

**2040 Statewide Transportation Plan /  
2015 Statewide Strategic Transportation Plan:  
Literature Review**

*Technical Memorandum 1B*

**final technical  
memorandum**

*prepared for*

**Georgia Department of Transportation**

*prepared by*

**Cambridge Systematics, Inc.**

*with*

Geostats, LP  
Gresham, Smith, and Partners  
Reynolds, Smith, & Hills, Inc.



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*final technical memorandum*

# **2040 Statewide Transportation Plan / 2015 Statewide Strategic Transportation Plan Update: Development of Study Methodology**

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*prepared by*

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*date*

August 7, 2013

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# Part I. Policy Overviews

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# 1.0 Governor's Strategic Goals for Georgia

## 1.1 DATE PUBLISHED

2011

## 1.2 POLICY/MAJOR CONCLUSIONS

Governor Nathan Deal's strategic plan for the State has the following vision:

*A lean and responsive state government that allows communities, individuals, and businesses to prosper.*

The Governor's strategic goals for Georgia include the following:

- **Educated.** Developing life-, college-, and work-ready students;
- **Mobile.** Transporting people and products in a 21<sup>st</sup> century Georgia:
  - Improve the movement of people and goods across and within the State,
  - Expand Georgia's role as a major logistics hub for global commerce, and
  - Leverage public-private partnerships and improve intergovernmental cooperation for successful infrastructure development;
- **Growing.** Creating jobs and growing businesses;
- **Healthy.** Accessible care and active lifestyles;
- **Safe.** Protecting the public's safety and security:
  - Reduce injury and loss of life on Georgia's roads; and
- **Responsible and Efficient Government.** Fiscally sound, principled, conservative.

## 1.3 DATA AND METHODOLOGIES

No information available.

## 1.4 ANALYSIS

No information available.

## 1.5 APPLICABILITY TO THE SWTP

The Mobile and Safe goals include strategies directly applicable to the Statewide Transportation Plan (SWTP)/Statewide Strategic Transportation Plan (SSTP), while SWTP/SSTP strategies could help to achieve the other goals.

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## 2.0 Federal and State Requirements for Statewide Transportation Planning

### 2.1 DATE PUBLISHED

Not applicable.

### 2.2 POLICY/MAJOR CONCLUSIONS

#### State

The 2010 Transportation Investment Act (TIA) required that the SSTP, once approved by the State Transportation Board, be used to help establish criteria for the selection of projects for inclusion in TIA referenda. The TIA included the following provisions:

- Creates 12 special tax district regions based on existing Regional Commission boundaries.
- Allows each region to levy a one percent sales tax for 10 years.
- Funds collected in each region must be spent in that region and are not subject to congressional balancing laws.
- Projects were selected by elected leaders of local governments who formed Regional Roundtables. These Roundtables consisted of two individuals from each county: the county commission chair and one mayor (selected by all of the county's mayors).
- All 12 Regional Roundtables approved a list of projects by the specified October 15, 2011, deadline.
- Project lists can be found at: <http://www.it3.ga.gov>.
- Voters in each region voted on the proposed sales tax increase in a July 31, 2012, referendum.
- Seventy-five percent of each region's proceeds (except in Atlanta Regional Commission (ARC) which is 85 percent) would be used to fund the projects on the final project list approved by the Regional Roundtable.
- Twenty-five percent of the Region's proceeds (except in ARC, which is 15 percent) would be divided among the region's local governments to be spent on transportation projects of that government's choosing (i.e.,

resurfacing). The money would be distributed using a formula of population and road mileage.

- Most project delivery would be the responsibility of the Georgia Department of Transportation (GDOT), working with local governments. The Georgia Regional Transportation Authority (GRTA) would be responsible for delivery of transit projects in the Atlanta Region, in conjunction with local transit sponsors.

TIA referenda were passed in three districts: 1) Central Savannah River Area (Augusta), 2) River Valley (Columbus), and 3) Heart of Georgia Altamaha.

## **Federal**

The Federal transportation legislation enacted in 2012, Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), has considerably changed the environment around statewide planning. It includes several noteworthy changes from previous transportation law to include:

- Consolidated, flexible funding programs;
- Streamlined project delivery incentives;
- Increased funding for safety;
- Increased support for innovative finance strategies;
- Expanded tolling opportunities; and
- Requiring a performance-based approach.

MAP-21 also places clear emphasis on the need to first maintain and preserve existing assets before expanding the system.

While the exact regulations for implementing these requirements are still under development, in general, they must conform to the guidelines discussed below.

### *Highways*

MAP-21 places heavy emphasis on performance-based plan development and improved accountability through state and regional performance demonstrations. It defines national goal areas for which plans must demonstrate progress:

- Safety,
- Infrastructure condition,
- Congestion reduction,
- System reliability,
- Freight movement and economic vitality, and
- Environmental sustainability.

MAP-21 also requires states and regions to establish performance targets for a set of national performance measures that align with the goals (outlined above), as well as a demonstration of how planned investments support the achievement of these targets through an annual systems performance report. The development of targets (for state and regional plans) for the new national performance measures will require GDOT to coordinate closely with its metropolitan planning organizations (MPO), because MAP-21 requires statewide targets and regional targets that fold together.

### *Transit*

Transit agencies must develop performance-based asset management and safety plans based on “state-of-good repair” measures and safety measures set by the Federal Transit Administration (FTA). Transit agencies must also develop performance targets in line with national transportation goals.

## **2.3 DATA AND METHODOLOGIES**

To be developed.

## **2.4 ANALYSIS**

To be developed.

## **2.5 APPLICABILITY TO SWTP/SSTP UPDATE**

Revenue and projects for the regions that passed TIA referenda will be included in the Plan Update. While specific MAP-21 regulations have not yet been issued, and MAP-21 itself is scheduled to expire in 2014, it should be assumed that the performance measurement requirements and other critical elements of MAP-21 will be implemented; and that the Plan Update should be developed with these requirements in mind, closely following and trying to anticipate the outcome of the regulatory process.



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## Part II. Statewide Plans<sup>1</sup>

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<sup>1</sup> Plans were produced by GDOT unless otherwise noted.

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## 3.0 2005-2035 Georgia Statewide Transportation Plan

### 3.1 DATE PUBLISHED

January 2006.

### 3.2 POLICY/MAJOR CONCLUSIONS

GDOT is facing a major structural funding gap between needs and approved programs on the one hand, and available funding on the other. Total available revenue for the 30-year forecast period is estimated to be \$86 billion versus the cost of the total unconstrained Build program of \$160 billion, for a gap of \$74 billion.

This plan was developed pursuant to Georgia Code Section 32-2-3, and 23 Code of Federal Regulations, Part 450, Section 214, requiring development of statewide long-range transportation plans:

*The Department shall develop and maintain a long-range State transportation plan for all areas of the State as required under Title 32 of the Georgia Code, Section 32-2-22, and 23 Code of Federal Regulations, Part 450, Section 214. This plan shall provide for the development of transportation facilities that will function as an intermodal state transportation system and that will be a guide for implementation of transportation facilities in the State of Georgia.*

The goals of the Plan are to:

- Preserve the system in good working order,
- Enhance safety on all transportation systems,
- Reduce congestion and improve levels of service,
- Facilitate connections among the various regions of the State,
- Improve access and mobility for all citizens,
- Support economic growth, and
- Enhance the quality of life.

### 3.3 METHODOLOGY AND DATA SOURCES

- GDOT Road Characteristic (RC) File;
- GDOT Crash Database;

- FHWA Highway Performance Monitoring System (HPMS);
- FHWA National Bridge Inventory (NBI);
- FHWA National Bridge Investment Analysis System (NBIAS);
- GDOT Digital Line Graph Features (DLG-F);
- GDOT Multimodal Transportation Planning Tool;
- GDOT TP + Statewide Travel Demand Forecasting Model;
- GDOT TPro Database;
- MPO and other Local Plans, including Regional Transportation Plans (RTP) and multimodal studies;
- GDOT Intermodal Data Sources, including *The Georgia Transit Programs Fact Book* for 2004, and GDOT modal-specific plans for intercity and commuter rail, bicycle and pedestrian travel, aviation, and intercity bus; and
- Global Insight, Inc., TRANSEARCH database for 1998.

### 3.4 ANALYSIS

The report provided a detailed analysis of existing conditions on the Georgia Transportation System. In general, most assets were in good condition with the biggest problem areas being urban roadway congestion and lack of growth in transit ridership. Key findings were as follows:

#### Highway

##### *Pavement condition (PACES Weighted Average)*

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Federal aid	83.4
City and county	low 70s

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##### *Bridge Condition (Percent Structurally Deficient)*

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Federal aid	2%
County	15%
City	8%

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**Safety (Fatalities)**

National rate	1.48 per 100 Monthly Vehicles Miles of Travel (MVMT)
Georgia	1.47

**Congestion (Level of Service (LOS) D to F)**

	Centerline Miles	VMT
All state roads	2%	20%
Urban roads	8%	35%
Interstates	24%	>50%

**Transit**

- 13 operators in the State;
- All but three had lower ridership than in 1994;
- Seven of nine in existence since 1999 had higher ridership now;
- 97 of 159 counties had rural services, since 1994:
  - The number of counties with service increased by 43 percent,
  - The number of revenue miles increased by 120 percent, and
  - The ridership increased by only 8 percent; and
- Intercity bus operates more than 11 million revenue miles.

**Freight Rail**

- 4,836 miles of track;
- Two Class I railroads operating 3,150 miles (73 percent of total);
- 21 short lines;
- 195 million tons move by rail, of which 45 percent is through traffic; and
- Coal is the largest commodity, accounting for 28.6 percent of the total.

**Aviation**

- 106 open to the public airports;
- Nine commercial airports with 43 million enplaned passengers, of which 42 million are at Atlanta Hartsfield Jackson International Airport; and
- Almost all air cargo is at Hartsfield Jackson.

## **Maritime**

- 40 public and private terminals processing 23.2 million tons of cargo; and
- Savannah is the sixth largest container port in the U.S., handling 1.13 million twenty-foot equivalent units (TEU).

## **Freight (1998 data)**

- 634 million tons valued at \$1.1 trillion moves in the State'
- 73 percent of outbound tons and 87 percent of inbound tons travel less than 500 miles;
- Miami is the largest trading partner by value, Lexington, Kentucky, by tons (coal);
- Trucks carry 82 percent by value, 72 percent by tons; and
- Rail carries 17 percent by value, 26 percent by tons.

## **Economic Forecast (2035, Cross-Checked between State and MPO Forecasts)**

- Population will increase from 8.2 million to 13.6 million people (1.45 percent annual growth);
- Most job growth will be in services, with manufacturing declining; and
- Atlanta will grow the fastest, followed by Greenville/Athens.

Future conditions for each mode and asset type were forecast to 2035 under No-Build and Unconstrained Build conditions. The No-Build scenario included no new major capital or capacity expansion programs. The Build scenario included all existing GDOT and MPO plans and programs, including \$113 billion for highways and \$47 billion for intermodal (all others). Major findings were as follows:

## **Highways**

Volume was forecast to grow by 2 percent annually for all traffic, and 2.9 percent for trucks. By 2035, all VMT would increase by a total of 90 percent, and truck VMT by 151 percent. Under the Build scenario, capacity would increase by only 18 percent.

### *Pavement Conditions*

- In order to maintain existing conditions, the Build scenario will cost 13 percent more than current expenditures, a total of \$6.8 billion through 2035.

### Bridge Conditions

- Under the Build scenario, all bridge types will have less than 5 percent rated structurally deficient. Under the No-Build, the rate of structurally deficient bridges will increase to 23 percent (city/county) and 32 percent state.

### Congestion (miles)

	No-Build	Build
State	12%	10%
Atlanta	53%	45%
Other MPOs	16%	11%
Rural	3%	3%
VMT	60%	50%

### Intermodal

- Total Build scenario cost is \$60 billion, of which \$13 billion are separately financed by airports;
- The ARC Aspirations Plan would result in a 10-percent reduction in auto travel; and
- Rural transit under the No-Build scenario would maintain existing conditions, while the Build scenario would grow service to keep pace with population growth.

### Aviation

- Plans per the Georgia Airport Systems Plan, separately funded.

### Maritime

- Plans per the Georgia Ports Authority, separately funded.

### Freight

- Growth is forecast to be 2.7 percent annually in tons and 3.1 percent in value;
- 1.7 billion tons will be moved by 2035, and \$3.3 trillion in value;
- Trucks will grow from 72 percent of tonnage to 79 percent; and
- Rail will decline from 26 percent of tonnage to 20 percent.

### 3.5 APPLICABILITY TO SWTP/SSTP UPDATE

- The report was published in 2006, but most of the data is several years older, making it about 10 years out of date and of limited use.
- Many of the methodologies have been improved upon in recent years. For example, the origin-destination matrix estimation (ODME) statewide model has been replaced by a true trip-based statewide model.
- The essential funding gap first identified in this report, has been reinforced by the subsequent 2010 Statewide Strategic Plan.
- The documentation of existing conditions and the forecasts for 2035 can be used as baselines to assess how things have changed in the intervening years.

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## 4.0 Statewide Strategic Transportation Plan 2010-2030

### 4.1 DATE PUBLISHED

April 2010.

### 4.2 POLICY/MAJOR CONCLUSIONS

This plan was developed pursuant to the requirements of Georgia Code 32-2-22.

For most of the past two decades, Georgia has been under-investing in transportation infrastructure and coasting on past achievements. The State invests fewer dollars per capita in transportation than all other states except Tennessee, and less than one-half as much as the U.S. as a whole and among Southeast peer states and competitors. The result is declining performance of the transportation system and economic competitiveness of the State.

The SSTP defines a more strategic transportation investment strategy for the State that focuses on linking transportation system performance to economic competitiveness, as outlined below.

The SSTP defines the most cost-effective **Investment Categories** to ensure the State is competitively positioned in the future. These include:

- Statewide Freight and Logistics,
- People Mobility in Atlanta, and
- People Mobility in the Rest of the State.

The SSTP then prioritizes **Investment Programs** for each category. These include:

- Statewide Freight and Logistics:
  - Limited access bypasses,
  - Rail capability improvements,
  - Governor's Road Improvement Program (GRIP) corridors that align with high volume freight movement, and
  - Bottleneck removal.

- People Mobility in Atlanta:
  - Travel demand management,
  - Integrated transportation and land use, and
  - Capacity expansion focused on employment centers and reliable modes.
- People Mobility in Rest of the State:
  - Safety improvements,
  - Demand management, and
  - In urban areas, coordinating transportation/land use planning.

Prioritization of these programs was based on a program-level impact assessment within each category. Investment programs were then constrained into three **Funding Envelopes**.

- **Burning Platform.** Reasonably expected and projected revenues; funding can only cover basic needs and will not position state for success.
- **Economic Growth.** Additional revenue assumed from tolling, other alternative sources; funding will advance some strategic investments.
- **Transform the Network.** Aggressive revenue assumptions based on tolling, sales tax, etc.; funding will ensure State is well positioned for success.

**Performance Impacts** of each investment program (for each funding envelope) were quantified across three key metrics:

- 45-minute travel shed to key centers (labor access);
- Number reliable trips (defined as managed lane volume, rail volume); and
- Annual congestion cost.

**Note:** Cost effectiveness was also calculated as a percent-change in performance metric divided by billion dollars spent.

Ultimately, this process produced a tiered recommendation of investments given the applicable funding envelope and investment category of interest.

## 4.3 METHODOLOGY AND DATA SOURCES

The public version of this report was relatively opaque in terms of detailed information on underlying data and methodologies used to generate the data, which drove the recommendations.

## 4.4 ANALYSIS

If current trends continue over the next 20 years:

- The cost of congestion/person in the Atlanta region will double;
- Mid-sized cities will reach the levels of congestion found in Atlanta today;
- The pool of employees within a 30- to 45-minute commute of employment centers will decline by 33 percent; and
- Metropolitan Atlanta Rapid Transit Authority (MARTA) service will shrink to 50 to 75 percent of current levels.

The major recommendations of the study were as follows:

- An additional \$15 billion should be invested in freight and logistics facilities, including highway bypasses, rail, GRIP corridors, bottleneck removal, and connectivity gaps. The result will be \$100 billion in Gross Domestic Product (GDP) growth and 90,000 new jobs.
- An additional \$29 billion to \$36 billion should be invested in capacity in the Atlanta region, including managed lanes on the Interstates; and to a lesser extent, arterial improvements, maintenance of the core rail system, expanding short-haul lines and circulators in the urban core, and adding long-haul rail. The result will be \$170 billion in GDP growth and 250,000 jobs.
- The major plans and programs in the MPO Long-Range Transportation Plans (LRTP) across the State should be funded for an additional \$14 billion. The result will be \$49 billion in GDP growth and 89,000 jobs.
- An additional \$16 billion to \$19 billion should be spent on maintenance of the existing system.

Projected revenue for the next 20 years is \$85 billion to \$100 billion. (Note that the 2006 SWTP estimated \$86 billion over 30 years.) Of this amount, all but \$15 billion to \$19 billion are needed just to maintain the existing system. Additional funding is needed for the following three levels of investment:

- Address today's "burning platform" issues +\$39 billion (about one-half could be funded from existing revenue);
- Invest enough to encourage more economic growth +\$18 billion, primarily through tolls and fees; and
- Invest enough to transform the system +\$6 billion to \$15 billion, would require a broad-based revenue source like a one percent sales tax.

## 4.5 APPLICABILITY TO THE SWTP/SSTP UPDATE

This document built on the notion of underinvestment and a structural funding gap which had been first identified in the 2006 SWTP and expanded upon in the 2008

IT3 Study. The SSTP received much greater publicity than the earlier SWTP and was closely related to the enactment of the Transportation Investment Act (TIA) and the first round of sales tax referenda which were conducted across the State in July 2012. The report dramatized the need for action and increased levels of investment. The report is a useful starting place for the SWTP/SSTP Update in reinforcing the notion of underinvestment and a structural funding gap, in making the business and economic case for greater investment in a compelling fashion, and in establishing funding priorities. It also made significant advances in defining a broader set of strategies to address transportation challenges. These include travel demand management (through tolling/managed lanes and demand reduction programs), integrating transportation and land use as a way to advance livable communities which were cited as a key element to overall economic competitiveness, and strategic capacity addition. Since the methodology and data sources were not explained in detail they cannot be applied in the Plan Update, but more information was provided in the 2012 Atlanta Progress Report (see below).

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## 5.0 Statewide Strategic Transportation Plan Progress Report

### 5.1 DATE PUBLISHED

February 2012.

### 5.2 POLICY/MAJOR CONCLUSIONS

This Progress Report analyzed in detail the Atlanta region's most recent LRTP (PLAN2040), TIP, and TIA proposals to see to what extent the region was moving in the investment direction recommended by the SSTP. It also took a limited look at statewide progress. It was the first such analysis undertaken by GDOT. The Atlanta TIA proposals were subsequently defeated in a referendum, but three regions passed the referenda.

PLAN2040 included \$61 billion in funding for the Atlanta region through 2040, of which \$43.4 billion were to maintain and operate the existing system (approximately 70 percent of projected revenue). In terms of system improvement/expansion:

- The Plan allocated \$7 billion for general roadway capacity expansion projects and \$5.4 billion for managed-lane projects. The SSTP gave first priority to managed lanes in the Atlanta region.
- Of the \$7 billion in general capacity projects, \$2 billion were targeted to arterial capacity improvements to major employment centers, another SSTP priority.
- Major transit capital projects were only included in the out-years of the long-range plan (2040) and unfunded Aspirations Plan; therefore, no progress was reported.

### 5.3 DATA AND METHODOLOGIES

- Analysis of the number of workers who can reach employment centers in 45 minutes was done using ARC's regional travel demand model, speed data from GDOT's NavigGator system, real-world speed data, travel time between traffic analysis zones (TAZ) and employment centers, estimated workers by TAZ, and the average employment shed for 13 employment centers.
- Congestion cost/peak auto commuter - Texas Transportation Institute (TTI) Urban Mobility Report, 2009;

- Average work commute times - American Community Survey (ACS), 2009/2010;
- Average number of people taking rail trips in the peak periods - MARTA station counts;
- Daily hours of truck delay - American Trucking Research Institute (ATRI) truck speeds, GDOT traffic counters;
- Percent of population within 10 miles of a four-lane highway - Geographic Information System (GIS) analysis of 2010 U.S. census tract data;
- Percent of Interstate highways meeting maintenance standards - GDOT COPACES rating; and
- Average transit operating cost/passenger - National Transit Database, 2009/2010.

## 5.4 ANALYSIS

The general conclusion is that investment priorities in the Atlanta region do not fully conform to the recommended directions of the SSTP, and that constrained funding is insufficient to meet the investment recommendations particularly in public transportation.

## 5.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

This report provides an updated benchmark on the investment priorities and available funding in the Atlanta region relative to the direction established by the SSTP, and can therefore serve as an additional baseline for the new Plan Update. This report also fills in some of the missing technical detail from the SSTP, which can be used to help establish methodological approaches in the SWTP/SSTP Update.

## 6.0 Project Prioritization Process (PrPP)

### 6.1 DATE PUBLISHED

June 2010.

### 6.2 POLICY/MAJOR CONCLUSIONS

The objective of this project was to “develop a process for prioritizing transportation projects in Georgia which is ... data driven, rigorous, and transparent. The resulting product is both a process for prioritizing projects, and a software tool which has been fully integrated into GDOT’s Information Technology system.

Three types of projects can be analyzed by the PrPP – highway new capacity, economic development (primarily GRIP), and traffic operations. Other modules could be added in the future. Projects are evaluated against five goals developed in the last SWTP Update – preservation, safety, congestion, connectivity access and mobility, and economic growth. Ten performance measures were developed to analyze the extent to which projects achieved the goals, plus a benefit/cost analysis. The results were scored and weighted for three geographic regions – Atlanta Metro, other metro areas, and rural. Different weights were assigned to the performance measures by region.

The existed set of projects in GDOT’s TPro database were run through the system and ranked into four tiers.

### 6.3 DATA AND METHODOLOGIES

Many different data sources and methodologies were used to analyze the projects against the performance measures. Some measures, such as reduction in delay, could be measured quantitatively using existing tools such as the statewide and MPO models. Other measures, such as whether a project was located in an economic development area, were simple yes/no checkboxes.

### 6.4 ANALYSIS

Among new highway capacity projects, 775 projects were included in the initial system run. Of these, 141 were assigned to Tier I, meaning that they had both a high Benefit/Cost (B/C) ratio and overall benefit score. There were 556 projects assigned to Tier IV, meaning that they had a low B/C ratio and benefit score.

Seventy-four projects were assigned to Tiers II and III, meaning that they had either a high B/C ratio or benefit score, but not both.

Among economic development projects, 2 were rated as Tier I, 40 as Tier II or III, and 127 as Tier IV. Among traffic operational projects, 1 was rated as Tier I, 36 as Tier II or III, and 10 as Tier IV.

## 6.5 **APPLICABILITY TO THE SWTP/SSTP UPDATE**

The PrPP has never been used exclusively to officially rank projects, but has been used in conjunction with other project justification and programming reviews and decisions by GDOT Planning staff and others.

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# 7.0 Georgia Statewide Freight and Logistics Plan

## 7.1 DATE PUBLISHED

The Task 5 Recommendations Report and the Freight and Logistics Action Plan were completed in December of 2011 and February of 2012, respectively.

## 7.2 POLICY/MAJOR CONCLUSIONS

Georgia has a world-class freight infrastructure that is critical to the State's economic competitiveness. Five freight-related economic sectors produced nearly \$100 billion of output in 2007 – 25 percent of Georgia's \$380 billion of gross state product. These sectors are heavily dependent on highways, railroads, ports, and airports to receive goods from suppliers and deliver goods to customers. The growth of these freight-related sectors will be directly related to the quality of improvement to the States' freight transportation infrastructure. Georgia's freight infrastructure was developed through several decades of outsized investment by both the public and private sector. However, over the last 20 years, this investment has decreased; and this has, in part, been a contributor to the economic stagnation of Georgia relative to the rest of the U.S. since 2000.

The Georgia Freight and Logistics Action Plan determined that by investing \$18 billion to \$20 billion over the next 40 years in freight improvement projects, the State could generate over \$65 billion in additional economic output and thousands of new jobs. This is consistent with the conclusion of the GDOT Statewide Strategic Transportation Plan and the Investing in Tomorrow's Transportation Today "IT3" initiative.

### **Port-Related Recommendations**

The \$550 million deepening of the Savannah Harbor is the top freight priority for Georgia. The benefits from the deepening of the harbor include \$2.8 billion in transportation cost savings for shippers. The transportation cost efficiencies of harbor deepening will allow Georgia-based companies to compete more effectively in the global marketplace, increasing expansion and employment opportunities for freight-related companies in the State. The timely completion of the harbor deepening will also provide Georgia with a "first mover advantage" relative to several other states – many of which are just beginning the process to receive approval for harbor deepening.

The Port of Savannah is projected to reach capacity around 2020. The States of Georgia and South Carolina are working together to develop a new port in Jasper

County to accommodate the continued container growth forecast from 2020 to 2050. The 2011 Jasper Ocean Terminal White Paper estimates that the completion of this new \$4 billion port complex will result in an additional \$9 billion in tax receipts for the two states through 2060.

### **Rail-Related Recommendations**

In 2007, the American Association of Railroads (AAR) National Rail Freight Infrastructure Capacity and Investment Study estimated that an investment of \$148 billion would be needed to meet the forecast demand for rail nationally between 2007 and 2035. Based on the proportion of rail assets in Georgia, this translates to \$4 billion to \$6 billion of rail investment needed between 2012 and 2050. The returns of rail investment have been estimated at 3.3-to-1 for general investment, as described in the 2003 American Association of State Highway and Transportation Officials (AASHTO) Freight Rail Bottom Line Report. They have also been estimated to be as high as 16-to-1 for improvements that involve the development of new intermodal terminals, where intermodal facilities do not currently exist. Freight rail infrastructure improvements needed in Georgia can be considered across the following three categories:

- Line haul expansion,
- Expansion of intermodal and carload terminals, and
- Increasing weight limits and vertical clearances.

The rail improvements needed between now and 2050 are estimated to cost between \$4 billion to \$6 billion, and are estimated to yield economic benefits of between \$13.2 billion to \$19.8 billion. The Norfolk Southern Crescent Corridor is the most significant near-term rail project planned within Georgia.

### **Highway-Related Recommendations**

The vast majority of all freight moves by truck, and an average of 70 percent of all trucks entering Georgia have a final destination somewhere in the State. Interstate mobility is the critical need for Georgia's trucking industry, and adding capacity to I-85 between the Atlanta metropolitan region and the South Carolina border is the greatest need in the State's long-haul corridor network. Developing an eastern bypass around Chattanooga connecting I-75 was found to have one of the highest returns on investment of all of the highway improvements.

The full set of recommended highway improvements are:

- Improving four long-haul corridors between Atlanta-SC border on I-85, between Atlanta and Macon on I-75, and between Atlanta and Alabama on both I-85 and I-20;
- Developing the Chattanooga bypass;

- Developing a limited access facility between Macon and LaGrange and complete four-laning of U.S. 27 to improve central Georgia connectivity and develop a bypass around Atlanta for extreme congestion periods;
- Complete four-laning of U.S. 84, SR 133 from Albany to Valdosta, and U.S. 441 from I-85 to I-16;
- Develop median barriers on high truck volume rural state highways; and
- Improve seven interstate-to-interstate interchanges in the Atlanta, Macon, and Savannah regions.

The cost of the highway improvements is estimated at \$9.5 billion, with an economic return on investment of \$52.5 billion.

### **Air Cargo-Related Recommendations**

Air cargo moves a very small fraction of the overall tonnage in the State. However, it is typically high-value, time-sensitive goods that can form a critical link in shipper supply chains. Georgia will need to maintain adequate access to air cargo facilities to ensure that this mode operates effectively.

The Hartsfield-Jackson Atlanta International Airport is the 11<sup>th</sup> busiest air cargo airport in the U.S. The Airport has continued to add all cargo airlines to its air cargo options. Additionally, the recent purchase of Airtran by Southwest Airlines will add to current air cargo volumes. To accommodate near-term growth prospects for air cargo, additional warehouse space will be needed to increase the ability to store cargo on airport property.

The Southwest Georgia Airport in Albany has the second busiest air cargo operations in Georgia due primarily to the UPS operations that occur at this location. This Airport needs a longer runway to allow for larger planes (both passenger and air cargo) to utilize the facility.

## **7.3 METHODOLOGIES**

The methodology for the F&L Plan included five primary work tasks:

1. **Stakeholder outreach.** The outreach built off of the Governor's 2007 Task Force on Freight and Logistics. It included convening a Private Sector Advisory Committee (PSAC) that included executive-level representation from all of the freight mode operators in addition to major shippers located in Georgia. Outreach also included a survey of trucking firms, individual meetings with modal representatives, and convening the PSAC in the Capitol building for project updates and direction on next steps. Staff from the Governor's office and the Georgia Department of Economic Development also were heavily involved in the project. Outreach also included multiple rounds of presentations to the State's MPOs, including a review of their freight-related plans, where applicable.

2. **Development of the “Business Case” for Freight and Logistics.** The strategic importance of freight to Georgia was evaluated. Additionally, links between the freight plan and the work done for IT3, the Governor’s Task Force on Freight and Logistics, and the SSTP were all established to ensure that this study was consistent and built off of previous efforts.
3. **Modal profiles.** For each freight mode, the institutional framework of each mode was described, the supply/demand for freight activity was estimated, and the deficiencies of each freight mode were identified. For each mode, detailed modal profiles were developed, which were summarized into a multimodal report.
4. **Economic evaluation and scenario projection.** This task developed the alternative future scenarios based on a base case from the TRANSEARCH data, a “high” case based on Georgia’s growth in the 1980s and 1990s, and a “low” case based on Georgia’s growth between 2000 and 2009. It also described the economic importance of three freight-dependent sectors in Georgia: agriculture/food, transportation equipment, and warehousing/distribution. Finally, it also illustrated the complexity of supply chains using Weyerhaeuser, Home Depot, and Purdue chicken as example companies.
5. **Recommendations and Project Evaluation.** This task identified projects based on the earlier analysis, stakeholder input, and consultant brainstorming sessions. It analyzed the projects using an early version of the GDOT statewide travel demand model to determine traffic and delay impacts of the recommended projects. The traffic and delay impacts were used as inputs to REMI to generate the economic benefits of the projects. This, in turn, was used to develop the economic return on investment for categories of projects by corridor and mode. It was also used to prioritize freight projects and select those that would make the final recommendations list.

## 7.4 DATA AND ANALYSIS

There were several data sets and analyses used in this project. The primary multimodal data set was a commodity flow database created from the IHS/Global Insight TRANSEARCH data enhanced using the Federal Highway Administration (FHWA) Freight Analysis Framework (FAF) growth rates. This database was used for all of the modes to estimate tonnages by commodity, mode shares, and origin-destination (O-D) pairs in a base year of 2007 and the horizon year of 2050.

Truck data used for this project included classification counts, roadside O-D surveys, global positioning system (GPS) data for truck trip ends, GPS data on truck speeds, interviews of truck company operators, travel demand model outputs, and highway crash data. The analysis identified locations of capacity bottlenecks, ranking of bottleneck severity for key segments, and identification of major crash locations and types on the highway network.

Marine data included in this study were volumes of goods moved by terminal, commodity, and O-D pair. Additional operational data and information were obtained from interviews with port staff.

Rail data used for this analysis included identification of capacity bottlenecks, height-restricted rail track, and weight-restricted rail track. Additionally, the location and volumes of goods moved from each of the terminals were obtained from discussions with the Class I railroads.

Air cargo data included locations of major air cargo facilities, volume moved through the terminals, and the access roads used to reach the facilities.

Shipper information for key industries was obtained through analysis of the TRANSEARCH data and analysis of economic datasets, including publicly available information from the Economic Census and a Woods & Poole database purchased specifically for this study.

To perform the economic benefits analysis, GDOT's newly acquired REMI economic model was used. REMI was used to estimate the benefits for individual projects and packages of projects for the study. Cost estimates were also developed based on using the GDOT Cost Estimation Tool and previous cost estimates conducted by GDOT, where available. This information was combined to determine B/C ratios and return on investment for individual projects, packages of projects, and freight corridors in the State.

## 7.5 APPLICABILITY TO SWTP/SSTP UPDATE

Much of the GDOT F&L Plan data on existing freight conditions and operations are still relevant and applicable to the SWTP/SSTP update. The commodity flow database used for the F&L Plan should be the primary source of freight flow information for the SWTP/SSTP update. The freight-related deficiencies identified in the F&L Plan should be used as the starting point for the identification of freight-related deficiencies in the SWTP/SSTP. Similarly, the project list developed in the F&L Plan should be used as the starting point for freight-related projects to be considered in the SWTP/SSTP Plan. However, because the travel demand model has been updated and more recent freight flow data is available, new analysis will be needed to fully understand freight's role in Georgia's transportation system.

The stakeholder outreach process in the F&L plan lays the foundation for outreach to the freight community for the SWTP/SSTP. The PSAC that was developed for the F&L Plan can be used as a sounding board for policy and projects that are related to freight. Additionally, a continuation of the private-sector discussions related to alternative funding for freight-related projects could prove to be very productive. The final PSAC meeting generated a rough consensus that additional revenues should be generated, but that this funding should only go toward freight-related projects, and that it should not alter funds that currently are going toward freight-related projects.



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## 8.0 Georgia Truck Lane Needs Identification Study

### 8.1 DATE PUBLISHED

The Truck Lane Needs Identification Study was complete in 2008, and the final report was completed in July of 2008. Most of the data collected for this study were obtained in 2006.

### 8.2 POLICY/MAJOR CONCLUSIONS

Based on the intense level of financial commitment that would be needed to construct truck-only lanes and that the concentration of benefits accrue to a small segment of Georgia's traveling public, the study concludes that the construction of a stand-alone truck-only lane network in metropolitan Atlanta is not recommended. Some of the key study points supporting this recommendation are:

- Corridor-level congestion is not significantly alleviated. Truck-only lanes would only increase traffic speeds in the general purpose lane during peak periods by an average of approximately 10 mph. Congestion improvement is delivered primarily to trucks in truck-only lanes - which represent a small portion of peak-period motorists.
- Economic benefits of constructing a truck-only lane network outweigh costs, but significant congestion benefits are narrowly distributed to only a small portion of motorists/traveling customers (i.e., trucks traveling in truck-only lanes).
- Construction of a truck-only lane network is cost prohibitive based on funding availability and study assumptions (no-tolls, voluntary use).

### 8.3 METHODOLOGIES

This study analyzed the traffic and economic impacts of developing truck-only lanes along the State's existing interstate infrastructure relative to the current projects that are in the long-range plans of the State and the Atlanta metropolitan region. The traffic analysis was done using an O-D Matrix model, which preceded the development of the full statewide model. The economic analysis was conducted using a REMI model.

## 8.4 DATA AND ANALYSIS

The data collected for this study included new truck counts, truck O-D surveys at each of Georgia's weigh stations, truck O-D surveys at the CSX Fairburn intermodal railyard and NS Austell intermodal railyard, and establishment surveys at several warehouses and distribution centers in the Port of Savannah subarea. The data collection for this study was conducted in 2006.

There was also an estimation of truck parking deficiencies on the interstates in Georgia with site observations at some particularly problematic truck parking sites. Additionally, there was an analysis of truck-related crashes using the State's crash database.

## 8.5 APPLICABILITY TO SWTP/SSTP UPDATE

This project collected a significant amount of data that was subsequently used in the GDOT F&L Plan. However, much of the data were collected in 2006 and needs updating or verifying to be considered for the SWTP/SSTP. The project did successfully identify that truck-only lanes would not be a good policy option for consideration in Georgia, but laid the groundwork for the broader Managed Lane System Plan, which was reviewed separately.

## 9.0 2011 Georgia Strategic Highway Safety Plan (SHSP)

### 9.1 DATE OF PUBLISHED

August 2011.

### 9.2 POLICY/MAJOR CONCLUSIONS

- The 2011 Georgia SHSP highway fatality goal is to be less than 1,160 and to continuously reduce highway fatalities by 4 percent annually (or 41 per year) from 1,200 in 2010 to 1,036 in 2014.
- Georgia highway fatality numbers declined in 2010 for a fifth straight year. Georgia has exceeded its annual fatality reduction goal.
- The SHSP identifies major goals and strategy recommendations in the following critical emphasis areas:
  - Impaired Driving;
  - Occupant Protection;
  - Serious Crash Type - Intersection Safety and Roadway Departure;
  - Age-Related Issues - Young Adult Drivers, Older Drivers;
  - Nonmotorized Users - Pedestrians, Bicyclists;
  - Vehicle Type - Heavy Trucks, Motorcycles;
  - Trauma System/Increasing EMS Capabilities; and
  - Traffic/Crash Records Data Analysis.
- The plan development and update process aligns with the Governor's Office of Highway Safety (GOHS) Highway Safety Plan (HSP), GDOT Highway Safety Improvement Program (HSIP), and the Department of Public Safety (DPS) Commercial Vehicle Safety Plan (CVSP).

### 9.3 METHODOLOGY AND DATA SOURCES

- SHSP based on analysis of 2004 to 2009 Georgia motor vehicle fatalities. 2008 to 2010 fatalities were added to the updated plan in 2011.
- GDOT provides management and direction of the statewide electronic crash reporting database. All data analyzed in the SHSP was acquired from the statewide database.

## 9.4 ANALYSIS

- The original SHSP analyzed Georgia highway fatality trends from 2004 to 2008 and identified critical emphasis areas. The updated document includes emphasis area specific data from various plans, such as the GOHS HSP.
- Performance measures are identified for each emphasis area, but are mainly used for the purposes of tracking the progress of specific strategies.
- Georgia measures its progress in fatality reductions using three-year averages.
- Fatality data was also analyzed by causal emphasis areas, such as traffic or alcohol related.
- It is important to note that Georgia has been identified as a roadway departure, intersection, and pedestrian focus state by the FHWA Focused Approach to Safety initiative. The State was named a pedestrian focus state because Atlanta was identified as a pedestrian focus city. GDOT is in the process of updating its Pedestrian and Bicycle Safety Action Plan. As part of this initiative, GDOT has developed Roadway Departure and Intersection Implementation Plans with assistance from the FHWA.

## 9.5 APPLICABILITY TO SWTP/SSTP UPDATE

According to Map-21 interim guidance on Strategic Highway Safety Plans (SHSP), the statewide transportation plan should be developed in coordination with the SHSP. This coordination should include, at a minimum, high-level goals, objectives, and strategies that are consistent with those in the SHSP. The overall SHSP goal should be integrated into the SWTP and fatalities and serious injuries (both number and rate per 100 million VMT) should be included as a performance measure. The performance measures related to the emphasis areas could be secondary performance measures. Due to the increased emphasis on bicycle and pedestrian safety in the State, bicycle and pedestrian fatalities may be included as a primary performance measure.

Above and beyond linking the SWTP goals and objectives to the SHSP, some major strategic plans related to Georgia's most pressing traffic safety issues should be integrated into the SWTP. The Roadway Departure and Intersection Implementation Plans are a major strategy in the fatality reduction goal. The implementation of these plans should be included as a strategy in the SWTP. The Pedestrian and Bicycle Safety Action Plan (currently being developed) should also be identified as a major implementation strategy in the SWTP.

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# 10.0 Georgia Asset Management Implementation Plan

## 10.1 DATE PUBLISHED

February 2013 (Draft).

## 10.2 POLICY/MAJOR CONCLUSIONS

This document outlines the plan to implement asset management as a business practice at GDOT. The plan highlights objectives, strategies, and action items to guide the agency in a step-by-step implementation process. The objectives and strategies were developed based on research of asset management practices at other states and interviews with managers of key programs within GDOT who will contribute significantly to the success of the program.

GDOT had eight main asset management tools, including:

1. The Highway Maintenance Management System (HMMS) tracks the daily work of maintenance crews throughout the State, allowing the department to develop a work program for tracking costs.<sup>2</sup>
2. The Pavement Condition Evaluation System (PACES) is an assessment survey that rates every mile of every road each year.
3. The Pipe Inventory (PI) is a module of the HMMS and provides condition assessments of pipes.
4. The Highway Performance Monitoring System (HPMS) is a sample-based road inventory system mandated by the FHWA.
5. The Life-Cycle Cost Analysis (LCCA) tool provides comparisons of the life-cycle costs for different pavement types.
6. The Bridge Information Management System (BIMS) holds input data from bridge inspections, and generally holds more data than the Federally required National Bridge Inventory (NBI).
7. The Benefit/Cost (B/C) tool assigns scores to projects as part of the prioritization process.
8. The Georgia Pavement Management System (GPAMS) provides forecast data for COPACES each year and helps with analysis and prioritization, giving GDOT the ability to better predict current and future needs.

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<sup>2</sup> The HMMS is currently being redeveloped.

GDOT also has additional tools that can contribute to asset management, including an inventory of signals (maintained by individual districts), an Enterprise GIS database that includes crash, traffic count, and other data, as well as some software tools that are used to meet the financial reporting requirements of GASB 34.

This asset management action plan is comprised of three levels: 1) objectives, 2) strategies, and 3) action items. The objectives define four main categories that explain the desired outcomes of GDOT's asset management program with strategies specifying work steps for the plan. The four main objectives are to:

1. Develop a comprehensive asset inventory with performance measurement,
2. Consistently manage asset data,
3. Ensure data-driven investment decisions, and
4. Institutionalize asset management within agency and state.

## 10.3 METHODOLOGY AND DATA SOURCES

A state-of-the-practice summary was compiled based on asset management plans developed by the departments of transportation (DOT) in California, Colorado, Michigan, Missouri (Rail Implementation Plan), Oregon, and Utah. The goal was to understand the structure of these asset management implementation plans, the elements they contain, and the approach these agencies used toward asset management.

Internally, the main sources of information were the Division of Organizational Performance Management document *Transportation Asset Management: The Strategic Direction of GDOT* and interviews conducted in May 2012. Other resources include the GDOT FY 2013 Strategic Plan Update and research work conducted by the Georgia Institute of Technology on asset management and performance measures at GDOT. The objectives and strategies were developed based on the review of best practices and GDOT's specific issues and needs.

The final level of the action plan is the action items that are specific tasks that will be performed toward implementing asset management at GDOT.

## 10.4 ANALYSIS

Performance management is an overall approach to the management of GDOT's investment decisions that is based on tracking progress toward agency goals through the use of outcome-based performance measures. Measures of actual outcomes are important because they reflect customer priorities, compared to the inputs (labor and materials) and outputs (amount of work delivered) that drive these outcomes.

Asset management is an approach to delivering those inputs and outputs that focus on minimizing the life-cycle cost of investments (from planning to construction to operation and maintenance). The first phase of GDOT's asset management approach focuses on pavement and bridges. The second phase will include other assets, such as signs and signals. The asset management implementation plan outlines strategies to develop a comprehensive asset inventory, consistently manage asset data, ensure data-driven investment decisions, and institutionalize asset management as a business practice at GDOT. It is based on a strategic approach to managing the transportation system and organization that explicitly examines the relationships between inputs, outputs, and outcomes.

## **10.5 APPLICABILITY TO THE SWTP/SSTP UPDATE**

The Asset Management Implementation Plan is a key guide in the consideration of data collection, asset performance, and resource allocation strategies. The plan includes a strategy to establish data-driven resource allocation strategies throughout GDOT. This strategy is relevant to the development of the SWTP where program-level allocation strategies are developed for the plan horizon. The action steps involve both defining resource allocation criteria for each asset category and developing tools for tradeoff analysis at the program level. The performance measures identified in the SWTP should be developed based on resource allocation criteria and other metrics by program area.

Another strategy related to the objective of ensuring data-driven investment decisions is to develop asset condition prediction models. These tools are available for some program areas such as pavement. The identified prediction models should be used to develop resource allocation criteria by program area.



# 11.0 GDOT Fiscal Year (FY) 2013 Strategic Plan

## 11.1 DATE PUBLISHED

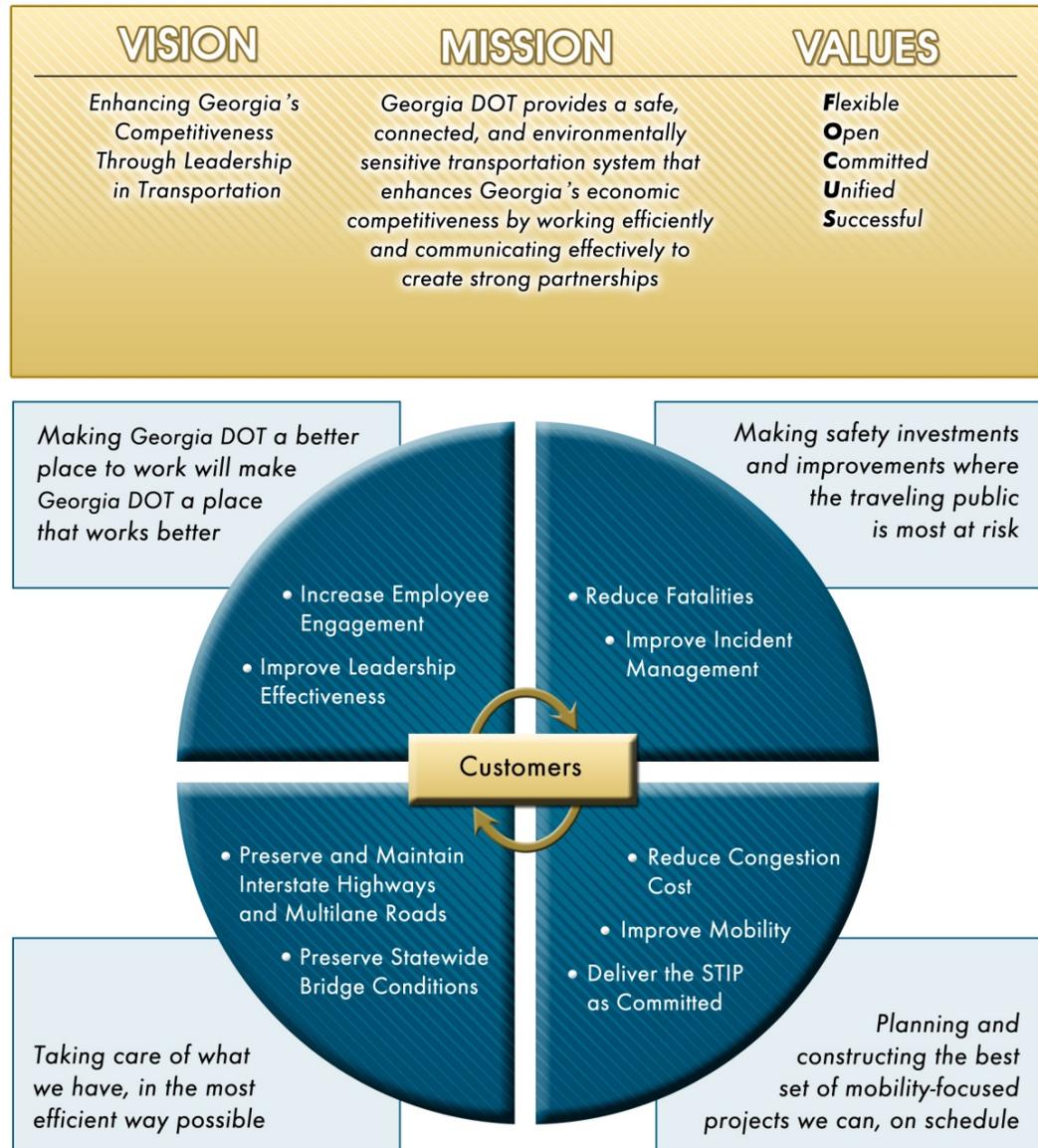
October 2012.

## 11.2 POLICY/MAJOR CONCLUSIONS

The 2013 GDOT Strategic Plan (prepared by the Division of Organizational Performance Management) guides GDOT's priorities for the next three to four years. It provides a broad roadmap outlining where the agency currently stands, what it wants to look like in the future, and what actions it must take to get there. Figure 11.1 summarizes GDOT's vision, mission, values, goals, and objectives – the core elements of the strategic plan.

The plan recognizes the primary responsibility of the agency to plan, construct, and maintain the Georgia State Highway System while making GDOT a better agency that is committed to serving the public. This plan focuses on customers as GDOT's top priority. The strategies in this plan will move GDOT in the direction of its established goals.

Figure 11.1 Strategic Plan Strategy Map



### 11.3 DATA AND METHODOLOGIES

To develop the 2013 strategic plan, multiple approaches were used to gather internal input and feedback at all levels within GDOT. The State Transportation Board, GDOT's leadership team, and employees were all involved in revising the department's vision, mission, and core values. Demographic and economic data, as well as information about the department, was reviewed to gain an understanding of the external and internal factors that impact GDOT as it seeks to

implement this plan. This analysis informed the process of selecting objectives and strategies to accomplish the goals established in the strategic plan.

In Georgia, the State and its agencies are required by OCGA<sup>3</sup> 45-12-73 and 175 to develop a strategic plan. The Georgia strategic planning process has three components. The first component is a state strategic plan that provides the vision, direction, and priorities of the State. The second component is an agency strategic plan that aligns with the state strategic plan. The third component is a semiannual agency performance report, which agencies use to report progress and performance on their strategic plan, mission critical projects, and performance indicators.

## 11.4 ANALYSIS

GDOT, like all state agencies, has a role in implementing the state strategic plan. In particular, GDOT has a prime role in implementing the *Mobility, Safety, and Responsible and Efficient Government goals*. GDOT's goals include planning and constructing the best set of mobility-focused projects, making safety investments and improvements where the traveling public is most at risk, taking care of the transportation infrastructure to ensure mobility and safety, and making GDOT work better.

## 11.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

Three of the four goals identified in the Strategic Plan apply directly to the SWTP and should align directly with the goals and strategies identified in the plan:

1. Making safety investments and improvements where the traveling public is most at risk;
2. Taking care of what we have in the most efficient way possible (asset management); and
3. Planning and constructing the best set of mobility-focused projects we can, on schedule.

The strategic objectives in this plan should be aligned with the SWTP. The safety, preservation, and mobility components of the SWTP should identify the goals, strategies, and performance measures directly reflective of the GDOT's overall strategic goals. The performance measures/targets identified by the SWTP should take into account the measures the strategic plan identifies as key to the agency's performance. These measures are included in the agency's annual performance report.

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<sup>3</sup> OCGA: Official Code of Georgia Annotated.



# 12.0 Georgia Interstate System Preservation Plan

## 12.1 DATE PUBLISHED

In progress. Task 1 of the study (Development of Risk Profile) is complete as of April 2013, and is summarized below.

## 12.2 POLICY/MAJOR CONCLUSIONS

The Interstate Highway System (IHS) is the backbone of Georgia's transportation system. The IHS accounts for less than 5 percent of the total length of highways in the State, but carries more than 25 percent of the traffic. It also facilitates the movement of people and goods within and across the State. For these reasons, preserving the IHS is critical for Georgia's economy. Preserving the IHS is made challenging, though, because of the growing disconnect between transportation needs in Georgia and the funds available to address them. In response to this challenge, GDOT has made significant advances in transportation asset management. The overall goal of asset management is to perform the right fix at the right time. However, when the costs of the right fixes exceed available funds, competing needs must be prioritized.

Traditionally, highway agencies across the U.S. have addressed this issue by working on their worst assets first (i.e., those in poorest condition). One of the disadvantages of this approach is that it does not account for differences in the importance of assets. The goal of this study, currently underway, is to develop a risk-based approach for making decisions regarding the preservation of the IHS by prioritizing assets based on a combination of likelihood of performance failure (poor condition of asset) and consequences of that failure (economic impact).

The first phase of the project consisted of developing a risk profile to determine preservation priorities for the IHS. This narrative summarizes the results of that work. Subsequent phases of the study will develop guidance on funding levels and recommend preservation strategies for the IHS.

### **IHS Preservation Priorities**

The IHS preservation priorities are intended to help guide GDOT decisions on where to allocate scarce preservation resources. By combining the potential likelihood of performance loss due to asset condition (condition priority) with the potential economic consequences of performance loss (economic impact priority), the highest preservation priorities can be identified. Key results from the risk profile developed as part of this study include:

- Approximately 55 percent of the 750 bridges on the IHS are in the Low Priority category, with the remainder fairly evenly split between the Medium and High Priority categories. Of the close to 60 million vehicle crossings occurring on Georgia bridges on an average day, 39 percent of them are on bridges with a relatively high preservation priority.
- About 30 percent of the 996 IHS pavement links are in the High Priority category. About 17 percent fall in the Medium category and the remaining 52 percent are in the Low Priority category. The distribution by lane-mile follows a similar pattern. Of the 47 million vehicle counts (annual average daily traffic (AADT) at each link)), close to one-half of them are in areas of High preservation priority. This reflects the fact that, as with bridges, many of the High Priority areas coincide with heavy traffic flows.
- Pavement and bridge preservation priorities include I-75 in the northern part of Georgia, I-285 around Atlanta, I-85 between Atlanta and South Carolina, and I-75 between Atlanta and Macon. The Atlanta Downtown Connector, based on its current condition and potential economic impact, is classified as a Medium Priority.

Note that the risk profile, funding, and strategy analysis will be expanded to include the entire NHS system as part of a subsequent phase of study.

## 12.3 DATA AND TOOLS

- PACE rating. GDOT Concrete Survey Report (October 1, 2011 to March 31, 2012); GDOT Asphalt PACES Report 2012;
- IRI. HPMS 2010;
- AADT. Georgia Freight Model Network 2006;
- Truck volume. Georgia Freight Model Network 2006;
- Volume-to-capacity (V/C) ratio. Georgia Freight Model Network 2006;
- National Bridge Inventory 2012;
- Georgia Statewide Model (SWM). A select link analysis was used to identify number and type of trips that would be impacted due to performance failure along sections of the IHS, and associated public and economic consequences (for 29 interstate segments/corridors);
- Flood risk zones. Federal Emergency Management Agency (FEMA), National Flood Hazard Layer, 2012;
- Earthquake risk zones. National Seismic Hazard Mapping Project, 2008;
- Hurricane risk zones. ASCE Coastal Management Jurisdictions Used in Spatial Trends in Coastal Socioeconomics (STICS);

- Tornado risk zones. National Weather Service (NWS), reported incidents between 1950 and 2012;
- Winter storm risks. NWS, reported incidents between 1993 and 2011;
- Historical risks: FEMA Historical Disaster Declarations 1964 to 2012;
- GDOT TPro project management system;
- GDOT FRED Database for roadway physical characteristics and other items like AADT, 2012;
- 2010 HPMS data submittal from GDOT to FHWA; and
- Crashes. GDOT Vehicle Crash Database, 2005-2009

## 12.4 ANALYSIS

The interstate preservation priorities were determined by applying a risk assessment framework, which consists of two dimensions:

1. **Condition priority.** This dimension reflects the *likelihood* of performance failure. As an asset deteriorates, it becomes more likely that it will require significant work. Bridges and pavements were assigned a condition score on a scale of 0 to 1. A higher score indicates a higher likelihood of failure, and therefore a higher priority in terms of condition.
2. **Economic impact priority.** This dimension reflects the *consequences* of performance failure. If an asset fails and requires significant work, the people and goods using that asset will be impacted. IHS corridors were assigned an economic impact score on a scale of 0 to 100. A higher score indicates higher consequences of failure, and therefore a higher priority in term of economic impact.

By combining these two dimensions, each bridge and pavement section on the IHS was categorized as a high, medium, or low preservation priority. A series of risk profile/preservation priority maps are available, and a risk profile viewer is under development to provide an interactive means for GDOT to view risk profile results and detailed background data informing those results.

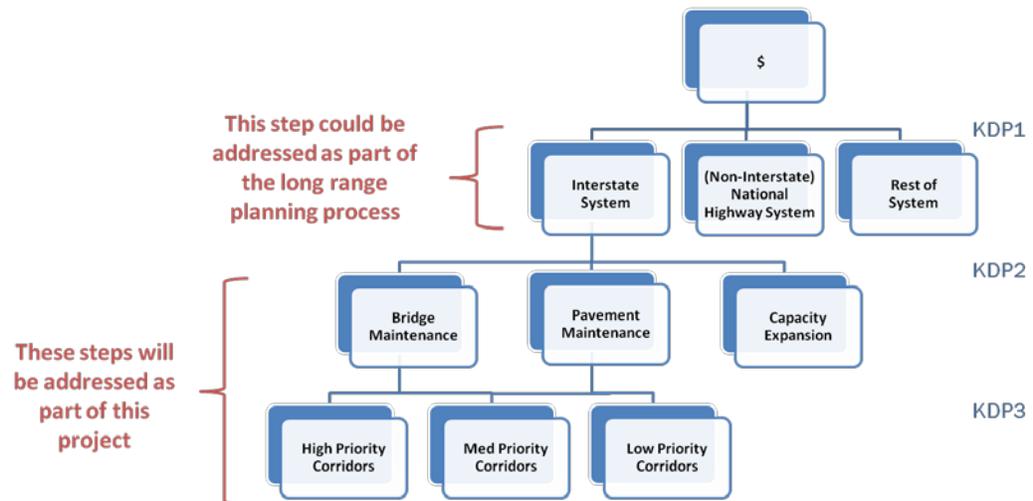
External risks were also evaluated as part of this study, but separately from the condition-based analysis. External risks reflect events that may result in damage or closure to the Interstate system, but cannot be addressed proactively through preservation activities. The results of the external risk assessment are provided for informational purposes to inform subsequent planning, programming, and operations efforts. The analysis of external risks included earthquakes, floods, hurricanes, tornados, and winter storms. For each of these risks, the Interstate system was categorized into tiers based on the relative frequency or intensity of the event.

Note that a subsequent, critical element of the study will be to define funding levels needed to adequately address road and bridge maintenance priorities over the long term. In addition, a funding “tradeoff analysis” will be conducted to define a preferred funding allocation across investment programs (capacity, road preservation, bridge preservation) and across priority corridors (high, medium, or low risk).

## 12.5 APPLICABILITY TO SSTP/SWTP

The findings of the Interstate System Preservation Plan (when complete) are highly applicable to the SWTP. The Plan will determine long-term maintenance funding levels needed to maintain existing road and bridge assets on the IHS - and eventually entire NHS - and a priority corridor ranking for road and bridge preservation funding. These funding levels could be considered a “set-aside” from available SWTP revenue; or at a minimum, help inform preservation funding targets for the SWTP. The tradeoff analysis that will be conducted to inform preservation funding levels across investment programs and corridors also sets the stage for a broader tradeoff analysis to be conducted via the SWTP/SSTP update (see Figure 12.1).

Figure 12.1 Resource Allocation Framework for the Interstate System Preservation Plan, February 1, 2013, ISP Project Meeting



# 13.0 2011 Georgia Statewide Airport Economic Impact Study

## 13.1 DATE PUBLISHED

October 2011.

## 13.2 POLICY/MAJOR CONCLUSIONS

The Georgia Statewide Airport Economic Impact Study was developed in 2011 to assess the contribution that Georgia's airport system makes to the larger economy of the State. A total of 104 airports make up Georgia's airport system, including commercial service airports, as well as general aviation airports. The study found that:

- More than 82,000 jobs are provided directly by Georgia airports, generating more than \$5.9 billion in annual payroll;
- More than 470,000 jobs are supported by the airports, generating more than \$17 billion in payroll; and
- The airport system has an economic impact of \$62.6 billion statewide.

Revenue generated by Georgia's airports goes directly to the State's general fund and to local governments. The source of this revenue includes aviation gas excise tax, aviation gas sales tax, jet fuel sales tax, aviation goods and services sales tax, and aircraft personal property tax. In 2009, the airport system provided \$137 million in revenue, which is a 37-percent increase from 2001.

Further, many businesses throughout Georgia across multiple industries were surveyed to determine how nonaviation businesses rely upon the airport system. This survey found that almost 600,000 additional jobs in some way benefit or rely upon the Georgia airport system. The survey also found that two of the top 10 reasons businesses choose to locate where they do are related to convenient airport access.

## 13.3 METHODOLOGY AND DATA SOURCES

- GDOT;
- Federal Aviation Administration (FAA);

- 2003 Georgia Aviation System Plan;
- 2009 Economic Impact Study;
- 1992 Georgia Statewide Airport Economic Impact Study;
- Hartsfield-Atlanta International 1994 Economic Impact Study;
- Moody Air Force Base Economic Impact Statement FY 2010;
- Fort Stewart/HAAF Command Data Summary, October 2008;
- Robins Air Force Base Economic Impact Statement FY 2009;
- Dobbins Air Force Base Economic Impact Analysis FY 2010;
- *The Fort Benning Regional Growth Management Plan, April 2009;*
- Georgia Department of Labor;
- U.S. Department of Commerce – Bureau of Economic Analysis;
- Wilbur Smith Associates’ *Business Use Survey, 2010;*
- Georgia Department of Revenue;
- Internal Revenue Service, 2009; and
- State Aviation Program Office.

## 13.4 ANALYSIS

There are economic impacts that stem from activities directly related to the airport system, and also from more indirect sources. Direct impacts were determined based on information provided by airport staff and users of the airports. Direct impacts include businesses located directly at airports, people who travel to and through airports, and capital improvement projects undertaken by airports themselves and businesses located at airports. Indirect impacts, known as the multiplier effect, were calculated using the Impact Analysis for Planning (IMPLAN) tool. This multiplier effect takes into account the spending of money originally generated by direct airport activity in the surrounding economy, such as employee paychecks being spent on goods and services.

Together, the direct and indirect impacts were used to determine the economic benefits that the Georgia airport system provides to the State through jobs, payroll, and economic output.

## 13.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

This report provides a valuable overview of the important role that Georgia’s airports play in the overall transportation system of the State. It illustrates that investment in the airport system, as well as the surrounding transportation system, should continue in order to allow the airports to continue providing

substantial contributions to the State's economy. Without this investment, the State's economy would suffer and businesses would likely choose to locate elsewhere, even more to the detriment of the State economy.



# 14.0 Coordinated Public Transit – Human Services Transportation Plan

## 14.1 DATE PUBLISHED

The date of this plan is not given. It was completed by the Georgia Department of Human Resources and GDOT.

## 14.2 POLICY/MAJOR CONCLUSIONS

The Coordinated Public Transit – Human Services Transportation (HST) Plan provides an overview of the human services transportation program in the State. This includes an overview of the various Federal Transit Administration (FTA) programs available for funding and how they are administered, requested improvements to the program throughout the 12 HST regions of the State, and a description of how program requests from each region are prioritized for funding in the application process.

Some of the major potential projects/improvements specified by various HST regions include:

- Hiring a transportation planner to maximize system ridership;
- Acquisition of better tools to utilize GIS data and other technological innovations in locating jobs and other key destinations along routes;
- Increases to hours and days of operation;
- Increased capacity of transit systems;
- Increases in resources available to those who do not reside in an area with a transportation system; and
- Improved cost effectiveness and efficiency of services.

## 14.3 METHODOLOGY AND DATA SOURCES

The needs and goals of the HST programs in each region were evaluated individually by each region, and then compiled as one document. There is no defined methodology identified for these evaluations.

## 14.4 ANALYSIS

The HST programs in each region were analyzed individually by each region, and then compiled as one document. There is no defined analysis that was used.

## 14.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

This report provides a valuable overview of the goals, functionality, and needs of HST throughout the State. Much of this is applicable to the entire State, but there are some unique issues and opportunities to individual regions as well.

# 15.0 Coordinating Rural and Human Services Transportation in Georgia, 2011 Reporting Year

## 15.1 DATE PUBLISHED

August 2012, Georgia's Development Council and the Georgia Coordinating Council for Rural and Human Services Transportation.

## 15.2 POLICY/MAJOR CONCLUSIONS

The rural and human services transportation (RHST) program in Georgia provides transportation services to eligible citizens to access activities, such as medical appointments and job training. These services are operated by three agencies in the State: GDOT, the Department of Human Services (DHS), and the Department of Community Health (DCH). This document presents an assessment of RHST services in Georgia, particularly coordination efforts among GDOT, DHS, and DCH in the delivery of these services.

Through an analysis of RHST programs in certain regions of the State already coordinating services, as well as several surrounding states, the report identifies several opportunities for more efficient services and cost effectiveness. Recommendations of the report are divided into two tiers:

- **Tier 1:**
  - Implement resource bundling across the GDOT, DHS, and DCH;
  - Implement a State Mobility Manager to oversee RHST services and implement recommendations of the study; and
  - Improve data reporting and analysis across the three agencies to allow for better evaluation of the RHST program.
- **Tier 2:**
  - Improve economies of scale in program purchases, such as vehicle fleets, insurance, and maintenance;
  - Improve rural service by regionalizing service for increased customer level of service; and

- Establish a cost allocation model to be used across the program for more meaningful calculation of true program costs.

## 15.3 METHODOLOGY AND DATA SOURCES

The study utilized several methods for identifying opportunities and inefficiencies in the State's RHST program. Fourteen performance measures were identified to assess the program's cost efficiencies and the level of service provided to customers. These performance measures were selected based upon best practices from around the country to reflect the goals of Georgia's RHST program. Of the 14 performance measures, only 3 could be evaluated due to a lack of consistent data across the 3 managing agencies. These measures are:

- Cost per passenger trip,
- Total passenger trips, and
- Geographic coverage and new service initiated.

The lack of consistent data indicates the need for improved data reporting across the three agencies (a Tier 1 recommendation) in order to even provide a complete assessment of RHST service coordination in the State.

The study used these performance measures to compare system performance in the years 2009 and 2010, as well as to these same measures in surrounding states (Florida and North Carolina), in the Southwest Georgia Regional Commission (SWGRC) (which currently already bundles RHST services), and in the Three Rivers Regional Commission (TRRC) and the Coastal Regional Commission (CRC) (which currently already regionalize rural transit).

## 15.4 ANALYSIS

Using the analysis of RHST services in the SWGRC, TRRC, Florida, and North Carolina, the study focused on examining how increased coordination may improve cost efficiencies, and how Georgia could make such improvements for more streamlined service across the three administering agencies (GDOT, DHS, and DCH). This analysis was applied to four main categories: a state-level assessment, a regional-level assessment, an assessment of counties that already bundle GDOT and DHS funding, and an assessment of regionalized rural transit (as opposed to rural transit administered at the county or city level).

Both Florida and North Carolina utilize frameworks in which a local representative coordinates trips with which state RHST agencies contract. Comparing the average cost per trip in both Florida and North Carolina to that of Georgia, these two states see cost savings from 30 to 50 percent (2010). Similarly, in the SWGRC, services are contracted through the regional commission for all three agencies. Comparing the cost per trip in 2010 in the SWGRC to the rest of the State, the SWGRC sees an average cost per trip at approximately 17 percent

lower than what is seen in the rest of the State. This indicates that bundling RHST resources will allow the State to achieve greater cost efficiencies.

Regionalized transit was also compared between TRRC and CRC. Both of these regional commissions operate their rural transit service for multiple counties instead of each county operating independently. With this regionalized service, the transit provider is in a better position to negotiate better costs for vehicles, fuel, and maintenance, as well as provide individuals with more seamless trips that do not require transfers at county boundaries. Average costs per trip in the TRRC in 2010 were 17 percent less than elsewhere in the State. Average costs per trip in the CRC were higher than elsewhere in the State, which is assumed to be because of newly added service areas that are driving up costs. Even with this inconclusive analysis, if a similar model is applied at the state level, there are advantages that could be capitalized on, such as maintaining a larger service area and eliminating the need to transfer at county lines.

Once the recommendations of the study were selected based upon the previous analysis, a prioritization process was utilized to divide them into tiers. Seven evaluation criteria were used in a qualitative process, where for every criterion, each recommendation was assigned a “High” (three points), “Medium” (two points), or “Low” (one point) rating. Recommendations with the highest total scores were placed in the first tier, and those with the lowest were placed in the second tier.

## **15.5 APPLICABILITY TO THE SSTP/SWTP UPDATE**

The recommendations of this study can be taken into account in the transit component of the SSTP/SWTP Update. Many of these recommendations can be applied to rural transit service to achieve greater cost effectiveness.







# 16.0 Economic Benefits of Roadway and Bridge Projects in GDOT's Construction Work Program and Long-Range Plan

## 16.1 DATE PUBLISHED

2014 (expected completion).

## 16.2 POLICY/MAJOR CONCLUSIONS

This study was initiated in early 2013 to support the understanding of 'supporting Georgia's economic growth and competitiveness' through transportation investment, which is one of the goals from the SSTP.

The first purpose of this study is to conduct an economic benefit analysis of GDOT's Construction Work Program and Long-Range Plan, showing direct, indirect, and induced benefits across a short-, medium-, and long-term timeframe. This analysis will be the first endeavor since the adoption of the 2010 to 2030 SSTP to analyze a large segment of the programmed transportation investments for Georgia as a whole, and determine the economic impact and benefits that highway and bridge projects will have on the entire State.

The second purpose of this study is to develop an all-inclusive, standardized set of Georgia-specific performance metrics that can be easily utilized in the future in order to link investments in roadway and bridge projects to the general economic performance of the State's economy.

## 16.3 DATA AND METHODOLOGIES

Data to be used in the analysis include:

- Georgia Statewide Travel Demand Model,
- REMI, and
- GIS-based software.

A combination of expertise in transportation economics, in-depth knowledge of GDOT's tools, data and stakeholders, and effective outreach and communications with the public will be used to develop the methodology employed for the study. Relevant tasks of this study include:

- Literature Review and Development of Methodology and Georgia-Specific Performance Metrics;
- Advisory Group Participation;
- Data Collection;
- Initial Case Study of State Route (SR) 5;
- Additional Case Studies by Project Type (e.g., two- to four-lane roadway widening, new location bypass, interstate widening, alternative access roadway widening, and major bridge replacement);
- Technical Analysis of the Construction Work Program and Long-Range Plan using an Excel-based tool informed by the methodology developed in the case studies; and
- Final Report, Implementation Strategy, and GDOT Staff Training.

## 16.4 ANALYSIS

To be completed.

## 16.5 APPLICABILITY TO SWTP/SSTP UPDATE

Many of the methodologies used in this study will be similar to those used in the economic forecasting Task III. The findings of this study (which is about six months ahead of the SWTP/SSTP) can be used to support the business case for transportation investment to be made in the Plan Update.

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## **Part III. Corridor Studies**

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# 17.0 Atlanta Radial Freeway Strategic Plan

## 17.1 DATE PUBLISHED

August 2010, GDOT.

## 17.2 POLICY/MAJOR CONCLUSIONS

The Radial Freeway Strategic Plan was developed by GDOT for the 20-county Metro Atlanta area. The Plan was developed to assess anticipated congestion levels, identify key bottlenecks, and recommend projects that will maintain efficient operations on the radial freeways into Atlanta over the next 25 years. The study assessed 365 freeway lane miles on I-75, I-575, SR 400, I-985, I-20, I-85, U.S. 78, I-675, and SR 166. The Plan is focused on short- to mid-term operational improvements, which can cost-effectively improve the operation of the system, and some long-range (2030) plan elements. Projects for years 2010, 2020, and 2030 were each placed into three tiers based on priority.

## 17.3 DATA AND METHODOLOGIES

The findings of this project were based on an extensive series of traffic counts, which were used as the database for the development of microsimulation models of all of the subject freeways.

## 17.4 ANALYSIS

Eleven projects for 2010 were put into Tier 1 for a cost of \$90 million; 7 projects for 2020 at a cost of \$221 million; and 14 projects for 2030 at a cost of approximately \$7 billion.

## 17.5 APPLICABILITY TO THE SWTP/SSTP UPDATE

The recommended projects for 2010 and 2020 are primarily short- to mid-term operational improvements and would not be included as stand-alone projects in the SWTP/SSTP Update, but would be reflected in larger programmatic categories. The projects recommended for 2030 include eight managed lane projects, which would be included in the Update, modified to reflect ongoing work updating the Managed Lane System Plan; the other project was an almost

\$1 billion set of improvements to SR 400, which, if still applicable, will be reflected in the Update.

# 18.0 Atlanta Regional Managed Lane System Plan (MLSP)/ Managed Lanes Implementation Plan (MLIP)

## 18.1 DATE PUBLISHED

MLSP - January 2010;

MLIP - Ongoing, expected to be complete March/ April 2014; and

GDOT.

## 18.2 POLICY/MAJOR CONCLUSIONS

Managed Lanes are an innovative solution to managing congestion and providing a valuable mobility option. Types of managed lanes include high-occupancy vehicle (HOV), high-occupancy toll (HOT), express toll lanes (ETL), truck-only lanes (TOL), and truck-only toll lanes (TOT). Managed lanes are characterized by the proactive implementation of operational strategies designed to respond to changing travel conditions. Managed lane strategies seek to optimize efficiency, performance and throughput by offering travel time savings and reliability through the application of vehicle occupancy and eligibility restrictions, pricing, and access control.

The MLSP served as the first comprehensive systemwide evaluation of urban area managed lanes performed in the United States. GDOT believes that, in most locations, it is not feasible to construct additional general purpose lanes to meet current and future needs in the Atlanta region. Therefore, GDOT developed the MLSP for Metropolitan Atlanta that will utilize and expand the current HOV system footprint. Managed lane solutions would preserve mobility choices and provide financially feasible improvements.

The GDOT MLSP recommended a regional network of managed lanes in the Atlanta region; specifically, the MLSP recommended HOT3+ as the eligibility policy for the entire system. It recommended a five-tiered approach to building the system over time on most of the region's limited-access expressways. The recommendations involved mostly newly built lanes with some HOV conversions and some general purpose lane conversions.

The MLIP is an ongoing update to the MLSP. The study area for the MLIP includes all limited access facilities in the Atlanta metropolitan region; a few of which were not included in the MLSP. This update is driven by the Governor's direction to remove long-term toll concessions as an option for financing the managed lanes system. In addition, GDOT wanted to explore different methods to add capacity on the network (e.g., shoulder lanes and removable barriers). GDOT's policy to only toll new capacity (as opposed to the previous potential to toll general purpose lane conversions) also is expressly communicated with this update.

Other key parameters that have been defined as part of the MLIP include:

- All HOV to HOT conversions are being pulled from the Atlanta region's Long-Range Transportation Plan (LRTP), PLAN2040;
- Ongoing study related to NW corridor, GA 400, and TopEnd I-285 will not be disturbed, as these projects are too far along in environmental review;
- NW corridor financing will be the model for financing other managed lane corridors (i.e., 60 (Federal and state)/30 (toll-back bonds)/10 (private) fund split);
- The \$16 billion assumed investment level for implementing the managed lanes system, as defined in the original MLSP, is being reduced and refined (e.g., I-85S and I-285S are being dropped from the plan); and
- GDOT will develop a new prioritized list of corridors third and fourth quarter 2013 based on updated toll and revenue and technical analysis; this set of recommendations will be provided to ARC to program in its PLAN2040 update scheduled for first quarter 2014.

## 18.3 DATA AND METHODOLOGIES

The following method was followed by the MLSP. The method for the MLIP is unknown at this time:

- **Previous and ongoing studies.** Six studies were analyzed, which were both regional in nature and on specific corridors. Each was ranked in a number of technical areas as providing average, good, or significant information.
- **Peer review surveys.** Responses to surveys about other region's experiences with managed lanes were received from Denver, Houston, and Dallas.
- **Stated-preference survey.** This was conducted in the Atlanta region to learn how sensitive travelers would be to the tolling and travel-time changes that would result from the addition of managed lanes to particular corridors.
- **Global demand estimation.** The ARC travel demand model was used with HOV levels refined into 2, 3, and 4+ and to the four time periods in the model. The impact of "peak spreading" also was added.

- **Preliminary traffic and revenue analysis.** The peer review, stated-preference survey, and global demand estimates were combined to produce an initial assessment of traffic and toll revenue to provide the foundation for subsequent analysis.
- **Concept and operations.** Basic elements of design for the facilities were considered, including cross-sections, geometric considerations, and costs.
- **Financial feasibility.** This analysis assumed public/private partnerships were used to finance all corridors. It made use of project costs and revenue forecasts to estimate public-sector contribution (i.e., funding gap).
- **Managed lanes screening process.** All previous analyses were used to generate a detailed plan for managed lanes in metropolitan Atlanta.

## 18.4 ANALYSIS

The MLSP analysis determined the total capital cost of the system to be \$16 billion. Note that these costs and various finance options are being updated as part of the ongoing MLIP.

A number of system benefits were identified during the MLSP, including the following:

- Managed lanes users experience an 83-percent reduction in delay compared to a 2030 no-build scenario;
- An 8-percent systemwide reduction in vehicle-delay is achieved; and
- Travel time contours revealed that a significantly larger area can commute to the downtown employment center within 45 minutes (196 percent increase in number of workers) and within 90 minutes (132 percent increase in number of workers).

The MLSP notes that the primary benefits are realized by managed lanes users, but also notes that there are secondary, systemwide benefits.

Analysis results are not yet available for the MLIP. The MLIP is expected to be complete by April 2014.

## 18.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

Since managed lanes remain the focus of GDOT's capacity enhancements to limited-access expressways in metropolitan Atlanta, information on costs and revenue projections from the MLSP may be able to be used for the SSTP/SWTP Update if the data and methods are deemed to be current. It would be more beneficial, however, to use costs and revenue projections from the MLIP if the study timeline is compatible with the SSTP/SWTP Update.



# 19.0 Metropolitan Atlanta Operational Planning Study

## 19.1 DATE PUBLISHED

Ongoing, expected to be complete March/April 2014, GDOT.

## 19.2 POLICY/MAJOR CONCLUSIONS

This study is seeking to provide an operational assessment of the interstate and limited access system into metropolitan Atlanta region (consistent with the MLIP study network) to:

- Identify bottleneck areas along limited access facilities;
- Identify and evaluate potential low-cost (under \$10 million) improvements that can maximize capacity; and
- Document a prioritized list of operational projects.

This study is being coordinated with the Atlanta Regional Managed Lanes Implementation Plan (MLIP), with emphasis on identifying “low-hanging” operational improvements that can be implemented quickly.

## 19.3 DATA AND METHODOLOGIES

The method for this ongoing study is unknown at this time.

## 19.4 ANALYSIS

As part of this study, 55 bottleneck areas have been identified using a combination of SkyComp, TomTom, and TMC traffic count data. Both recurring and nonrecurring congestion needs have been analyzed. Five interchanges have also been identified for further, more detailed VISUM analysis.

GDOT currently is in the process of identifying the cause of each bottleneck and strategies to address each need.

Analysis results are not yet available for this study. Ultimately, a prioritized list of operational strategies will be provided to the ARC for inclusion in its PLAN2040 update (or a lump sum value will be identified to capture a number of small-scale operational fixes across the network). This study is expected to be complete by April 2014.

## 19.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

The recommendations coming out of this study will be small scale, and may be captured via lump sum funding requests. While it will be important to understand the nature of the study recommendations and overall funding needs, the level of specific operational fixes may not need to be addressed as part of the SWTP/SSTP update.

# 20.0 I-285 Strategic Implementation Plan

## 20.1 DATE PUBLISHED

December 2008, GDOT.

## 20.2 POLICY/MAJOR CONCLUSIONS

The primary project goal of the I-285 Strategic Implementation Plan was to provide an objective technical evaluation to help determine optimal and compelling case for investment in, and management of, I-285; the main interstate “ring” encompassing metro Atlanta.

Eleven alternative investment scenarios were evaluated as part of this study. Out of 11 scenarios modeled, the recommended I-285 Strategic Implementation Plan included the following components:

- Three managed lanes in each direction along all sections of I-285;
- The manages lanes would serve HOV, bus transit/bus rapid transit (BRT), single-occupancy vehicle (SOV) (tolled), and trucks (tolled); and
- The I-285 managed lane system would be connected to the managed lane systems on I-75, I-85, and I-20 with system-to-system interchanges.

Additionally, a number of major operational improvements along I-285 were recommended to be implemented to improve traffic operations and safety. These improvements include:

- Riverside Drive Interchange Improvements;
- Roswell Road/Glenridge Drive/GA 400 Interchange Improvements;
- Peachtree-Dunwoody Road/Ashford-Dunwoody Road Interchange Improvements;
- North Shallowford Road/Peachtree Industrial Boulevard Interchange Improvements;
- Stone Mountain Freeway Interchange Improvements;
- I-20 West Interchange Improvements;
- South Atlanta Road Interchange Improvements;
- South Cobb Drive Interchange Improvements;
- I-75 South Interchange Improvements;

- Jonesboro Road Interchange Improvements; and
- I-20 East Interchange Improvements.

## 20.3 DATA AND METHODOLOGIES

Data used in the technical analysis tools included:

- GIS Framework;
- Traffic;
- Accidents;
- Transportation Plans;
- Environment and Land Use;
- Aerial photography;
- I-285 geometry features (horizontal curvature and vertical grades);
- Inventory of signs and Advanced Traffic Management System (ATMS) equipment; and
- Travel Speeds.

Traffic counts were conducted throughout the I-285 corridor for this project. These data were combined with existing GDOT traffic counts and ATMS data to establish a rich database of traffic count information.

Crash data were obtained from GDOT's crash database for calendar years 2001, 2002, 2003, and 2004. The locations of accidents were geographically referenced along I-285 in both directions of travel. Accidents were grouped into segments, defined as freeway sections between access points, along I-285. For comparison purposes, I-285's systemwide accident rates were compared with those experienced on comparable facilities throughout the rest of Georgia.

A summary of identified planned projects in the I-285 Corridor was made. A total of 234 projects were identified from the Mobility 2030 Regional Transportation Plan (RTP), the 2005 - 2010 Transportation Improvement Program (TIP), and GDOT's Construction Work Program (CWP).

Information leading to the identification of possible environmental and land-use constraints that would be considered in developing a strategic plan for I-285 was compiled. Environmental constraints were subdivided into the following categories: environmental resources, social environmental resources, and cultural resources.

Data for average travel speeds observed on the mainline of I-285 were developed. In addition to lane-by-lane travel speed data provided by the GDOT's Navigator surveillance system, the study team had access to average speed samples obtained from the ARC's 2001 Speed Study.

## **20.4 ANALYSIS**

The overall goal of the technical analysis process was to develop a traffic simulation model for the 63-mile I-285 corridor to facilitate an operational evaluation of potential improvements in the corridor. The I-285 Strategic Implementation Plan technical analysis process consisted of four basic components: regional travel demand model, matrix variegation, pseudo dynamic traffic assignment (DTA), and microscopic simulation traffic assignment.

Using the traffic simulation model, the evaluation of the existing system was undertaken to establish a benchmark for the subsequent analysis and evaluation of the 2030 Regional Transportation Plan (RTP) and alternate improvement scenarios. The development and evaluation of scenarios for the I-285 Strategic Implementation Plan was conducted using an equal series of alternate improvement concepts. An initial set of improvement scenarios was developed to test a broad range of improvement concepts. Using insights gained in the testing and evaluation of an initial seven scenarios, a second series of scenarios was investigated. Other considerations included the development of a managed lane system for the Atlanta metropolitan area.

## **20.5 APPLICABILITY TO SWTP/SSTP UPDATE**

The applicability of the I-285 SIP to the SSTP/SWTP update is limited. The general policy direction established in this study, associated with managing travel demand along the corridor, has been evolved and advanced through subsequent Revive-285 and GDOT's Managed Lanes System Plan studies.



## **21.0 Revive285 Top End**

### **21.1 PUBLICATION DATE**

Ongoing study, GDOT.

### **21.2 POLICY/MAJOR CONCLUSIONS**

The purpose of Revive285 “top end” study is to better manage and improve traffic congestion, improve mobility options for the traveling public, maintain and improve system linkages, and provide safer travel conditions along the northern section of I-285.

Currently, two of the four study phases have been completed in the National Environmental Policy Act (NEPA) process. As such, there is no comprehensive report covering the entirety of the study findings thus far; however, partial information is available for each completed project phase. The information can be found on the Revive285 web site at <http://www.revive285.com>. Activities in the ongoing Phase 3 include defining each alternative, operating plan, and costs; developing concept designs; evaluating alternatives against the Need and Purpose; assessing alternative benefits to the transportation system; and determining the economic, social, and environmental impacts.

### **21.3 DATA AND METHODOLOGIES**

To be completed.

### **21.4 ANALYSIS**

The Corridor Planning (Phase 1) has been completed and included data gathering, needs assessment, and preparation of an Existing Conditions Report and a Need and Purpose Statement, which defines the needs that the project must meet in order to be considered successful.

Following the Corridor Planning, the identification of potential alternatives (Phase 2) was completed and included the identification of a list of potential transportation strategies, evaluated the strategies against the Need and Purpose, developed project alternatives (combinations of strategies), and prepared the Strategy Screening and Alternatives Development Process and Initial Screening Results Report. Project alternatives using strategies with the best potential to meet project needs were identified as:

- No Build;
- Transportation System Management;
- Bus Rapid Transit (BRT) and Operational Improvements;
- BRT, Operational Improvements, and Managed Lanes;
- Express Bus and Operational Improvements;
- Express Bus, Operational Improvements, and Managed Lanes;
- Light-Rail Transit (LRT) and Operational Improvements; and
- LRT, Operational Improvements, and Managed Lanes.

In Phase 3 (thus far), the alternatives were compared against a list of detailed criteria and technical analyses, including engineering and environmental. Public response and the full alternatives analysis were then presented to GDOT and the Georgia Regional Transportation Authority (GRTA) for review. Based on the information provided by the full alternatives analysis, GDOT and GRTA ultimately recommended four alternatives to move forward. These include:

- **Alternative 1. No Build.**
- **Alternative 4:**
  - Express Bus Service operates over long distances without stopping, which speeds up longer peak commuter trips. Buses operate in the general purpose lanes with stops only in the Cumberland and Perimeter areas.
  - Operational Improvements.
- **Alternative 6a:**
  - Managed Lanes. Adds two lanes in both directions, located on either side of existing general purpose lanes, and are physically separated by a concrete median barrier. Congestion in the lanes is managed by a tolling system, where the pricing could vary based on demand. Access points include I-285, I-75, Akers Mill Road, SR 400 (to/from the north), Perimeter Center Parkway, Chamblee Dunwoody Road, Peachtree Industrial Boulevard (to/from the north), and I-85 (to/from the north).
  - Express Bus Service. Express Bus service operates over long distances without stopping, which speeds up longer, peak commuter trips. Buses operate in the managed lanes and the general purpose lanes depending on the designated route.
  - Fixed Guideway Transit Right-of-Way. Acquisition of additional rights-of-way for potential future BRT or LRT.
  - Operational Improvements.

- **Alternative 6b:**

- **Managed Lanes.** Similar to Alternative 6a, but adds the managed lanes in the center of the existing general purpose lanes, separated by a painted buffer. Additionally, the general purpose lanes would be reduced to four lanes in both directions. Congestion in the lanes is managed by a tolling system, where the pricing could vary based on demand. Access points include I-285, I-75, Akers Mill Road, SR 400 (to/from the north), Perimeter Center Parkway, Chamblee Dunwoody Road, Peachtree Industrial Boulevard (to/from the north), and I-85 (to/from the north).
- **Express Bus service** operates over long distances without stopping, which speeds up longer, peak commuter trips. Buses operate in the managed lanes and the general purpose lanes depending on the designated route.
- **Fixed Guideway Transit Right-of-Way.** Acquisition of additional rights-of-way for potential future BRT or LRT.
- **Operational Improvements.**

Currently, additional analysis and refinement of the alternatives are in progress as the project team prepares the documents necessary for NEPA submission.

## 21.5 APPLICABILITY TO SWTP/SSTP UPDATE

This study currently is ongoing. Coordination between Revive285 and the SSTP/SWTP will be critical. The top end of I-285 is one of the most critical corridors in the State in terms of economic significance, and its regional and state mobility function. It has been identified as a priority corridor in the ongoing Interstate System Preservation Plan, the ARC regional transportation planning process, and multiple other state and regional studies. In addition, the interchange of I-285 and GA 400 has been cited as a top priority by Governor Nathan Deal. As the SSTP/SWTP progresses into defining potential project and project costs, it will be necessary to get an update on latest thinking for preferred alternative selection from the four alternatives defined above.



## **22.0 Southwest Georgia Interstate Study**

### **22.1 DATE PUBLISHED**

December 2009, GDOT.

### **22.2 POLICY/MAJOR CONCLUSIONS**

The purpose of the study was to determine the need for an interstate-level highway facility connecting I-185, I-75, and I-10 in southwest Georgia and north Florida. The study has recommended against implementation of an interstate type of facility in southwest Georgia, instead opting to focus on completing Governors' Road Improvement Program (GRIP) projects within the study area with a special focus on the U.S. 27 and SR 133 corridors.

### **22.3 DATA AND TOOLS**

The study included extensive public outreach, model development and forecasting, and economic analyses.

### **22.4 ANALYSIS**

The study area covered 32 counties in Georgia alone, an area expected to grow to a population of over 1 million and employment over 500,000 by 2040. Four primary alternatives, along with two subalternatives, were analyzed using an origin-destination matrix estimated modeling approach, in conjunction with a benefit/cost (B/C) analysis. The limited set of committed highway projects within the study area were analyzed and accounted for in the evaluation process. The timing of the study limited the committed highway to what was available as of July 2008. Many of these projects have since either been opened to traffic or are presently under construction.

While travel times are expected to increase substantially throughout the study area through the year 2040, congestion on regional highways will remain minimal. As a result, the B/C analysis calculated ratios of less than one percent for all four alternatives.

## 22.5 APPLICABILITY TO SWTP/SSTP UPDATE

A major interstate investment project was not recommended, so no individual project came out of this study for inclusion in the SWTP/SSTP. The recommendations for a GRIP-level project investment would be included in the overall programming of funds for GRIP.

## 23.0 Atlanta to Athens Connectivity Study

### 23.1 DATE PUBLISHED

The Athens to Atlanta Connectivity and Mobility Study (A2A Study) commenced in 2011 and is expected to be completed in fall 2013. Information has been taken from various project documents completed to date. GDOT.

### 23.2 POLICY/MAJOR CONCLUSIONS

The A2A Study is sponsored by GDOT. The A2A Study area includes portions of nine counties, including Barrow, Clark, DeKalb, Gwinnett, Jackson, Newton, Oconee, Rockdale, and Walton. The study area is approximately 54 miles across from east to west, and approximately 22 miles long from south to north. Overall, the study area includes over 1,740 square miles, 1.1 million people, 371,000 jobs, two metropolitan planning organizations (MPO), and five Community Improvement Districts (CID).

The goals of the A2A Study are as follows:

- Strengthen connections and mobility between activity centers, educational centers, freight centers, job centers, etc.;
- Improve safety for all users;
- Promote economic development by strengthening the relationships between transportation and land use plans and policies; and
- Coordinate A2A Study with agencies, local governments, stakeholders, and the public.

As of May 2013, current recommended improvement strategies under review for major selected corridors within the study area include the following:

- Convert SR 316 from Lawrenceville to Athens to a freeway and add one lane in each direction;
- Widen SR 138 to four lanes between Dennard Road to U.S. 78, and add a diverging diamond interchange at I-20;
- Implement signal coordination on Mountain Industrial Boulevard;
- Implement access management on U.S. 29 from I-285 to Lawrenceville;
- Implement access management on U.S. 29 from Gwinnett College to Winder;
- Implement access management on Covington Highway from SR 124 to I-285;

- Add continuous flow interchange on SR 124/SR 20 and add ITS options;
- Implement access management on SR 20 from SR 124 to the Mall of Georgia;
- Widen from two to four lanes SR 11/SR 53 from SR 138 to I-85 N;
- Implement access management on U.S. 78 from Stone Mountain to Loganville, and add a continuous flow interchange at U.S. 78 and SR 124;
- Implement intersection improvement on U.S. 78/SR 10 in Athens from SR 316 to downtown;
- Improve U.S. 278/Sigman Road from SR 124 to SR 20; and
- Add a new interchange at I-85 and SR 60 with access road.

### 23.3 METHODOLOGY AND DATA SOURCES

The data sources employed for this project are numerous. The list below includes a sampling of the datasets and reports that have been utilized to date.

- Local, county, statewide road networks, freight networks, transit networks and operational data, bike/pedestrian networks with detailed attributes;
- Road Networks, Travel Sheds, and 2010 and 2040 Socioeconomic data at the traffic analysis zone (TAZ) level from the ARC, GDOT statewide, and MACORTS travel demand models;
- Atlanta Regional Managed Lane System Plan Report;
- GDOT Crash Database;
- GDOT Road Characteristics (RC) File;
- GDOT Planned Projects Database;
- Developments of Regional Impact;
- Livable Center Initiative (LCI) Studies;
- Land Use Plans for All Jurisdictions along with GIS Land Use Data;
- Environmental Data;
- 2005 to 2035 Georgia Statewide Freight Plan; and
- All recent and ongoing statewide, regional, and local transportation, freight, and land use plans.

### 23.4 ANALYSIS

This study reviews the existing and future conditions within the corridor study area (macroscopic analysis) at the corridor level (mesoscopic analysis) and for specific case studies (microscopic analysis) to identify projects and potential

project types to improve mobility, connectivity, safety, and economic development opportunities.

Through review of the existing and future conditions, as well as with input from the Study Advisory Committee, several major travel corridors were initially identified for further study and analysis. These corridors include the following:

- **North-South Corridors**
  - Conyers to Jefferson (SR 20 – SR 81 – SR 211 – SR 11);
  - Monroe to Jefferson (SR 11);
  - Lithonia to Mall of Georgia (SR 124 – SR 20);
  - Walnut Grove to Mall of Georgia (SR 81 – SR 20); and
  - Monroe to Hoschton (SR 11 – SR 53).
- **East-West Corridors**
  - Conyers to Athens (SR 138 – U.S. 78);
  - Clarkston to Athens (U.S. 78);
  - Northlake to Lawrenceville (U.S. 29);
  - Lawrenceville to Athens (SR 316);
  - Jefferson to Athens (U.S. 129);
  - Lawrenceville to Winder (U.S. 29);
  - Mountain Industrial to Conyers (Hairston Road – U.S. 278 – Sigman Road).

Key Findings to date are as follows:

- Highways. 30 million daily vehicle miles (VMT):
  - 46 percent of daily VMT occurs on interstates and freeways;
  - 25 percent of daily VMT occurs on nonfreeway arterials; and
  - 12 percent of all daily travel occurs under extremely congested conditions.
- Transit. Four public transit providers:
  - 955 miles of daily bus route service;
  - 52,400 total average daily boardings; and
  - 21 park-and-ride lots.
- Crashes:
  - The crash rate (number of crashes per miles traveled) is about 40 percent greater than the statewide average crash rate for similar roadway types;
  - About 20 percent of all crashes occurred on interstates and freeways.

There are 5,000 daily trips between Atlanta and Athens. The most commonly used east-west routes for travel between Atlanta and Athens (in order of highest to lowest volumes) are:

- SR 316,
- U.S. 78,
- I-20 to SR 138 to U.S. 78,
- I-85 to U.S. 129, and
- U.S. 29 to SR 316.

## 23.5 APPLICABILITY TO SWTP/SSTP UPDATE

- The A2A study area includes two of Georgia’s major activity centers, including major employment and educational institutions.
- The study area is critical to the State’s economic development vision and is home to several new and planned major industrial facilities, including:
  - The Caterpillar manufacturing plant in Athens,
  - Carter’s distribution center in Braselton,
  - The FedEx distribution center in Norcross, and
  - Baxter Medical facility in Newton County.
- Due to the size and importance of the A2A study area from a statewide perspective, the final strategies and recommendations developed for the A2A study will directly impact the SWTP/SSTP. The A2A study recommended that strategies for the movement of people and goods must be integrated with other adjacent areas and the overall statewide visions and goals.

## **24.0 I-75 North (Atlanta to Chattanooga) Corridor Study**

### **24.1 DATE PUBLISHED**

The I-75 North Corridor Study commenced in 2011 by the GDOT, and it is expected to be completed in fall 2013 or winter 2014. Key information is available on the project web site.

### **24.2 POLICY/MAJOR CONCLUSIONS**

The I-75 North corridor connects the metropolitan Atlanta region with the Chattanooga, Tennessee region while also serving as a key connection to the Georgia coastal region, including the Port of Savannah, as well as the State of Florida. The corridor study project extends from just north of Barrett Parkway in Kennesaw to I-24 in Chattanooga, which is a distance of approximately 90 miles; and it includes approximately one-half mile to either side of U.S. 41 and I-75.

The goal of the I-75 North Corridor Study is to conduct a thorough review of mobility along this critical corridor in order to maximize the mobility and efficiency along the corridor. It will evaluate existing and future conditions along the corridor, including transportation, population, employment, and economics, to identify needed improvements. The study will result in a corridor improvement plan with prioritized improvement projects for the years 2020 (short range) and 2040 (long range). Improvement types may include capacity, interchange improvements, operations, safety, freight movement, and economic access.

### **24.3 METHODOLOGY AND DATA SOURCES**

Methodology and data sources of the study are not currently available.

### **24.4 ANALYSIS**

The study began with an inventory of the existing system, which includes both I-75 and U.S. 41. This inventory allowed for a detailed assessment of the deficiencies that the corridors face, both in the current year and to the year 2040. The next step will be to develop potential improvements based upon the identified deficiencies and needs. From these potential improvements, potential projects will be prioritized and compiled into a corridor improvement plan/program.

An important component of the I-75 North Corridor Study is public outreach. Throughout the study, key stakeholders are being engaged, including local officials and the general public.

## 24.5 APPLICABILITY TO SWTP/SSTP UPDATE

- The I-75 corridor is regarded as one of the State's most important corridors for both intrastate and interstate movement of people and goods. It is a key connection to Tennessee, the Georgia coastal region, and the Port of Savannah, as well as to Florida.
- This study is looking at the abundance of issues and challenges that are impacting this corridor, including population growth, freight movement, and economic activity.
- As recommendations are made along the I-75 North Corridor, improvement will be felt not only along the corridor itself, but also regionally.
- Similar to the I-75 South Corridor Study, the issue of freight traffic and its impact on safety, congestion, operations, and access management is a critical component of the study.

## 25.0 I-75 South Corridor Study

### 25.1 DATE PUBLISHED

The I-75 South Corridor Study commenced in 2011 and is expected to be completed in October 2013. Key information has been taken from the Draft Existing and Future Conditions Report. The I-75 South Corridor Study is sponsored by the GDOT.

### 25.2 POLICY/MAJOR CONCLUSIONS

The I-75 South corridor connects the metropolitan Atlanta region with the Macon region in central Georgia, and is a key connection to the Georgia coastal region, including the Port of Savannah, as well as the State of Florida. The corridor study project extends from approximately SR 155 in Henry County to Hartley Bridge Road in Bibb County with a general width of two miles on either side of I-75.

The goals of the I-75 South Corridor Study are as follows:

- Increase accessibility and mobility for people and freight throughout the corridor;
- Develop and recommend conceptual improvements and projects throughout the corridor;
- Identify specific interchange areas that need improvements in order to ensure increased access;
- Identify multimodal connectivity improvements, including city and county road networks, local and intercity transit systems, and freight and passenger rail; and
- Integrate locally-adopted land use and development plans into the action plan for future transportation system improvements within the corridor.

### 25.3 METHODOLOGY AND DATA SOURCES

The methodology for this study is to review the existing and future conditions within the corridor, and identify mainline as well as smaller projects that together will improve congestion, safety, and access management. Tier 1 and Tier 2 improvements will then be modeled and studied from an economic benefit/cost return perspective.

The data sources employed for this project are numerous. The list below includes a sampling of the datasets and reports that have been utilized to date.

- Local, county, statewide road networks, freight networks, bike/pedestrian networks with detailed attributes;
- Road Networks, Travel Sheds, and 2010 and 2040 socioeconomic data at the TAZ level from the ARC, GDOT Statewide, and MATS travel demand models;
- Atlanta Regional Managed Lane System Plan Report;
- GDOT Crash Database;
- GDOT Road Characteristics (RC) File with 2013 Right-of-Way (ROW) data;
- GDOT Planned Projects Database;
- Developments of Regional Impact;
- Land Use Plans for All Jurisdictions along with GIS Land Use Data;
- Atlanta to Macon Commuter Rail Environmental Assessment Finding of No Significant Impact (FONSI);
- 2005 to 2035 Georgia Statewide Freight Plan; and
- All Recent and Ongoing Statewide, Regional, and Local transportation, Freight, and Land Use Plans.

## 25.4 ANALYSIS

To date, the I-75 South Corridor project has looked at existing and future conditions within the corridor, as well as within areas of influence that surround the corridor. The mainline and interchanges have been modeled for 2012 and 2040. The middle section of the corridor is performing at acceptable levels of service in the existing and future years, but the northern and southern sections need more attention. Additional focus has been placed on studying freight and locations within the corridor, where high volumes of truck traffic in the 2040 scenario overlap with freight-intensive land uses.

Key findings to date are as follows:

- I-75 mainline segments, ramp junctions, signalized intersections, and unsignalized intersections have been identified that are performing at a Level of Service (LOS) of D or below in 2012 and 2040.
- The average daily truck percentage in the corridor ranges from close to 8 percent to almost 25 percent.
- By 2040, the employment hubs are expected to be in the vicinity of southern Clayton and Henry Counties, as well as the Cities of Locust Grove, Jackson, and Forsyth. The Macon area also is expected to have a significant growth in jobs by 2040.

- Nineteen areas have been identified where industrial growth is occurring in the corridor.

## 25.5 **APPLICABILITY TO SWTP/SSTP UPDATE**

- The I-75 South Corridor is regarded as one of the State's most important corridors for both intrastate and interstate movement of people and goods.
- This corridor study is looking at dynamic issues in a vital corridor in a unique and exciting way. An Integrated Corridor Planning (ICP) approach is being used to study transportation issues in a multimodal/land use framework.
- Similar to the I-75 North Corridor Study, the issue of freight traffic and its impact on safety, congestion, operations, and access management is at the forefront of this study, as the corridor is regarded as one of the most important freight corridors within the State of Georgia.

Recommendations for the study will be based upon the analysis of both regional and localized transportation improvements intended to enhance the movement of people and goods through the integration of local land use and development with regional and statewide visions and goals.



## **26.0 Connect Central Georgia Study, GDOT**

### **26.1 DATE PUBLISHED**

May 2013, GDOT.

### **26.2 POLICY/MAJOR CONCLUSIONS**

Central Georgia is an important part of the State containing 31 counties and 3 of the largest cities in Georgia: Columbus, Macon, and Augusta. It also contains three military bases and a natural resource commodity, kaolin, which supports local economies. There are a variety of capacity and operational projects in the study area that would support future demand and enhance connectivity in the area.

### **26.3 METHODOLOGY AND DATA SOURCES**

The draft report presents both existing and future conditions in the study area, and then builds scenarios and strategies to support strategic connections and economic opportunities. Projects are prioritized based on several iterative screening analyses, including comparison to needs analysis and evaluation by project prioritization criteria.

### **26.4 ANALYSIS**

Three case studies were done to assess economic benefits of selected projects. The completion of the Fall Line Freeway would complement the growing energy industry in the study area by providing better connectivity to additional markets. If Sardis Church Road, south of Macon, was extended north of Macon, and full build out of office parks served by the facility was achieved, the region could gain over 8,000 jobs at an annual payroll of over \$300 million. A proposed Macon to LaGrange connection, along with expanding the Port of Savannah's capacity, could result in almost 45,000 additional jobs in the study area. In addition, a deficiency was noted in transit services throughout the study area.

Potential improvements were then further evaluated. This list of 34 projects includes widening projects, four-lane new alignment, two-lane new alignment, and the addition of passing lanes. Potential improvements were then put into priority tiers based on a qualitative ranking of their ability to perform/achieve six goals.

No final recommendations are stated. Rather, this information is offered to support additional local, regional, and statewide planning.

## 26.5 **APPLICABILITY TO THE SWTP/SSTP UPDATE**

This report has detailed description of the existing and future transportation needs in central Georgia. Its analysis can support identification of needs, deficiencies, and potential projects.

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## 27.0 ARC Strategic Regional Thoroughfare Plan

### 27.1 PUBLICATION DATE

October 2011, ARC.

### 27.2 POLICY/MAJOR CONCLUSIONS

The Strategic Regional Thoroughfare Plan (SRTP) was undertaken in recognition that arterials are the most challenged facilities in the Atlanta region. They accommodate multiple types of users with competing interests – such as long- or short-range commute trips, transit trips, freight and goods movement, and bicycle and pedestrian trips. The focus of the SRTP is to achieve more cohesive planning, operations, and management along key arterials most critical to mobility in the region.

Four primary accomplishments of the study include:

1. Identification and classification of a prioritized roadway component of ARC's Regional Strategic Transportation System, called the Regional Thoroughfare Network (RTN);
2. Development of guidelines on management and design in relation to area context and multimodal needs;
3. Creation of georeferenced linear referencing system of roadway attributes and creation of a framework for future data clearinghouse; and
4. Completion of case studies to inform future multimodal corridor studies.

The RTN, a key outcome of the study, includes the following characteristics:

1. A total of approximately 1,800 centerline miles;
2. Approximately 93 percent of the nonfreeway premium transit alignments within ARC's transit vision;
3. Approximately 45 percent of noninterstate freight VMT;
4. Approximately 45 percent of all trips in the region greater than 20 miles; and
5. All of the corridors identified for the GDOT RTOP program and ARC's ASTRoMaP.

## 27.3 DATA AND METHODOLOGIES

Data application was extensive for this study. Refer to following link for detailed summary:

[http://documents.atlantaregional.com/transportation/tp\\_SRTP\\_Data\\_Compilation\\_Report.pdf](http://documents.atlantaregional.com/transportation/tp_SRTP_Data_Compilation_Report.pdf)

## 27.4 ANALYSIS

The analysis included the following key steps:

1. Thoroughfare network identification,
2. Thoroughfare network classification,
3. Thoroughfare performance evaluation,
4. Improvement case studies, and
5. Development of thoroughfare management guidelines.

## 27.5 APPLICABILITY TO SWTP/SSTP UPDATE

The ARC's SRTP currently is serving as the technical foundation for the shift toward a more strategic, corridor-based approach for transportation investment via the ongoing PLAN 2040 update. ARC staff is applying a combination of current (observed, INRIX) congestion data and crash data to the RTN to prioritize the network even further, based on current need. The objective is to define approximately 10 to 15 strategic, priority arterial corridors for focused investment in the future. It will be important for the SWTP/SSTP update to be aware of these critical arterial corridor investments (similar to interstate investments in the Atlanta region) to ensure compatibility between state and regional funding policy.

## **28.0 Atlanta Strategic Truck Route Master Plan**

### **28.1 DATE PUBLISHED**

The final plan from this project was adopted in June of 2009, ARC.

### **28.2 POLICY/MAJOR CONCLUSIONS**

This project resulted in two key deliverables:

1. Development of a “gridded” regional truck route network spanning the Atlanta metropolitan region.
2. Identification and evaluation of projects to enhance the utilization of existing roadways, as designated within the truck route plan. The projects included truck-friendly roundabout designs, signage practices/placement, and strategies for addressing at-grade rail crossings.

### **28.3 METHODOLOGIES**

The project developed a “grid” concept and framework to provide truck-friendly corridors, which met or exceeded the polled motor carrier criteria for truck operations. The network was evaluated for corridors moving along the east-west and the north-south axes.

Weights and values were assigned to each roadway operational attribute to quantify the process. Items such as functional classification and lane width that weigh heavily on the ability of a truck to safely and successfully negotiate a route were viewed as having more influence. Attributes such as shoulder width and at-grade crossing presence, while still important regarding delay and safety, were seen as less detrimental to the assignment of trucks to the roadway. This approach provided scoring for lengths of less than 1,000 feet to more than 2 miles, depending on the level of detail contained in the file. A segment composite score was calculated and was illustrated in a common legend.

### **28.4 DATA AND ANALYSIS**

Data for this study were collected from jurisdictional bodies and agencies, and included information pertinent to the physical characteristics or attributes of the identified roadways. Data included truck volumes, land use designations, functional classes of roadways, bridge conditions, and lane widths. Truck global

positioning system (GPS) data also were used to determine truck route patterns and truck speeds in the region. A survey of motor carriers was conducted to collect data on roadway operational preferences for truck drivers.

## 28.5 APPLICABILITY TO SWTP/SSTP UPDATE

This project developed a regional truck route network that can be used as a framework for developing a statewide truck route network. This is particularly relevant given the MAP-21 requirements to develop a national freight (highway) network, and the guidance that the national network should be based on state truck highway networks.

This project also identified several types of freight improvement projects, including:

- Intersection geometric improvements,
- Bridge replacements;
- Truck pullouts;
- Capacity enhancement; and
- Grade separation, rail crossings.

These can be considered as freight-related project categories and potentially incorporated into the SWTP/SSTP update.

## 29.0 SR 21 Corridor Study

### 29.1 DATE PUBLISHED

The SR 21 Corridor Study commenced in 2010 and is still underway. Key information is available on the project web site. The SR 21 Corridor Study is sponsored by the Coastal Region MPO (CORE), in conjunction with the Chatham County-Savannah Metropolitan Planning Commission (MPC).

### 29.2 POLICY/MAJOR CONCLUSIONS

This project extends from I-516 to the Effingham County Line. SR 21 is a major corridor that connects Effingham County and Savannah. This corridor serves a unique role by connecting the Port of Savannah with Georgia interstates. Subsequently, there is a high volume of truck traffic on SR 21, which contributes to congestion during peak periods, as well as safety issues. SR 21 also is a hurricane evacuation route.

The goals of the Corridor Study are to:

- Improve the safety conditions throughout the corridor;
- Separate trucks from passenger vehicles where possible;
- Improve operational levels of service during peak periods;
- Connect SR 21 to other major roadways;
- Consider local land use plans and improve access to existing business and industries (“Last Mile”); and
- Evaluate potential funding options.

### 29.3 METHODOLOGY AND DATA SOURCES

- The SR 21 corridor was divided into three sections (Northern, Central, and Southern). Numerous alternatives were created for each section, which included new elevated structures, widening of existing roadways, grade separation at intersections, and connection of roadways with the “last mile” to regional attractions and significant industry locations.
- Each alternative was studied in detail and presented at a series of public involvement meetings. The scenarios that were deemed less feasible have not been moved forward. There currently are three alternatives being evaluated, and a single alternative will be selected in the near future.

- The project web site does not provide information as to data sources employed to date.

## 29.4 ANALYSIS

The three alternatives which have been advanced for further study are Alternatives 3, 10, and 11. One of these alternatives will be selected for recommendation. The major features of each alternative are listed below.

- **Alternative 3:**
  - Four elevated lanes from just north of SR 30 to south of I-516;
  - Additional ramps to connect new roadway to I-95, as well as close to SR 307; and
  - Existing six-lane section of SR 21 in Garden City narrowed to four lanes with a raised median.
- **Alternative 10:**
  - Four elevated lanes from just north of SR 30 to south of I-516 (same as Alternative 3);
  - Elevated lanes connected to the Jimmy DeLoach Connector (last mile) in the Central section;
  - Widening of Jimmy DeLoach Connector from four to six lanes; and
  - Additional ramps connect the new facility to SR 21 north of Pierce Avenue and south of SR 307.
- **Alternative 11:**
  - Four elevated lanes from just north of SR 30 to south of I-516 (same as Alternatives 3 and 10).
  - Elevated lanes connected to the Jimmy DeLoach Connector (last mile) in the Central section (same as Alternative 10).
  - New four-lane highway to connect southern end of the Last Mile to I-16. This facility will have an interchange with U.S. 80.

## 29.5 APPLICABILITY TO SWTP/SSTP UPDATE

- This report will be recent and relevant when it is completed. It addresses issues that numerous Georgia corridors are facing, such as increased freight traffic, safety concerns, congestion during peak periods, and a need for a fiscally feasible funding plan.
- The Port of Savannah is the fourth largest container port in the U.S. Port traffic is estimated to increase over six percent per year through 2018. This project is critical to maintaining effective landside access to a rapidly growing port,

which is expected to play a key role in handling post-Panamax sized container ships following the completion of the Panama Canal widening, and is therefore critical to the State's economic growth and a project of national significance.

- Access to industry and “last mile” planning are major considerations for Georgia's freight corridors.



## **30.0 Economic Impact Study of Completing the ADHS**

### **30.1 DATE PUBLISHED**

June 2008, Appalachian Regional Commission.

### **30.2 POLICY/MAJOR CONCLUSIONS**

This study assessed the travel performance, trade, and economic development impacts directly related to completing the Appalachian Development Highway System (ADHS). In addition, the study assessed connectivity, accessibility, and network effects – in other words, how do the corridor improvements connect Appalachian people and businesses to other highway facilities, multimodal transportation, and economic markets (labor force, buyers/suppliers, tourists)?

In general, ADHS completion leads to a sequence of changes affecting travelers, households, and businesses that are either located in Appalachia or otherwise using Appalachian Development Highways. The resulting changes in transportation efficiencies, accessibility enhancement, and business productivity lead to broader impacts on the economy of the entire Appalachian region, as well as outside areas.

### **30.3 DATA AND METHODOLOGIES**

Data included:

- FHWA’s Freight Analysis Framework 2.2 (FAF);
- Appalachian Regional Commission’s travel demand forecasting model;
- Marshall University Commodity Flow Database;
- Appalachian Regional Commission Commodity Truck Database;
- Woods & Poole;
- Economy.com;
- Global Insight;
- REMI; and
- Transportation Economic Development Impact System (TREDIS).

Results of this study included a full range of transportation performance and economic development indicators organized by:

- **Travel efficiency benefits.** Travel-time savings, route diversion, and transport cost savings;
- **Direct economic impacts.** Reduced industry costs, as well as economic development and tourism effects stemming from increased market accessibility;
- **Total economic impacts.** Full economic development impacts on the economy of the Appalachian Regional Commission region in terms of employment by industry, gross regional product, and personal income; and
- **Benefit/cost analysis.** Benefit/cost ratios and net present value (NPV) to measure expected return on investment.

## 30.4 ANALYSIS

### Travel Efficiency Benefits

ADHS corridor improvements produced significant dollar values of travel benefits to individuals and businesses both within and outside of the Appalachian Regional Commission region. Total user benefits (travel time, fuel and nonfuel operating costs, and safety) were estimated to be valued at \$1.6 billion annually by the year 2020, and grow to \$5.1 billion annually by 2035 under a medium-growth scenario.

### Direct Economic Benefits

Improvements in market accessibility for the Appalachian Regional Commission region directly lead to increased economic development opportunities for the region. Accessibility gains were measured at the county level for labor, customer, tourist, buyer, and supplier markets, as well as reduced travel times to seaports, border crossings, airports, and intermodal rail facilities.

The Appalachian Regional Commission region was estimated to gain \$2.1 billion annually by 2035 in economic activity (as measured by value added) due to market accessibility gains by 2035. Completion of the ADHS also will result in market accessibility improvements for large segments of the Appalachian Regional Commission region. About 235 out of 410 Appalachian Regional Commission counties are expected to see reductions in travel time to the nearest commercial airport, with 26 counties experiencing an 8-percent or greater reduction in travel time. About 325 out of 410 counties are estimated to increase their accessibility to buyer and supplier markets within a three-hour drive, with 59 counties experiencing an improvement greater than 10 percent.

### **Total Economic Impacts**

Total impacts on the economy of the Appalachian Regional Commission region resulted from the direct effects of reduced business-related travel time and costs, along with increased regional growth made possible by market accessibility gains and associated multiplier effects. These impacts gradually increased over time; and by 2035 were estimated to generate approximately 80,500 jobs, \$5.0 billion in increased value added per year, including \$3.2 billion in increased wages per year for Appalachian Regional Commission region workers.

## **30.5 APPLICABILITY TO SWTP/SSTP UPDATE**

Georgia has 142 miles of ADHS roadways, Corridor A and Corridor A1, linking metropolitan Atlanta to the North Carolina border. Corridor A includes substantial segments that are not yet open to traffic. This study is illustrative of the possible economic impacts of improving connectivity in rural Georgia by better linking the State's northern region to suburban Atlanta. The study presents methodological options for evaluating the economic impacts of roadway improvements in Georgia.







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# **Part IV. Regional Long-Range Plans**

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## **31.0 MPO LRTPs - ARC PLAN 2040**

### **31.1 DATE PUBLISHED**

October 2011, Atlanta Regional Commission (ARC).

### **31.2 POLICY/MAJOR CONCLUSIONS**

PLAN 2040 is the ARC's (ARC) comprehensive blueprint to sustain metropolitan Atlanta's livability and prosperity through mid-century. The foundation of PLAN 2040 is sustainability - of the region's economy, its environment, and its people, ensuring that residents of Atlanta are presented more opportunities to live and thrive in a diverse, world class metropolitan area. ARC recognizes that regional needs related to transportation, land use, environment, economy, housing, and human services are interrelated. PLAN 2040 tackles these cross-cutting planning challenges in one guiding document. PLAN 2040's five objectives focus on serving people, building community, enhancing mobility, preserving the environment, and growing the economy. Through a four-year collaborative effort, PLAN 2040 was developed to guide regional growth through its specific policy, investment strategies, and programs for metropolitan Atlanta through the year 2040.

PLAN 2040 includes two primary elements: 1) a regional comprehensive plan for future land use and development (the Regional Agenda), and 2) a \$61 billion Regional Transportation Plan (RTP). The Regional Agenda provides rigorous planning and technical analysis for detailing housing, land use, and other strategies that influence regional growth and development in a sustainable manner. It serves to increase awareness of how land in the region is used and how land use is linked with transportation system performance. It provides an understanding of the characteristics that improve travel conditions and create positive environments for living, working, and traveling in the region. The RTP, developed in direct accordance with the findings of the Regional Agenda, provides the majority of actual funding and investment strategies. The RTP meets all state and Federal guidelines and regulations related to transportation plan development. It, in fact, goes beyond Federal and state mandates to provide transportation and land use solutions that address a broad spectrum of regional challenges that typically extend well beyond the traditional transportation planning arena.

Key outcomes of the PLAN 2040 RTP for the financially constrained element of the plan include:

- **Infrastructure Modernization.** This is the largest portion of PLAN 2040 investments at 70 percent, or \$42.8 billion. These projects and programs maintain, operate, and improve the efficiency of existing infrastructure. Example projects include road and bridge resurfacing, replacement of buses and rail cars, and retiming of traffic signals. The region’s policy-makers, at a July 2010 retreat, directed ARC staff to increase this category’s emphasis in PLAN 2040.
- **Demand Management.** This category includes other plan elements with the focused outcome to reduce and shorten vehicular trips within the region. Demand Management funding is \$2.1 billion, or 4 percent of the RTP. Example Demand Management projects include bicycle and pedestrian facilities, employer services, ridesharing, and special studies.
- **System Expansion.** This category comprises the second largest portion of PLAN 2040 investments at 26 percent, or \$16 billion. The Atlanta region added the third most people of any region in the last decade, and is expected to add another 3 million by 2040, creating the need to respond to growth. Example projects in this category include roadway widening, reconstructed interchanges, managed lanes (consistent with GDOT’s MLSP), and several fixed-guideway transit expansions.

### 31.3 DATA AND TOOLS

- Regional (20-county) travel demand model. Current and future congestion levels for systems and project-level analysis; select link and buffer analysis applied at project level to inform measures of vehicle hours of delay, connectivity to centers, and 45-minute travel shed.
- GDOT CARE crash database to inform crash index analysis.
- Georgia Highway Economic Analysis Tool (HEAT) equations to inform gross domestic product (GDP) analysis.
- System Preservation Tradeoff analysis:
  - GDOT PACES ratings, asphalt;
  - NBI Bridge condition data;
  - HERS; and
  - NBIAS.

## 31.4 ANALYSIS

To support the investment decision-making process for the PLAN 2040 RTP, a unique performance-based planning process was developed. The process was designed to guide transportation plan development within the broader, integrated PLAN 2040 efforts, as well as provide a plan management program to support plan implementation and track progress towards success. The approach includes:

- A performance framework designed to balance consideration of **Federal** aid transportation goals, **regional** goals/objectives across a broad spectrum of planning areas, and **local** livability considerations;
- Integration of land use considerations in plan development and plan delivery performance evaluations;
- Performance assessment across a range of criteria that support PLAN 2040 livability/sustainability objectives;
- Proactive response to expected performance-based Federal-aid funding requirements; and
- Focus on implementation/monitoring as a key element of the plan.

As part of the RTP performance-based approach, a program-level tradeoff analysis was conducted as the first step of transportation plan development. Performance trendlines were used to establish the relationship between the performance impact of various investment programs given certain funding levels. The analysis was used to help define an optimal level of funding across programs in a constrained funding environment. The tradeoff analysis served as a critical first link between stated PLAN 2040 policy and RTP resource allocation decisions.

Given current funding issues associated with maintaining infrastructure, in particular in a growing region like Atlanta, the focus of the tradeoff analysis was on roadway and transit Preservation programs. This “preservation first” scenario identified preservation funding as a priority, followed by an optimal fund distribution across other program types. Tradeoff analysis helped ARC better identify system preservation needs, which resulted in a dramatically greater preservation funding distribution in the plan.

Once general programmatic funding levels were established, individual projects were cross-checked against key state and regional policy initiatives (e.g., SSTP investment priorities, consistency with regional growth policy map, etc.); and inconsistent projects were filtered out of plan consideration. Roadway and transit capacity adding projects were then evaluated based on:

- **Performance impact** across a set of performance measures that aligned with state, regional, and Federal goal areas.
- **Benefit/cost** with monetized benefits for delay and fuel reduction and emissions reduction, and costs calculated for preliminary engineering, right of way, construction, and operations and maintenance. Note that the transit

project benefit/cost was calculated as project points (from performance impact assessment) divided by project cost.

## 31.5 APPLICABILITY TO SSTP/SWTP

As part of development of the 2040 RTP, ARC paid close attention to alignment of key performance measures between the regional and state process, particularly those identified in the SSTP. Of critical importance for the SWTP/SSTP update, however, is the ongoing PLAN 2040 update. This update was initiated in 2012, subsequent to the failed Atlanta Regional Transportation Referendum (RTR) stemming from the Transportation Investment Act. Although the RTR was unsuccessful in the Atlanta region, it did prompt a more streamlined and coordinated process between state and regional planning partners, and an understanding that priorities need to be developed more closely and communicated in a different manner. Management from ARC, GRTA, and GDOT are now discussing openly and candidly how to improve the identification, evaluation, and presentation of transportation priorities. At the policy level, discussion is centered on defining the highest priority strategies that support Federal (MAP-21), state (SSTP), and regional (PLAN 2040) goals. A corridor-based approach is being contemplated to help focus investments to a more strategic network that supports goals across all three geographic scales. At the technical level, focus is on defining short- and long-term actions that can be implemented to improve project evaluation, both across a broader set of project types and across multiple, “bundled” projects. Both of these efforts are consistent between the state and region, and have applicability to development of the SWTP.

## **32.0 MPO LRTPs - Chattanooga TPO 2040 RTP**

### **32.1 PUBLICATION DATE**

Ongoing; expected completion late 2013, Chattanooga Transportation Planning Organization (TPO).

### **32.2 POLICY/MAJOR CONCLUSIONS**

The Chattanooga TPO includes all of Hamilton County, Tennessee, and most of Catoosa County and portions of Walker and Dade Counties in North Georgia.

TPO-wide transportation needs include \$7.8 billion for capacity expansion of all modes and \$1.6 billion for adequate maintenance of existing bridges and pavement. Since revenue projections only total \$5.6 billion, this leaves \$3.8 billion of unfunded needs.

Although the fiscally constrained plan is still under development, it appears that more transit projects will be part of this plan than past ones. There currently is no transit service in North Georgia, but new local bus routes and express bus service on I-75 from Ringgold to downtown Chattanooga fared well in the project evaluation and may be included in the plan if project sponsors can be identified. Major roadway projects that fared well in the project evaluation include widening I-75 in Catoosa County, widening I-24 in Dade County, and widening Mack Smith Road in Catoosa County.

An analysis of ITS strategies is still underway, but a recommendation to expand freeway intelligent transportation systems (ITS) on I-75 and I-24 in Georgia may come out of that.

### **32.3 DATA AND METHODOLOGIES**

- Historical revenue used for revenue projections.
- Extensive stakeholder outreach, including two leadership symposiums, a transit aspirations workshop, multiple public meetings, and a survey instrument.
- Travel demand model results to identify congested areas. The travel demand model was updated to include transit and four times of day.
- Pedestrian, bike, and transit gap analysis based on identifying high demand areas that are not currently or planned to be served in the future.

- Corridor profiles based on a number of factors, including several mobility, multimodal, and truck-related measures.
- A three-scaled performance framework was used to evaluate and rank projects since there is not enough revenue to fund all needs.

## 32.4 ANALYSIS

There is a number of maps available that show results from the travel demand model, gap analysis, corridor profiles, and project evaluation/ranking.

## 32.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

Depending on the final fiscally constrained project list, some major projects may be important to consider in the SSTP/SWTP, including the introduction of transit to North Georgia. It should be noted that the widening of SR 151 in Georgia and SR 321 in Tennessee, which could potentially serve as an Eastern Bypass for I-75, did not fare well in the project evaluation process due mainly to the fact that it would disrupt many communities. Residents of the Chattanooga region would benefit from an Eastern Bypass to I-75 that travels further east of the TPO boundary.

## 33.0 MPO LRTPs - 2040 LRTP, Rome-Floyd County

### 33.1 DATE PUBLISHED

March 2012, Rome-Floyd CPC.

### 33.2 POLICY/MAJOR CONCLUSIONS

The Rome-Floyd County transportation planning area consists of all of Floyd County, including the City of Rome and the City of Cave Spring. The LRTP provides direction on issues involving existing and projected transportation needs. A total of 51 projects have been programmed in the fiscally constrained plan. The MPO was able to determine a low-, mid-, and high-range scenario for each project; and the total cost of implementation is estimated to range between \$346 million and \$359 million. Due to the budget constraints, 16 projects were moved to the Illustrative Projects Plan until funding becomes available in the future. The major goals of the transportation plan are:

- **Multimodal.** Continue to support public transit within the City of Rome, and continue to evaluate expansion of service to unincorporated areas. Connect and expand the bike/pedestrian system within the community and connect with regional trail systems, especially the Silver Comet Trail via Rockmart or Cedartown and the Sims Mountain Trail. Encourage the construction and maintenance of sidewalks within and between residential, recreational, educational, and commercial developments.
- **Maintain existing road network and facilities.** Commit adequate funding to maintain and repair existing streets, sidewalks, bridges, trails, and highways to promote an efficient transportation system.
- **Complete bypass system.** Complete the south and southeastern segments of the Rome bypass to allow through traffic an opportunity to avoid intercity streets.
- **I-75 access.** Provide improved and more direct connection from Rome and Floyd County to I-75 via SR 140, U.S. 411, and/or a new route.
- Integrate transportation planning with comprehensive land use planning so transportation needs can be met proactively, rather than reactively.

### 33.3 DATA AND METHODOLOGIES

- Travel Demand Model;
- The Rome and Floyd County Trail Facilities Plan;
- Airport Commission's adopted five-year plan for capital improvements for the years 2011 to 2015;
- U.S. Census Bureau;
- Bureau of Economic Analysis, Regional Economic Accounts;
- State of Georgia Office of Planning and Budget, Georgia 2030 Population Projections;
- Georgia Department of Labor, 2009 Floyd County Quarterly Employment;
- Georgia Department of Education;
- Greater Rome Chamber of Commerce, Market Street study;
- Comprehensive Plan of Rome, Cave Spring, and Floyd County (2008); and
- University of Georgia at Athens (UGA) Center for Agribusiness and Economic Development.

### 33.4 ANALYSIS

Key findings from the existing transportation conditions and future needs are as follows:

- **Socioeconomic:**
  - Population is projected to increase 19.2 percent over the 2009 to 2040 period; and
  - Major employment industries: manufacturing, retail, and healthcare. Employment projected to increase 19 percent over the 2009 to 2040 period.
- **Roads and Bridges:**
  - The most direct access to the National Interstate Highway System for Floyd County is provided by means of U.S. 411, SR 140, and SR 53.
  - The U.S. 411 route to I-75 is along a four-lane, divided highway that runs into U.S. 41 and SR 61 before intersecting with the interstate. A more direct route is being planned by extending U.S. 411 through Bartow County to I-75 at a point north of the City of Cartersville.
  - Increase SR 101 to four lanes with provisions for bike lanes from Rome to Rockmart.
  - A looped bypass system is planned to provide an alternate route through Floyd County that does not pass through the City of Rome.

- **Commuter Facilities:**
  - No formal or public park and carpool or park-and-ride lots within the MPO area. There are plans for a public lot near the intersection of SR 1/Veterans Memorial Highway and U.S. 411 on the eastside of the City of Rome when the Southeast Bypass segment is built. RTD will explore the potential for a route serving that location.
- **Public Transportation:**
  - No plan in place to expand public transit service to Floyd County.
  - RTD will continue to monitor ridership and community needs and adjust routes, fares, and schedules within existing financial constraints.
  - Six transit capital projects are scheduled.
- **Freight:**
  - Projects that provide direct routes to I-75 and looped bypass systems around the Cities of Rome and Cave Spring were selected to improve through truck traffic.
- **Air:**
  - Besides the continuing need for longer runways and more hangar space, securing undeveloped land around the airport is critical for future expansion.
- **Rail:**
  - Service provided exclusively by the Norfolk Southern Railway system. No plans are anticipated to provide passenger service.
  - There are two principal rail transfer facilities in Rome and Floyd County (the Forestville Yards and the Howard Yards).
  - Community encourages the state and Federal governments to proceed with construction of intermodal projects that would provide passenger rail service to Atlanta, Chattanooga, and other destinations.
- **River Navigation:**
  - Navigable rivers in the area will likely never be used for commercial shipping or transportation again. The need is to provide additional access points with secure docking facilities to increase recreation and tourism opportunities.
- **Air Quality:**
  - The results of the 2040 LRTP for all analysis years for Rome's Particulate Matter (PM<sub>2.5</sub>) nonattainment area demonstrate that the future year emissions are no greater than the 2002 base year emissions.

### 33.5 **APPLICABILITY TO THE SSTP/SWTP UPDATE**

Since the plan is recent, it presents the most up-to-date transportation needs based on the latest socioeconomic factors and travel demand patterns, and therefore serve as a baseline for the new SWTP Plan Update. The methodological approaches consist of the latest tools, data, and procedures available for estimating future needs.

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## 34.0 MPO LRTPs - 2035 LRTP, Greater Dalton

### 34.1 DATE PUBLISHED

June 2012, Dalton-Whitfield County MPO.

### 34.2 POLICY/MAJOR CONCLUSIONS

The study area includes Whitfield County and its four municipalities: Dalton and the Municipalities of Cohutta, Tunnel Hill, and Varnell. Total transportation needs are estimated at \$662 million; however, only \$285 million are available from Federal, state, and local funding sources. A total of 25 projects have been programmed in the fiscally constrained plan over the 2010 to 2035 period. Due to budget constraints, 20 projects needed by the Gainesville-Dalton MPO (GDMPO) were moved to the Illustrative Projects Plan until funding becomes available in the future. Since the plan was approved, one amendment was made in August 2012 to reflect increase construction costs for the project, which is known as Rocky Face Interchange. Overall goals of the plan were:

- Alleviate and/or manage traffic congestion;
- Address safety in all modes of transportation;
- Address accessibility and connectivity for all modes of transportation;
- Facilitate the use of alternate modes of transportation, such as bicycling, walking, and transit;
- Address transportation concerns related to the movement of goods via railroads and trucks;
- Improve air travel service;
- Create a funding plan to implement improvements within projected funding constraints;
- Address accessibility and connectivity for all modes of transportation;
- Consider land use in the recommendations for transportation improvements;
- Improve circumferential flow of all modes of transportation in Whitfield County;
- Facilitate the east-west and north-south flow of traffic within the County; and
- Support development of the magnetic levitation (Maglev) high-speed rail through the region.

### 34.3 DATA AND METHODOLOGIES

- Travel demand model;
- The U.S. Census Bureau was the primary source for population, households, and income, with secondary information from local sources;
- Employment numbers were gathered by the GDMPO staff from the U.S. Census Bureau and the Georgia Department of Labor; and
- School data was obtained through the City of Dalton and Whitfield County School Boards.

### 34.4 ANALYSIS

Key findings from the existing transportation conditions and future needs are:

- **Socioeconomic:**
  - Projected population for 2035 is 162,282, an increase of 94 percent from 2000 population. The Latino population is likely to be the major component of future growth.
  - Whitfield County is a significant contributor to the State's overall economy. Over 46 percent of the estimated total number of people working in carpet/flooring manufacturing in the State worked in Whitfield County. The projected 2035 employment in Whitfield County is 87,939; an increase of 45 percent from 2003. Employment is expected to increase due to the proposed Volkswagen and Wacker Manufacturing plants.
- **Roads:**
  - Heavy congestion on major roads (e.g., leading into the Central Business District, on Walnut Avenue/SR 52 east of I-75, North Dug Gap Road).
  - Twelve widening projects are proposed under the financially constrained plan. Even with these projects completed, there are still congestion problems in the network; namely on the north end of Dalton.
  - The cost to resurface the 160 miles of streets in the City of Dalton was estimated at \$5.5 million.
- **Bridges:**
  - Eleven bridges have a sufficiency rating below 50;
  - Thirteen bridges have a sufficiency rating between 50 and 60; and
  - Five bridges have a sufficiency rating between 60 and 70.

- **Safety:**
  - Intersections with high number of accidents between 2002 and 2009 (City of Dalton):
    - » Airport Road at Walnut Avenue,
    - » Shugart Road at U.S. 41, and
    - » Dug Gap Road at Walnut Avenue.
- **Bicycle and Pedestrian:**
  - Two state bicycle routes in Whitfield County; and
  - Whitfield County has a relatively good sidewalk network within Dalton and along SR 71/Cleveland Highway.
- **Airport:**
  - Based aircrafts projected to increase from 58 in 2006 to 69 in 2021;
  - Takeoffs and landings are projected to increase from 24,021 in 2006 to 26,081 by 2010; and
  - The plan highlights recent improvements to the airport.
- **Freight and Goods Movement:**
  - Large percentage of truck traffic in Whitfield County is intracounty trips between carpet manufacturing sites.
  - About 158 freight terminal locations in the County.
  - Two freight rail systems operate in Whitfield County; Norfolk Southern (NS) connects Dalton, Varnell and Cohutta with Cleveland, Tennessee, and Rome, Georgia. CSX connects Dalton with Chattanooga, Tennessee, and Cartersville, Georgia; and operates more than 2,000 piggyback cars per month.
- **Passenger Rail Project:**
  - GDOT is pursuing funding from the High-Speed Intercity Passenger Rail (HSIPR) program to augment the process currently underway in the Tier I Environmental Impact Study (EIS) and completing Tier 2 NEPA activities for the Atlanta to Chattanooga High-Speed Rail (HSR) Project, which will connect Hartsfield-Jackson Atlanta International Airport to the City of Chattanooga, Tennessee; and
  - The study involves planning for the deployment of a high-speed ground transportation (HSGT) system in the 110-mile Atlanta-Chattanooga corridor.

## 34.5 APPLICABILITY TO SWTP/SSTP UPDATE

The report was published in 2010, but provides substantial historical data that could be used with recent data to analyze trends and project additional future needs. Only 43 percent of the projected transportation needs in the Greater Dalton area can be funded with the projected revenues. Traffic congestion is a critical problem in the area and the plan can be used as a baseline to identify hot-spots and future needs. The plan supports the development of a high-speed rail system in the region, and the information contained could be used as background to follow up with recent developments.

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## 35.0 MPO LRTPs - 2035 Columbus-Phenix City LRTP

### 35.1 DATE PUBLISHED

December 2009, Columbus-Phenix City MPO.

### 35.2 POLICY/MAJOR CONCLUSIONS

The Columbus-Phenix City LRTP is the instrument for coordinating the metropolitan long-range transportation planning in the City of Columbus, the City of Phenix City, as well as Muscogee and Chattahoochee Counties in Georgia and segments of Lee and Russell Counties in Alabama (via the C-PCMPO). A total of 59 priority projects have been proposed in the fiscally constrained 2035 LRTP, including 16 projects address safety issues, 18 address capacity needs, 6 connectivity needs, 6 bicycle and pedestrian needs, and 1 bridge project. The total cost of implementation is estimated to be over \$420 million.

Policy goals of the LRTP:

- Preserve existing transportation facilities and assure that each was used in their most efficient manner despite the budget constraints;
- Relieve current congestion and forestall future congestion through coordination with land use plans and decision-making;
- Develop and expand present and alternative modes of transportation, such as bikeways, walkways, and motorized public transportation; and
- Introduce multimodal plans and programs designed to create a seamless transportation system.

### 35.3 DATA AND METHODOLOGY

An assessment of the character and performance of the existing and anticipated transportation system was conducted to identify transportation needs and opportunities and to establish baseline traffic conditions. The information was gathered through discussion with the public, and other key stakeholders in the region and through the extensive data collection effort. Future travel conditions were evaluated by C-PCMPO using a regional travel model. Data sources and tools included:

- 2028 Columbus Comprehensive Plan;
- 2002 Phenix City Comprehensive Plan;

- 2030 Columbus-Phenix City MPO LRTP Update;
- 2025 Columbus-Phenix City MPO LRTP Update;
- 2010-2013 Columbus-Phenix City Transportation Improvement Program;
- 2009 C-PCMPO Congestion Management Plan;
- Columbus METRA System Transit Development Plan;
- Fort Benning and the Valley: Regional Growth Management Plan (RGMP);
- GDOT STARS system regional traffic count data for 2008;
- Alabama DOT regional traffic count data for 2007;
- GDOT Functional Classification Maps for Muscogee and Chattahoochee Counties, Georgia;
- Alabama DOT Functional Classification Maps for Lee and Russell Counties, Alabama;
- 2000 Bicentennial Census;
- 2005 to 2007 American Community Survey Updates;
- 2000 Census Transportation Planning Package;
- 2006 Regional Labor Statistics from Georgia Department of Labor and Alabama Department of Labor;
- National Bridge Investment Analysis System;
- Web Accident Prediction System;
- Critical Analysis Reporting Environment (CARE) database; and
- Freight Analytical Framework (FAF).

## 35.4 ANALYSIS

Major findings were:

- **Socioeconomic:**
  - Major employment sectors. State and local government, Health Care, Food Services, and Retail;
  - Population in the C-PCMPO is projected to increase from 247,204 in 2000 to 294,478 in 2035, an increase of 19 percent;
  - The C-PCMPO planning area expects over 80,000 jobs to be added to the economy by the year 2035, increasing employment from 168,277 in the year 2010 to 223,706 in the year 2035, representing a 33-percent increase in the size of the regional workforce; and

- Muscogee County expected to play a major role in the economy of the region.
- **Travel Demand:**
  - VMT will increase over 37 percent from the base year of 2006 to 2035 No-Build network; and
  - Systemwide average speed is 37.8 mph based on the 2035 No-Build model, but implementation of the improvements called for in the LRTP will increase average speed to approximately 40 mph.
- **Public Transportation:**
  - Funding is only growing to meet existing needs and current service levels with only modest increases. Current services limited to county services and do not meet the travel demand for cross-county, regional mobility. Refer to the plan for connectivity needs.
- **Bicycle and Pedestrian Initiatives:**
  - The most aggressive plan within the C-PCMPO was adopted in 1993.
  - GDOT adopted in 1995 the Statewide Bicycle Plan, which includes approximately 2,943 miles throughout Georgia. However, there are no funds designated by GDOT to implement the bicycle/pedestrian plan as stand-alone projects.
  - The LRTP recommendation is for C-PCMPO to seek L230 funds from the FHWA to develop its own bicycle/pedestrian master plan.
- **Freight and Movement of Goods:**
  - Nearly 160 miles of active rail lines;
  - Truck-to-rail intermodal activity is limited; and
  - The 2035 traffic analyses showed increased levels of congestion on the primary corridors: segments of U.S. 280, U.S. 430, J. R. Allen Parkway, 13<sup>th</sup> Street Bridge, and the northern one-half of Schatulga Road in Columbus with V/C ratios above 1.0.

## 35.5 APPLICABILITY TO SWTP/SSTP UPDATE

The report was published in 2009 so most of the data is several years old. However, the plan provides a comprehensive socioeconomic analysis with substantial historical data that could be used with recent data to analyze trends and project additional future needs. The documentation of existing conditions and the forecasts for 2035 can be used as baselines to assess how things have changed in the intervening years.



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## 36.0 ARTS LRTP 2010-2035

### 36.1 DATE PUBLISHED

2010, Augusta Regional Transportation Study (ARTS).

### 36.2 POLICY/MAJOR CONCLUSIONS

The ARTS is a bistate MPO that is responsible for the transportation planning for Augusta-Richmond County, portions of Columbia County, and portions of Aiken and Edgefield Counties in South Carolina. There are several cities in the ARTS area: Augusta, Grovetown, Hephzibah, and Blyth in Georgia; and Aiken, North Augusta, and Burnetown in South Carolina. The ARTS LRTP covers the 25-year period between 2010 and 2035.

The ARTS area is located along I-20, which connects Atlanta, Georgia and Columbia, South Carolina to I-75, I-85, I-26, I-77, and I-95.

The goals of the ARTS LRTP are:

- Develop a transportation system integrated with planned land use;
- Develop a transportation system that is financially and politically feasible and has broad support;
- Develop a transportation system that will allow effective mobility throughout the region and provide efficient movement of persons and goods;
- Develop a transportation system that will enhance the economic, social, and environmental fabric of the area using resources wisely while minimizing adverse impacts;
- Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs;
- Increase the safety and security of the transportation system for motorized and nonmotorized users; and
- Continue to develop a multimodal transportation network that utilizes strategies for addressing congestion management and air quality issues in the ARTS region.

### 36.3 METHODOLOGY AND DATA SOURCES

- ARTS 2008 Public Participation Plan;
- ARTS 2030 LRTP;

- ARTS 2007 Congestion Management Process;
- Regional Freight Study 2009;
- Augusta Regional Advanced Transportation Management System Master Plan;
- Augusta-Richmond 2008 County Comprehensive Plan;
- Aiken County 2004 Comprehensive Plan;
- North Augusta 2005 Comprehensive Plan;
- NHS Intermodal Freight Connectors: Report to Congress, U.S. DOT, December, 2000;
- U.S. Census Bureau;
- U.S. Department of Labor Bureau; and
- National Complete Street Coalition.

## 36.4 ANALYSIS

This LRTP identified the existing and future conditions within the ARTS region, including population and employment trends, as well as the needs of the transportation system.

Key findings were as follows:

- The ARTS area is dynamic, and the next 25 years are expected to bring a great deal of change to this region. Projections show a 36-percent increase in the population between 2006 and 2035.
- The majority of the ARTS region employers are located in Augusta-Richmond County. A few of the largest employers include the Medical College of Georgia, the MCG Health, and the Fort Gordon Military Reservation. The Savannah River Site is an important U.S. Department of Energy industrial complex that employed 11,000 workers in 2009.
- Interstates and expressways make up 20 percent of the daily vehicle miles of travel in the ARTS area.
- The Augusta Regional Airport recently completed a \$30 million renovation. Atlantic Southeast Airlines, U.S. Airways Express, and American Eagle provide daily commercial service to Atlanta and Charlotte. In 2009, the airport served just over 265,000 passengers, which was a 12.5-percent increase over the previous year.
- Augusta Public Transit (APT) operates 10 fixed routes.
- There are many miles of multiuse trails in the region, including the North Augusta Greenway and Augusta Canal Historic Trail.

- By 2035, vehicle miles traveled (VMT) throughout the ARTS area is expected to increase by 45 percent.
- Tier 1, Tier 2, and Tier 3 projects were developed for the ARTS region. These projects cover all types of transportation investments, including a lump sum of \$56 million for bicycle and pedestrian improvements.

## 36.5 **APPLICABILITY TO SWTP/SSTP UPDATE**

- This LRTP is unique in that the ARTS region covers portions of Georgia and South Carolina. There are major employers in the area, as well as an expanding airport.
- The ARTS region is focused on developing a multimodal transportation network that improves congestion management and air quality.



## **37.0 BATS LRTP 2010-2035**

### **37.1 DATE PUBLISHED**

2010, Brunswick Area Transportation Study (BATS).

### **37.2 POLICY/MAJOR CONCLUSIONS**

BATS is the MPO for Glynn County and the City of Brunswick, which are located 75 miles south of Savannah. The 2010 LRTP is the fourth update for this area, and covers the 25-year period between 2010 and 2035.

The goals of the BATS LRTP are:

1. Select projects based on future traffic volumes and road conditions;
2. Evaluate and prioritize projects based on local planning factors;
3. Include plans, studies, and projects related to nonautomobile travel;
4. Analyze connections between various modes of travel, including passenger and freight; and
5. Create a financial plan that is constrained by Federal, state, and local funding.

### **37.3 METHODOLOGY AND DATA SOURCES**

- The travel demand model for the Brunswick MPO was used to evaluate a variety of transportation improvements. The model is a traditional four-step model that was updated for the 2035 LRTP.
- GDOT GRIP.
- Brunswick-Glynn Transit Improvement Plan.
- Georgia Department of Labor.
- Georgia Department of Community Affairs.
- Brunswick and Glynn County Development Authority.
- U.S. Census Bureau.
- Brunswick Golden Isles Chamber of Commerce, Tourism, and Business.
- East Coast Greenway web site located at [www.eastcoastgreenway.org](http://www.eastcoastgreenway.org).

## 37.4 ANALYSIS

The LRTP identified the existing and future conditions within the BATS area, including population and employment trends, as well as the needs of the transportation system.

Key findings were as follows:

- Glynn County and the City of Brunswick have approximately 1,392 miles of roads, of which 42 miles are interstate, 172 miles are state routes, and 1,178 miles are county- and city-maintained roads.
- The residents of Glynn County and the City of Brunswick approved a SPLOST four-year, one-cent sales tax. The money raised will be used for a variety of transportation purposes, such as installing new traffic signals, paving dirt roads, and adding needed turning lanes.
- The BATS area is expected to receive \$646,763,165 in potential funding for nonmaintenance projects over a 25-year period. About \$26,359,027 are expected for maintenance projects in the same timeframe;
- Future roadway and bridge projects were identified and cost information was provided for three time periods: short term (2010 to 2015), mid term (2016 to 2025), and illustrative (2026 to 2035). The majority of these projects are road widenings and bridge replacements.
- The roadway network supports the current level of freight transport. However, connectivity and access management issues need additional focus.
- The City of Brunswick and Glynn County are ready for a fixed-route transit system as specified in the Transit Implementation Plan (2009). The system will be small at its commencement to allow for future growth and expansion.
- There are several bicycle and pedestrian planning efforts underway, and the connectivity of these elements will increase the effectiveness of the nonmotorized system.
- The East Coast Greenway (called the Golden Marshes Trail in Glynn County) is a 450-mile trail system that links Coastal Georgia with Florida and South Carolina. Connections were suggested within Glynn County.

## 37.5 APPLICABILITY TO SWTP/SSTP UPDATE

- This LRTP centers on an area that is transitioning from rural to urbanized – similar to much of the State. Glynn County was officially recognized as an urbanized area in 1990.
- There are large tracts of land available for development in Glynn County. Developing these areas with consideration of the surrounding transportation needs will be critical to a healthy system.

# 38.0 Coastal Region MPO 2035 Framework Mobility Plan

## 38.1 DATE PUBLISHED

September 2009, Coastal Region (CORE) MPO.

## 38.2 POLICY/MAJOR CONCLUSIONS

The CORE MPO is the designated MPO for Chatham County and its municipalities, including the City of Savannah.

The goals of the Framework Mobility Plan are:

- **Economic Activity.** To support the economic vitality of the region, in concert with the community's goals, especially by enabling local, regional, and global competitiveness, productivity, and efficiency.
- **Safety.** Ensure and increase the safety of the transportation system for all users, including motorized vehicles, bicyclists, and pedestrians.
- **Security.** Ensure and increase the security of the transportation system for all users, including motorized vehicles, bicyclists, and pedestrians.
- **Accessibility, Mobility, and Connectivity.** Ensure and increase the accessibility, mobility, and connectivity options available to people and freight; and ensure the integration of modes, where appropriate.
- **Environment and Quality of Life.** Protect, enhance, and sustain the environment and quality of life; promote energy conservation; and address climate change.
- **System Management and Maintenance.** Assess the transportation system to determine what works well, what does not work well, and potential improvement options.
- **Intergovernmental Coordination.** Ensure coordination in the transportation planning process between intra- and interregional partners, including both state and local agencies.

## 38.3 METHODOLOGY AND DATA SOURCES

- The travel demand model for the CORE MPO was used to evaluate a variety of transportation improvements. The model is a traditional four-step model that was updated for the 2035 LRTP.

- GDOT.
- Georgia Department of Community Affairs.
- Georgia Department of Labor.
- Georgia Ports Authority.
- FHWA.
- U.S. Census Bureau.
- Metropolitan Planning Commission Tricentennial Plan.
- CORE MPO Transportation Amenities Plan.
- CORE MPO Context Sensitive Design Manual.
- Chatham Area Transit – Transit Development Plan.
- Coordinated public Transit – Human Services Transportation Plan.
- CORE MPO Bikeway Plan.
- CORE MPO Congestion Management Process.
- Coastal Georgia Comprehensive Plan.
- Savannah Hilton Head International Airport.
- State, regional, and local studies.

## 38.4 ANALYSIS

Phase 1, or the “Framework Mobility Plan,” of the long-range planning process, set the policy and project groundwork for a more detailed transportation planning analysis, which will be completed in Phase 2, titled the “Total Mobility Plan.” Under Phase 2, recommended projects will be assessed in more detail, including the planning of “complete streets,” improvements and enhancements amenities such as bicycle and pedestrian facilities, a Transit Vision Plan, as well as green infrastructure and climate change.

In addition to the adopted goals, the Framework Mobility Plan also included policy statements that provided the framework for the development of the multimodal plan.

Key findings were as follows:

- The LRTP policy statements include:
  - Ensure that nonmotorized modes are an integral part of the transportation system through funding and infrastructure design;
  - Provide transit options and opportunities through the upcoming Transit Vision Plan, included in Phase 2 – Total Mobility Plan;

- Ensure that context sensitive design elements are an integral part of the design process for projects;
  - Budget for transportation amenities and retrofitting existing facilities to incorporate the appropriate design elements for safe and efficient multimodal usage;
  - Implement “Green Infrastructure” by incorporating best management practices for stormwater management, and green materials when possible; and
  - Implement a strategic plan to address both long-term greenhouse gas emission reductions and climate change adaptation where economically feasible.
- Each identified project in the LRTP will be assessed for the inclusion of nonmotorized and multimodal facilities.
  - The CORE MPO is expected to have a total of \$1,445,242,149 in potential funding for roadway and nonmotorized projects. Of this amount, \$98,556,545 are set aside specifically for nonmotorized projects.
  - Additional funding categories include \$103,000,000 for maintenance and \$512,488,551 for transit.
  - Future roadway and bridge projects were identified and cost information was provided for three time periods: short term (2010 to 2015), mid term (2016 to 2025), and long term (2026 to 2035). The majority of these projects are roadway improvements and bridge replacements.
  - The specific funding set-aside for nonmotorized projects emphasizes the CORE MPO’s focus on an integrated, multimodal mobility system.
  - Projects were also identified for the Vision Plan. These projects were identified as needs, but not incorporated into the LRTP.

## 38.5 **APPLICABILITY TO SWTP/SSTP UPDATE**

- This LRTP centers on an established urban area that is continuing to grow. The area has a strong focus on multimodal mobility;
- The CORE MPO area is also greatly impacted by the Port of Savannah and must accommodate high levels of freight movement while addressing their overall approach to multimodal mobility; and
- The CORE MPO recognizes the impacts from climate change and the need to adapt the transportation impacts.



## **39.0 DARTS LRTP 2010-2035**

### **39.1 DATE PUBLISHED**

December 2009, The Dougherty Area Regional Transportation Study (DARTS).

### **39.2 POLICY/MAJOR CONCLUSIONS**

DARTS is the MPO for the Cities of Albany, Leesburg, and Dougherty, and south Lee County located in southwest Georgia. This MPO is 170 miles south of Atlanta and 90 miles southwest of Macon.

The goals of the DARTS LRTP are:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and nonmotorized users;
- Increase the security of the transportation system for motorized and nonmotorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.

### **39.3 METHODOLOGY AND DATA SOURCES**

- DARTS 2030 LRTP;
- DARTS Transportation Improvement Program;
- Albany-Dougherty 2005 to 2025 County Comprehensive Plan;
- Albany/Dougherty Freight Profile;
- Southwest Georgia Regional Commission Plan;
- U.S. 19 and U.S. 82 Corridor Studies;

- U.S. Census Data;
- Georgia Department of Labor Data;
- Land Use Data; and
- Roadway Inventory Data.

## 39.4 ANALYSIS

The LRTP identified the existing and future conditions within the DARTS region. This LRTP updates the previous LRTP, which was approved in December 2004. Numerous other planning efforts have been underway in the interim.

Key findings were as follows:

- The northwest part of the DARTS region is experiencing heavy growth. There will likely be a need for increased roadway capacity in the near future.
- DARTS should conduct a separate pedestrian and bicycle study to better understand the nonmotorized transportation needs of the region.
- The urbanized areas in the DARTS region are characterized by low-density residential, commercial, and industrial development.
- Albany has a significant number of historic and cultural resources, which factored into transportation investments in the area.
- Thirty-one capital roadway projects were selected to be part of the fiscally constrained LRTP. These projects are primarily road widenings, bridge replacements, interchange improvements, and signal system upgrades.
- The plan is fiscally constrained with a total cost of \$613,654,850. Federal, state, and local funding over the time period is projected to be \$622,791,674, which leaves a balance of \$9,136,824.
- A map of truck routes is needed, and adjacent land uses must be considered for freight and truck utilizations.
- Road and bridge projects need to be utilized to accommodate increasing amounts of freight flow.
- DARTS must coordinate with GDOT and the railroad companies to maintain safe rail crossings.

## 39.5 APPLICABILITY TO SWTP/SSTP UPDATE

- This DARTS MPO is a forward-looking agency interested in nonmotorized transportation, land use planning, and freight flow. The current landscape in this area is low-density, but growth and associated congestion are increasing in the incorporated areas.

- Safety is a primary issue in the DARTS LRPT, and railroad crossing safety is an important issue.



# 40.0 Gainesville-Hall MPO 2040 MTP

## 40.1 DATE PUBLISHED

August 2011, Gainesville-Hall MPO.

## 40.2 POLICY/MAJOR CONCLUSIONS

The Gainesville-Hall Metropolitan Planning Organization (GHMPO) is the planning body for all of Hall County, including the Cities of Clermont, Flowery Branch, Gainesville, Gillsville, Lula, and Oakwood. Adjacent to expanding metropolitan Atlanta, the GHMPO is a rapidly growing area, and its transportation system impacts that of the surrounding region.

Building on multiple previous plans and studies, this Metropolitan Transportation Plan (MTP) provides an assessment of the existing conditions in the MPO and forecasts needs and deficiencies to the year 2040. The plan analyzes roadways, transit, bicycle, and pedestrian travel in the region; and identifies potential funding sources. A critical component is the integration of land use with transportation. Six goals for the MTP were developed in accordance with the Safe, Accountable, Flexible, Efficient, Transportation for Equity Act: A Legacy for Users (SAFETEA-LU) planning factors and build upon the goals from the GHMPO 2030 LRTP; and each goal has associated objectives by which projects and policies are evaluated. The goals are:

- Provide an integrated multimodal and intermodal transportation system that includes more options to provide the desired level of accessibility and mobility of people and goods in a safe and secure manner.
- Develop a transportation system that is safe, efficient, conserves energy, and promotes the attainment of air quality standards; and take steps to ensure the maintenance of that system.
- Integrate transportation planning with land use decisions and other comprehensive planning tools to support economic development goals and enhance the area's quality of life.
- Develop a financially feasible plan that will advance the region's economic competitiveness based upon sustainable development.
- Establish a more balanced and livable transportation system that will increase modal choices by prioritizing transit, pedestrian, and bicycle travel throughout the region.

## 40.3 METHODOLOGY AND DATA SOURCES

- U.S. Census Bureau, 2000 Census Transportation Planning Products (CTPP);
- FHWA Highway Statistics 2008;
- Hall Area Transit;
- Hall County;
- City of Gainesville;
- GDOT; and
- Georgia GIS Clearinghouse.

## 40.4 ANALYSIS

The MTP is a performance-based plan where key performance measures are used to identify needs and recommended projects for the region. The performance measures consist of:

- V/C ratio;
- Level of service (LOS);
- Intersection LOS;
- Congestion duration and extent;
- Transit travel condition measures;
- Accessibility measures;
- Crash measures; and
- General measures (e.g., commute times, percent of commuters driving alone to work, percent of commuters using transit to get to work).

Key findings of this fiscally constrained plan include:

- The majority of roadway needs are on state or Federal routes. Of the 26 roadway projects on the unconstrained project list, 15 are on state or U.S. routes.
- In the unconstrained plan, 59 percent of roadways will operate at an LOS F or below in the year 2040, while only 7 percent do in the base year (2008). This indicates that the large growth that the region is and will continue to experience places a significant toll on the roadway system.
- Due to demands on the roadway system and an increase in interest in bicycling and walking, the MTP places high importance on nonmotorized transportation.

- Needs and gaps in service for the County’s transit provider, Hall Area Transit (HAT), were identified using the Transit Development Plan and Human Services Transportation Plan for the system.

Total revenue for the 2040 MTP is estimated to be \$2.232 billion. Projects were divided into three tiers: 2012 to 2017, 2018 to 2030, and 2031 to 2040. Projects include roadway widening, interchange improvements, new location roadway, bridge, bicycle and pedestrian, transit, and maintenance and operations.

## 40.5 **APPLICABILITY TO THE SSTP/SWTP UPDATE**

- The 2040 MTP is the latest plan for the Gainesville-Hall area, and emphasizes the fast growth that the region is experiencing. Transportation investment is needed to keep up with this growth to ensure adequate mobility.
- Because the GHMPO region is adjacent to the Atlanta region, efficient travel to and through GHMPO is an important contributor to the effectiveness of the transportation system in the surrounding area.
- Multimodal transportation is very important to the GHMPO so that multiple, viable transportation options are available and dependable to the growing population of the area.



# 41.0 2035 Sustainable Mobility Plan, HAMPO

## 41.1 DATE PUBLISHED

October 2010, Hinesville Area MPO.

## 41.2 POLICY/MAJOR CONCLUSIONS

The Hinesville Area Metropolitan Planning Organization (HAMPO) is the Federally designated transportation planning organization and includes Liberty and Long Counties, located in the coastal region of Georgia. The growth in the study area and transportation issues are directly affected by regional and interregional facilities, such as the Savannah and Brunswick ports, I-95, and Fort Stewart, which is the largest U.S. Army installation east of the Mississippi River.

The development of the LRTP update builds on the previous LRTP and other studies, including the local comprehensive plan, corridor and area studies, bicycle and pedestrian plan, and transit plan. The plan also included an assessment of potential future growth scenarios and the transportation impacts of each scenario. The assessment also included the consideration of environmental, community, cultural, and historic resources, as well as impacts on environmental justice communities. The chosen scenario was based upon coordination and compatibility with adopted comprehensive plans, local input, and committed development.

The goals of the Plan, which also form the framework for prioritizing projects, include:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and nonmotorized users;
- Increase the security of the transportation system for motorized and nonmotorized users;
- Increase accessibility and mobility of people and freight, including the elderly, disabled, and other transportation-disadvantaged users;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;

- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system; and
- Improve public information about the transportation system and proposed or planned improvements to the system.

### 41.3 **METHODOLOGY AND DATA SOURCES**

- GDOT Road Characteristic (RC) File;
- GDOT Crash Database;
- GDOT 400 Series Report;
- Georgia Department of Community Affairs;
- Georgia Department of Labor;
- Fort Stewart – Hunter Army Airfield
- U.S. Census Bureau;
- FHWA/SAFETEA-LU;
- HAMPO Regional Travel Demand Model;
- Local Comprehensive Plans and other local plans, including corridor studies, sector plans, bicycle/pedestrian plan, and proposed transit system plans; and
- Coastal Georgia Comprehensive Plan.

### 41.4 **ANALYSIS**

The plan identified the existing and future conditions within the study area, including socioeconomic trends and the condition of the transportation system. Issues and opportunities were also identified. Fort Stewart has a tremendous impact on the socioeconomic and transportation conditions with the fluctuating military population and dependents and the number of civilian employees and contractors.

Key findings were as follows:

- There are a total of 191.5 state highway miles in the HAMPO study area.
- The 13.1 miles of interstate highway (I-95) is located only in Liberty County, and primarily serves north/south interregional trips.
- There are no sidewalk or bicycle facilities located within Long County.

- Wright Army Air Field, located on Fort Stewart, is the only airport in the study area; the closest general purpose airports are the Savannah-Hilton Head Airport and Jacksonville International Airport.
- Georgia Ports Authority facilities have significant impacts on economic development (distribution centers, industrial development).
- Major employment centers for HAMPO area residents outside of Hinesville include Savannah, Richmond Hill, Garden City, and Midway.
- The primary sources of project funding are from Federal and state dollars, with some projects funded through local option sales tax, general fund monies, Department of Defense funds, and private developers.
- Total cost for projects identified, as needed, but are unfunded, equals \$529,560,172. These projects include new construction projects, widening projects (including I-95 and U.S. 17), and safety and enhancement projects.

## 41.5 APPLICABILITY TO SWTP/SSTP UPDATE

- The LRTP represents the latest plan for the HAMPO area, with a base year of 2008. Although the data does not incorporate the most recent census, the current plan is applicable, particularly with the full coordination and compliance with local transportation and comprehensive plans and studies.
- The financial gap resulted in major projects, such as the widening of I-95, which already has an assigned GDOT project number, as unfunded.
- The funding for HAMPO projects is Federal and state dollars, with some local, private and Department of Defense participation.
- The documentation of existing conditions and the forecasts for 2035 can be used as baselines to assess how things have changed in the intervening years.



# 42.0 MACORTS Year 2035 Transportation Plan Update

## 42.1 DATE PUBLISHED

September 9, 2009, Athens-Clarke County Planning Department.

## 42.2 POLICY/MAJOR CONCLUSIONS

The Madison Athens-Clarke Oconee Regional Transportation Study (MACORTS) is the Federally defined MPO for the Athens region, including the City of Athens, Clarke County, portions of Madison County, and portions of Oconee County, serving almost 150,000 people. This transportation plan provides an assessment of the region's current transportation system, evaluates the needs and deficiencies to the year 2035, and presents a fiscally-constrained implementation plan.

The over-arching goal of MACORTS and the 2035 Transportation Plan is to “provide for and maintain an intermodal transportation system that serves the needs of all citizens and provides efficient, safe, and convenient mobility; encourages desirable land use and development; promotes economic development; and minimizes adverse social and environmental impact.” This goal statement was the filter through which all projects and policies were evaluated for recommendation. Implementation strategies were divided into the following categories:

- Land use and the design of projects,
- Transportation network safety,
- Transit service,
- Transportation mobility,
- Acceptable levels of service,
- Environmental protection,
- Bicycle/pedestrian transportation enhancement activities, and
- Functional classification system.

## 42.3 METHODOLOGY AND DATA SOURCES

- U.S. Census Bureau;
- Athens-Clarke County and the City of Winterville Community Assessment (2006);
- Joint City/County Comprehensive Plan for Oconee County and Cities of Bishop, Bogart, North High Shoals, and Watkinsville (2007);
- Joint City/County Comprehensive Plan for Madison County and Cities of Carlton, Colbert, Comer, Danielsville, Hull, and Ila (2001);
- Georgia Department of Labor; and
- GDOT.

## 42.4 ANALYSIS

The plan evaluated both the region's existing (2010) and future (2035) conditions, including employment, demographics, and transportation. There are a total of 1,716 route miles in the region, 227 of those being on state routes. For highway improvements, the travel demand model was used to determine V/C ratios along road segments. The potential need for capacity improvements was identified from the road segments that had V/C ratios greater than 1; or a level of service (LOS) C or below. Twenty-seven segments were identified with V/C ratios greater than 1, five of which are U.S./state routes.

With no true regional transit service, the only transit provider in MACORTS is Athens Public Transit (ATS). The MACORTS Transit Study will be developed to determine regional transit needs, funding, and service. For transportation enhancement projects, pedestrian and bicycle needs were identified using existing nonmotorized transportation plans in the region and local priorities.

The plan is fiscally constrained, and it estimates a total program cost of \$486,909,376 with \$496,214,000 total funding available. Project costs were estimated both in the current year (2010) and design year (2035), and an average of these costs was used to estimate total funding needs.

The following are the recommended projects:

- **Highways/Roads:**
  - Four new construction projects,
  - 18 widening projects,
  - Nine intersection/interchange projects, and
  - Two bridges.

- **Transit:**
  - MACORTS Transit Study will be developed to address transit.
- **Transportation Enhancements:**
  - 179 sidewalk projects, and
  - 20 bicycle facility projects.

## 42.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

- This plan represents the latest strategies and goals for the MACORTS region through the year 2035.
- A total of 30 projects in the plan remain unfunded, but are still considered viable by MACORTS. Eight of these projects are on state routes.



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## 43.0 MATS 2035 Long-Range Transportation Plan

### 43.1 DATE PUBLISHED

January 2010, Macon-Bibb County Planning and Zoning Commission.

### 43.2 POLICY/MAJOR CONCLUSIONS

The Macon Area Transportation Study (MATS) is the Federally-designated transportation planning body for the Macon area, which includes the City of Macon, Payne City, Bibb County, and the southern portion of Jones County. This LRTP was undertaken by the Macon-Bibb County Planning and Zoning Commission, in consultation with various other transportation planning efforts conducted in the region by other agencies, such as Macon-Bibb County Transit Authority, the City of Macon, Bibb County, and the GDOT. Through a visioning process and building upon past goals and objectives, 12 new goals and associated objectives were developed for the planning process for this LRTP. Some of these goals include:

- **Growth and Facility.** Encourage growth in areas that have access to existing and planned facilities;
- **Growth and Environment.** Minimize intrusions into wetlands, natural habitats, floodplains, prime farmland, cultural and historic areas;
- **Transportation Connectivity.** Provide a transportation network that enhances interconnections between activity centers and neighborhoods;
- **Mobility.** Enhance the ability to travel within the metropolitan area regardless of mode of transportation;
- **Roadway Character.** Provide a roadway network that enhances the scenic beauty of the community;
- **Safety.** Provide transportation corridors that are safe for all modes; and
- **Air Quality.** Reduce vehicular emissions that pollute our air.

Because of lower funding levels, MATS recognizes that project benefits and costs must be carefully considered prior to project recommendation. Projects were evaluated to determine project viability with factors, such as regional significance, multijurisdictional nature, system preservation, intermodal connectivity, addressing safety at high crash areas, and the coordination of land use and transportation.

### 43.3 METHODOLOGY AND DATA SOURCES

- U.S. Census Bureau;
- GDOT;
- Bibb County;
- City of Macon;
- Jones County;
- Georgia Department of Community Affairs;
- Georgia Department of Economic Development;
- Environmental Protection Division, DNR;
- Historic Preservation Division, DNR;
- Macon-Bibb County Visual Preference Survey; and
- MATS 2030 Vision and Action Plan.

### 43.4 ANALYSIS

The total cost of the LRTP is \$2.315 billion. Road and bridge improvements account for a majority of the plan, at 74 percent. Road maintenance accounts for 21 percent, and transit accounts for 5 percent.

- Existing and future land uses were analyzed to provide an accurate picture of future growth and development in the region. A firm knowledge of how development, employment, housing, and population changes are projected through the year 2035 provides valuable insight into the transportation demands and needs that should be addressed in the future.
- There are 42.76 interstate miles in the MATS region, and 164.38 miles of roadway are in the state highway system.

### 43.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

- The Macon region lies on a key rail corridor, both in potential future intercity service (Macon-Lovejoy-Atlanta); and freight, between the coast of Georgia and Atlanta. As rail opportunities in Georgia continue to be explored, this corridor will be an important component to moving both freight and people through the State.
- The Macon region is a critical node in the movement of freight through the State, as it lies at the intersection of I-16 and I-75. The route along I-16 to I-75 is frequently used to move freight between the Port of Savannah and Atlanta. I-475 and I-75 are also valuable facilities moving freight around and through Macon to/from Florida.

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## 44.0 Valdosta-Lowndes 2035 Transportation Plan

### 44.1 DATE PUBLISHED

September 2010, Southern Georgia Regional Commission/Valdosta-Lowndes Metropolitan Planning Organization (VLMPO).

### 44.2 POLICY/MAJOR CONCLUSIONS

The VLMPO conducted the 2035 Transportation Plan as a roadmap to identify and address the region's transportation needs and issues. The MPO encompasses the City of Valdosta, as well as Lowndes County, in south central Georgia. The mission statement for this plan, developed in collaboration with a Citizens' Advisory Committee, is:

*To develop a connected, efficient, safe, sustainable, responsive, regional, multimodal transportation system that fosters economic development, coordinated land use, improved quality of life, and that is accessible to the public.*

The MPO further developed priorities based on this mission statement that guided the development of the plan. Each priority has associated implementation strategies and evaluation measures. The priorities state that the 2035 Plan should:

- Be multimodal in nature and promote economic development in the region;
- Incorporate land use in the overall transportation planning process, particularly through the use of public involvement; and
- Enhance the aesthetics of the region through sustainability, sensitivity to the existing built environment, and minimal impacts on disadvantaged populations and the natural environment.

### 44.3 METHODOLOGY AND DATA SOURCES

- U.S. Census Bureau;
- GDOT;
- Southern Georgia Regional Commission/VLMPO;
- Lowndes County;
- City of Valdosta;
- VLMPO travel demand model;

- Valdosta State University Center for Business and Economic Research;
- Georgia County Guide;
- Valdosta-Lowndes 2030 Transportation Plan; and
- Georgia Governor’s Office of Planning and Budget.

## 44.4 ANALYSIS

An assessment of the existing transportation system was conducted to provide an overview of its current performance and features. This included highways, transit, bicycle and pedestrian infrastructure, railroads, airports, and freight. Through an evaluation of population, socioeconomic, and employment data, the plan determined that the Valdosta-Lowndes region will continue to enjoy growth that it has experienced over the last several years; and by 2035, the population will have grown by approximately 28 percent from the 2010 population. This region is considered a significant regional hub for services, retail, and employment.

The plan notes that the VLMPO’s priority for funding is the preservation of the existing transportation system.

Projects were selected and prioritized using a process that assessed projects’ influence on congestion management, safety and security, land use, economic development and multimodal development, public input, and community impact. Projects were awarded points based upon evaluation criteria in each of these categories, and projects were then ranked based on their overall scores.

Key regional projects include multiple interchange improvements along I-75.

## 44.5 APPLICABILITY TO THE SSTP/SWTP UPDATE

- The Valdosta-Lowndes region is considered a regional hub for employment and shopping. The plan identifies higher education as the region’s fastest growing economic sector with Valdosta State University, Wiregrass Georgia Technical College (formerly Valdosta Technical College), and Georgia Military College; all located in Valdosta-Lowndes County.
- I-75, traveling north-south through Lowndes County and on the western side of the Valdosta urbanized area, is a significant corridor through the region for the movement of both freight and goods. It links Florida to points north, particularly to the Atlanta region.

## **45.0 WRATS 2035 LRTP**

### **45.1 DATE PUBLISHED**

October 2010, Warner Robins Area Transportation Study (WRATS).

### **45.2 POLICY/MAJOR CONCLUSIONS**

The WRATS includes the Cities of Warner Robins, Centerville, Perry, Byron, Houston and Peach Counties, and the Robins Air Force Base. The major goal of the LRTP is to address the needs of the transportation system in a manner that supports local and community goals.

The goals of the LRTP are:

- Support economic vitality in the metropolitan region;
- Increase safety and security of the transportation system for motorized and nonmotorized;
- Increase the accessibility and mobility options available to people and freight, and enhance the integration and connectivity of the transportation system;
- Protect the environment and improve quality of life; and
- Promote efficient management and preservation of the transportation system.

### **45.3 METHODOLOGY AND DATA SOURCES**

- U.S. Census Bureau;
- 2006 Houston and Peach County Joint Comprehensive Plans;
- WRATS and Middle Georgia Regional Commission 2007 Bicycle and Pedestrian Facilities Plan;
- GDOT Crash Data;
- 2009 Governor's Strategic Highway Safety Plan; and
- WRATS 2003 Transit Feasibility Plan.

### **45.4 ANALYSIS**

The LRTP identified the existing and future conditions within the WRATS area, including socioeconomic, land use, and transportation trends.

Key findings were as follows:

- Fifteen high-growth corridors were selected for study. These corridors are anticipated to have significant development in coming years. Existing conditions and future recommendations were made for each corridor.
- The capacity of several roadway segments will operate at substandard levels of service in 2035. Numerous road widening projects were recommended.
- Bicycle and pedestrian facilities are noted as priority projects, and enhancements to these facilities have been added to the LRTP.
- The WRATS area has major industrial facilities, including Frito-Lay and a Perdue chicken processing plant. These facilities generate significant truck traffic, and roads in the area must be adequate.
- There are safety issues with the railroad that parallels SR 247 inside the Warner Robins city limits. All of the roads that cross the railroad have at-grade crossings.

## 45.5 APPLICABILITY TO SWTP/SSTP UPDATE

- The WRATS study area covers an urbanized area, as well as other areas that are expected to become urbanized in the next 25 years.
- The Robins Air Force Base, a nationally strategic base and large employment center, is included in the WRATS area.
- Significant corridors were selected for further study. The existing land use conditions, as well as level of service and other transportation issues, were defined for each corridor. Recommendations were made to improve congestion, safety, land development, and access management within the corridors.

## 46.0 MPO LRTPs - Cartersville/ Bartow County

In March 2012, the U.S. Census Bureau designated Urban Areas nationwide based on 2010 Census results. Based on the population numbers of the 2010 Census, Cartersville and surrounding areas in Bartow County have exceeded the 50,000 population threshold, which requires it to be part of an MPO for transportation planning purposes. Bartow County is directly adjacent to two existing MPOs (Rome and Atlanta). Bartow County recently agreed to become its own MPO as opposed to being included in either the adjacent Rome or Atlanta MPO, to enable residents in the area to direct transportation funding for their own region.

The new Cartersville/Bartow County MPO was designated by the Governor in March 2013, making it the State's 16<sup>th</sup> MPO. It must have a formally adopted LRTP and short-range transportation improvement program in place by March 2016.