 (MP 14.03) in Wilcox County to SR 117 (MP 4.84) in Dodge County	10.94	$31,100,000
US 280 (7)	Telfair	Telfair County line (MP 0) to SR 27 (MP 11.06)	11.06	$21,690,000
US 280 (11)	Toombs	West of SR 4/US 1 (MP 6.93) to SR 86 (MP 16.17)	9.24	$14,860,000
			Subtotal	**$84,490,000**
TIER 3				
US 280 (9)	Wheeler	SR 126 (MP 8.30) to SR 19 (MP 15.15)	6.85	$23,330,000
US 280 (10)	Wheeler/ Montgomery	SR 19 (MP 15.15) to eastern Montgomery County line (MP 12.35)	14.80	$38,480,000
US 280 (12)	Toombs/ Tattnall	West of SR 86 (MP 16.17) to CR 219 (MP 10.26)	11.14	$23,420,000
			Subtotal	**$85,230,000**
TIER 4				
US 280 (2)	Webster/ Sumter	SR 41 in Preston (MP 7.02) to Plains city limits (MP 2.18)	8.47	$15,550,000
US 280 (6)	Dodge	SR 117 (MP 4.84) to eastern Dodge County line (MP 13.14)	8.30	$13,810,000
US 280 (8)	Telfair/ Wheeler	SR 27 (MP 11.06) in Telfair County to SR 126 in Wheeler County (MP 8.30)	9.53	$18,770,000
US 280 (13)	Tattnall/ Evans	CR 219 in Tattnall County (MP 10.26) to west of SR 292 in Evans County (MP 1.50)	5.53	$8,970,000
			Subtotal	**$57,100,000**
			TOTAL	**$322,250,000**

US 280 Corridor Sections Prioritized

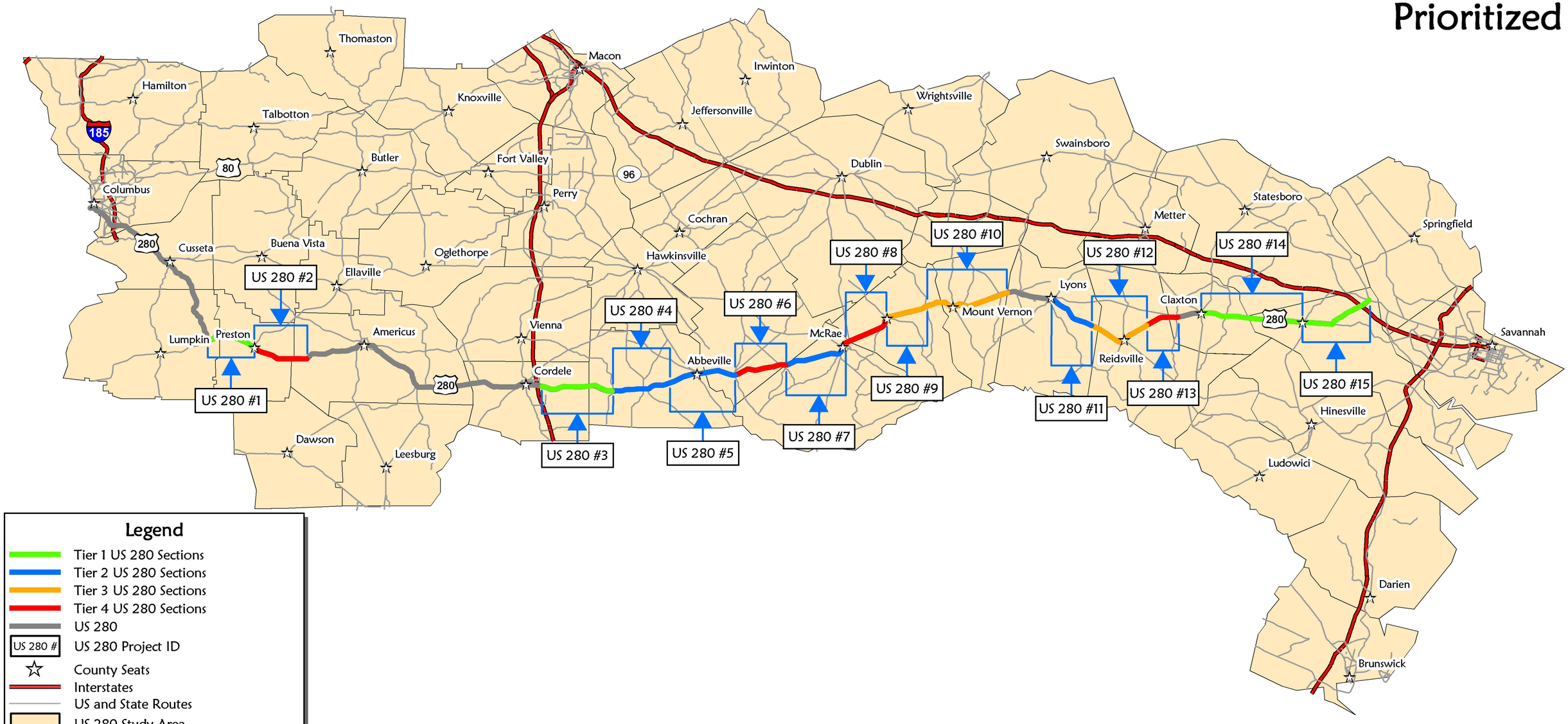


Figure 5.1

Source: Georgia DOT, and ESRI.

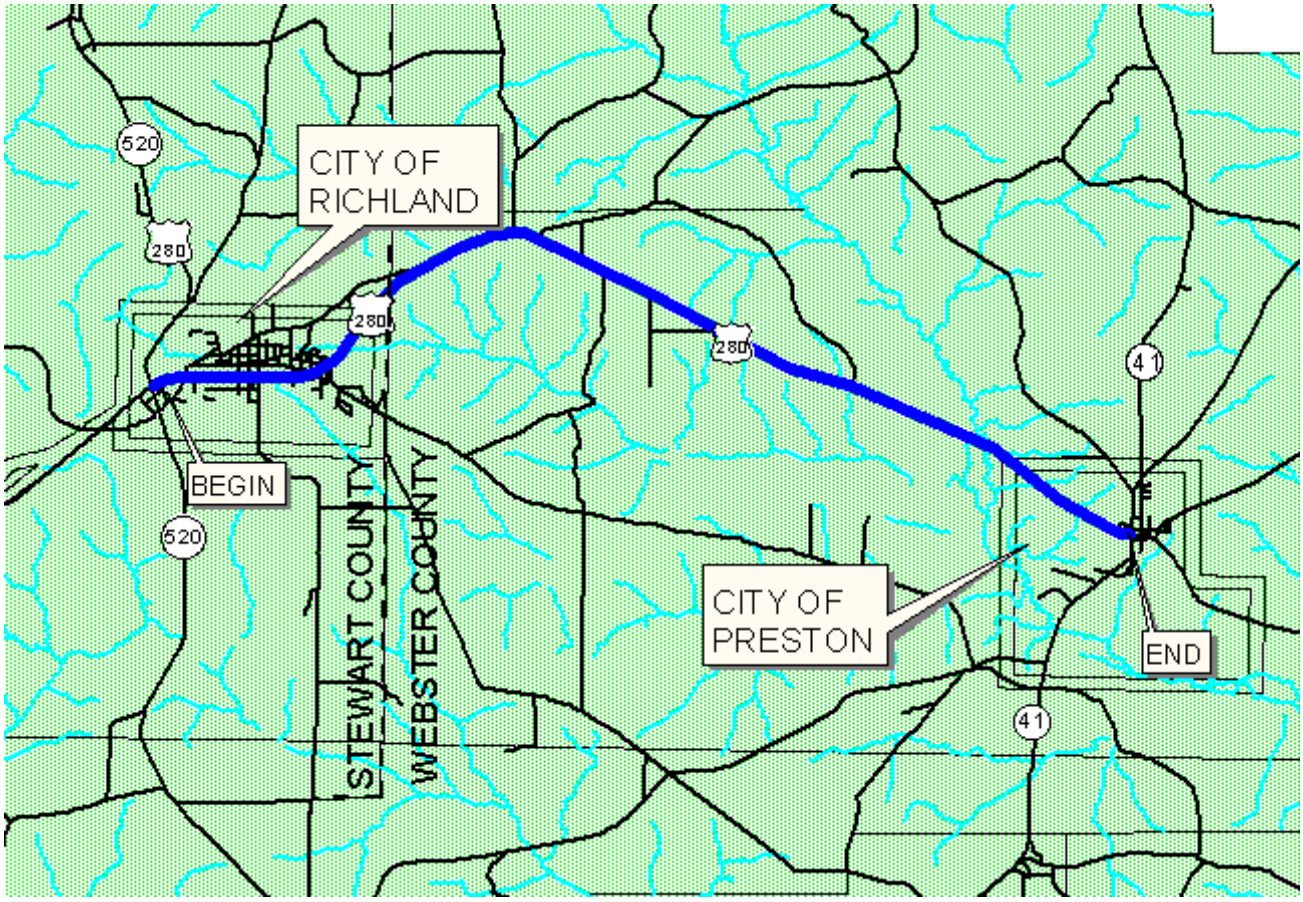
This map is intended for planning purposes only.

APPENDICES

Appendix A
Project Worksheets

PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR27 FROM SR520 in Richland to SR41 in Preston. From MP 21.09 – 23.51 on US280/SR27 in Stewart County and From MP 0.00 – 7.02 on US280/SR27 in Webster County			Section Identification #:	US 280 (1)
			County:	Stewart/Webster
			P.I. No.:	
			GDOT District:	3
			Cong. District:	2
Traffic Vol.:	3100		RDC:	Lower Chattahoochee and Middle Flint
Truck %:	10%		Length:	9.44 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280
NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.				

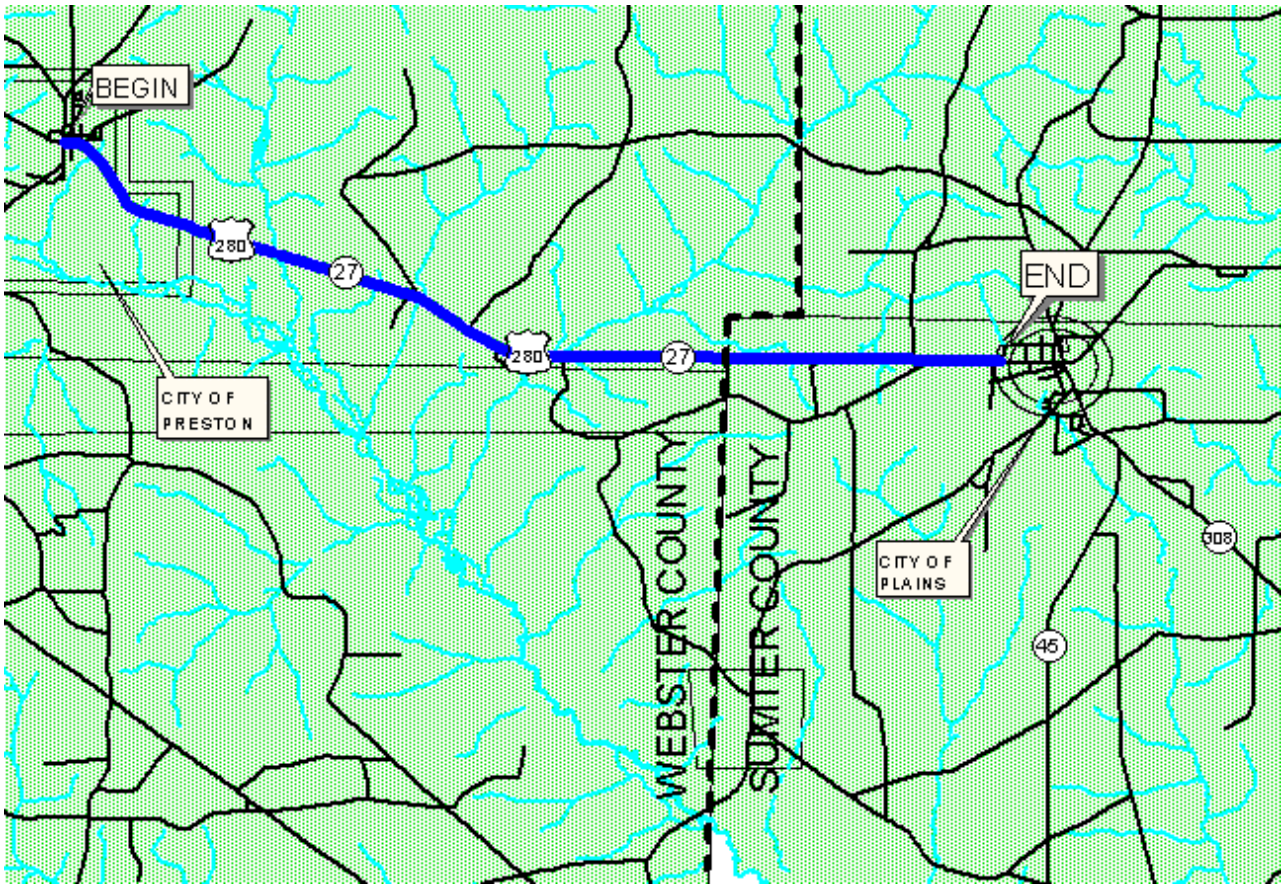
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$1,590,000			$1,590,000
Right-of-Way		$1,120,000			$1,120,000
Utilities					
Construction		$14,490,000			$14,490,000
Project Cost		$17,200,000			**$17,200,000**



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR27 FROM SR41 in Preston to Plains City Limits (MP 2.18) From MP 7.02 – 13.31 on US280/SR27 in Webster County and From MP 0.00 – 2.18 on US280/SR27 in Sumter County			Section Identification #:	US 280 (2)
			County:	Webster/Sumter
			P.I. No.:	
			GDOT District:	3
			Cong. District:	2
Traffic Vol.:	2600		RDC:	Middle Flint
Truck %:	10%		Length:	8.47 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

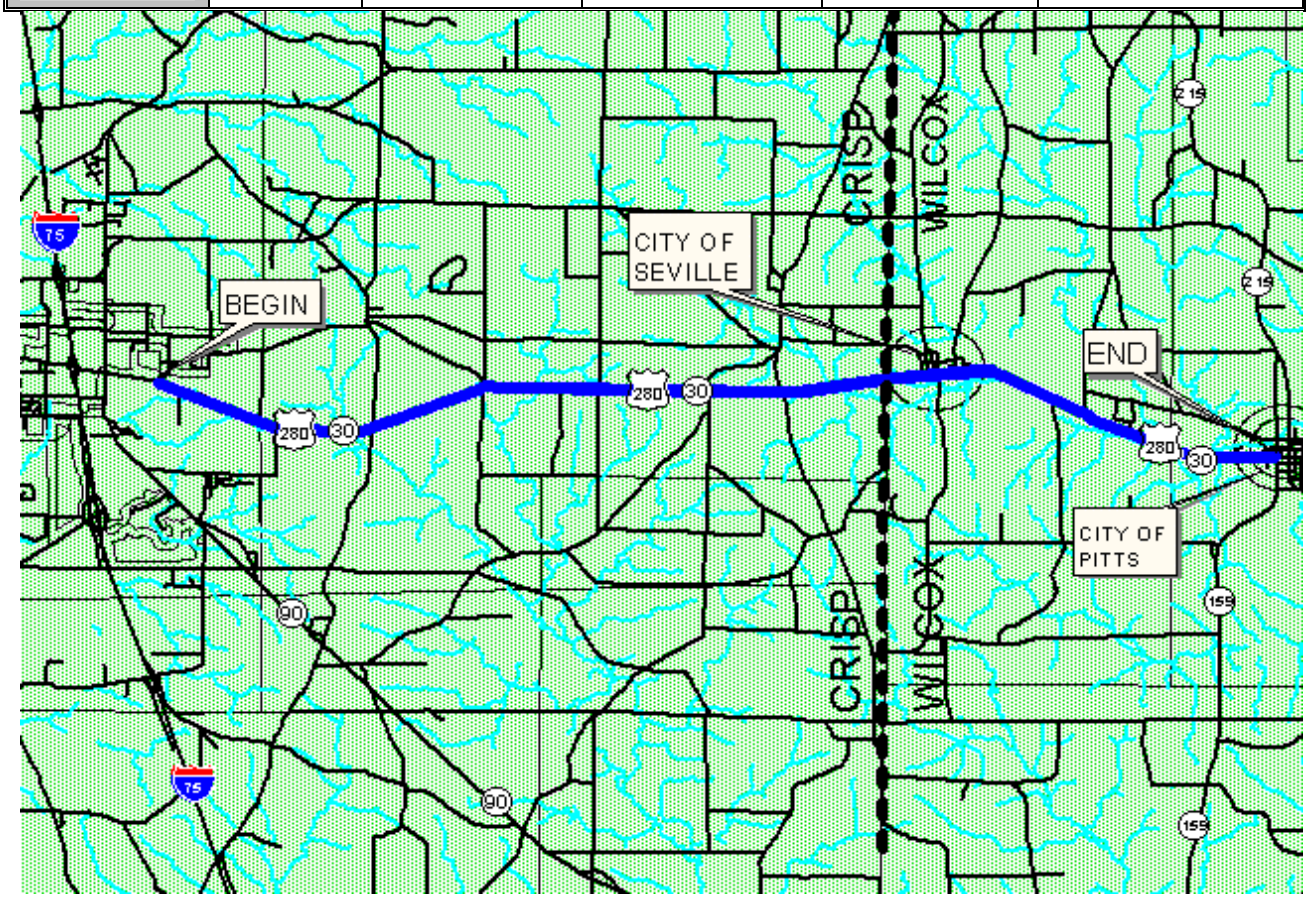
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$1,220,000			$1,220,000
Right-of-Way		$810,000			$810,000
Utilities					
Construction		$13,520,000			$13,520,000
Project Cost		$15,550,000			**$15,550,000**



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 FROM MP 11.22 in Crisp County to SR 159 Wilcox County From MP 11.22 – 19.60 on US280/SR30 in Crisp County and From MP 0.00 – 4.21 on US280/SR30 in Wilcox County			Section Identification #:	US 280 (3)
			County:	Crisp/Wilcox
			P.I. No.:	
			GDOT District:	4
			Cong. District:	2 and 8
Traffic Vol.:	3700		RDC:	Middle Flint/Heart of Georgia Altamaha
Truck %:	10%		Length:	12.59 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

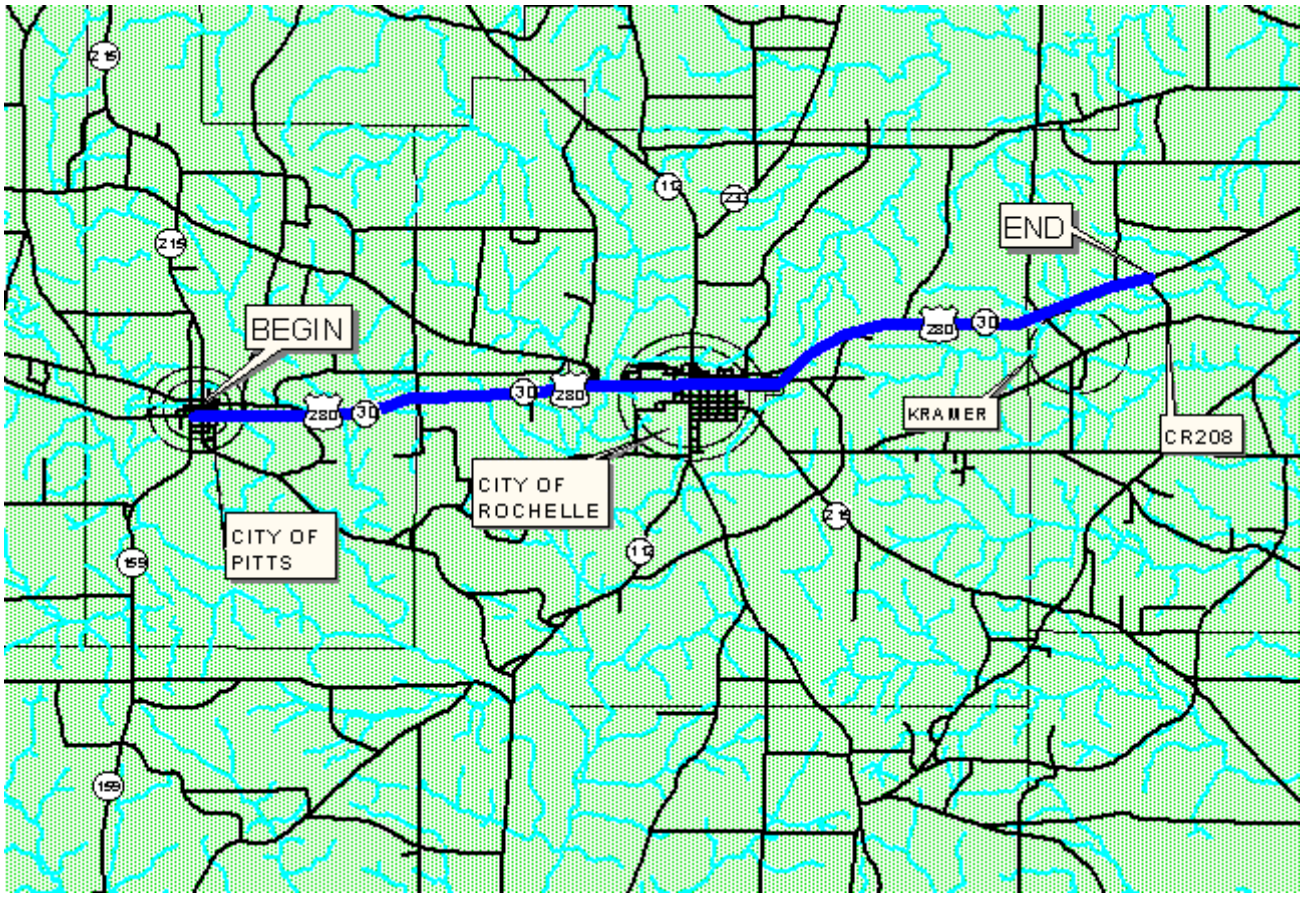
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$2,360,000			$2,360,000
Right-of-Way		$1,550,000			$1,550,000
Utilities					
Construction		$21,660,000			$21,660,000
Project Cost		$25,570,000			$25,570,000



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 FROM SR 159 in Wilcox County to CR 208 in Wilcox County From MP 4.21 – 14.03 on US280/SR30 in Wilcox County			Section Identification #::	US 280 (4)
			County:	Wilcox
			P.I. No.:	
			GDOT District:	4
			Cong. District:	8
Traffic Vol.:	3300		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	9.82 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

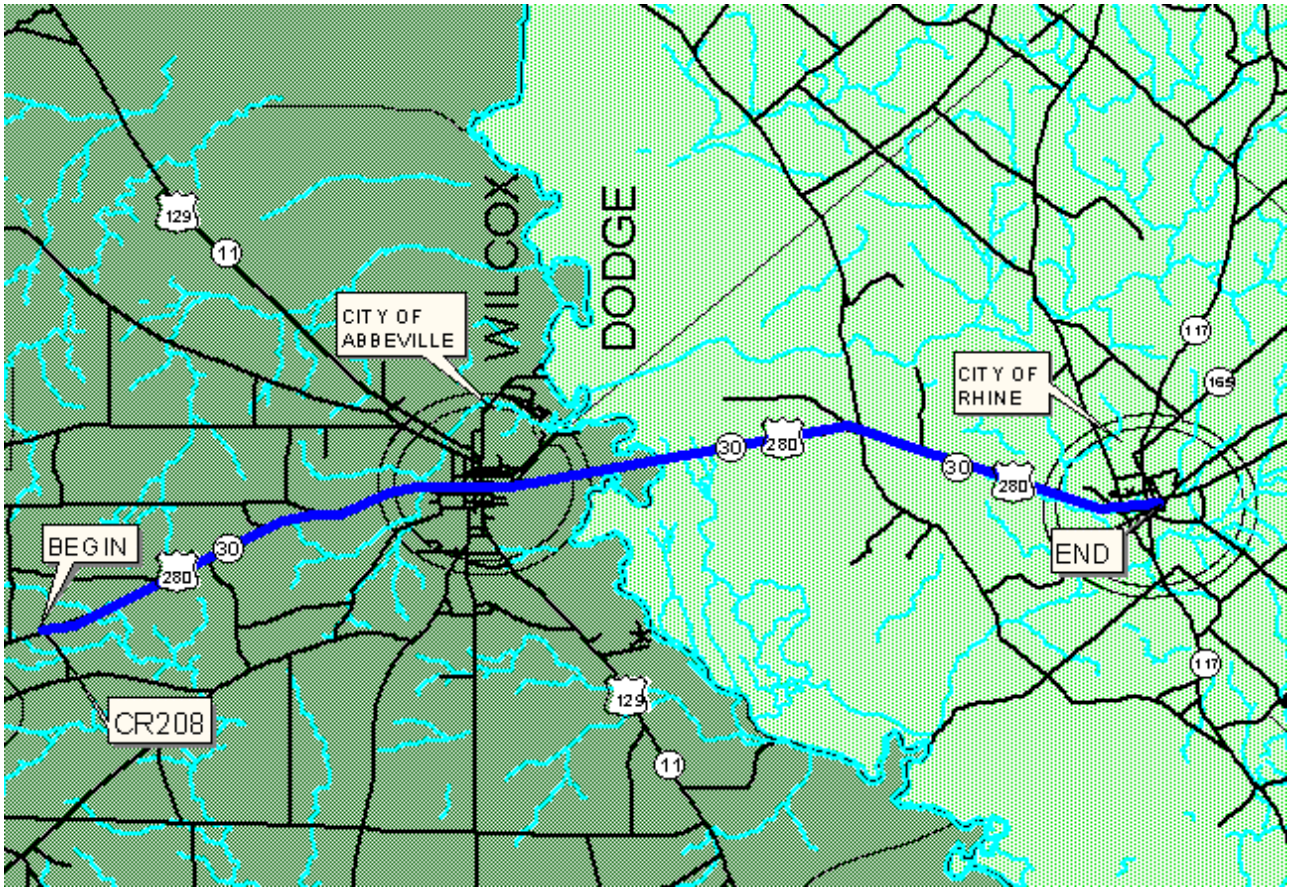
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$1,560,000			$1,560,000
Right-of-Way		$1,160,000			$1,160,000
Utilities					
Construction		$14,120,000			$14,120,000
Project Cost		$16,840,000			$16,840,000



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 FROM CR 208 in Wilcox County to SR 117 Dodge County From MP 14.03 – 20.13 on US280/SR30 in Wilcox County and From MP 0.00 – 4.84 on US280/SR30 in Dodge County			Section Identification #:	US 280 (5)
			County:	Wilcox/Dodge
			P.I. No.:	
			GDOT District:	4
			Cong. District:	8
Traffic Vol.:	2700		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	10.94 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

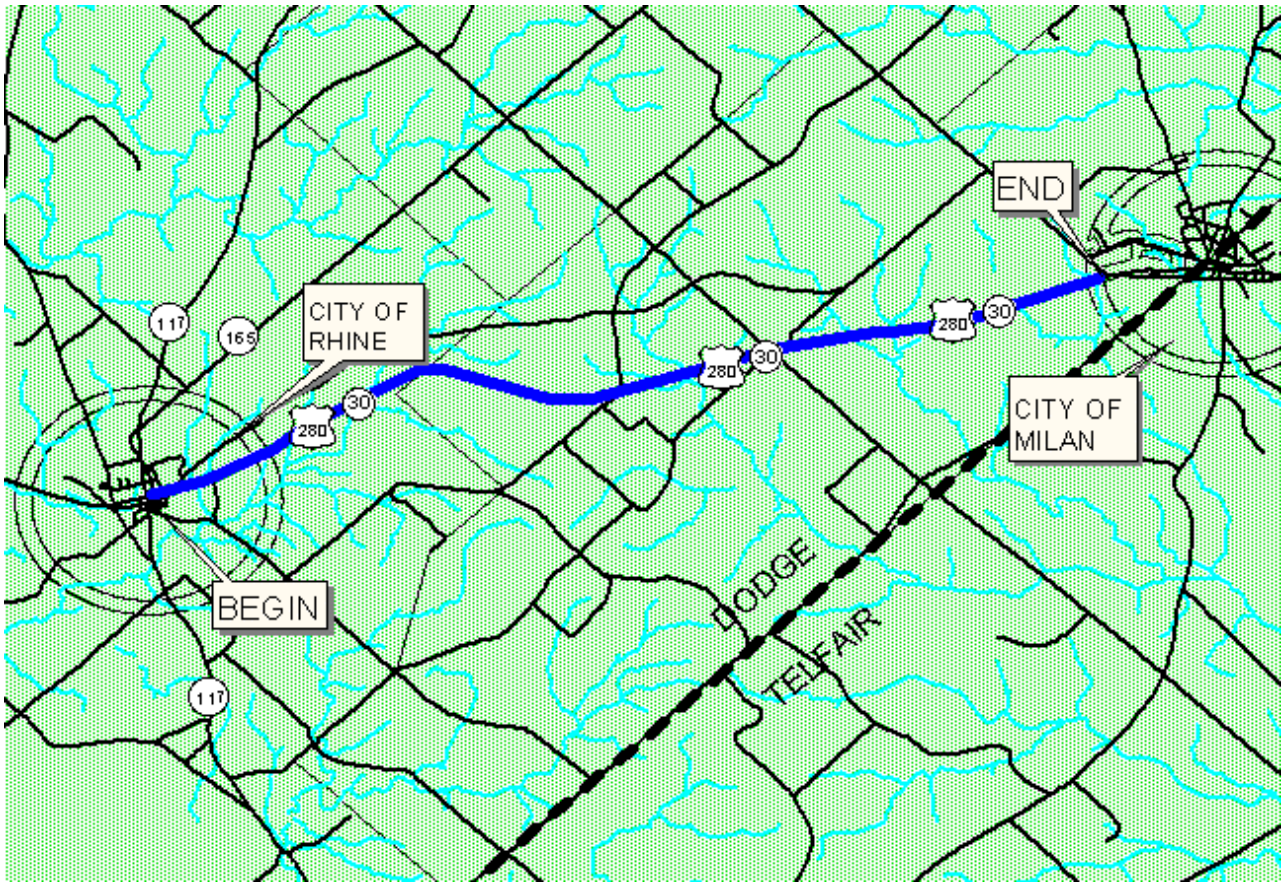
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$2,860,000			$2,860,000
Right-of-Way		$1,280,000			$1,280,000
Utilities					
Construction		$26,960,000			$26,960,000
Project Cost		$31,100,000			**$31,100,000**



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 FROM SR 117 to the Telfair County Line From MP 4.84 – 13.14 on US280/SR30 in Dodge County			Section Identification #:	US 280 (6)
			County:	Dodge
			P.I. No.:	
			GDOT District:	2
			Cong. District:	8
Traffic Vol.:	1700		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	8.30 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

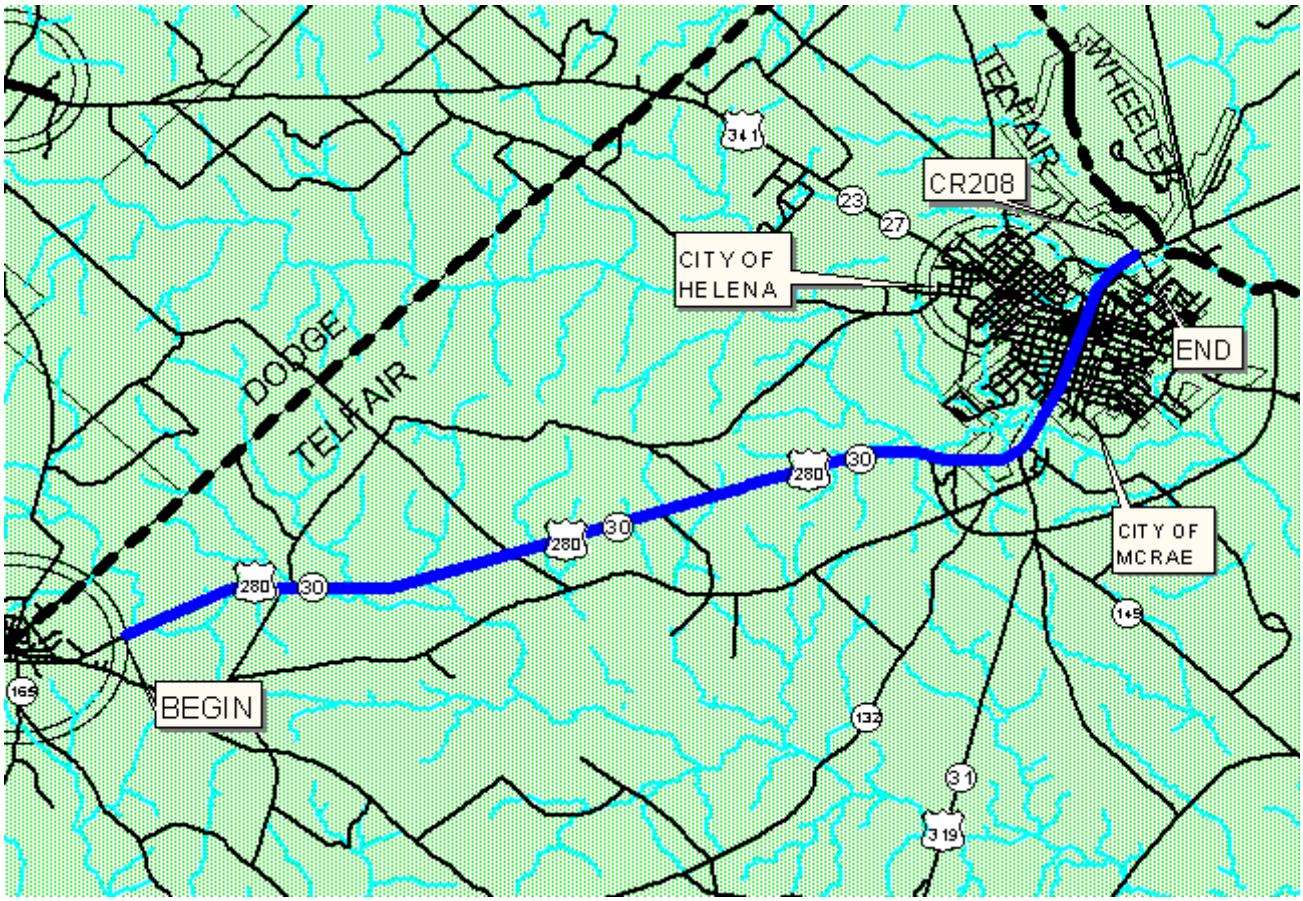
NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$1,280,000			$1,280,000
Right-of-Way		$890,000			$890,000
Utilities					
Construction		$11,640,000			$11,640,000
Project Cost		$13,810,000			$13,810,000



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 FROM Telfair County Line to SR 27 From MP 0.00 – 11.06 on US280/SR30 in Telfair County			Section Identification #:	US 280 (7)
			County:	Telfair
			P.I. No.:	
			GDOT District:	5
			Cong. District:	8
Traffic Vol.:	7000		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	11.06 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280
NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.				

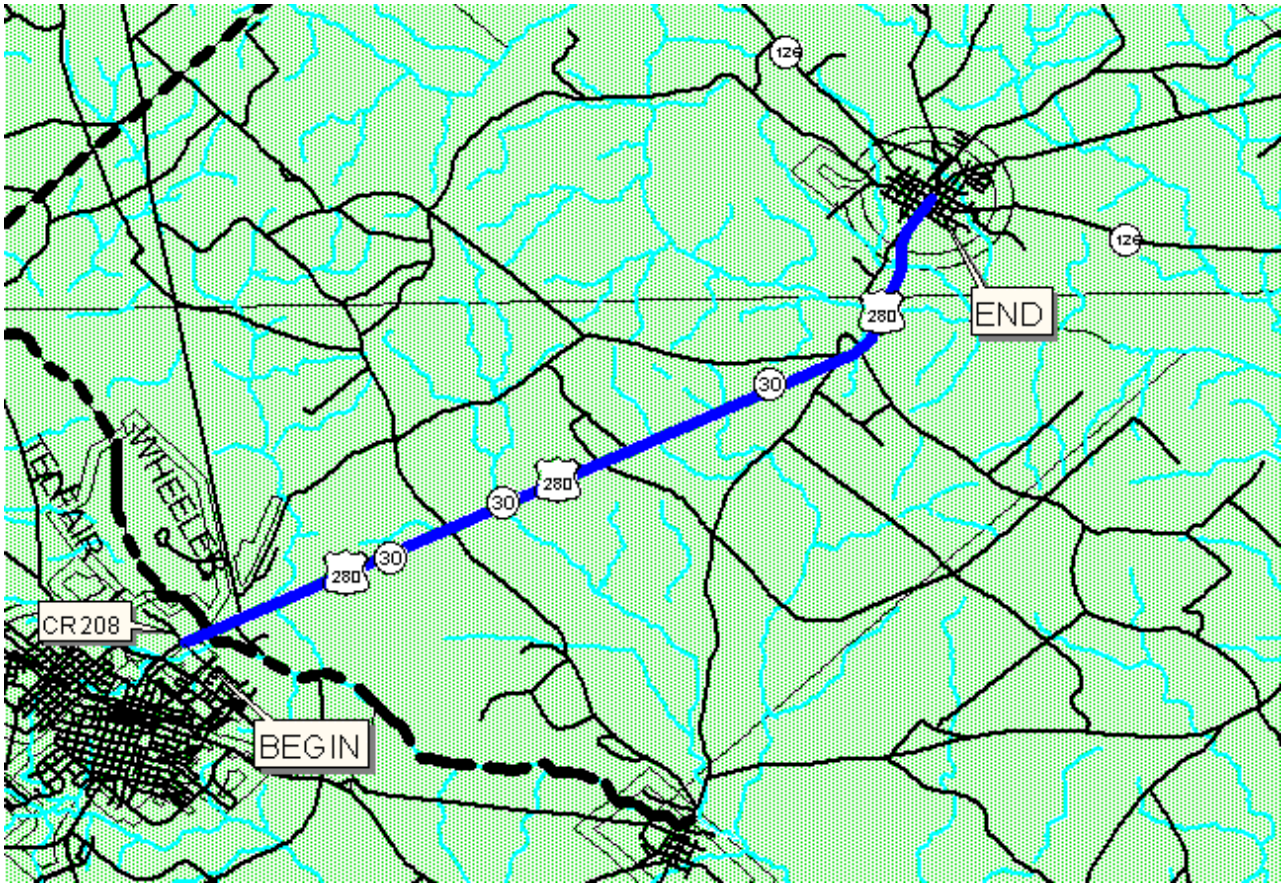
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$2,000,000			$2,000,000
Right-of-Way		$1,290,000			$1,290,000
Utilities					
Construction		$18,400,000			$18,400,000
Project Cost		$21,690,000			$21,690,000



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 from SR 27 in Telfair County to SR 126 IN WHEELER COUNTY From MP 11.06 – 12.29 on US280/SR30 in Telfair County and From MP 0.00 – 8.30 on US280/SR30 in Wheeler County			Section Identification #:	US 280 (8)
			County:	Telfair/Wheeler
			P.I. No.:	
			GDOT District:	5
			Cong. District:	8
Traffic Vol.:	4700		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	9.53 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

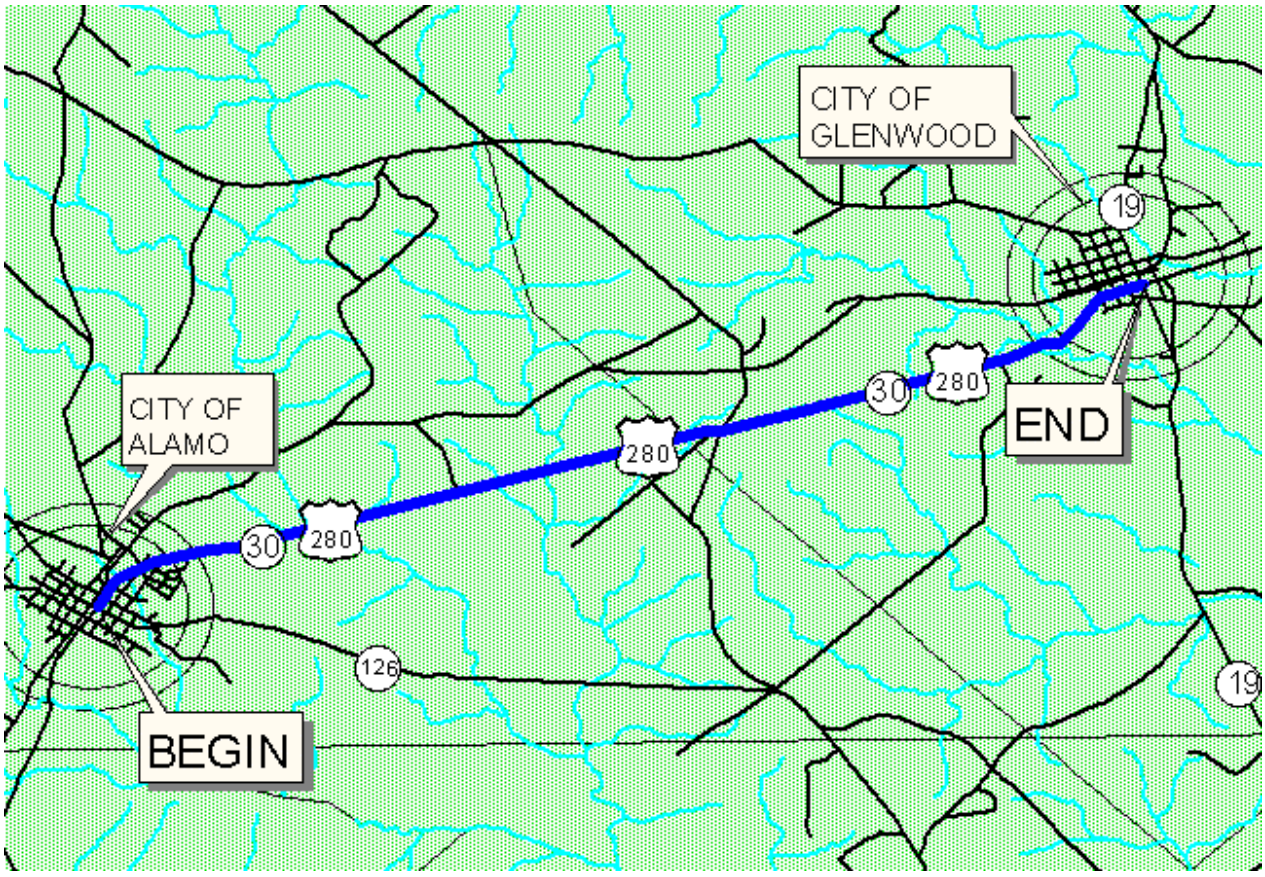
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$1,730,000			$1,730,000
Right-of-Way		$1,020,000			$1,020,000
Utilities					
Construction		$16,020,000			$16,020,000
Project Cost		$18,770,000			**$18,770,000**



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 from SR 126 to SR 19 From MP 8.30 – 15.15 on US280/SR30 in Wheeler County			Section Identification #:	US 280 (9)
			County:	Wheeler
			P.I. No.:	
			GDOT District:	5
			Cong. District:	8
Traffic Vol.:	3600		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	6.85 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

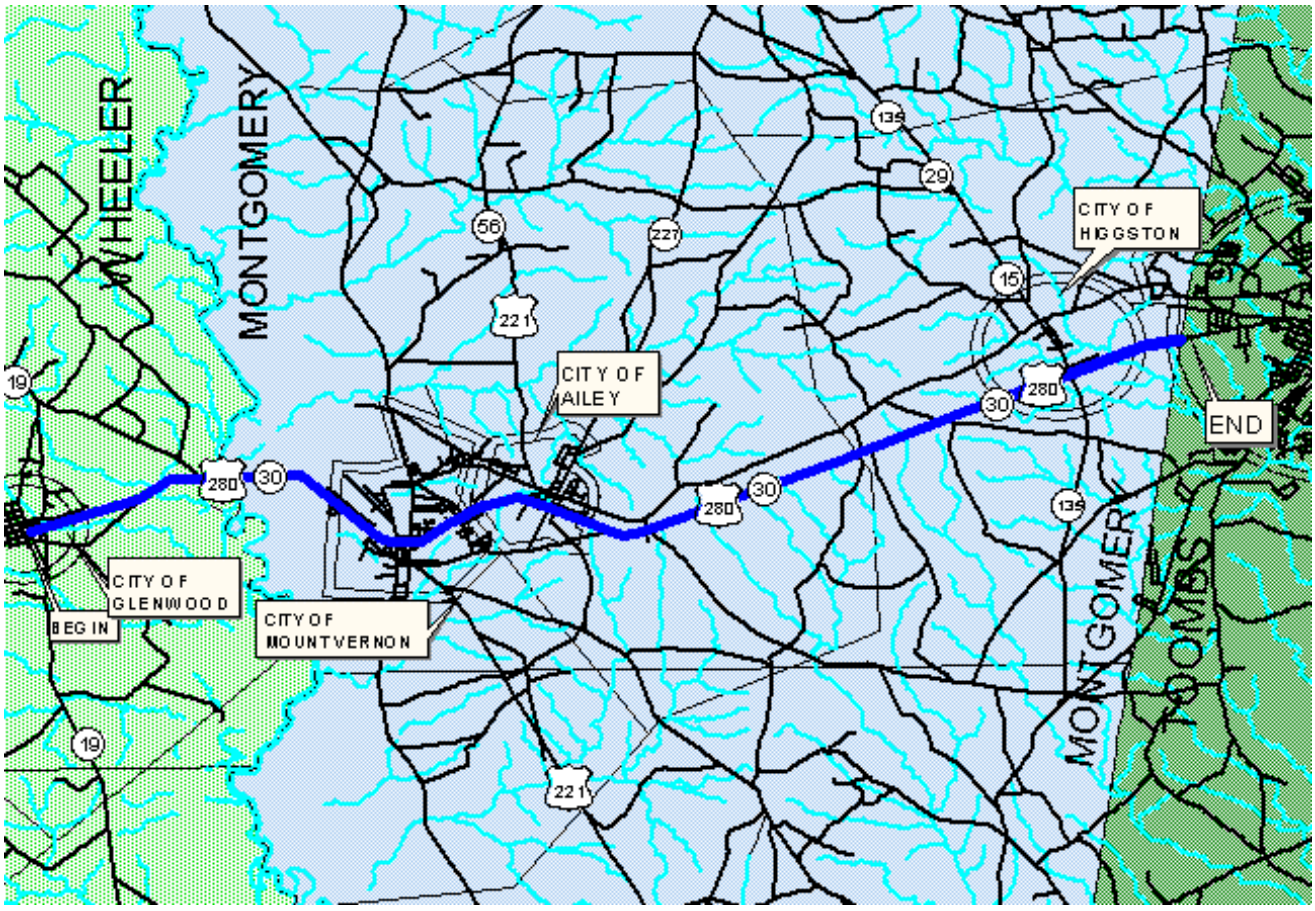
NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$2,140,000			$2,140,000
Right-of-Way		$850,000			$850,000
Utilities					
Construction		$20,340,000			$20,340,000
Project Cost		$23,330,000			$23,330,000



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 from SR 19 to the Toombs County Line From MP 15.15 – 17.60 on US280/SR30 in Wheeler County and From MP 0.00 – 12.35 on US280/SR30 in Montgomery County			Section Identification #:	US 280 (10)
			County:	Wheeler/Montgomery
			P.I. No.:	
			GDOT District:	5
			Cong. District:	8
Traffic Vol.:	4800		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	14.80 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280
NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.				

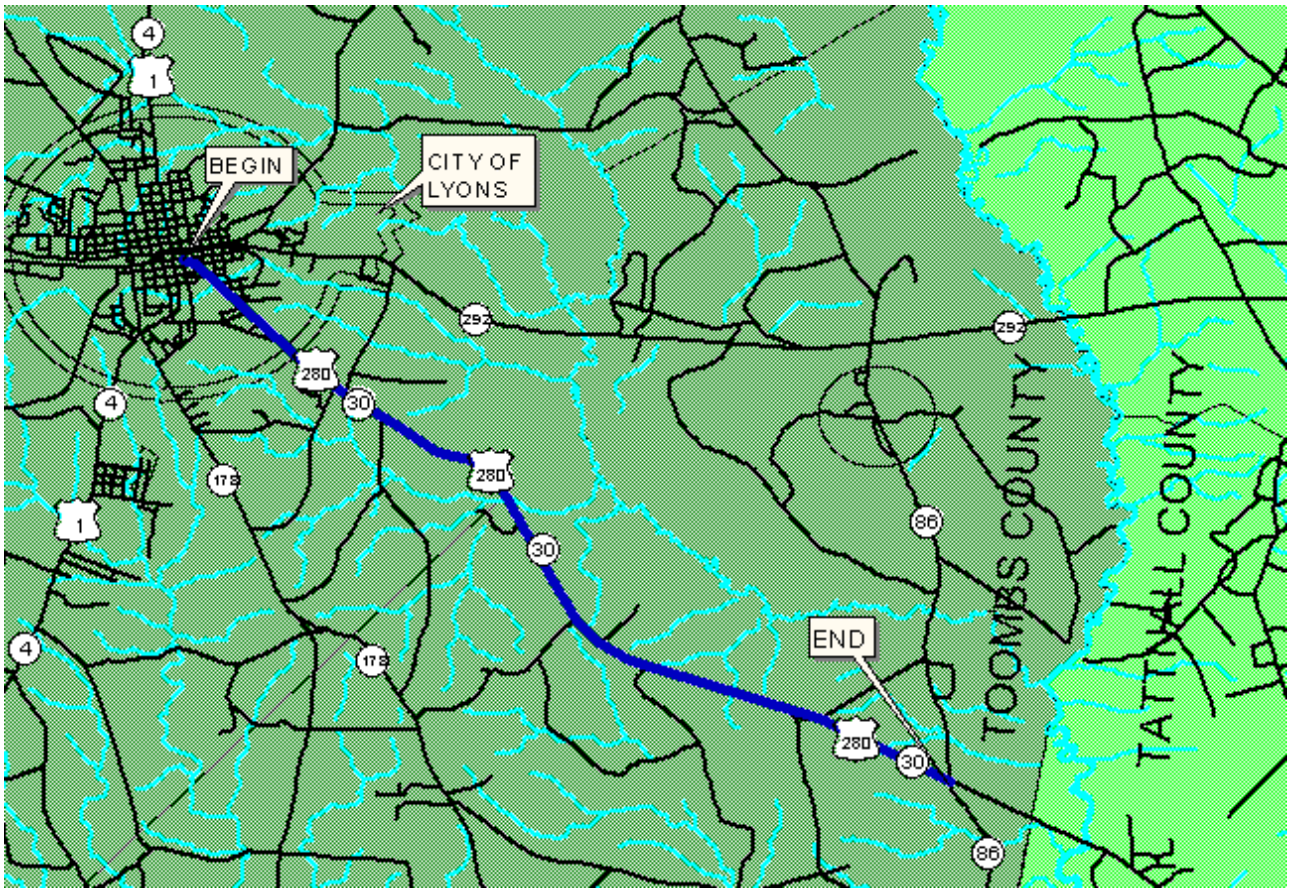
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$3,550,000			$3,550,000
Right-of-Way		$1,720,000			$1,720,000
Utilities					
Construction		$33,210,000			$33,210,000
Project Cost		$38,480,000			$38,480,000



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 from W of SR4/US1 to SR86 From MP 6.93 – 16.17 on US280/SR30 in Toombs County			Section Identification #:	US 280 (11)
			County:	Toombs
			P.I. No.:	
			GDOT District:	5
			Cong. District:	1
Traffic Vol.:	3100		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	9.24 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

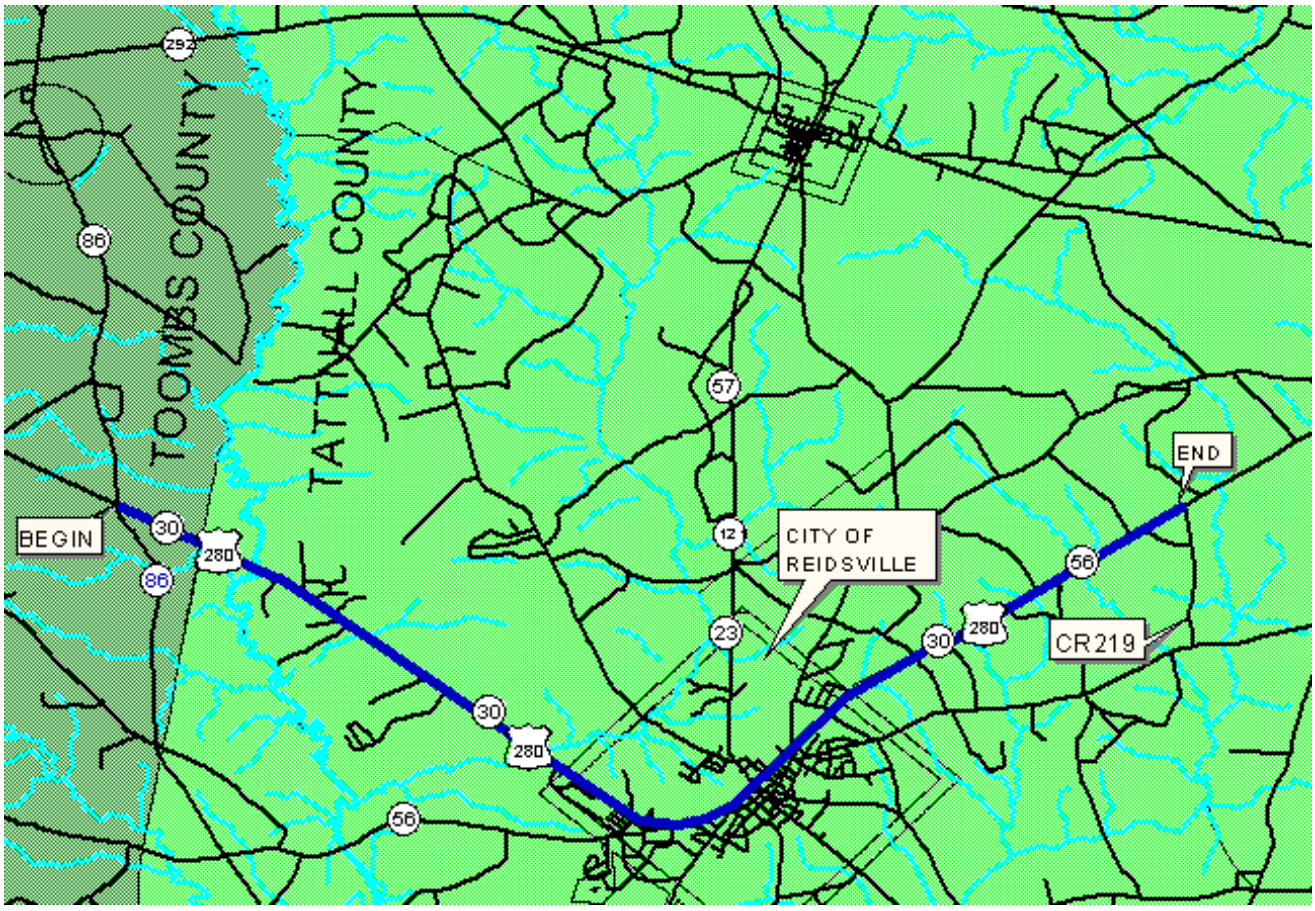
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$1,380,000			$1,380,000
Right-of-Way		$1,010,000			$1,010,000
Utilities					
Construction		$12,470,000			$12,470,000
Project Cost		$14,860,000			**$14,860,000**



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 from W OF SR86 TO CR219 From MP 16.17 – 17.05 on US280/SR30 in Toombs County and From MP 0.00 – 10.26 on US280/SR30 in Tattnall County			Section Identification #:	US 280 (12)
			County:	Toombs / Tattnall
			P.I. No.:	
			GDOT District:	5
			Cong. District:	1
Traffic Vol.:	4500		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	11.14 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

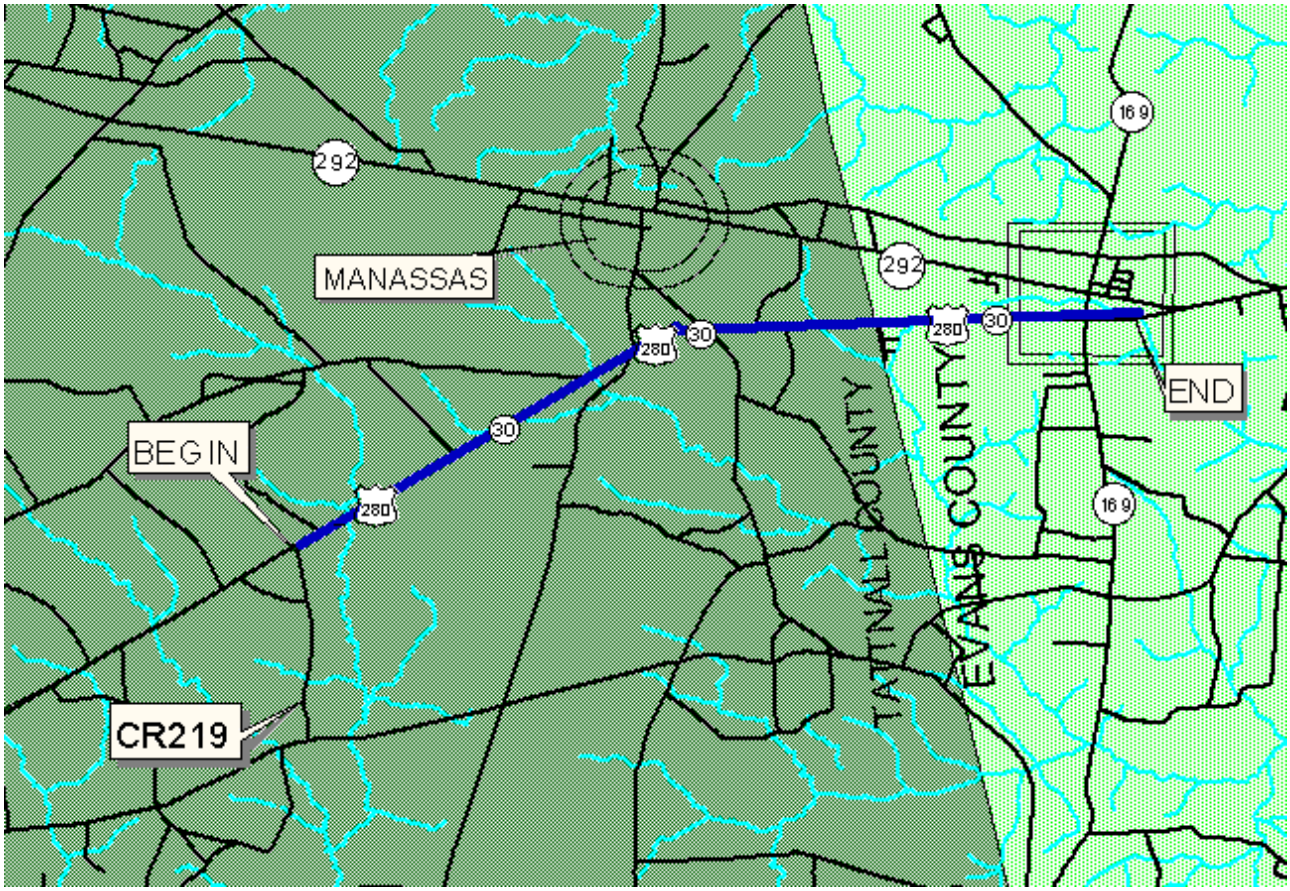
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$2,170,000			$2,170,000
Right-of-Way		$1,310,000			$1,310,000
Utilities					
Construction		$19,940,000			$19,940,000
Project Cost		$23,420,000			**$23,420,000**



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 from CR 219 in Tattnall County to West of SR 292 in Evans County From MP 10.26 – 14.29 on US280/SR30 in Tattnall County and From MP 0.00 – 1.50 on US280/SR30 in Evans County			Section Identification #:	US 280 (13)
			County:	Tattnall / Evans
			P.I. No.:	
			GDOT District:	5
			Cong. District:	1
Traffic Vol.:	3300		RDC:	Heart of Georgia Altamaha
Truck %:	10%		Length:	5.53 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

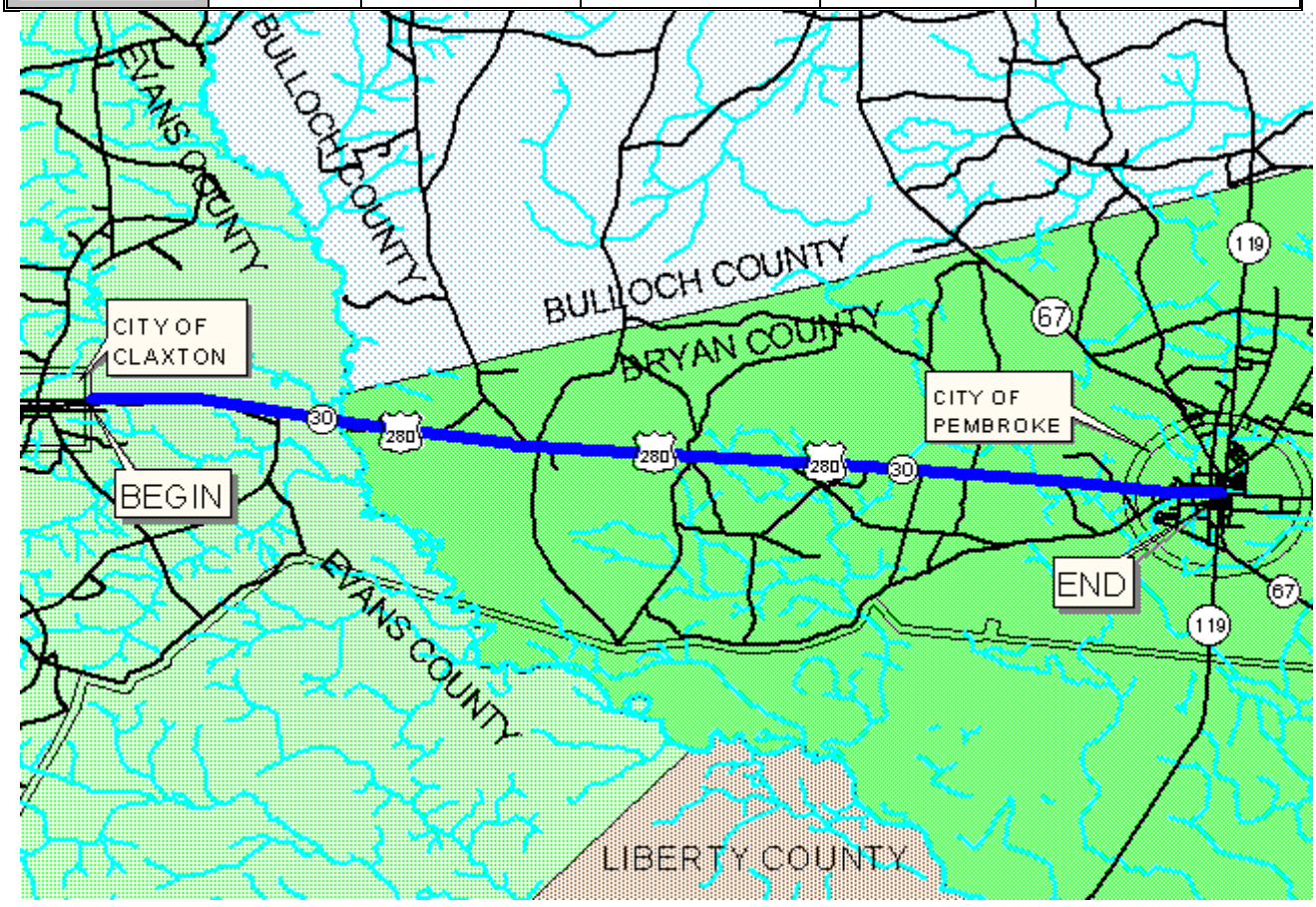
NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$830,000			$830,000
Right-of-Way		$570,000			$570,000
Utilities					
Construction		$7,570,000			$7,570,000
Project Cost		$8,970,000			**$8,970,000**



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 from East of Claxton City limits to SR 119 in Bryan County From MP 5.98 – 12.95 on US280/SR30 in Evans County and From MP 0.00 – 9.37 on US280/SR30 in Bryan County			Section Identification #:	US 280 (14)
			County:	Evans / Bryan
			P.I. No.:	
			GDOT District:	5
			Cong. District:	1
Traffic Vol.:	4300		RDC:	Heart of Georgia Altamaha and Coastal Georgia
Truck %:	10%		Length:	16.34 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280
NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.				

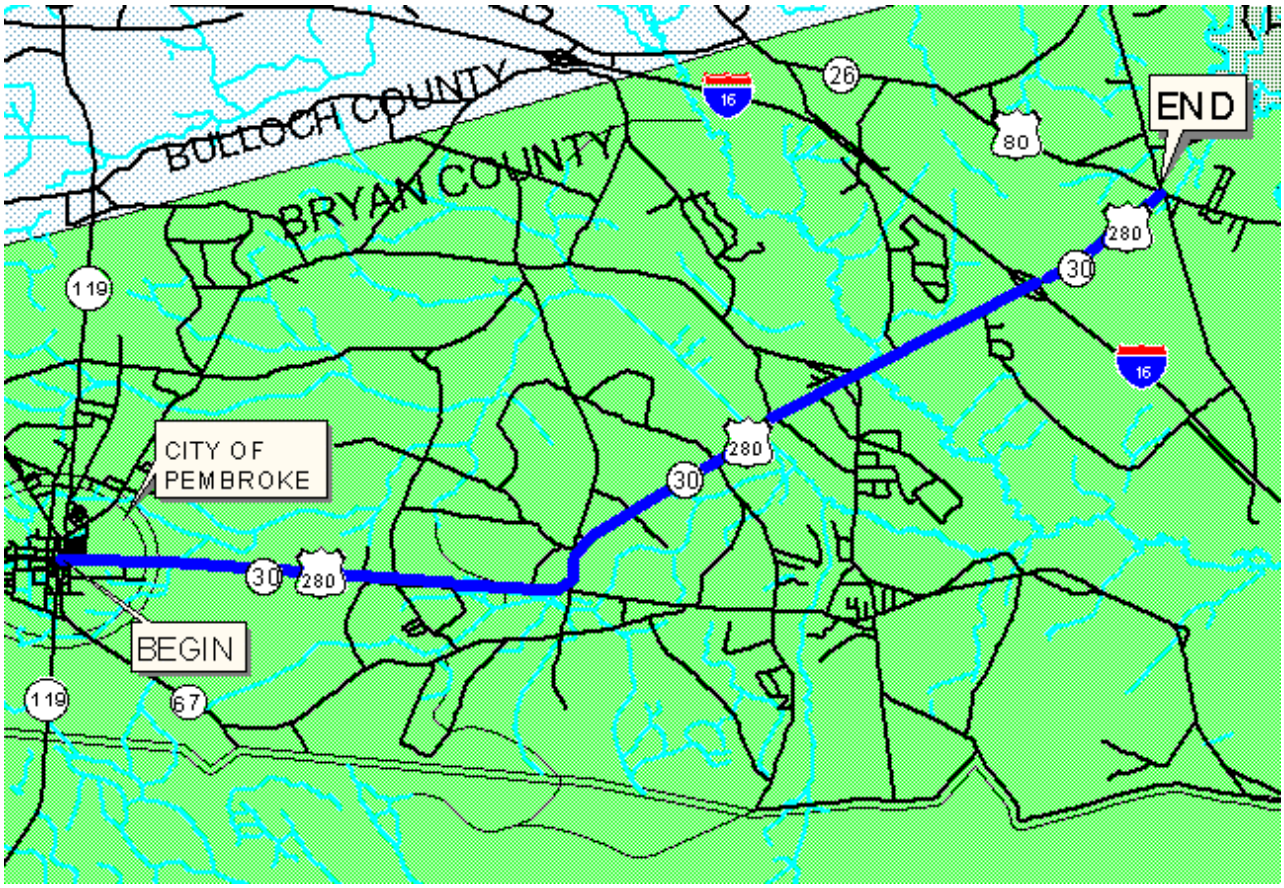
Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$2,700,000			$2,700,000
Right-of-Way		$1,900,000			$1,900,000
Utilities					
Construction		$24,440,000			$24,440,000
Project Cost		$29,040,000			**$29,040,000**



PROJECT DESCRIPTION: Widen – Add 4R (MED 44) US280/SR30 from SR 119 to end of US 280 at US 80 / SR 26 From MP 9.37 – 21.94 on US280/SR30 in Evans County			Section Identification #:	US 280 (15)
			County:	Bryan
			P.I. No.:	
			GDOT District:	5
			Cong. District:	1
Traffic Vol.:	6900		RDC:	Coastal Georgia
Truck %:	10%		Length:	12.57 miles
No. of Lanes	Existing: 2	Recommended: 4	Route #:	US 280

NEED EXPLANATION: US280 has been added to the Governor's Road Improvement Program, a system of economic development four-laning projects around the state.

Project Phase	Funding Source	Short Range Cost Estimate	Medium Range Cost Estimate	Long Range Cost Estimate	Total Cost Estimate
Planning					
Preliminary Eng.		$2,050,000			$2,050,000
Right-of-Way		$1,450,000			$1,450,000
Utilities					
Construction		$20,120,000			$20,120,000
Project Cost		$23,620,000			**$23,620,000**



Appendix B
US 280 Travel Time Runs

US 280 Travel Time Runs

The identification and elimination of bottlenecks is very important to expediting the flow of goods along a high volume freight corridor. As a form of system evaluation, travel time runs were conducted for congested areas of the US 280 corridor.

One Time Drive Through of US 280 Corridor
The entire US 280 corridor, from Richland in Stewart County to the US 280/I-16 interchange in Bryan County, was driven one time noting stops and areas where driving speeds are less than 40 miles per hour. This overview addresses, in a general way, any areas not covered in the detailed travel time runs. These "congested" areas include:

Plains
- around peanut and grain processing plants
- west side: SR 45
- east side: Hospital Street

Americus
- the travel time study area
- around Muckalee Creek
- east side: SR 27

Cordele
- the travel time study area
- railroad grade crossing just west of US 41 intersection
- west side: Joe Wright Drive
- east side: SR 90

Rochelle
- railroad grade crossing east of city

Rhine
- Posted speed limit drops to 25 mph

McRae
- the travel time study area
- west side: Sugar Creek
- east side: Andrews Street (just past Buddy's Sports Place)

Alamo
- cars parked along US 280 through downtown area

Vidalia
- the travel time study area
- west side: Darby Drive
- east side: Commerce Way

Lyons
- the travel time study area
- west side: Walnut Street
- east side: East Grady Avenue

Reidsville
- the travel time study area
- west side: SR 56
- east side: Alexander Avenue

Bellville
- railroad grade crossing
- just west of the intersection with SR 292

Claxton
- the travel time study area
- west side: El Cheapo Gas Station
- east side: SR 129

Travel Time Study

Detailed travel time studies were conducted along sections of the US 280 corridor where congestion is known to occur or where speeds are expected to consistently drop below 40 miles per hour (mph). Seven areas were identified with low driving speeds. These areas hold the greatest potential for future delays if not identified and corrected. Sections of US 280 through each South Georgia city studied are listed below along with the length of the study route for each section.

- Americus – approximately 9 miles
- Cordele – approximately 4 miles
- McRae – approximately 3 miles
- Vidalia – approximately 4 miles
- Lyons – approximately 2 miles
- Reidsville – approximately 2 miles
- Claxton – approximately 1 mile

Methodology

Travel time varies inversely with travel speed. Travel time studies, sometimes called speed and delay studies, measure vehicular speeds and usually delay during the course of a travel run. Travel runs are made over a fixed distant, and vehicle speed and delay are measured along the route. Travel time and delay characteristics are good indicators of the level of service that is being provided and can be used as a relative measure of efficiency of flow.

Using the "floating car" technique, the study vehicles "float" with traffic. The term "floating" refers to an attempt to pass as many vehicles as pass the test car. In this study, six travel time runs were made in each direction to identify areas where congestion and stops consistently occur. The more travel runs completed, the more reliable the results. By viewing a composite graph of speed versus distance, overlaying all six runs in each direction one on top of another, one can easily identify areas where congestion consistently occurs and can see the number of times speeds dropped in each area.

Time of Day

Travel times were performed for each location during one of the peak periods: AM, Noon or PM. The chief of police or their equivalent was contacted in each city to identify the time of day when traffic is heavy. In general, traffic is heaviest during the following time periods, and runs were conducted during one of these times.

- AM Peak – 6:00 to 8:30 AM
- Noon Peak – 11:00 AM to 1:30 PM
- PM Peak – 4:00 to 6:30 PM

These studies were a planning tool to generally identify areas of congestion and were not intended to provide the level of detail nor the cost of travel time studies used in signal system timing before and after studies.

Hardware and Software

Two vehicles were used for the travel runs. A speed sensor connected to the transmission of each vehicle was linked with a Jamar TDC-8 count board. This electronic count board collected speed and delay data while the vehicle was in motion. Back in the office, the data was imported into the Jamar PC Travel software, which develops speed versus distance graphs.

The following narrative describes studies in each city, where congestion occurred and potential improvements that could be considered in the future. A detailed summary for each run in each travel area is listed in the Appendix of the report.

Americus

The travel time runs conducted in Americus were during in the PM peak. US 280 flows east-west through downtown. East and west of downtown, US 280 consists of two and four lane sections, respectively. US 280 follows a one-way pair through downtown between the intersections of US 19 South/SR3 and SR 49 (North). The one-way pair consists of two to four lane sections. Although the one-way pair provides more capacity than a single road, traffic was very congested, and truck volume was heavy. Curb parking and signals at almost every intersection in downtown contributed to frequent stops and delays.

Analysis

The travel time runs took place along a nine-mile section on US 280. The route started on the west side of town at Claude Harvey Road and ended on the east side of town at the intersection of Lamar Street. Both the eastbound and westbound travel runs experienced delays on US 280 between the intersection of SR 49 (South) and SR49 (North). Frequent stops and significant delays consistently occurred along the one-way pair from US 19 to SR 49. Average speeds in this section range from 20 to 30 mph. A contributing factor to the heavy traffic in downtown is the number of major routes feeding into the City: US 19, SR 377 and SR 49.

Potential Improvements

1. Consider an east-west bypass south of downtown from the US 19 (South) intersection to US 280 just west of the bridge over Murphy's Mill Creek.

2. SR 49 relocation, to new location on the south side, from the US 19 (South) intersection to the US 280 one-way pair intersections with SR 49 (North).

3. Two complete circumferential loops around Americus would improve connectivity and allowing some traffic to avoid the congestion in downtown (see sketch).
   - an inner loop, within one mile of the downtown
   - an outer loop, within three miles of downtown

Cordele

Travel time runs were conducted in Cordele during the PM peak. US 280 flows east-west through town. East and west of town, US 280 carries two lanes, but in the central area of the town, from US 41/SR 7 to Albany Road, the roadway widens to a four-lane section. The railroad just west of US 41/SR 7 carries many trains per day. During this study in the PM peak period, three trains crossed US 280. The I-75 interchange ramps had long queues, perhaps because neither ramp terminal was signalized.

Analysis

The travel time route consisted of approximately four miles on US 280, beginning on the west side of town at Albany Road and ending on the east side of town at the intersection of Midway Road. Both the eastbound and westbound travel runs experienced delays near US 41/SR 7 and Pecan Road. Delays were most noticeable when trains were crossing near the intersection of US 41/SR 7. Stop-and-go traffic was experienced between US 41 and I-75. At the I-75 interchange, queues on filled the ramps to capacity. If traffic continues to increase, raps queues will spill back onto the I-75 mainline. Along US 280, progression was not too bad.

Potential Improvements

1. Upgrading the signal system and better signal system timing could reduce delays on US 280 from Joe Wright Drive to Midway Road. These are low cost improvements, and the affect would be immediate.

2. Choose either alternate 2a or 2b.
    a. Provide a bypass around the south side of town beginning at Coney Road. The bypass would generally follow the alignment of Crossroad Store Road from US 280 to SR 300, although at times the bypass may go on new alignment probably west of Crossroad Store Road. The alignment of the bypass would follow SR 300 from Crossroad Store Road to I-75 and continue on new location to US 280 just east of the Cape Road intersection (see sketch with dash line representing the bypass on new location and solid line representing the bypass on existing road).
    b. As an alternate to 2a, grade-separate the railroad crossing near US 41 intersection with a bridge over the railroad and over US 41.

3. Upgrade the I-75 interchange by providing longer ramps for longer queues. Consider signalizing the ramp terminals. Provide longer left turn storage lanes on US 280. Consider separating the ramps further away from I-75.

McRae

Travel time runs were conducted in McRae in the AM peak period. US 280 flows east-west through town. Most of this section of US 280 has two lanes except for a short half-mile section just east of US 441/ SR 31. Heavy school bus traffic was observed during the AM peak.

Analysis

The travel route covers approximately three miles starting on the west side of town at a middle school located just west of US441/SR 31 (South). It ends on the east side of town at the intersection of US 441/SR 31 (South). Both the eastbound and westbound travel runs experienced delays at the intersection of US 341 and Willow Creek Road due to signals. Traffic was "stop-and-go" through the one-way pair at US 341 in the heart of downtown. Signal system timing was not well coordinated. Traffic slowed at the railroad crossings just east of the one-way pair. US 280 is a side street controlled by a stop sign where it intersects with US 441. This is followed by an immediate yield in the median. There is only enough storage in the median opening for about two cars and is potentially a safety problem. Overall, delays were relatively minor throughout the system.

Potential Improvements

The proposed bypass around McRae should address problems experienced on US 280.

Vidalia

Travel time runs were conducted in Vidalia during the Noon peak period. US 280 flows east-west through town. US 280 is a five-lane section from Slayton Street to the east of town. West of Slayton Street it is two lanes with no turning lanes. There is a lot of development from Slayton Street to SR 130, which contributed to the congestion during the travel time runs. In the downtown area, shoulders are narrow and frequent driveways contributes to stop-and-go conditions.

Analysis

The travel route covers approximately four miles on US 280. The route started on the west side of town at the intersection of Sunset Drive and ended on the east side at Harris Industrial Boulevard. Delays occurred during both the eastbound and westbound travel runs between the intersection of SR 130 and Broadfoot Road. Stops and long delays occurred on US 280 near the intersections of SR 130, Church Street/McIntosh Road and Broadfoot Road. Average speeds in this section ranged from 15 mph to 25 mph in both directions.

Potential Improvements

Three alternates should be considered to facilitate the east-west flow of traffic on US 280.

1. a bypass around north side of town has previously been conceived (see dashed line on map),
2. a complete 360 degree loop around Vidalia, or
3. a one-way pair from east of Broadfoot to west of SR 130 using First Street eastbound and Main Street westbound. Note that a one-way pair has been discussed for several years but has not been implemented. Also note that the one-way pair through Americus continues to experience considerable delays.

The railroad bisects Vidalia. A study to determine the best locations for two or three new grade separations should be conducted. This would help to knit the community together.

Lyons

Travel time runs were conducted in Lyons in the PM peak. US 280 flows east-west through town along two lanes. The only traffic signal experiencing a minor delay is US 1, which is located in the center of town.

Analysis

The travel route consisted of approximately a two-mile section on US 280 starting on the west side of town at the intersection of Bank Avenue and ends on the east side of town at the intersection of Wilson Avenue. Both the eastbound and westbound travel runs experienced delays on US 280 near the US 1/SR 4 intersection. Average speeds in this section dropped to less than 20 mph in both directions.

No improvements are necessary at this time.

Reidsville

Travel time runs were conducted in Reidsville in the PM peak. From the west, US 280 flows southeast into downtown Reidsville and then northeast out of town toward Claxton. This section of US 280 carries two lanes.

Analysis

The travel route consisted of approximately a two-mile section on US 280. The route started on the west side of town at the intersection of SR 56 and ended on the east side at Griffin Road. Both the eastbound and westbound travel runs experienced delays on US 280 near the intersection of SR 23. Delays were relatively minor throughout the system.

No improvements are necessary at this time.

Claxton

Travel time runs were conducted in Claxton in the PM peak period. US 280 flows east-west through town on two lanes.

Analysis

The travel route consisted of a one-mile section on US 280. The study began on the west side of town at Dean Road and ended on the east side at North River Street. Both the eastbound and westbound travel runs experienced delays on US 280 near the intersections of SR 129 and US 25/ US 301/ SR73. Average speeds in this section ranged from 15 mph to 20 mph in both directions. Although stops and delays were relatively minor, they occurred consistently at these locations.

No improvements are necessary at this time.

Speed vs. Distance Profiles

A travel time (speed versus distance) profiles in the Appendix provide an overall view of the travel time runs and plots them for a visual analysis. These plots are provided for each area in each direction. The heavy weighted line indicates the average of all six runs in that particular direction. Additional summary material is provided in the Appendix.

Appendix C
Year 2008 Conditions Intersection LOS Analysis (after US 280 widening)

US 280 GRIP Section Ranking Analysis

Section Number	Connectivity, Accessibility, and Economic Vitality Rating							Safety Rating									System Usage and Congestion Rating				Pavement Condition Rating		Section Ranking			
	Interstate Access	Intersecting State Routes and US Highways	GEMA Evacuation Route	NHS, STAA, STRAHNET, GRIP	Economic Vitality Index	Populations of Existing Cities	**CAE Rating**	Mileage	Number of Accidents	Accidents per Mile	Accident Factor	Number of Accidents w/Fatalities 2000-2001	Accidents with Fatalities per mile	Severity Factor	Safety Index	**S Rating**	ADT	V/C 2025	Truck %	**SU&C Rating**	PACES	**PC Rating**	Raw Score	Raw Score Rank	Weighted Rating	Rank
U.S. 280 (1)	2	3	3	2	4	4	**3**	9.44	14	1.483051	1.49062	2	0.212	4.510	3.302	**1**	4	5	3	**4.000**	95	**2**	10.000	**3**	2.400	**2**
U.S. 280 (2)	3	5	3	2	3.5	5	**3.5833**	8.47	0	0	0	0	0.000	0.000	0.000	**5**	5	5	3	**4.333**	91	**4**	16.917	**14**	4.183	**15**
U.S. 280 (3)	1	4	2	3	4	1	**2.5**	12.59	7	0.555997	0.558835	2	0.159	3.381	2.252	**1**	4	5	1	**3.333**	98	**5**	11.833	**5**	2.550	**4**
U.S. 280 (4)	2	2	3	3	4	5	**3.1667**	9.82	3	0.305499	0.307058	1	0.102	2.168	1.423	**2**	4	5	1	**3.333**	105*	**5**	13.500	**8**	3.117	**7**
U.S. 280 (5)	4	3	3	3	4	3	**3.3333**	10.94	9	0.822669	0.826868	1	0.091	1.946	1.498	**2**	5	5	2	**4.000**	91	**2**	11.333	**4**	2.833	**5**
U.S. 280 (6)	4	3	3	3	4	5	**3.6667**	8.3	1	0.120482	0.121097	0	0.000	0.000	0.048	**5**	5	5	4	**4.667**	69	**1**	14.333	**11**	3.817	**12**
U.S. 280 (7)	5	1	2	2	5	1	**2.6667**	11.06	19	1.717902	1.72667	0	0.000	0.000	0.691	**4**	1	4	2	**2.333**	90	**4**	13.000	**6**	3.217	**8**
U.S. 280 (8)	5	4	1	2	4.5	1	**2.9167**	9.53	4	0.419727	0.421869	0	0.000	0.000	0.169	**5**	3	4	2	**3.000**	97	**5**	15.917	**13**	3.867	**13**
U.S. 280 (9)	5	5	1	3	4	3	**3.5**	6.85	7	1.021898	1.027113	0	0.000	0.000	0.411	**4**	4	5	1	**3.333**	88	**3**	13.833	**9***	3.550	**10**
U.S. 280 (10)	5	2	1	3	4	2	**2.8333**	14.8	6	0.405405	0.407475	0	0.000	0.000	0.163	**5**	3	5	1	**3.000**	85	**3**	13.833	**9***	3.533	**9**
U.S. 280 (11)	4	3	1	3	4	2	**2.8333**	9.24	31	3.354978	3.372102	0	0.000	0.000	1.349	**2**	4	5	1	**3.333**	105*	**5**	13.167	**7**	2.983	**6**
U.S. 280 (12)	4	1	1	3	3.5	4	**2.75**	11.14	9	0.807899	0.812023	0	0.000	0.000	0.325	**4**	3	5	3	**3.667**	100	**5**	15.417	**12**	3.600	**11**
U.S. 280 (13)	3	4	1	3	3	4	**3**	5.53	3	0.542495	0.545264	0	0.000	0.000	0.218	**5**	4	5	5	**4.667**	98	**5**	17.667	**15**	4.150	**14**
U.S. 280 (14)	2	3	1	3	2	2	**2.1667**	16.34	16	0.979192	0.98419	1	0.061	1.303	1.175	**3**	3	5	2	**3.333**	60	**1**	9.500	**2**	2.417	**3**
U.S. 280 (15)	1	3	1	1	1	3	**1.6667**	12.57	30	2.386635	2.398816	1	0.080	1.693	1.976	**2**	1	5	4	**3.333**	60	**1**	8.000	**1**	1.917	**1**

Interstate Access Range from Intersects with an Interstate Ex. US 280 (4) intersects with I-75. Sections are ranked accordingly from intersection with to proximity to interstate

Intersecting State Routes and US Highways are ranked according to the number of intersections with these roadways.

GEMA Evacuation Route is ranked according to classification as or proximity to evacuation routes.

NHS, STAA, STRAHNET, and GRIP is ranked according to designation as or proximity to route type. The US 280 corridor is a GRIP route. For the purpose of this analysis only intersecting GRIP routes were evaluated.

Economic Vitality Index is ranked into five categories Developed (1), Developing (2), Existing and Emerging Growth Center (3), Lagging Rural (4), and Declining Rural (5). In the event the corridor crossed counties with more than one EVI the average was used.

Populations of Existing Cities utilized Census 2000 place level data to evaluate the number of people the section provided mobility to. Populations ranged from 1090 to 11916.
The top 3 largest populations were ranked 1 and the lowest 3 were ranked 5.

The number of accidents was derived for each section utilizing the GDOT Mutli Modal transportation planning tool. The Crash Analysis is based on 1997 Crash Data

Fatalities were derived using NHTSA 2000 and 2001 FARS data.

The Safety Index takes accidents per miles and accidents with fatalities per mile and weights them. SI= .4(accidents per mile) + .6(accidents with fatalities per mile)

System Usage and Congestion Rating Utilizes GDOT ADT data, DWA projected V/C ratio, and DWA percent trucks.

ADT ranges from 1700-7000 and was divided into five categories.
ADT from 1700-2760 was ranked 5 and
ADT 5941-7000 was ranked 1

The highest V/C on a section is projected to be .47 which achieves a rank of 4. If a section had a V/C of .7 or higher it would have received a 1. V/C below .4 received a rank of 5

For planning purposes a corridor with 8.5% trucks or higher is freight focused. Sections ranged from 3.3% to 10% trucks, those sections with percentages above 8.5% received a 1.

A PACES rating at or below 70 is considered in need of resurfacing and or maintenance

Sections ranked below 70 were ranked 1, two sections ranked 2 have portions below 70.

*This value indicates a section of roadway that is under construction, not a true PACES rating.