

# 1.0 Executive Summary

## ■ 1.1 Project Background and Summary of Recommendations

The purpose of the Interstate System Plan (ISP) is to develop a strategy to protect and maintain the Interstate Highway System in order to fully serve the needs of Georgia's residents and travelers now and in the future. This study analyzed the Interstate System outside of the 13-county Atlanta metropolitan region, which is the subject of an extensive regional planning effort lead by the Atlanta Regional Commission (ARC). The study goal was achieved by means of the following steps:

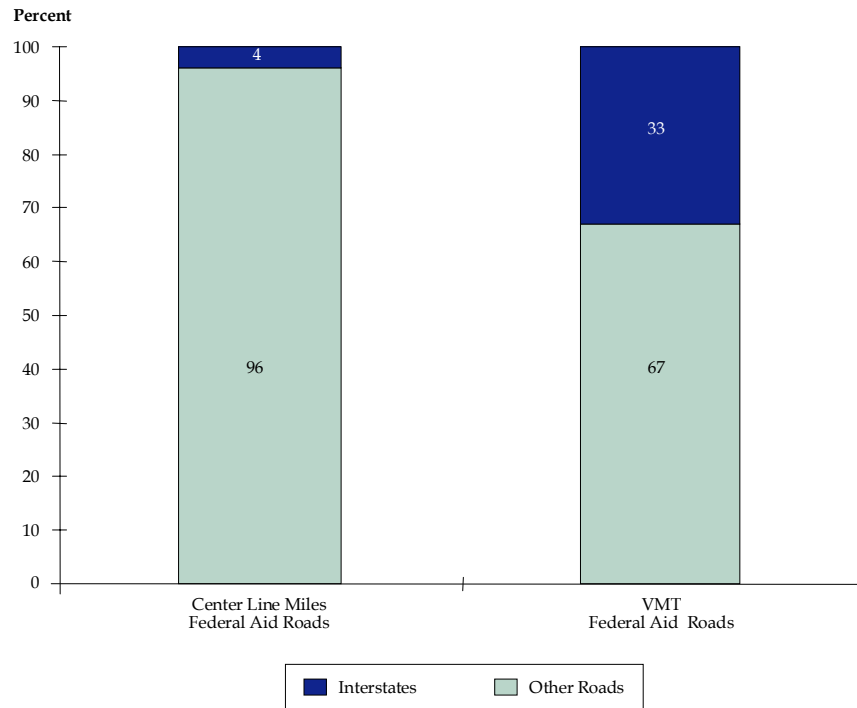
- Evaluate conditions and operations;
- Identify needs;
- Determine improvements; and
- Recommend a strategic program, and where appropriate, specific projects.

This study pivoted off of the existing GDOT program for Interstate improvements as documented in its Tpro database and Construction Work Program (CWP). Relatively modest modifications are recommended to this program, which did an excellent job of identifying and responding to the major needs of the system. In addition, it was found that based on current cost and revenue projections, GDOT will have sufficient funds to implement the Recommended Program and still have funds available to flex for other purposes, as has historically been the case.

As shown in Figure 1.1, the Interstate System constitutes only four percent of center-line miles on the Federal aid roadway system in Georgia. However, the Interstate System accounts for 33 percent of all vehicle miles traveled (VMT) on the Federal aid roadway system. Thus, the preservation of the Interstate System in good working is critical to effectively maintaining the functionality of GDOT's roadway network.

This study developed its systemwide findings from the ground up, dividing and analyzing the system into nine major corridors and 17 subcorridors. This report presents the systemwide findings. The Technical Appendices provide corridor-specific detail.

**Figure 1.1 Interstate Usage**



The following four categories of needs were identified and analyzed. In addition, the impact of the Interstate System program on two secondary impact factors also was analyzed - economic development and air quality:

- Congestion;
- Safety;
- System preservation (bridges and pavement); and
- Connectivity (interchanges and access routes).

The following four snapshots in time were analyzed:

- Existing conditions (2001);
- Future no-build (2035);
- Future GDOT Program (2035); and
- Future Recommended Program (2035).

A summary of the major conclusions of the GDOT Program and of the Recommended Program are shown in Table 1.1, and discussed in more detail below.

**Table 1.1 GDOT Program and ISP Recommendations**

|                                       | <b>GDOT Program</b>  | <b>ISP Recommendations</b>   |
|---------------------------------------|--|--|
| Interstate widenings                  | I-85 Atlanta Metro to South Carolina<br>I-95 South Carolina to Florida<br>I-75 south Georgia<br>I-75 Macon<br>I-75 Chattanooga<br>I-85 near LaGrange | I-75 Chattanooga Metro to Atlanta Metro<br>I-75 Atlanta Metro to Macon<br>I-20 and I-520 Greater Augusta |
| Operational Improvements              | I-16 and I-85  | Savannah<br>Macon<br>Columbus  |
| Bridge Rehabilitation and Replacement | 215 bridges  | 269 bridges  |
| Pavement Costs                        | \$2.7 billion  | \$171 million  |
| Upgrade Deficient Interchanges        | 32 interchanges  | 18 interchanges  |
| Improve Safety Road Locations         | 17 locations   | 5 locations*   |

\* Possible safety improvement (some projects will be undertaken in conjunction with those projects in other categories).

## ■ 1.2 Project Findings by Need

### Congestion

There is essentially no daily congestion on the Interstate System today outside of the Atlanta metro area, although small sections of peak-hour and seasonal congestion do exist in some of the other urban areas. In the future No-Build scenario, growth in traffic volume will result in about one-third of the system experiencing some level of congestion in 2035. About 16 percent (140 miles) of center-line miles will experience volume to capacity (V/C) ratios greater than 0.9, while another 19 percent (170 miles) will experience V/C ratios greater than 0.75. However, looking at vehicle miles traveled (VMT), almost half of all travel will occur in segments experiencing some degree of congestion; with 26 percent of VMT occurring in segments with a V/C ratio over 0.9 and 23 percent over 0.75.

The GDOT Program will reduce center-line miles of congestion to six percent (55 miles) over 0.9 V/C ratio and 12 percent (106 miles) over 0.75 V/C. In VMT terms, 12 percent of travel will occur in segments over 0.9 V/C and 17 percent will occur in segments over 0.75 V/C.

The Recommended program will eliminate most of the remaining high congestion (greater than 0.9 V/C) with the exception of about 30 center-line miles (three percent of VMT) mainly along I-75 north of Atlanta. Another eight percent (76 miles) of center-line miles and 13 percent of VMT will experience a V/C ratio over 0.75.

The area served by I-75 will experience high levels of growth. The Recommended Program includes widening this roadway section by one lane in each direction – the single largest recommended project in the study. It does not appear to be cost-effective at this time to add yet another lane either in isolated sections where volume is particularly high, or along the entire route. A certain amount of congestion is to be expected in a rapidly growing and economically vibrant corridor connecting two major metropolitan areas (Atlanta and Chattanooga).

### **System Preservation – Bridges**

There are very few structurally deficient bridges on the Interstate System today. However, under future No-Build conditions, almost half of the system's over 1,000 bridges will become deficient. This is a national problem caused by the aging of an Interstate System which was mostly completed in the 1950s and 1960s. Under GDOT's Program, 215 bridges will be rehabilitated reducing the number of deficient bridges by about half. The Recommended Program proposes to rehabilitate the remaining 269 bridges. While a rating of structural deficiency does not mean a bridge is on the verge of failure, we believe that it is prudent to pursue a policy of having zero structurally deficient bridges in order to avoid the need for emergency repairs and traffic disruption.

### **System Preservation – Pavement**

Georgia has historically ranked near the top nationally in pavement quality – evidence of GDOT's long-standing commitment to system preservation. Over the next 30 years, GDOT's current policies will result in the expenditure of about \$2.7 billion on pavement rehabilitation and replacement. The Recommended program includes a minor additional increment of \$171 million. This additional cost is due to a combination of a higher forecasted rate of truck volume growth (which increases pavement wear and tear), and additional roadway widenings (which reduces the wear and tear on each lane).

### **Interchanges**

Under future No-Build conditions, 88 of the Interstate System's 241 interchanges are projected to be deficient. GDOT's program will improve 32 of these interchanges. The Recommended program will improve another 18 interchanges, 15 as part of the interchange program and three as part of the safety program. Of the remaining 38 interchanges, field visits could not confirm the deficiency forecast by the project's system of tools. GDOT should monitor these interchanges to see how future conditions actually evolve. The Recommended program does not include construction of any new interchanges beyond any already planned by GDOT.

## Access Routes

Under future No-Build conditions, about 47 counties will be located more than 40 minutes driving time from an Interstate highway in Georgia, although some of these counties in southwest Georgia are closer to I-10 in Florida. Thirty-three of these counties will experience congestion, defined previously as a V/C ratio greater than 0.75, at some point along their access route to the Interstate. Under the GDOT program, primarily because of improvements to be completed as part of the Governor's Road Improvement Program (GRIP) and other programs, the number of distant counties with congestion is forecast to drop to 13. The ISP recommendations are limited to the Interstate System and, therefore, the program achieves no additional reductions in capacity along these access routes. Most of the remaining counties are simply beyond a 40-minute drive to an Interstate highway even without congestion along the access route.

## Safety

Twenty-three locations were identified as having roadway-related safety deficiencies. Many of these locations will be improved as a result of other initiatives (roadway widenings, bridge projects, pavement rehabilitation, and interchange improvement). The GDOT program includes 17 specific safety-related projects. Of the six remaining locations, one had no "road defect" identified based on field inspection and does not warrant a project, two will be addressed by congestion projects, and three locations, which are also interchange projects, will address specific safety deficiencies.

## Other Potential Needs

The project evaluated the need for HOV and truck lanes, and improvements to hurricane evacuation routes and access to military facilities. No deficiencies or needs could be identified with one exception. The Atlanta metropolitan area HOV study already had identified the need for HOV lanes in some of the collar counties just outside of the currently defined 13-county metro area. This recommendation has been included in the ISP Program. However, these recommended HOV lanes were among the lower priority projects recommended in the HOV study.

To determine if exclusive truck lanes might improve traffic flow, roadway sections with both congestion (V/C ratio greater than 0.9) and high truck volumes (over 20,000 trucks daily) were identified. Roadway sections with high truck volumes but no congestion were not considered in this evaluation because the trucks are not contributing to congestion.

After implementation of the GDOT Program, 55 center-line miles of the Interstate System will operate with a V/C ratio greater than 0.9. The congestion would occur over relatively short, isolated roadway sections primarily along I-75 in northwest Georgia and sections of I-20 near Augusta, I-475 near Macon and I-95 near Savannah. While these congested sections also will have high truck volumes, an exclusive truck lane would not improve roadway operations because the congestion will be occurring sporadically over short sections,

rather than in a longer continuous section. The same conclusion is applicable for the Recommended Program, under which about 30 miles of Interstate System will operate with a V/C ratio greater than 0.90.

## **Economic Impacts**

The GDOT program will increase the Gross State Product (GSP) by about \$450 million dollars in the project's target year of 2035. About 4,500 non-construction jobs will be created annually in the project forecast year due to enhanced long-term economic efficiency resulting from highway improvements. Benefits will begin to accrue immediately as improvements are made and gradually increase to the target year forecast. The Recommended program will add another \$100 million to GSP and another 1,000 jobs annually in addition to the 4,500 jobs created by the GDOT Program. These benefits do not represent the results of one-time construction spending, but rather long-term improvements to the state's economic vitality resulting from the more efficient movement of people and goods.

## **Air Quality**

Both the GDOT and Recommended programs will result in future reductions in vehicular emissions in the new ozone non-attainment areas outside of metro Atlanta. At the time of the preparation of this report, the areas were recommended for designation by the Georgia Environmental Protection Department (EPD) were the five collar counties around the Atlanta metro region, Macon, and Augusta. The final designation will be made by the U.S. EPA. The reductions to be achieved by proposed highway improvements range from 0.5 to 3.7 percent of Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>), the precursor chemicals of ozone.

In all but one instance, the Recommended program will achieve greater emissions reductions than will the GDOT program. The one exception is NO<sub>x</sub> in the Atlanta area collar counties. Increased speeds caused by the additional widening project on I-75 will actually increase NO<sub>x</sub> emissions relative to the GDOT program, but will still reduce emissions relative to the No-Build condition. Of course, congestion also will be reduced.

## **■ 1.3 Cost and Financing**

As shown in Table 1.2, the total estimated cost of the GDOT program over 30 years is \$5.8 billion. The Recommended program will add an additional \$1.9 billion for a total program cost of \$7.7 billion. The most expensive elements of the GDOT program are roadway widenings (\$2.3 billion) and pavement rehabilitation (\$2.7 billion). The most significant increments added by the Recommended program are for additional roadway widenings mainly on I-75 north of Atlanta (\$0.7 billion) and the Atlanta collar county HOV lanes (\$0.7 billion). It should be noted that costs cannot be easily attributable to a single category. For example, many bridge and pavement improvement projects will occur and be funded as part of other projects such as widenings.

**Table 1.2 Program Costs through 2035**

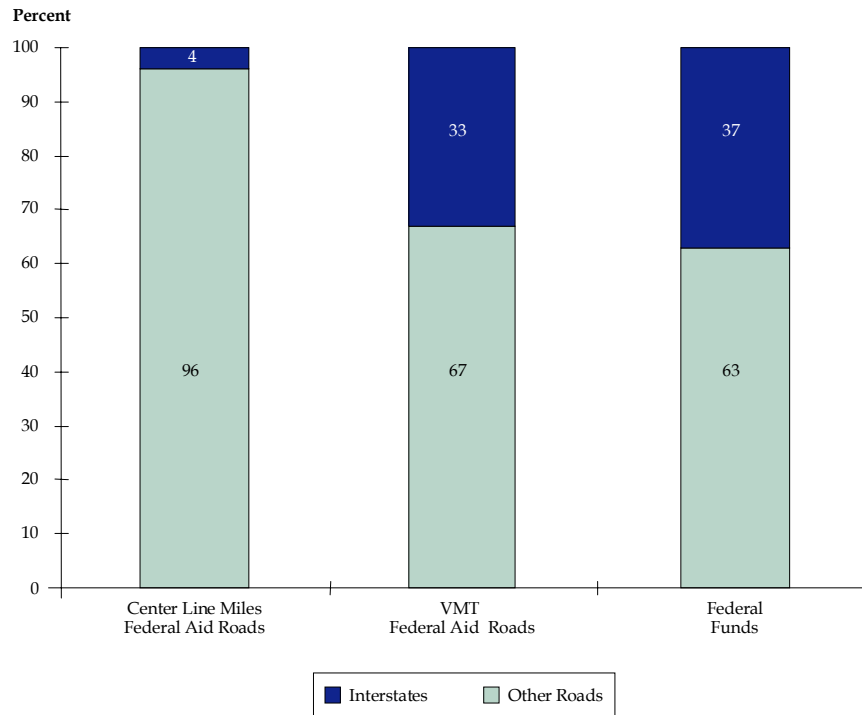
|                     | GDOT Program<br>(in Millions) | Recommended                       |                             |
|---------------------|-------------------------------|-----------------------------------|-----------------------------|
|                     |                               | Incremental Cost<br>(in Millions) | Total Cost<br>(in Millions) |
| Congestion          | \$2,258                       | \$673                             | \$2,931                     |
| System Preservation |                               |                                   |                             |
| Bridges             | \$131                         | \$199                             | \$330                       |
| Pavement            | \$2,744                       | \$171                             | \$2,915                     |
| Safety              | \$319                         | \$13                              | \$332                       |
| Connectivity        |                               |                                   |                             |
| Interchanges        | \$364                         | \$112                             | \$476                       |
| Access Routes       | N/A                           | N/A                               | N/A                         |
| HOV                 |                               | \$673                             | \$673                       |
| <b>Total</b>        | <b>\$5,816</b>                | <b>\$1,841</b>                    | <b>\$7,657</b>              |

Table 1.3 shows GDOT's projected highway funding through 2035 assuming continuation of current trends and programs. All costs and revenues are presented in current year dollars so that inflation is equally factored out of the equation (i.e., costs and revenues may increase due to inflation, but if so, it is assumed that they will do so proportionally to each other). GDOT is forecast to have a total of \$63 billion available in Federal and state highway funds through the period. Approximately \$23 billion will be allocated to the Atlanta metro region based on the currently approved ARC Regional Transportation Plan (RTP). This leaves \$40 billion for the rest of the State. Based on either usage patterns (as measured by VMT) or historic allocation patterns, GDOT should have between \$11.2 and \$11.9 available for the Interstate System. As shown in Figure 1.2, GDOT has traditionally allocated about 37 percent of Federal highway funds to the Interstate System, roughly equivalent to the Interstate System's share of VMT on the total Federal aid highway system.

**Table 1.3 Highway Financing Through 2035**

|                         | (in Billions)        |                          |                                     |                                       |
|-------------------------|----------------------|--------------------------|-------------------------------------|---------------------------------------|
|                         | Available<br>Georgia | Available<br>Non-Atlanta | Available for ISP<br>Based on Usage | Available for ISP<br>Based on History |
| Federal Funds           |                      |                          |                                     |                                       |
| IM                      | \$8.2                | \$4.7                    | \$4.7                               | \$4.7                                 |
| Bridge                  | \$3.2                | \$1.9                    | \$0.1                               | \$0.7                                 |
| NHS                     | \$7.9                | \$4.5                    | \$3.0                               | \$1.6                                 |
| Non-Interstate Programs | \$22.0               | \$12.6                   | \$0.0                               | \$0.0                                 |
| Georgia Funds           |                      |                          |                                     |                                       |
| Motor Fuel Tax          | \$16.5               | \$12.2                   | \$3.2                               | \$3.2                                 |
| General Fund            | \$4.9                | \$3.7                    | \$0.9                               | \$1.0                                 |
| <b>Total Funding</b>    | <b>\$62.7</b>        | <b>\$39.6</b>            | <b>\$11.9</b>                       | <b>\$11.2</b>                         |

**Figure 1.2 Historic Interstate Allocation**



Thus, as shown in Table 1.4, after meeting the needs of the Interstate System, GDOT will have between \$3.5 and \$6.1 billion remaining to flex for other transportation programs. The amount will depend on whether the GDOT program or the Recommended program (costing an additional \$2 billion) is implemented, and whether funds are allocated to the Interstate System based on its share of VMT, or on historic allocation patterns.

**Table 1.4 Interstate Financing Through 2035**

|                     | Available for ISP                |                                    |
|---------------------|----------------------------------|------------------------------------|
|                     | Available for ISP Based on Usage | Available for ISP Based on History |
| Total Funding       | \$11.9                           | \$11.2                             |
| GDOT Program        |                                  |                                    |
| ISP Cost            | \$5.8                            | \$5.8                              |
| Balance Remaining   | \$6.1                            | \$5.4                              |
| Recommended (Total) |                                  |                                    |
| ISP Cost            | \$7.7                            | \$7.7                              |
| Balance Remaining   | \$4.2                            | \$3.5                              |

As shown in Table 1.5, there are many worthy purposes to which the Interstate surplus can in theory be applied depending on governing laws and regulations and future policy decisions. These include other roadway needs, transit, and the ARC aspirations-based plan.

**Table 1.5 Other Funding Needs Through 2035**

| <b>Program</b>  | <b>Cost (in Billions)</b> |
|---|---------------------------|
| ISP recommendation  | \$7.7                     |
| Non-ISP projects in GDOT program outside Atlanta metro        | \$14.2                    |
| All projects in GDOT program inside Atlanta metro             | \$19.4                    |
| Roadway operations and maintenance                            | \$15.0                    |
| SWTP shortfall - highway emphasis                             | \$11.3                    |
| Total highway costs   | \$67.6                    |
| Available funds   | \$62.7                    |
| Transit - SWTP shortfall - highway emphasis                   | \$3.7                     |
| Double counting   | N/A <sup>1</sup>          |
| ARC aspirations plan highway costs above financial constraint | \$20.0                    |

## ■ 1.4 Public Participation

### Interstate Widenings

An extensive public participation program was conducted in support of the ISP. The goal was to develop a common vision for continued development of Georgia's Interstate System, achieve mutual understanding of objectives among all concerned "stakeholders," and to build support and consensus among these various groups for the recommendations of the Interstate System Plan. Outreach efforts focused primarily on stakeholder organizations that are interested in, impacted by, or have influence on the operations and future development of Georgia's Interstate System. Specific activities included:

<sup>1</sup> There is a certain amount of double counting among the various categories, but the amount cannot be precisely determined.

- Stakeholder Advisory Group meetings;
- Public information meetings;
- Newsletter articles;
- Web site development and interagency coordination;
- District outreach activities;
- Targeted media outreach, and
- Targeted Environmental Justice (EJ) outreach.

Table 1.6 summarizes the outcome of the program.

**Table 1.6 Summary of Study Participation**

| Activity                            | Results   |
|-------------------------------------|---|
| Stakeholder Advisory Group Meetings | 1 <sup>st</sup> Meeting – 43 participants<br>2 <sup>nd</sup> Meeting – 50 participants<br>3 <sup>rd</sup> Meeting – 41 participants   |
| Public Information Meetings         | 1 <sup>st</sup> series – 28 participants<br>2 <sup>nd</sup> series – 22 participants  |
| Media Outreach                      | Ads and press releases sent to 14 newspapers across the State for the first series of public meetings and 7 newspapers for the second series of public meetings. An interview with the Georgia News Network was also part of media outreach efforts for the second series of public meetings. |
| EJ Outreach                         | Two mailings distributed to 122 stakeholders in September 2003 and March 2004.  |
| Newsletter Articles                 | Three newsletter articles distributed to 440 stakeholders in March 2003, July 2003, and March 2004. Newsletter article in OnTarget Newsletter to family of partners Summer 2003.  |
| Comment Forms                       | Five comment forms received from the first series of public meetings.<br>Eight comment forms received from the second series of public meetings.  |

## ■ 1.5 Organization of Report

Section 2.0 presents the methodology used to conduct the analysis presented in this report. Section 3.0 defines existing and future No-Build conditions. Section 4.0 analyzes the impact of GDOT’s program and the Recommended program. Section 5.0 describes

costs and financing options. Section 6.0 describes recommendations for applying and updating this plan in the future. Section 7.0 describes the public outreach program used to support the study. Further detail is provided in the following Appendices:

- A - Corridor-specific analyses;
- B - Field work assessment and recommendations;
- C - Output of the Pontis® bridge management program; and
- D - Public participation.

Even further detail can be obtained from the following technical memoranda prepared during the course of the study. These can be obtained from GDOT's Office of Planning.

- Task 2 - Land Use;
- Tasks 3-10 - Existing and Future No-Build Conditions;
- Tasks 14/15 - Updating and Applying the ISP;
- Task 16 - System of Tools; and
- Task 20 - Freight Planning Manual.